ROLE OF PROCUREMENT FUNCTION ON PROJECTS COMPLETION IN PRIVATE ORGANIZATIONS: A CASE STUDY OF KENYA TEA DEVELOPMENT AGENCY

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ABBREVIATIONS AND ACRONYMS

BVBM	Business Value Business Model
COT	Commercial off the shelf
OCG	Office of the government commerce (UK)
PBSRG	Performance Based Studies Research Group
PM	Project Management
PMI	Project management Institute
PMIBOK	Project management Institute body of knowledge
RFT	Request for Tender
SME	Small-medium Enterprises
TCE	Transaction Cost Economics
WBS	Work Break-Down Structure
WRR	Weekly Risk Report
RFQ	Request for quotation
RFP	Request for proposal
IFN	Invitation for negotiation
CIR	Contract initiation response
ASU	Arizona State University

ABSTRACT

This study focuses on the role of procurement function on projects completion in private organization, a case study of Kenya Tea Development Agency. The study focused on the key areas of procurement that are likely to play a role in projects completion using the budget provided, within the scheduled time and to the required specification or quality. These are Procurement planning, solicitation, contract management and risk management. Literature review was undertaken to identify procurement planning factors, solicitation, contract management and procurement risk management factors that play a role on completion of projects. A structured questionnaire was designed to collect information on procurement factors that may play a role on project completion. In order to validate the questionnaire, the researcher carried out a pilot study on five members (9%) of the sample size. The respondents of the final research consisted of randomly picked members of staff within the KTDA Head office in various departments. The research was carried out through a descriptive research survey design. In this study the researcher used stratified random sampling where 30% of the target population which was representative of the entire population studied. In all, fifty four (54) members of staff were selected and questionnaires sent out to them for response. Questionnaires were retrieved from these respondents and used for the data analysis. The data from the completed questionnaires were coded and entered into the computer using statistical packages for social sciences (SPSS version 21) for analysis. The data collected was presented through frequency tables, pie charts and graphs. The findings revealed that, procurement planning, solicitation, contract management and risk management have a significant positive impact on project completion in KTDA. Based on the study findings, the study concludes that completion of projects in KTDA within set budget, time and to the required quality/specifications is affected by procurement planning followed by

solicitation, contract management and then risk management. The study recommends organizations to pay more attention and provide adequate resources in project procurement planning, solicitation, procurement contract management and risk management in order to enhance completion of projects within budget, on time and to the required specification or quality.

Keywords: *Procurement Planning, Risk, Source Selection, Solicitation, Project*

INTRODUCTION

1.1 Background of the Study

According to PMI (2004) projects are a means of organizing activities that cannot be addressed within organizations normal operations. Projects are utilized as a means of achieving an organization's strategic plan, whether the team is employed by the organization or is contracted to provide the service. Irya Hyvari (2006) indicated that projects are undertaken as a result of various strategic considerations such as a cost reduction – for instance KTDA managed factories have invested in wood project and small hydro power project to save on the energy cost associated with processing of tea, an organizational need where a company may introduce new product lines as part of product diversification to avoid overreliance on few product lines, a customer need e.g. where KTDA come up with a project to meet the customer's needs by improving existing facilities, a technological advancement where the company may want to upgrade its existing equipment in line with the market trends, use of mobile phones short messaging services to give updates to farmers and money transfer services to pay farmers for their

produces and a legal requirement where the changes in legislation within the government may dictate changes in infrastructures and customer service.

Procurement within the context of project management entails managing the acquisition of the project scope that will be bought from other organizations. More often than not, organizations don't have internal capacity to carry out the bigger part of project scope with their organizations own employees for many projects undertaken. Typically, the more complex, the more challenging the project, the more work will be sent outside of the organization for performance. The common scenario today is that most of the organizations procure major portions of their projects from other companies.

Some projects buy as much as 80% of the project scope from other companies. How well we manage other firms performance to our project will often determine how well, or how poor we do on our projects (Fleming, 2003). Project procurement and management typically require the procuring entities /organizations to possess advanced technical expertise in project design and implementation, considerable human, financial and material resources, advanced contracting and negotiation skills, strong knowledge of dealings with international contractors (Ministry of Planning, 2009).

1.1.1 Global Perspective of the Procurement Function

In order to increase efficiency of the construction industry, development and improvement of procurement procedures is vital (Eriksson & Vennstron, 2012). Eriksson and vennstrom (2012) did a survey of 106 construction client in Sweden. The subject of the study was to find out the effects of procurement procedures on project performance. They established that some individual procurement procedures: bid invitation and bid evaluation parameters affected project performance.

Rawlinson (2006) States that procurement decisions have a profound effect on the balance of risk and reward on projects, and the roles of each party in that project. Previous studies of Rasid et al. (2006), Eriksson and Westerberg (2009) and Eriksson and Vennstrom (2009) suggest different procurement related factors that can affect project performance. These studies considered different procurement related factors without an area of commonalities. Eriksson and Vennstrom (2012) also postulate that cooperative procurement procedures of joint specification, limited bid invitation, soft-evaluation parameters, joint sub-contractor selection, incentives, collaborative tools, contractor self-control and collaboration on project all have various effects on project performance. Procurement related factors identified from these previous studies are also related to selection criteria, tendering methods and variation of contracts.

1.1.2 Local perspective of the Procurement Function

Studies abound on projects whose acquisition was alleged to have been flawed, delivery period was never met, and quality of the final project outcome was poor and general dissatisfaction of the project outcome within the key stakeholders /the public. Surprisingly, though the majority of the reported cases are in the third world and developing countries, these problems cut across the globe. Thus the acquisition of major infrastructure projects is one of the major challenges facing procurement professionals not only in Kenya but globally. The projects could be in building construction, transport, power, waters, dams, information and communication technology projects etc.

The challenges are mainly due to complexity of the projects, huge capital outlay, and high number of stakeholders, politics, conflicting interests and lack of experience of procurement teams in such projects. Procurement personnel are expected to facilitate the acquisition and delivery of such project within the budget/cost, quality and within

acceptable timelines. In most cases there exists serious knowledge gaps within the organizations procurement team and therefore, more often than not, the procurement process is controlled by other professionals within the organization, thus limiting the role of procurement professional to such projects. Notable professional in such cases include engineers, architects and quantity surveyors. Some of these professionals may be outsourced/procured consultancy services but they still have a huge control as far the procurement and implementation of the project is concerned.

When major projects both in public and private run into trouble, procurement leaders in such organizations have been blamed, punished and sacked for errors that have occurred allegedly whether of commission or omission. This therefore begs the question: Does procurement function understand their role well in procurement of such projects? Are procurement professionals properly engaged in the entire project cycle for such projects? Do procurement professionals possess the requisite technical and leadership skills in procurement and management of projects? Generally, there exists no standard procurement guideline across private sector organizations. Though the broad steps in project procurements cut across, their application differs in the private sector organizations. The study will focus on the role of procurement function in such organizations with reference to Kenya Tea Development Agency Ltd.

In conclusion, procurement is vital to the success of projects. In fast changing technological situations, effective acquisition strategies can help decrease risk, shorten lead times, reduce investments, and improved response to project needs (Virolainen, 1998). Informed, holistic approach to procurement can improve the effectiveness of the process, and underpin more productive and open relationships with suppliers.

1.1.3 History of Kenya Tea Development Agency

The history of KTDA is as rich as the tea it produces. It dates back to 1957, when the first small-holder tea factory was set up at the foothills of Mt. Kenya in Ragati, Nyeri County. The factory was managed through a management agreement with multinational tea companies. On June 30, 2000 KTDA (the Authority) was transformed into a private company, KTDA (the Agency) Ltd and registered under the Companies Act. Smallholder farmers produce and sell their tea through the Kenya Tea Development Agency, which is the largest single tea agency in the globe and currently manages sixty six tea processing factories.

KTDA has grown over time since privatization in 2000 key of which is transformation into a holding company with several subsidiaries in 2009. This includes the KTDA Management services, KTDA power company, Chai trading company ltd, Majani insurance brokers, Greenland fedha, Ketepa and recently formed Tea engineering and machinery company (TEMEC). All these are formed along the tea value chain and are geared towards vertical integration of tea value chain and cost reduction through leveraging the buying power and expertise in the value chain.

KTDA has, and is still investing in projects worth billions of shilling in factory construction and expansions, small hydro power projects in tea growing areas of Kericho, Nandi, Kisii, Kiambu, Nyeri, Kirinyaga, Embu and Meru, construction and modernization of warehouses in Mombasa, installation of electronic weighing solution in factories, implementation of various ICT project like ERP (SAP) and construction of a thirteen storey building in Nairobi along Koinange street. It is important to note that procurement of all projects is coordinated and procured through the KTDA head office where there is highly trained manpower in technical, business, finance, procurement and

management to run the projects. The list below shows some of the recently completed and currently ongoing project under KTDA

Table 1.1

List of Projects completed by KTDA

Project Name	Estimated project cost in KSH	Current project status
Construction of Imenti Hydro power	500,000,000.00	Completed
Construction Olenguruone tea factory	600,000,000.00	Completed
Construction of Boito tea factory	600,000,000.00	Completed
Construction of Motigo tea factory	600,000,000.00	Ongoing
Construction of Miritini warehouses	1,000,000,000.00	Ongoing
Pallet racking for warehouses in Mombasa	120,000,000.00	Complete
Construction of Chania Hydro power	550,000,000.00	Ongoing
Construction of Gura Hydro power	2,000,000,000.00	Ongoing
Construction of Nyamindi Hydro power	1,500,000,000.00	Ongoing
Implementation of Electronic weighing solution	297,000,000.00	Complete
Implementation of ERP (SAP) system	700,000,000.00	Ongoing
Implementation of Weigh bridges in factories	264,000,000.00	Ongoing
Implementation of fleet management solution	66,000,000.00	Ongoing

Considering the number and values of the completed and ongoing project in KTDA, there is no doubt therefore that KTDA provides a suitable case for study on the role of procurement function in completion of projects.

1.2 Statement of the Problem

Studies on project implementation reveal a number of projects that have stalled, delivered at much higher cost than budgeted (Cost overruns), delayed (time overrun) and delivered at lower quality than specified. In a study on time and cost overrun in power projects in Kenya with reference to Kengen, it was observed that the Projects had time overruns ranging from –4.6% to 53.4 %, while the cost overruns varied between 9.4% and 29%. Contractor inability, improper project preparation and resource planning were identified as the key contributor to the cost and time overruns (Kagiri & Wainaina, 2012).

Barasa (2014) identified Lack of effective project procurement planning, lack of an effective contract monitoring and control, choice of procurement procedure and communication within the context of procurement as key problems of project procurement in KCAA. Wangari (2014) identified several problems that led to delay in project completion for water projects in water services board in Kenya. These were; inadequate financing, delayed payment to contractor, lack of performance monitoring on the contractor, project scope variation, contractors incompetence attributable to lack of adequate equipment and skilled personnel, among others. Inflation, project complexity, inaccurate material estimation, financing, change orders, design changes, late submission of drawing, poor specification, incorrect site information, poor contract management were found to be main sources of overruns for projects in Ghana. (Frimpong et al. 2003). The construction industry is often faced with low performance in the form of projects completed late or over budget (Post 1998; Shortages 2005; and Georgey et al. 2005).

From the studies, most factors found to contribute to project failures are within the realms of procurement management and could be better managed if procurement as a function within the organizations played their role well. However, limited study has been done to highlight what role procurement function ought to play within their organization to facilitate projects completion, especially in private sector organizations. In Kenya, for example, a research gap exists where limited research has been done on the role of procurement function on project completion in private sector organizations. The purpose of this study was to fill this research gap in the literature review by exploring the role of procurement function specifically procurement planning, solicitation, contract management and risk management on project completion in private sector organizations.

1.3 General Objectives of the Study

The objective of this study was to determine the role of procurement function on project completion in private sector organizations.

1.4 Specific Objectives

i. To evaluate the role of project procurement planning on projects completion in Kenya Tea Development Agency
ii. To determine the role of solicitation on projects completion in Kenya Tea Development Agency
iii. To investigate the role of contract management on projects completion in Kenya Tea Development Agency
iv. To determine the role of procurement risks management on projects completion in Kenya Tea Development Agency

1.5 Research Questions

i. What role does project procurement planning play on projects completion in Kenya Tea Development Agency?

ii. What is the role of solicitations on projects completion in Kenya Tea Development Agency?

iii. What role does contract management play on projects completion in Kenya Tea Development Agency?

iv. What is the role of procurement risks management on projects completion in Kenya Tea Development Agency?

1.6 Justification of the Study

It is a widely accepted adage that learning is a continuous process in all facets of life and comprises of formal and informal, intended or non-intended and sometimes accidental. The research will contribute to the existing body of knowledge in several ways; help in learning and consolidating procurement expertise especially with regard to project procurement, enable procurement professionals to understand their role and bring maximum value to their organizations in project procurement and management process. The research will also help in creating and elevating the regard for procurement professionals within the technical community of an organization and enable integration of the procurement processes with the general project management for improved delivery of projects.

1.7 Scope of the Study

The study focused on Kenya Tea Development Agency (KTDA) Holdings limited, a holding company with investment in tea management services for the small scale tea farmers, and in the associated value chain businesses i.e. in insurance, power generation,

warehousing, microfinance, and manufacturing of tea processing machinery. It covered the end office staff in all its department and subsidiaries based at the head office. The study specifically involved the management staff at KTDA head office in various departments namely procurement, operations, finance/accounts, technical services, legal, information communication technology Greenland Fedha, marketing, human resource and administration, strategic planning and ktda power. In this case, 179 employees across these departments were recruited into this study. However, the sample population comprised of only 54 employees. Considering the number and values of the completed and ongoing project in KTDA, there is no doubt therefore that KTDA provided a suitable case for study on the role of procurement function in completion of projects.

LITERATURE REVIEW

2.1 Introduction

Projects are dependent on mutual and enduring industry collaborations and demand a strategic management approach. Effective procurement for projects, may they be in engineering, construction, IT etc is thus necessary prerequisite to overall project success. By acknowledging the strategic nature of procurement for project success, then it means giving proper and early attention at the project preparatory stage to policies, processes, and resources. Jaakkola (2004) points out that the process of establishing contract management in an organization can take years, and should be viewed as an on-going process designed to generate cost savings.

2.2 Theoretical Framework

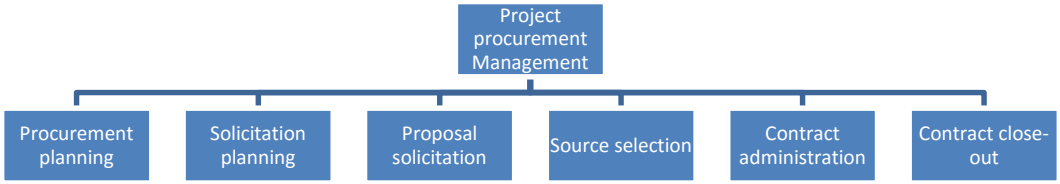
Project procurement management includes the processes required to acquire goods, and services to attain the project scope from an outside the performing organization

(PMBOK, 2004). For the purpose of this study, two qualitative theoretical models of project procurement management were considered. These are: PMI model as articulated in the PMBOK (2004) and Best Value Business Model (BVBM).

2.2.1 PMI Model of Project Procurement Management

PMI through their guide known as 'The project management institute body of knowledge (PMBOK)' provides the world standard for project management. The guides gives theoretical framework in relation to project management specifically addressing: project integration management, project scope management, project time management, project cost management, project quality management, project human resource management, communication management, risk management and project procurement management.

PMBOK establishes six major processes in project procurement management. These are: procurement planning, solicitation planning, solicitation, source selection, contract administration, and contract close out. It emphasizes that these processes interact with each other and with the processes in other knowledge areas as well. Fleming, (2003) and Guth, (2009) concurs that the six are the major processes in procurement management for projects and if well executed, projects will be delivered on time, budget and to the required specifications. The six project procurement processes as postulated by the PMI project procurement model is as summarized in the figure 2.1.



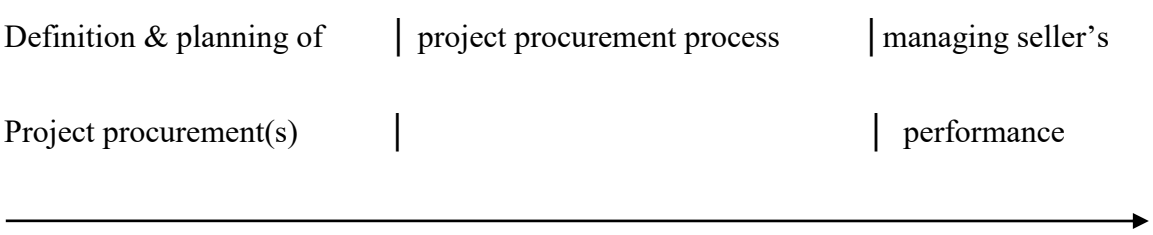


Figure 2.1. Project Procurement Management processes

According to PMI (2008) procurement planning for project involves consideration of whether to procure, how to procure, what to procure, how much to procure and when to procure. It should include consideration of potential sellers, particularly if the organization wishes to exercise some degree of influence or control over the contracting decisions.

The key inputs to the procurement planning process include: scope statement describing the current project boundaries, product description providing important information about any technical issue or concerns that would need to be considered during the procurement planning, procurement resources required to support the procurement activities for the project, market conditions including consideration of products and services available in the market place, from whom and under what terms and conditions, cost and schedule estimates, constraints including financial availability and assumptions made during the project procurement process. The key tools and techniques for the project procurement planning include: make or buy analysis, expert judgment to assess the inputs to the process, contract type selection as different type of purchase will require different type of contracts. The main output of the project procurement planning according to PMI will be procurement management plan which describes in detail how the remaining procurement process from solicitation to contract close out will managed and the statement of work

which will describe the procurement item in sufficient details to allow prospective sellers to determine if they are capable of providing the item (PMI, 2008).

Solicitation planning involves preparation of the document need to support solicitation. The key inputs at this stage include the procurement management plan, the statement of work and project schedule. The tools and techniques of solicitation planning as per PMI include standard forms e.g. standard contracts, standard description of procurement items or standard version of the need bid documents. PMI emphasizes that organizations that do substantial amounts of procurement should have many of these documents standardized. Expert judgment is a technique employed at this stage.

Outputs from the solicitation planning include: Procurement documents to be used to solicit proposal from prospective sellers. Common names for different types of procurement documents include: invitation for bid (IFB), request for proposal (RFP), request for quotation (RFQ), invitation for negotiation (IFN), and contract initial response (CIR). Procurement documents should be structured to facilitate accurate and complete responses from prospective sellers. They should always include the relevant SOW and any required contractual provisions. Procurement documents should be rigorous enough to ensure consistent, comparable responses, but flexible enough to allow consideration of sellers suggestion for better ways to satisfy the requirements (Barasa, 2014).

The evaluation criteria which will be used to rate or score proposals must be clear and expressly put in the procurement documents. They may be objective or subjective. Evaluation criteria may be limited to purchase price if the procurement item is readily available from a number of acceptable sources. When this is not the case, PMI advises that other selection criteria must be identified and documented to support an assessment. For example: understanding of need as demonstrated by sellers proposal, financial

capacity, management approach, overall of life-cycle cost, technical capability, previous experience for projects of similar nature, delivery period etc. The other key output includes statement of work updates.

Solicitation involves obtaining responses from prospective sellers on how project needs can be met. Most of the effort at in this process is expended by the sellers usually at no cost to the project. Procurement documents and prequalified suppliers list are some of the inputs to this process. Tools and techniques at this stage include bidders conferences and advertising through general circulation publications such newspapers or in specialty publications such as professional journals. Outputs of this process are the proposals prepared by the prospective sellers describing their ability and willingness to provide the required product. They are prepared in accordance with the requirement of the relevant procurement documents. Proposals may be supplemented with an oral presentation (PMI, 2008).

Source selection involves the receipt of bids or proposals and application of the evaluation criteria as stipulated in the procurement documents to select the product provider. Many factors aside from price or cost may need to be evaluated in the source selection decision process. Organization policies may also come into play during the evaluation of the proposals and the source selection. The tools and techniques of source selection include; Contract negotiations - This involves clarification and mutual agreement on the structure and requirement of the contract prior to signing of the contract. To the extent possible, the final contract language should reflect all agreement reached. Subject covered include responsibilities and authorities, applicable terms of law, technical and business management approaches, price, contracting financing and payment terms (Kagiri & Wainaina, 2012).

Weighting system is a method of quantifying the qualitative data to minimize the effects of personal prejudice on source selection. Most such systems involve assigning a numeric weight to each of the evaluation criteria, rating the prospective sellers on each of the criterion, multiplying the weigh by the rating and totaling the resultant products to compute an overall score. Independent estimates/Cost estimates for many procurement items, the procuring organizations may prepare its own independent estimates as a check on the proposed pricing. Significant differences from these estimates may be an indication that the SOW was not adequate, or that the prospective seller either misunderstood or failed to respond fully to SOW.

The key output of the source selection process is a contract which is a mutually binding agreement obligating the seller to provide the specified products and obligating the buyer to pay for it. A contract is a legal relationship subject to remedy in the courts. The contract may be simple or complex and may be called among other names, a contract, an agreement, a subcontract, a purchase order, or a memorandum of understanding. It is good practice as PMI for organizations to have documented policy and procedures defining who can sign such agreements on behalf of the organization. The legally binding nature of contracts usually means that it will be subjected to a more extensive approval process. The primary focus of the review and approval process is to ensure that the contractual language describes a product and or service that will satisfy the identified need (Kagiri & Wainaina, 2012).

Contract administration is the process of ensuring that the seller's performance meets contractual requirements. On larger projects with multiple products and service providers, key aspect of contract is managing the interrelationship among the various providers. The project management aspects that be applied at this stage include: project plan execution

by authorizing contractor's work at the appropriate time, performance reporting through monitoring of contractor's cost, schedule and technical performance, quality control through inspection and verification of the adequacy of the contractor's product, change control to ensure changes are properly approved and that all those with a need to know are aware of such changes. Contract administration has also a financial management component. Payment terms should be defined within the contract and must involve a specific linkage between seller progress made and seller compensation paid (PMI, 2008).

The contract documents, sellers/contractors work results, change request, sellers invoices are part of the inputs to the contact administration process. Change requests may include modification to the terms of the contract, changes to the description of the product or service to be provided. Decision to terminate the contract due to sellers/contractor's unsatisfactory performance may also be handled as a change request. The main tool and techniques of contract administration as per PMI include: contract change control system, performance reporting and payment system. Correspondence, contract changes, and payment and or payment requests are some the key output of the contract administration process.

Contract closeout involves both product verification to ascertain that all works under the contract was completed correctly and satisfactorily and updating of the records to reflect final results and archiving of such reports for future use. Early termination of contact closeout is a special case of contract closeout. The contract along with the supporting schedules requested and approved contract changes, seller performance reports, invoices and payment records inspect report form the key input to contract closeout. The tools and techniques of contract closeout according to PMI include procurement audits. Procurement audit is a structured review of of the procurement process from the

procurement planning through contract administration. The aim of the procurement audit is to identify success and failures that warrant transfer to other procurement on the particular project or to other project within the performing organization (Kagiri & Wainaina, 2012).

Contract closeout should have a contract file – a complete set of indexed records and formal acceptance and closure. These two form part of the contact closeout outputs. The organization responsible for the contact administration should provide a seller with a formal written notice that the contract has been completed, normally in form of contract completion certificates (PMI, 2008).

2.2.2 Best Value Business Model (BVMB)

Project Performance especially in the construction industry is wrought with challenges and owners often are victim to cost and schedule overruns, particularly on high profile projects that are large, complex, and risky. Alternative project delivery methods and techniques are continually being developed and implemented by buyers of construction services to address these problems (Brian, Anthony, & Kenneth, 2013).

Research has shown that large or complex project face difficulty in delivering quality, with cost and schedule overruns of 40 to 200 percent (Condon & Hartman, 2004). Buyers of construction services have turned to various solution strategies, typically in the form of implementing alternative project delivery methods such as design-build (Gransberg et al. 2003). One approach, known as the Best Value Business Model (BVBM), holds the potential to overlay on top of these project delivery methods to further alleviate poor performance in construction (Santema, 2011). BVBM aims to improve project performance through value-based evaluation of proponent proposals during procurement, pre-contract planning to clarify the highest-rated proponent's project delivery plan and

risk management approaches, and a performance measurement system to regularly track cost and schedule impacts for the duration of the project.

The BVBM has been rigorously tested and shown to improve project performance via its three-phased approach to project delivery. BVBM increases performance throughout the project lifecycle by utilizing value-based selection processes, pre-contract planning methodologies, and performance measurement systems. BVBM has the ability to optimize project cost and schedule performance through the application of a value-based selection methodology, a pre-contract preplanning period, and a weekly risk management system (Brian, Anthony, & Kenneth, 2013).One aspect of the Best Value Business Model is highlighted in particular – its unique pre-contract planning methodology – to demonstrate the significantly beneficial impact it can have in the area of risk management, minimization of cost and schedule growth, and facility optimization.

The Best Value Business Model is an approach to project delivery and management that consists of techniques to improve efficiency and value in all aspects of the lifecycle for project delivery. BVBM is divided into three major phases. The first phase is Selection, which encompasses a value-based approach to procuring goods and services and consists of unique expertise-based evaluation criteria. The second phase is a pre-contract planning process that occurs with the single highest rated Proponent from Selection. This pre-planning methodology is unique to BVBM and is called the Pre-Award Clarification Period. The third phase is Performance Measurement for the lifetime of the contract, where a formal reporting system is utilized to track cost and schedule growth while simultaneously providing a structured change management communication process (Santema, 2011).The Best Value Business Model is not a new process; rather, it has been tested and refined by the Performance Based Studies Research Group (PBSRG) from

Arizona State University (ASU) on more than 900 individual procurements of construction and design services with a total value of more than $2.7 billion (Kashiwagi et al. 2012a; Kashiwagi et al. 2012b; Sullivan et al. 2012a). BVBM has been implemented by more than eighty 80 organizations, generally representing large buyers of construction and general services in the public and private sectors, including the U.S. Army Medical Command, Arizona State University, State of Oklahoma, University of Alberta, State of Idaho, University of Minnesota, General Dynamics, Harvard University, and Rochester Public Schools (Sullivan, 2011). Other groups that have utilized BVBM include the Hanze University of Applied Sciences, City of Peoria, Tata Steel, and the government of the Netherlands (Bos, 2012, Sullivan et al., 2010; van der Rijt, & van den Hoogen, 2012; van de Rijt & Santema, 2012).

The Best Value Business Model utilizes three-phased project delivery method. The first section describes the value-based Selection phase. The second section provides information regarding the Pre-Award Clarification Period. The third section discusses the performance measurement system used within BVBM. The BVBM selection phase consists of a value-based procurement process to deliver a wide range of goods or services. Components of the value-based procurement include (Bos, 2012; Sullivan & Savicky, 2010): Past performance information on key firms and individuals. Information is collected regarding from past clients that have used the Proponent firm or individual on previous projects. The past clients provide information regarding the Proponent's capabilities in management, meeting schedule deadlines, risk assessment, planning, and adhering to rules and regulations as well as their overall satisfaction with the Proponent's performance; Risk-based submittals that require proponents to identify, prioritize, and minimize risks they see in the service delivery.

The first submittal looks at technical risks to the project, which refers to potential risks that are directly within the Proponent's control and therefore can be minimized at the outset of the project due to the Proponent's expertise in delivering the project. The second submittal focuses exclusively on risks the Proponent does not control, such as regulatory approvals, third party interactions, or owner-provided deliverables; A Value added submittal wherein proponents/potential contractors may propose alternatives to the prescribed scope of services. These alternatives should be outside the owner-specified scope of services, which enables proponents to utilize their expertise to determine the best service delivery options. All cost and schedule impacts associated with these options are also included on the value added submittal; Interviews are conducted with the operations personnel who will deliver the good or service. Each individual is interviewed independently from all other project team members. Interview questions center on how the operations personnel plan to deliver the project, risks they see to the plan, potential impacts of these risks, strategies to minimize the risks, and any support they may require from the owner organization (Bos, 2012; Sullivan & Savicky, 2010).

Evaluations are conducted individually by each member of the Evaluation Committee on a 1 to 10 rating scale. Once complete, individual evaluations are returned to the project's contracting officer for compilation. The table below provides a listing of the specific components of the evaluation and their associated sample evaluation weights. The weights could vary from one project to the other.

Table 2.1

Contractor Selection criteria as per BVBM

Selection criteria	Sample weighting

N	Criteria	Weight
1	Cost	A
2	Technical Capability	B
3	Risk Assessment	C
4	Value Added	D
5	Interviews	E
6	Past Performance Information	F
	Total Points Possible	Summation of (a,b,c.d,e,f)

In the Pre-Award Clarification Period the highest rated Proponent from the Selection phase is notified of their Selection, provided that their cost is within a justifiable range. This highest rated Proponent is then moved forward into a brief, yet rigorous preplanning and risk management process known as the Pre-Award Clarification Period. This period features a highly flexible and unique approach, including traditional preplanning activities augmented with a specific focus on risk, client concerns, alignment of expectations, and the selected Proponent's service delivery plan (Sullivan et al., 2012a). Key deliverables of this period include: Thorough pre planning and proposal review by the Proponent and owner, detailed project plan developed and presented by the Proponent, uncontrolled risks are identified, prioritized, minimized, and documented by the Proponent, project milestone schedule is developed, Performance system implementation is planned for Phase three. The specific steps within the Pre-Award Clarification Period are as follows: Step 1: Process Education. The owner and related consultants provide educational resources for the selected contractor regarding the philosophy of the process, expected deliverables, and agenda of the initial kickoff meeting. Step 2: Kickoff Meeting. The contractor directs the meeting by presenting an overview of their project plan, discusses major risks and solutions, and sets the schedule of activities for the preconstruction planning period. Step 3: Plan & Coordinate

Deliverables. All required coordination activities are conducted to determine details of the project plan. This step has the longest duration, and consists of meetings with specific owner stakeholders to provide needed information and requirements to the contractor's project team. Step 4: Insert Deliverables into Contract. The final functional plan is written in a formal manner and included in the contract documents. The plan includes the project scope (centered on interaction points between project participants), risk management plan, milestone schedule, financial agreement, and performance metrics. Step 5: Summary Meeting. This meeting serves as a formal, final check that all parties agree to the plan before signing the contract. Step 6: Contract Signed. Once all parties agree to the plan presented in the Summary Meeting, the contract documents are finalized, compiled, and signed (Sullivan et al., 2012a).

The third phase of the Best Value Business Model is the incorporation of a performance measurement system for the lifetime of the project, which serves as a tool for the owner to analyze performance on each individual contract they procure. The main component of the Performance Measurement phase is a Weekly Risk Report (WRR) process. The WRR is an Excel spreadsheet that is submitted by the contractor prior to or at the date when Notice to Proceed is given all the way through substantial completion and project closeout. Within this spreadsheet, all risks that occur during the project are documented along with their associated cost or schedule impacts (Sullivan et al., 2012a).Submission of the Weekly Risk Report becomes a real-time performance measurement system because the WRR is submitted each week with any relevant updates. Weekly submission is typically accompanied by a risk review meeting with key stakeholders from the contractor and owner teams, which essentially becomes a formalized change management process to communicate any alterations in project approach. The information captured in

the Weekly Risk Report includes: Contact information for key members of the owner and contractor project team, a brief, written description of each risk that impacted the project. This description is updated weekly with any relevant updates until the risk in question is resolved and closed out, projected resolution dates for open risks, cost and schedule impacts of each documented risk, as well as an associated summary of any change orders approved by the owner, a milestone schedule with up-to-date information on percent completion, an owner satisfaction rating with the contractor's actions to mitigate each risk that occurred during project delivery (Sullivan et al., 2012a).

2.3 Conceptual Framework

According to Mugenda and Mugenda (2003), a conceptual framework refers to conceptualization of the relationship between variables in the study and is shown diagrammatically. It expresses the independent variable which influences the dependent variable. A dependent variable is a variable that is a consequence of another while an independent variable is that which is antecedent to the dependent variable or that which makes it change (Kasomo, 2006). The hypothesized variables include procurement planning, solicitation, contract management and risk management while the dependent variable is project completion as illustrated in conceptual framework model (See Fig.2.2). Using this, the researcher the researcher is able to show the relationship of the different constructs that the researcher was to investigate.

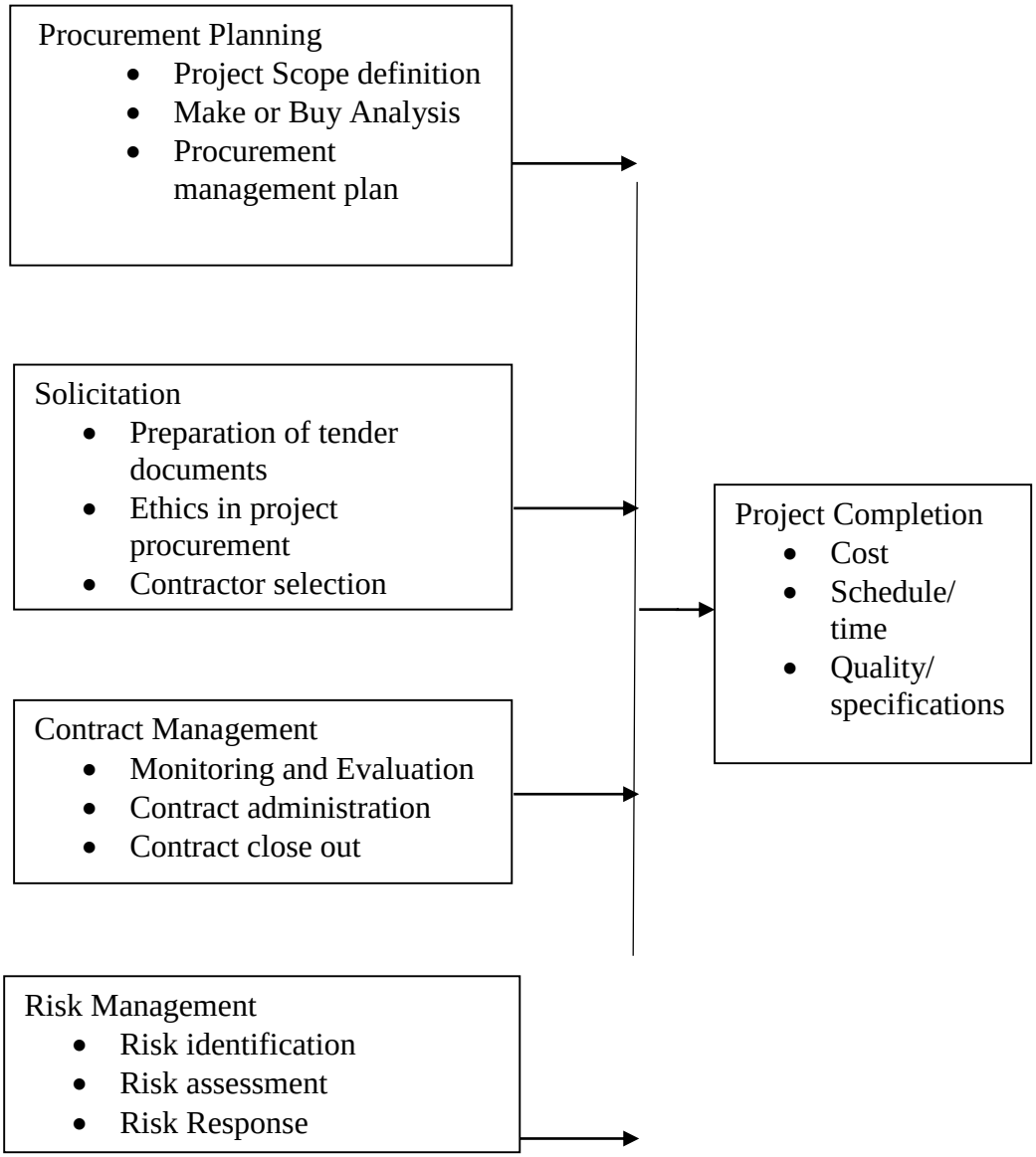


Figure 2.2. Conceptual Framework

2.4 Empirical Review

Similar studies have been carried out by cherotich (2014), Barasa (2014), Wangari (2014) and Oloo (2013). Wangari (2014) did a study on the factors influencing the completion of time of water projects in water services boards in Kenya, a case study of Athi water services board. The study sought to investigate the factors influencing completion time of

water projects in water services boards in Kenya. The objectives of the study were to determine how financing influences completion of water projects, establish how monitoring process influences the completion time of the water projects, examine how the contractors capacity influences the completion time of water projects and establish the extent to which contract variations influences completion time of water projects. The study adopted a descriptive survey design. Findings of her study indicated that the four variables studied were significant in explaining 96% of the variations in the completion time of the water projects. It established that the contractor's capacity to deliver the projects had the highest level of significance in the delivery of the projects. Supply capacity was an issue in inadequate equipment, lack of skilled personnel and financial ability. The procurement function implication here is that the choice of the contractor is critical to the project delivery. Project contract monitoring was also found to be the second in terms of significance in project delivery times. Resource allocation in terms of finances and personnel to monitor/manage the contract was found to contribute to time overrun in the water projects. The study further found that contract variations were common in the water projects and that they had a negative impact on the water projects. Among her recommendations were: prior planning and resource allocation in terms of finances to enable payment of contractors on time personnel to manage the contract and the contract performance are import for timely project delivery. She further recommended that contactor selection for projects should have the experience in execution of similar project, skilled personnel and should have sound financial standing.

Oloo (2013) conducted a study on the influence of procurement procedures on construction projects performance, a case study of power plant construction at Kenya Petroleum refineries limited. The study sought to: establish the extent to which the

project design choices influence the construction project performance, find out the influence of bid invitation and evaluation on projects, assess the influence of compensation/payment terms on project performance and evaluate the actual performance of the construction project after following procurement procedures. Oloo (2013) found out that the project had a cost overrun of 23% and a time/schedule overrun of 58%. These were attributable to several factors among them scope/contract variations and poor project management. The quality of the project was found satisfactory. He further established that defective design had negative impact on the cost and time/schedule for the project, contributing about 30% of the cost and time overrun. Selection of the contractor which is as a result of bid invitation and evaluation was also found to have an impact on cost and time schedule for the project. Of particular importance is contractors experience in similar projects. Procurement approach to the project was also found to be important for successful project. His recommendation is that procurement approach needs to be determined prior to commencement of the project procurement process. This is ideally part of the procurement planning which has been identified by several researchers to be an important and integral aspect of successful project delivery.

A study which was carried out on the influence of contract management on performance of outsourced projects in medium manufacturing enterprises in Nairobi County (Mutua, Waiganjo, & Oteyo, 2014) established that the overall performance of the projects was only moderately satisfactory with success being influenced by contract management. They found out that 95% of all firms surveyed considered a clear statement of project objectives in contracts important for successful project delivery, while project acceptance criteria and dispute resolution mechanism were rated as important contractual devices. In

emphasizing the importance of contract management in project procurement (Mutua, Waiganjo, & Oteyo, 2014) identified Project management training, especially on contract management as one avenue of improving the performance of outsourced projects. The study further recommended the introduction of contract management training and certification for project managers and project team members to enhance project performance in medium manufacturing enterprises.

2.4.1 Project Completion

Traditionally, researchers and organizations have focused on the three project completion/ performance criteria of cost, time and quality (Dainty et al., 2003; Chan & Chan, 2004; Swan & Khalfan, 2007). Recently, many studies have, however, included also other performance aspects, such as health and safety (Chan & Chan, 2004), environmental performance (Chan & Chan, 2004; Swan & Khalfan, 2007), customer satisfaction and innovation (Chan & Chan, 2004; Collins & Baccarini, 2004); Harty, 2008). Satisfactory time and cost performance is of little value if the project delivers inferior quality. The concept of quality is closely related to customer satisfaction, which has gradually been elevated in importance in the construction industry (Forsythe, 2007). Customer satisfaction is commonly described as a comparison between the customer's pre-purchase expectations and their post-purchase perceptions. Hence, it involves the customer's final feelings about whether the outcome provided a satisfying or dissatisfying experience (Forsythe, 2007).

Therefore, we see two main aspects of quality. First, quality of end product has to do with the users' satisfaction with the finished project and it is a critical success factor (Collins & Baccarini, 2004; Forsythe, 2007). It is also related to how the final product and its function meet the specification (Chan & Chan, 2004; Collins & Baccarini, 2004). The

second aspect of quality is the service quality during the construction process, which reflects the client's perception of the process during which project participants interact to create the end product (Maloney, 2002; Forsythe, 2007).

This has traditionally been seen as one of the most important areas – if the economy of the project is off, the project can seldom be seen as a success. Overall project cost, i.e. the overall cost that a project incurs from inception to completion, is of major interest as it shows the resource usage in economic terms. Another important aspect regards cost predictability, that is, whether the final overall cost is in line with the initial cost estimate (Swan & Khalfan, 2007). Cost overruns can be a source for problems for an otherwise successful project as contractors are frequently criticized for the common occurrence of cost overruns, sometimes labelled as cost growth in construction projects (Chan & Chan, 2004).

Project duration is simply the number of days/weeks/months from start to completion of the project. Since time can be a critical issue for many clients, project duration is often of prime interest. However, schedule overruns may be an even more important issue. Keeping everything on track is the key to delivering the iron triangle of the project. It will enable completion of scope on time and within budget. For the core of the triangle, there is tracking of scope against time spent and against money spent. To keep the triangle from being broken, there is further tracking of quality, risk, communications, and the other issues (Sid, 2006).

There is one idea from critical path analysis that is important: if you're late on a crucial task, that will push each subsequent step late and you will deliver the project late. Aspects of time performance include: Managing people and effort in terms of the number of person-hours spent doing work, Managing deliverables and duration. Duration is

independent of effort. People can be doing a lot of work and it isn't enough. We have to make sure that the project is moving ahead and meeting clear goals from beginning to end. Completing projects in a predictable manner on time (within schedule) is an important indicator of project success and the construction industry is frequently criticized for project delays (Swan & Khalfan, 2007). Schedule overruns (sometimes labeled time growth) are often very negative since they hinder the client to start using the end product as planned.

2.4.2 Procurement Planning

Procurement Planning involves the process of identifying which business needs can be best met by procuring products or services outside the organization. This process involves determining whether to procure, how to procure, what to procure, how much to procure, and when to procure (Garrett & Rendon, 2005). This phase of the project procurement process includes the following key activities: Determining and defining the procurement requirement (the supply or service to procure), Conducting market research and/or a pre-solicitation conference, Developing a preliminary Work Breakdown Structures (WBS) and Statements of Work (SOW), or description of the supply or service to be procured, develop preliminary budgets and cost estimates. As a general planning principle, Chandra (2008) asserts that unlike small projects that involve few activities, complex projects that go beyond a certain threshold level of magnitude should proceed on the basis of a sound formal planning platform without which there may be chaos.

Brown and Hyer (2010) have asserted that in general planning includes identifying the purpose, defining the scope, determining customer requirements (user needs), identifying tasks (key procurement activities), estimating time (delivery schedules for goods and services) and cost, assigning responsibilities and other activities. Lysons and

Farrington (2006), on their part, have also underscored the relevance of resource allocation as an aspect of planning in the process of the project implementation strategy formulation. Resource allocation at this stage will normally assume the form of financial, physical, human and technological resources allocated to a function or activity. Such allocation is usually reduced to quantitative terms expressed in procurement budgets or financial statements of resources needed to achieve specific objectives or to implement a formulated strategy. According to Meredith and Mantel (2012), the key things to be planned, monitored and controlled are time (schedule), cost (budget) and scope (performance). It is useful to perceive the control process as a closed-loop system, with revised plans and schedules (if warranted) following corrective actions. According to Fleming (2003) best practices in procurement planning include the use of outsourcing analysis to assess contract risks and market research to identify supplier capabilities, as well as determine industry practices for describing the requirement and determining contract type. Early supplier involvement though the use of pre-solicitation conferences and industry benchmarking are also considered best practices.

Any viable procurement planning must factor the costs required to accomplish the defined scope of work within the allocated time frame or schedule. Cost estimates for a new project can be established using various forecasting models. Some of the more recognized methods of cost estimation for purpose of setting budgets for new projects include: Analogy (expert judgment) relationship, Parametric modeling, computerized estimating tools, firm proposals from viable sellers and bottom-up estimates. If proper project budgeting is not done for purpose of cost estimation, it would be difficult to measure if there is value for money for the project (Flemming, 2003; Guth, 2009)

A complete definition of the scope of a project upfront during early stages ensures smooth and successful implementation during the project execution (Fageha & Aibinu, 2014). Inadequate pre-project planning and poor definition of project elements have been identified as the major reasons for the project failures in Saudi Arabia (Al-Humaidan, 2011). The Project design selection does significantly influence the construction project performance (Omondi, 2013). Lack of a clear project scope definition, as well as improper control of these, have been recognized by recent researchers as major barriers to project success (Mirza, Pourzolfgaghar, & Shahnazari, 2013). Therefore, having a well-defined project during the pre-project planning stage is crucial for success during project execution and for achieving a satisfactory project outcome. One of the first steps in the pre -project planning process is to understand what needs to be defined in order to ensure that project scope is clear upfront, thereby facilitating project success. According to (Assaf & Al-Hejji, 2006; AlKharashi & Skitmore, 2009) up to 70% of poor time performance in projects is caused by changes in the project scope. Alsehaimi, Koskela and Tzortzopoulos (2013) investigated a number of studies on delay in construction projects in developing countries. Their study cited poor project management as one of the main causes of delay. They reported that poor planning and control is, specifically, the factor that had been identified in most studies. The study concluded that action research is needed to generate practical managerial approaches to address delay issues and enhance project management practice in Saudi Arabia. This study contributes in the area of project scoping and project definition in the pre-project planning stage, which could remedy the problem if properly approached.

The definition of what will be procured by the project and then preparing a plan of execution for these items can one of the most important aspect of managing a project.

Scope definition, outlining the 'what' the project is going to buy is essential. Without scope definition 'firewall' in place, projects are likely to accept additional work constantly, normally referred to as scope creep throughout their life of existence (Fleming, 2003). Scope creep can only be prevented with an adequately defined project scope. Scope creeps have adverse effects on budget/cost and time/schedule. Large changes in scope are easily identified. It is the minor refinements that build up to be major scope changes that can cause problems.

Ambiguity in scope leads to confusion and unnecessary work. To avoid this, the scope needs to be clear and to the point. Incomplete scope leads to schedule slips and hence finally cost overrun. To avoid this, the scope needs to be complete and accurate. Transient scope leads to scope creep which is the primary cause of late deliveries and potentially "never ending" projects. To avoid this, the scope document needs to be finalized and remain unaltered for the duration of the project. Changes to the scope that is not collaborated leads to misinterpretations in requirements and design. To avoid this, the scope document should be shared with all stakeholders (Mathur, 2015).

All projects involve the need to determine whether the project work will be done in-house, external to the organization (outsourced), or a combination of the two. This is called make-or-buy analysis and is an essential part of project planning, as well as a tool/technique integral to procurement planning (PMI, 2008). A make-or-buy decision must be made for all major segments of projects work before the project plan can be completed. Prior to doing any analyses, all of the choices or alternatives for that segment of project work should be determined, that is, the organization should lay out the various ways the work could be "made" internally, (sources and methods) for external procurement, or hybrids of the two (Oxendine, 2011).

Make or Buy choices should be a direct result from the definition of the project with the use of Work breakdown structure (WBS). For new projects, the process of performing the make or buy analysis is one which will evolve from proposal to implementation. At the start of a new project the make or buy choices are often only tentatively set. The initial position for a new project will have three categories of planned work; Must make work, must buy work, and the as undermined area of work in the middle labeled may make or buy work/items (Flemming, 2003)

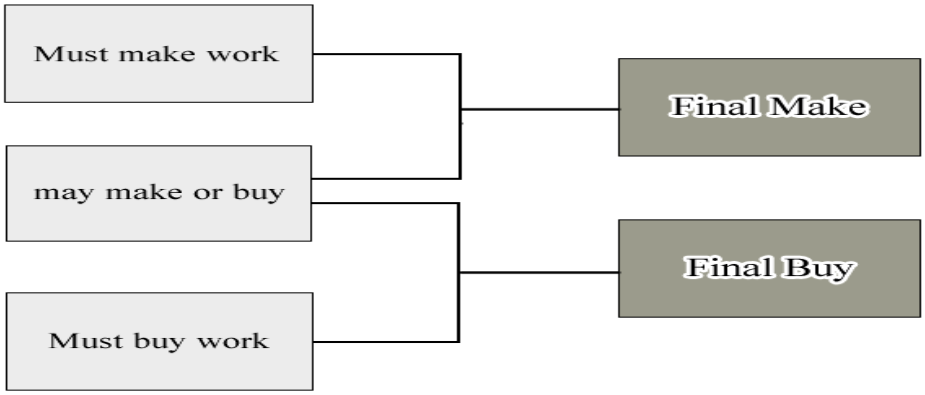


Figure 2.3. Make or Buy Choices Model

The must make work are the easy choices to be made because some tasks will want to be kept in-house for a number of reason e.g. we may have a proprietary position in a certain technology and therefore we will want to perform this effort with our own people to protect our competitive position, surplus staff immediately available to do the work. Pressures to make work on any project will include idle plant capacity, an idle work force, cost, and sometimes the attitude of some that internal work is easier to control than purchased work (Oxendine, 2011).

The must buy tasks are also easy to decide when there is no capability in the company to do certain types of works. Sometimes the company people who could perform the tasks

are already committed to doing other work during the same time frame they are needed. May make or buy are hard choices needed to be made using factors available to decide who will do the work, our internal company workforce or another company. If we elect to send such work to outside of the company for performance, we will need to prepare a formal procurement package, solicit bids and make a final procurement choice (Mathur, 2015).

After the project has made a their final determination of who will perform all the project work, the results will be just two final categories, the make or buy categories as displayed on the right hand side of the figure above. In order to minimize risks associated with the procurement of the must buy items/work, a complete listing of the critical procurements must be completed early in the scope definition phase. Late identification of major critical procurements will vastly increase the risks to the project. This is because in-order to procure anything from the outside, we must be in a position to define precisely what we want from another firm. Late definitions, vague definitions, changing requirements only increase risks to the projects.

According to PMI, procurement management plan is the key output of project procurement planning. The plan describes in detail how the reaming procurement process from solicitation to contract close out will managed and the statement of work which will describe the procurement item in sufficient details to allow prospective sellers to determine if they are capable of providing the item (PMBOK, 2004) . Starting a project without a procurement plan is like embarking on a journey whose direction and destination are unknown or undefined. It would be difficult to define the scope, resource need and allocation and their sources as well define with certainty the expected outcome. The overall approach to the project acquisition program is captured in the procurement

plan; itself linked to the project master plan/system timeline. The procurement plan sets out top level policies for sourcing, tender management, contract evaluation and approvals, the regulatory environment, responsibilities and authorities, procurement strategies, and pointers to detailed procedures and guidance. The procurement plan may be in the form of a public document (Crosby, 2008a), enabling industry and other stakeholders to understand and prepare for project opportunities, and possibly an internal version created for the project (Hall & Kahn, 2006). Such plans need not be large documents, but should cover references and scope, procurement strategy, functional responsibilities, and procurement plans (Ashley, 2009). Plans for specific type acquisitions can be referenced and separate, as can general institutional purchasing manuals, regional rules, and Conditions of Contracts

2.4.3 Solicitation

Solicitation involves the solicitation planning and solicitation process. Solicitation Planning involves the process of preparing the documents needed to support the solicitation. This process involves documenting program requirements and identifying potential sources (Garrett & Rendon, 2005). This project procurement phase includes the following activities, Selecting appropriate contract type, determine procurement method (sealed bids, negotiated proposals, e-procurement methods, procurement cards, developing the solicitation document (IFB, RFQ, or RFP) , determining proposal evaluation criteria, and contract award strategy (lowest priced versus best value), Structuring contract terms and conditions, finalizing solicitation Work Breakdown Structures (WBS), Statements of Work (SOW), or product or service descriptions.

Solicitation is the process of obtaining information (bids and proposals) from the prospective sellers on how project needs can be met (Garrett & Rendon, 2005). This

phase of the procurement process includes: Conducting pre-proposal conference, if required, conduct advertising of the procurement opportunity, or providing notice to interested suppliers, develop and maintain qualified bidder's list. The level and method of industry interfaces will vary according to the stage of the project e.g. preparatory and construction phases, through to operations. In the early stages, there are four ways in which industry may be engaged (Perna et al. 2009); High level engagement at the concept level to discover new technologies or industrial information and skills, R & D contracts for prototyping & design, Global price enquiries for COTS requirements, 'In-kind' contributions of personnel, tools, technical services, or other resources

These engagement options, and later construction phase activities, will normally lead to selection, approval, and a contract using instruments such as a collaboration agreement, Request for Information (RFI), Request for Quotation (RFQ), or Request for Tender (RFT). Open RFTs are most common for engineering supply acquisitions. This more likely guarantees both the largest number of industry enquiries, and a fair approach in gathering industrial information, and supply offers. Price enquiries and R&D contracts performed via open tenders provide the following advantages: Guarantee of full access to a worldwide market to identify the best available technologies free from any geographical boundary restrictions, Continuous monitoring by project stakeholders for fairness in the industrial involvement.

The contents of RFTs and other issued documents are normally closely scripted by institutional templates validated by legal professionals. However care should be taken to ensure that standardized language and text does not mask or generalize either the specific need or overriding objectives of the procurement. Whilst open requests for information or offers have advantages, and are usually a legislated requirement in public procurement

for most projects, some experts point to the benefits of a more direct approach. Partnership sourcing, where the buyer and supplier develop a close and long term relationship resulting in lower total costs, can enhance dependability and overall supplier quality (Virolaonen, 1998). The arrangement encourages early strategic supplier engagement and recognizes distinctive value. Blanchard (1990) too promotes direct negotiation.

Contractor selection is the process of receiving bids or proposals and applying the proposal evaluation criteria to select a supplier (Garrett & Rendon, 2005). The source selection process includes the contract negotiations between the buyer and the seller in attempting to come to agreement on all aspects of the contract, to include cost, schedule, performance, terms and conditions, and anything else related to the contracted effort. This source selection process includes the following activities: Applying evaluation criteria to management, cost, and technical proposals, negotiating with suppliers, executing the contract award strategy.

Substitution of contractors once contract deal has been sealed and work started is very difficult and non-performing suppliers can have a huge impact on project success. Therefore, it is important to ensure that the selection process of the contractor is well done (Fleming, 2003).Best practices in the source selection phase include using a formal source selection organization with trained and experienced cross-functional proposal evaluation teams, using a weighting system to prioritize the evaluation criteria and using a disciplined approach to following the evaluation criteria stated in the solicitation. Additional best practices include obtaining independent cost estimates to assist in evaluation supplier proposals, and conducting a price realism analysis on each supplier proposal. Practitioners agree that effective contractor evaluation requires an approved,

transparent procedure, and should be conducted against pre -determined criteria (Hall & Kahn, 2006). The application of the ISO 9000 Quality Management Systems has seen useful standardization in this. A study undertaken by Watt et al. (2010) contributes interesting data from 222 engineering project cases concerning the relative importance of tender selection criteria. Their research shows that past project performance and technical expertise were of almost equal importance, but twice that of tendered cost. These, coupled with project management expertise contributed to a combined importance >85%" of the nine measured criteria Experience from most projects recommends active checking of past work and competency, not simply relying on contractor assertions.

Selecting a capable contractor is one of the most important tasks faced by the client who wishes to achieve success project outcome (Fong & choi, 2000). This is because contractors are one of the major players in the project and the services they render are critical to quality of the end product as well as meeting the cost and time targets of the project. A good contractor is expected to complete a project on time, within budgeted cost and the desired level of quality (Aje, 2012). The procedure and process of determining the contractor must be such that emphasize their technical and managerial skills (Mshelbwala, 2005). Kramer and white McCurry (2002) suggest that one method of improving construction project performance is to prequalify contractors prior to the bidding process so as to ensure that contractors are able to execute the assigned project in accordance with client and project objectives. For public procurement in Kenya, the manual for project procurement and management (2009) is explicit on prequalification of contractors to arrive at a shortlist before invitation to tender.

Ethical issues, just like risks, traverse the entire project procurement process from need recognition, planning, contractor selection, contract administration and close-out. Project

Procurement is a great environment for ethical issues. It has many opportunities that could contribute to illegal activities or unethical behavior especially in the construction projects (Hassim, Aliza, & Bambang, 2011). Surveys conducted by researchers in Australia by Celentani and Ganuza (2002); Lansing and Schwartz (2004); and Hill et al. (2009) identified several unethical conducts and ethical issues in project procurement such as conflict of interest, bid shopping, collusive tendering, bid cutting, corruption and payment game. It is apparent that there exist significant areas of concern pertaining to the ethical behavior practiced in project procurement that needs attention. That is why it is important to govern the project procurement processes especially the procurement planning stage to ensure the accountability and transparency of the decision making process (Hassim, Aliza, & Bambang, 2011).

According to Guth (2009), linking to the project procurement processes, there are a few of ethical issues that can occur here: Issues of influence – behaviors or actions that may negatively influence or appear to influence, procurement decisions (such as seller gifts, entertainment or outright bribes), Perceived impropriety – the intent and appearance of unethical or compromising conduct in relationships, actions and communications, conflict of interest – personal, business or other activities that conflict with the lawful interests of the employer, Confidential and propriety information – violations of confidentiality, non-disclosure and proprietary rights , reciprocity – improper reciprocal agreements, applicable laws, regulations and trade agreements – violations of Law in private sector procurement but the level of occurrence and publicity may differ.

Donaldson (2001) stated that ethical practices that promote economic efficiency include respect for intellectual property, engaging in fairer competition, avoiding monopolies, avoiding nepotism and crony capitalism, not abusing relationships, providing accurate

information to the market, avoiding bribery, respect for the environment and honoring contracts, promises and other commitments. Ethical issues in project procurement are not only about bribery or corruption but also conflict of interests and collusive tendering. Transparency International (2005) has shown how corruption can add up to 25% to the cost of public contracting, generating waste of public resources, missed development opportunities, an unstable environment for businesses. The effects of unethical behavior will be similar whether we are talking of project procurement in public or private sector. Ethical issues can terribly damage the reputation of the organization making potential suppliers shy away from it, or factor in extra cost to edge the risk coming from non-ethical behavior of the clients' staff. This will make it difficult for such an organization to get value for money in its projects and can therefore contribute greatly to cost and schedule overruns and quality issues.

2.4.4 Contract Management

Primarily, the procurement function/team must ensure that the following are in place, in relation to specific projects; contract change control system, periodic procurement performance reviews, claims administration system and record management system. It is always important that there are formal agreements/contracts with clear statement of project objectives between the buyer and seller for all project procurement (Waiganjo, & Oteyo, 2014). Otherwise it will be difficult to monitor deliverable in terms of scope, time and quality, as well address issues that arise during the lifetime of the contract. According to Gordon (2009) contract management style (CMS) could turn out to be one of the most important new business applications of the first decade of the 21st Century. Bartels (2009) further confirms that information technology is increasingly being applied to contract negotiation, executions and management to standardize, streamline and ensure

contract and regulatory compliances and extend best practices and strategies for contract management across the organization. Maria (2013) study established that, in contract management, the contract supply chain relationship provides high level framework to approach contracting as a business process. However, even the most carefully designed contracting process supported by sophisticated information technology will not succeed without capable contract management professionals (Maria, 2013). Thus organizations need to invest in developing the functional and interpersonal skills of the staff. (R.o.K, 2010) confirmed the importance of contract administration to the success of the contract and for the relationship between customer and provider should not be underestimated.

Procurement contracts between the seller and the buyer is clearly the most critical input to administer procurements on the basis that the contract contains all of the responsibilities, undertakings, and obligation of the contracting parties. Contracting parties will continuously refer to the procurement contract through out as a tool to ensure that each party is meeting the contracted obligations. The procurement contract also serves as a baseline to approved change request (Guth, 2009).

Contract Administration is the process of ensuring that each party's performance meets the contractual requirements (Garrett & Rendon, 2005). The contract administration process includes: Conducting a pre-performance conference, Measuring contractor's performance, using performance evaluation tools (Earned Value, Management, schedule analysis, budget analysis), Conducting risk monitoring and control, Managing the contract change control process, Measuring and reporting contractor's performance (cost, schedule, performance) and Conducting project milestone reviews. According to Brown and Hyer (2010), monitoring refers to any tracking system from a simple checklist to

sophisticated dashboard style approaches, for identifying variances from the original plan. They advance the argument that as part of the planning process, a project team should agree on the appropriate approach for monitoring key performance indicators (KPIs) during the life of the project.

On the other hand, Brown and Hyer (2010) define the concept of project control as the set of processes, decisions, and actions involved in responding to project variances. Project control thus portends a project change management process for deciding when changes are appropriate and when to stay the course. Brown and Hyer (2010) have anchored their argument for monitoring and control on the fact that there are several phenomena which influence project execution and cause actual performance to depart from planned performance. These phenomena include: Scope Creep; which describes the tendency for a project to grow beyond its initial size. It is caused by the team members' enthusiasm; unanticipated issues discovered mid- project and redefinition or clarification of customer needs; Murphy's Law; which espouses the principle that anything that can go wrong will go wrong. This means that not all risks can be accurately anticipated; Pareto's law; which postulates that 80% of project's problems and delays are caused by 20% of project activities. An effective project monitoring system should focus on activities that carry the highest risks for delay, cost over- runs, or performance challenges; and lastly, Escalation of Commitment principle which states that human beings tend to continue pursuing failing courses of action, even when all signals point to the fallacy of the strategy. Thus a procurement project contract monitoring system can have a significant influence on people's decisions to escalate or de-escalate commitment.

In a nutshell, Brown and Hyer (2010) suggest six principle pre-requisites for a sound project contract monitoring and control system which are: Ability to identify metrics

relevant to the project, that is, a balanced set of performance indicators; the system should be in-built into the project plan right from the point of project planning stage, capacity to generate accurate information, capacity to generate timely information for timely decision making and corrective action, visibility to team members to enable every individual player/stakeholder to know what is being measured and have ready access to the information, ability to provide a basis for problem discovery and solution; not a mere 'big brother is watching' kind of mechanism that strikes fear into the hearts of participants. Chandra (2008) on his part avers that control is critical to implementation success in so far as it compels regular comparison of performance against targets, a search for the causes of deviation, a commitment to check adverse variances. Monitoring triggers off an effort to search for solutions to the identified threats to the project success.

The goal of contract administration is to ensure proper mechanisms are in place to monitor and evaluate contractors, suppliers and service providers' performance in the fulfillment of their contractual obligations, and to ensure appropriate actions are taken to promptly remedy any deficiencies observed in contract execution or the contract scope, and terms and conditions. Best practices in the contract administration phase include using a formal contract administration methodology with trained and experienced cross-functional team members competent in contractor performance measurement. Additional best practices for the contract administration phase include using an integrated performance evaluation method and establishing a contract change control process (Rendon, 2007).

In almost all projects contracts are the contractual clauses allowing parties involved in the contract to freely initiate variation orders (Ndihokubwayo & Haupt, 2009). Variation order has been seen by many studies as involving additions, omissions, alterations and

substitution in terms of quality, quantity and schedule of works (Rakmat & Yusof, 2011; Rodriguez, 2012). In all these studies various reasons have been advanced for the causes of variation orders but the studies of Ndihokubwayo (2009) have been crystal clear that variation orders occur due to reasons of finance, design, aesthetic, geological, weather conditions, feasibility of construction, statutory changes, product improvement and discrepancies between contract documents. These studies indicate that because human behaviour of parties to the contracts is unpredictable it may result in variation order arising from changes in minds of parties involved in the contract. Variation orders may be initiated by client, contractors or consultants as the case may be.

Variation order has been identified in the main to have two main types as beneficial and detrimental variation orders. Beneficial variation order is one issued to improve quality standard, reduce cost, schedule or degree of difficulty in a project while detrimental variation order is one issued that negatively impacts the client's value or project performance. Variation orders are inevitable in most types of projects and Ndihokubwayo and Haupt (2009) has indicated that for inclusion of variation clauses in contracts amounts to admitting that no project can be executed without changes. Variation orders are procurement related factors that are explored in the present study to find out its impacts on project performance. Impact of variation orders on project performance can be noted in the works of Ndihokubwayo and Haupt (2009); Al-Jishi and Al-Morzoug (2008); and Enshassi, Arain and Al-Raee (2011). Ndihokubwayo and Haupt (2009) states that there are various studies which revealed that variation orders contribute to both cost and project time overruns. Al-Jishi and Al-Marzoug (2008) indicates that variation order can cause impact of additional money for the contractor on the project, delay of materials and tools, work on hold among others while Enshassi, Arain and Al-Raee

(2011) indicates that in the Gaza Strip variation orders result in time delay, cost overrun, quality defects and other negative impacts. All these discussed impacts of variation orders on project performance are investigated in this study. Despite the best of planning, contract changes are inevitable and in many cases, appropriate. However, contract changes invariably have an impact on schedule and cost and my therefore introduce unanticipated risk to the overall project. Where contract Changes introduce most risk is when the contracting parties bypass a formal process and changes are made based on informal, undocumented agreements.

To ensure changes comply with the contract and that no unauthorized changes occur, and to mitigate the risk such as schedule and cost impact, the buyer must implement and follow an effective change control procedure. The detailed procedure must be clearly communicated to the seller (Guth, 2009). Residue issues of project procurements must be addressed even when suppliers have made all deliveries. These include orderly closeout of each procurement contract, the storage of all files, and in particular, the settlement of all outstanding changes and claims the sellers might have against the buyer. Passage of time in relation to unsettled claims works in the sellers favor not the buyer. The seller will want to be paid for everything they did during the performance (Fleming, 2003). The closure of project procurement contracts contain potential factors that can lead to delays and cost overrun. Being the very last part of the project life-cycle it is often been ignored even by organizations, especially in multi-project environments (Athens, 2009). Slow closeout could be seen as dragging the various handover activities course by unresolved disputes linked with client acceptance, contracts, change order issues not resolved, final change orders not issued, poor close out of final account, poor documentation of project success and lessons learnt, slow client acceptance and failing to close the work order can

allow unexpected delay and stray charges to be made to the project (Ambituuni, 2011). Delay in payment of contractors and suppliers after project completion could lead to dispute and delay in signing the certificate of final completion of the project. Delay and cost overrun of slow closeout can be avoided when the project closure phase is implemented as planned. Anthens (2009) suggested that the following steps be adopted: ensure that the project is 100% completed to avoid disputes and delay in payments, detailed documentation will ensure that future changes are made with little extraordinary effort, closing the financial system i.e. all payments, work termination, project review to help in transfer of tangible knowledge of time and cost, know-how and know-why., provide all the necessary information required by stakeholders to avoid conflicts and doubt. "This information can include a timeline showing the progress of the project from the beginning until the end, the milestones that were met or missed, the problems encountered and a brief financial presentation" (Athens, 2009).

2.4.5 Risk Management

Risk has been defined by most management literature as an event that occurs with a certain probability in combination with a consequence in the case of occurrence (Agerberg & Ågren, 2012). Most risk definitions include the ingredient of both positive and negative outcomes (Winch, 2010). Studies have indicated that project managers mostly use the term risk almost solely for the negative consequences of an event occurring (Agerberg & Ågren, 2012). However, Winch (2010) argues about this approach can be clouding as in many cases this attitude may lead to a lack of determination when it comes to managing the opportunities in a project. In his view use of the term risk for both positive and negative outcomes is very inappropriate. He adds that the use of threats and

opportunities is more suitable. This will help in the efficient managing of risks as opportunities.

While focus of this research is confined to the procured items for the project, as contrasted to the internal make items for a project, one cannot simply focus on procured work and expect to control a projects risk. The management of projects risks is also encompassing and must include both the make work and procured work. A risk is a risk, no matter whether the work is to be made or to be bought. According to Loosemore (2006), the perception of risk varies at both industrial and organization levels because different people hold different views and have different understanding of a particular risk component, sources, probabilities, consequences and preferred actions. People's beliefs, attitudes, judgments and feelings influence risk perception to ascertain its extent.

Risk management is a process of systematically identifying, assessing and responding to project risk (PMI, 2004). The primary objective of the risk management process is to maximize the opportunities and minimize threat. Literature contains a variety of risk management models with different numbers of stages. IEC (2001) presents four steps to risk management namely: risk identification, risk assessment, risk treatment, and risk review and monitoring. Similarly PMBOK's model (PMI 2004) divides risk assessment into two processes of qualitative risk analysis and quantitative risk analysis. An additional step worth noting is added by Baloi and Price (2003) is risk communication. Unlike Ward and Chapman (2003), they present the SHAMPU (Shape, Harness, and Manage Project Uncertainty) framework which takes into account nine stages, these include; (i) define the project, (ii) focus the project,(iii) identify the issues (iv) structure the issues, (v) clarify ownership, (vi) estimate variability, (vii) evaluate implication, (viii) harness the plans, and (ix) manage implementation. Irrespective of the variety of models

of risk management risk identification, assessment and response form the core of project risk management. In this study the model consisting the above mentioned three stages is used in this study as shown below in figure 2.4:-

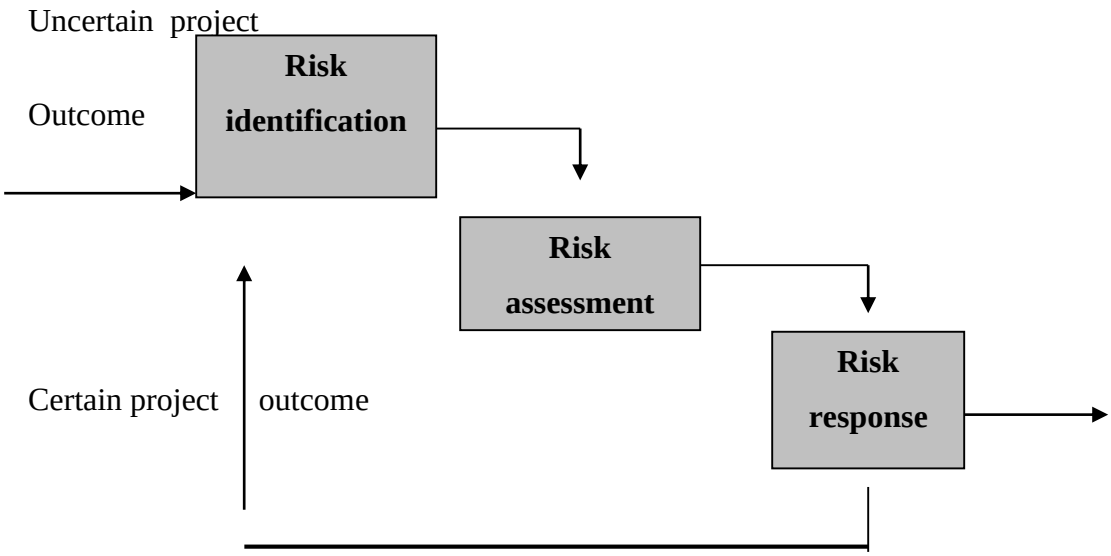


Figure 2.3. Risk management process

Source: Osipova (2008) Risk management in construction projects

According to Loosemore and McCarthy (2008) risk management provides a systematic and consistent approach to risk identification, assessment and control which is essential to effective risk allocation. Risk identification is the first step of the risk management process. It is aimed at determining potential risks, i.e. those that may affect the project. PMBOK (2004) suggests that as many project stakeholders as possible should participate in the risk identification process. There are a number of tools and techniques for identifying the project risks (IEC, 2001). These are brainstorming, expert opinion, structured interviews, questionnaires, checklists historical data, previous experience, testing and interviews with practitioners with the relevant background information of the

project are also an important tool for risk identification (Smith et al., 2006). During the risk identification processes all the potential risks are grouped in categories. According to construction risk can be generally be categorized into three sources; these include internal or controllable risks (e.g. design, construction, management and relationships); external or uncontrollable risks (e.g. financial, economic, political, legal and environmental); and Force majeure risks (Agerberg & Ågren, 2012).

The risk identification processes serves the purpose of generating a list of risks with both negative and positive consequences and are entered in the risk register (PMI, 2004). The primary aim of the register should be one that is comprehensive as possible and should include threats and opportunities whether or not their consequences are under control of the organisation (ISO 3100:2009). If a risk is unidentified it cannot be effectively controlled, transferred or more so be managed. Meanwhile, Potts (2008) say otherwise that it is mostly impossible to identify all project related risks. A contributing factor is the fact that any project is unique.

In risk Assessment step the identified project risks are evaluated and ranked. The goal is to prioritize risks for management. The research literature offers a large number of models that use both qualitative and quantitative methods for assessment of project risks. Tah and Carr (2000) develop a formal model for qualitative risk assessment based on fuzzy estimates of risk components. Baccarini and Archer (2001) describe a methodology for risk ranking of projects, which allows an effective and efficient allocation of the resources for the management of project risks. The JRAP (Judgemental risk analysis process) model proposed by Öztas and Ökmen (2005) is a pessimistic risk analysis methodology, which is effective in uncertain conditions within construction projects. Zeng (2007) propose a risk assessment methodology based on fuzzy reasoning techniques

and aimed at dealing with risks in complex projects. A fuzzy system is also used by Motawa (2006) to evaluate the risk of change in construction projects. Poh and Tah (2006) have developed an integrated model that takes into account both duration and cost risks and can be used for modelling risk impacts that affect the project. Dikmen and Birgonul (2006) propose a methodology for both risk and opportunity assessment of international projects. Empirical research on risk assessment practice investigates the use of the different risk assessment techniques in construction projects. Personal and corporate experience and engineering judgment are the most successful qualitative techniques, while quantitative techniques include break-even analysis, expected monetary value and scenario analysis. Several authors report rather opposite results on the usage of quantitative techniques. A questionnaire survey conducted by Tang et al. (2003) shows that qualitative analysis is the most commonly used technique in the Chinese construction industry, while the use of quantitative methods is very low. The results of the study conducted by Simu (2006) show that the Swedish contractors mostly use professional experience and gut-feeling in risk assessment. The quantitative methods used in risk management have advantages in comparison with the qualitative methods but their use is limited due to difficulties that practitioners face. He also discusses the elements that contribute to development of a workable solution for quantitative risk assessment (Agerberg & Ågren, 2012).

Risk response process is directed at identifying a way of dealing with the identified and assessed project risks. There are four main risk response strategies: risk avoidance, risk reduction, risk transfer and risk retention (IEC 2001, PMI 2004, Smith (2006). Risk avoidance deals with the risks by changing the project plan or finding methods to eliminate the risks. Risk reduction aims at reducing the probability and/or consequences

of a risk event. Those risks that remain in the project after risk avoidance and reduction may be transferred to another party either inside or outside the project. Risk retention or acceptance indicates that the risk remains present in the project. Two options are available when retaining the risk: either to develop a contingency plan in case a risk occurs, or to make no actions until the risk is triggered. It is impossible to eliminate all potential risks in a construction project. Therefore, an appropriate allocation of risks among project actors is very important.

Risk allocation influences the behavior of project actors and, therefore, has a significant impact on the project performance in terms of the total cost. Unclear allocation of the project risks leads to disputes between the client and the contractor. One of the problems identified in the literature is the actors‟ different perceptions of to whom a specific risk or group of risks should be allocated. Usually, contractors indicate that they have to bear the majority of project risks and price these risks through adding a contingency to the bid price (Andi, 2006). Using contingency funds has been identified by the researchers and practitioners as asignificant source of the project‟s cost increase (Zaghloul & Hartman, 2003).

Evaluation and conscious allocation of risks to the appropriate actor under the contract allows reducing the bid price by decreasing contingency funds and, therefore, leads to lower total cost (A number of models providing a framework for risk allocation decisions can be found in the literature (Lam et al. 2007; Li et al. 2005; Olsen & Osmundsen, 2005). Smith et al. (2006) highlight the importance of considering the following issues when making risk allocation decision: who has the best ability to control risk events; who has the best conditions to manage risks; who should carry the risks that cannot be controlled; how much does it cost to transfer the risks.

The final phase in the risk management process comprised monitoring and review. It is worth noting that this phase is not the end of the risk management process, rather an end of a performed cycle (Agerberg & Ågren, 2012). After performed risk treatment activities, the remaining risks are documented and transferred to the next phase in the risk management process, the monitoring and review (ISO 31000:2009). The monitoring and review process will review the treatment activities to ensure that it has been effective and cost efficient. The risk status should be well documented and transferred to the risk register for further analysis and evaluation (Tah & Carr, 2000).

2.5 Critique of existing literature

Eriksson and Vennstrom (2012) did a survey of 106 construction client in Sweden. The subject of the study was to find out the effects of procurement procedures on project performance. They established that some individual procurement procedures: bid invitation and bid evaluation parameters affected project performance. However, the study failed to cover other significant variables (solicitation, contract management, procurement planning and risk management) that are crucial in enhancing project completion and performance.

Maria (2013) study established that, in contract management, the contract supply chain relationship provides high level framework to approach contracting as a business process. However, even the most carefully designed contracting process supported by sophisticated information technology will not succeed without capable contract management professionals. Thus organizations need to invest in developing the functional and interpersonal skills of the staff.

Studies by Agerberg and Ågren (2012) have indicated that project managers mostly use the term risk almost solely for the negative consequences of an event occurring.

However, Winch (2010) argues about this approach can be clouding as in many cases this attitude may lead to a lack of determination when it comes to managing the opportunities in a project. In his view use of the term risk for both positive and negative outcomes is very inappropriate. He adds that the use of threats and opportunities is more suitable. This will help in the efficient managing of risks as opportunities.

From the literature review, it can be observed that project procurement function in Kenya is experiencing a lot of challenges and risks which definitely affects project completion. These challenges are legal, institutional, operational, financial and strategic. Indeed there is an urgent need to review the procurement legislation to make them more responsive to the changing economic environment in the market niche in order to avoid delays and project stalling.

However in spite of the challenges noted in this discussion it is worth appreciating the extent to which efficient procurement planning has helped to increase the completion rate for projects and reduce the many 'white elephant projects' associated in the past with poor procurement practices. It is therefore, important that the procurement system be reformed further to allow for strategic applications like JIT and e-procurement, this will definitely lead to efficient and effective procurement with positive impact on project completion.

2.6 Research Gaps

Though most of the researches (Maria, 2013; Dainty et al., 2003; Chan & Chan, 2004; Swan & Khalfan, 2007) done to find out reasons of project failure have vaguely identified procurement related reasons, none has highlighted what role procurement and function within the organization ought to play to ensure effective project implementation. Further, most of the research done on project procurement has been on public sector

institution and very little has been done in regard to private sector organizations. This research will therefore endeavor to fill the void. It will explore the precise role the procurement function ought to play for completion of project on time, on budget and to the required specifications/quality.

Surveys conducted by researchers in Australia (Celentani & Ganuza 2002; Lansing & Schwartz, 2004 & Hill et al. 2009) identified several unethical conducts and ethical issues in project procurement such as conflict of interest, bid shopping, collusive tendering, bid cutting, corruption and payment game. These surveys were carried out in a developed country. Their results are therefore inconclusive in the context of developing countries hence the need to carry out a research on the role of procurement function on project completion in developing countries.

Similar studies on project management have been carried out by cherotich (2014), Barasa (2014), Wangari (2014) and in Kenya. Wangari (2014) did a study on the factors influencing the completion of time of water projects in water services boards in Kenya, a case study of Athi water services board. Mutua, Waiganjo, and Oteyo, (2014) carried out a study on the influence of contract management on performance of outsourced projects in medium manufacturing enterprises in Nairobi County. These studies did not address the role procurement has on the completion of projects in the Kenyan private organizations. In addition procurement function aspects which include; solicitation, contract management, procurement planning and risk management were not clearly articulated and discussed. The purpose of this study is to fill this research gap in the literature review by exploring the role of procurement function on project completion in private sector organizations.

2.7 Summary

Chapter two started with adequately showing how the chapter layout would be presented in the introduction section. The organization of the following subheadings; Introduction, Theoretical Framework and Conceptual Framework was presented. Theoretical frame work discussed the various theories that explain the independent variables related to the study while the conceptual framework addressed the relationships between independent variables and the dependent variable. The independent variables were Procurement Planning, Solicitation, Contract Management and Risk Management. The dependent variable is Project Completion. The relationship between the independent and dependent variables was explored using the relevant existing literature. The chapter ends with the researcher presenting critique of reviewed literature, research gaps and summary.

RESEARCH METHODOLOGY

3.1 Introduction

This chapter addresses the research design, population of study, sample and sampling techniques, data collection, and operationalization of variables and data analysis.

3.2 Research Design

This research was a case study. This study was conducted through descriptive survey research design. A survey is a research design where the researcher attempts to collect data from members of a population in a bid to determine the current status of the population with regard to one or more variables (Adeyemi, & Adu, 2010). Descriptive survey is a method of collecting information by interviewing or administering a questionnaire to a sample of individuals (Orodho, 2004). The design is ideally suitable for studies where data is intended to describe existing conditions (Simiyu, 2009). Survey studies are classified as descriptive or exploratory research design. Lo Biondo-Wood and

Haber (1994) point out that the term "exploratory", "descriptive" and "survey" are used either alone, interchangeably or together to describe the design of a study. According to Polit and Hungler (1999), description can be a major purpose of both qualitative and quantitative research studies. With the descriptive design, the researcher plans to gain more information about a phenomenon within a particular field of study.

3.3 Population of the Study

A population is any group, institution, people, or objects with characteristics or an aggregate of all cases that conform to a set of specification (Kasomo, 2006). Fogelman and Comber (2002) suggest that the population size should be as big as one can manage within the practical constraints available to the person concerned. KTDA has a population of 1,200 employees spread in various factories, regions, subsidiaries and the head office. Ideally the whole number of employees formed the population of interest for this study. At the head office, all the employees are in management and are also placed in various functions or departments/divisions. The total number of employees at the KTDA head office is 179. Procurement and management of all project is coordinated from the head office,

3.4 Sample size and Sampling Frame

Sampling is a procedure a researcher uses to gather people, places or things to study (Kombo & Tromp, 2006). It is the process of selecting a number of individuals or objects from a population such that the selected group contains elements representative of the characteristic found in the entire group (Orodho & Combo, 2002). Mugenda and Mugenda (2003) contend that a sample size should be at least 30% of the population. Poor response rate may render the sample not to be a true representation of the of the study population. Sambo (2008) and Guthrie (2010) recommend that the bigger the

sample size the better its ability to represent the study population. From the sample frame of 179 a sample size of 30% was taken, giving a base of 54 respondents. This sample size was representative and comprehensive in the coverage of the study objectives and economical in terms of time and money.

A sampling frame is the source material or device from which a sample is drawn. According to Orodho (2003) a sampling frame is a list of all those within population who can be sampled. Noting that the procurement, management and implementation of project is domiciled at the KTDA head office, therefore the sample frame for the study was the KTDA head office staff. That was the one hundred and seventy nine (179) employees in various departments namely: procurement, technical services, ICT, KTDA Power, Greenland Fedha, finance/accounts, human resource and administration, strategic planning, legal and corporate affairs.

Table 3.1

KTDA Departments at the Head Office, their population and the sample size

	Department	Population	Sample (30%)
1	Procurement	9	3
2	Operations	21	6
3	Finance/Accounts	24	7
4	Greenland Fedha	12	4
5	Ktda Power (KTPC)	16	5
6	HR & Administration	18	5
7	ICT	7	2
8	Corporate Affairs	16	5
9	Technical services	40	12

10	Strategic planning	6	2
11	Legal	10	3
	TOTAL	179	54

Source of information: KTDA HR DEPT 2015.

3.5 Sampling Technique

Sampling technique refers to the process so conducted to provide a basis of generalizing results about the population. The sampling technique can either be probabilistic or non-probabilistic (Kombo & Tromp, 2006). Stratified random sampling was used in this study and it involved dividing the population into homogeneous subgroups and then taking a simple random sample in each group (Kombo & Tromp, 2006). The KTDA staffs at the head office are all management staff in various departments. For the purpose of this study, the department was viewed as strata and individuals were picked randomly from each department for the study. The assumption was that at least all of them had an opportunity to participate in project implementation in one way or another.

3.6 Data Collection

According to Mugenda and Mugenda (2003), a researcher needs to develop instruments to collect necessary information. There are normally two types of data for example primary and secondary. Primary data is that which is collected for the first time and thus happens to be original in character while Secondary data is that which has been already collected by someone else and has already passed through statistical process (Kothari, 2004). Primary data was used for this study. It was collected using self-administered questionnaires. The tool was also be structured and the questions sought to determine the extent to which the independent variables affect the project delivery. It also consisted of both open and closed ended questions. The questionnaire had five sections. Section I asked questions on general information of the respondents and level of projects

completion at KTDA. Section II sought information on the extent to which the procurement planning affect completion of project. Section III was on solicitation, Section IV was on contract management, while V contained questions on risk management in relation to completion of project The questions were designed to elicit responses for both qualitative and quantitative analysis. A drop and pick later method was used to administer them.

3.7 Pilot Study

According to Teijlingen and Hundley (2001), conducting a pilot study might give advance warning about where the main research project could fail, where the research protocols may not be followed, or whether the proposed method and or instruments are appropriate. A pilot study will also allow the researcher to familiarize themselves with data collection procedures. Prior to disseminating the questionnaires, the researcher carried out a pilot study to try out the research techniques and methods and the questionnaire. According to Galloway (1997) it is difficult to give the exact number for the pilot group, but as a rule of the thumb, it recommended that researcher's pilot 5-10% of the final sample. Based on this rule the researcher prepared five (5) questionnaires which represent about 9% of the sample size and self-administered them to staff in various departments. The respondents were not only required to complete the questionnaire but also give comments on them. The pilot survey results formed the basis of modifying the questionnaire for the subsequent full-scale survey

3.8 Reliability

Reliability measures the degree at which a research instrument can present consistent results after several trials (Mugenda & Mugenda, 2003). Reliability is about how much trust can be placed in the findings of a data-gathering tool or method (Burns, 2000) and

refers to the stability, accuracy and dependability of data (Burns, 2000). The researcher used questionnaires as the method of data collection. Cronbach's (alpha) was used as a (lowerbound) estimate of the reliability of a psychometric test. In measuring a quantity which is a sum of components (*T-items*):. Cronbach's is defined as where is the variance of the observed total test scores, and the variance of component *i* for the current sample of persons is as above, the average variance of each component (item), and the average of all co-variances between the components across the current sample of persons (that is, without including the variances of each component).

Cronbach's is related conceptually to the Spearman–Brown prediction formula. Both arise from the basic classical test theory result that the reliability of test scores can be expressed as the ratio of the true-score and total-score (error plus true score) variances. The theoretical value of alpha varies from zero to one, since it is the ratio of two variances. However, depending on the estimation procedure used, estimates of alpha can take on any value less than or equal to one, including negative values, although only positive values make sense. Higher values of alpha are more desirable. The questionnaire was administered twice (with a two-weeks' lapse) to the same group of respondents.

3.9 Data Analysis and Presentation

Kothari (2008) defines data analysis as the computation of measures along with searching patterns of relationships that exist among data groups. Kothari further states that the relationships or differences that support or conflict with the original or new hypothesis are subjected to statistical test of significance to establish whether the validity data shows any conclusion (Kothari, 2004). The data from the completed questionnaires was cleaned, coded and entered into the computer using the statistical packages for social sciences (SPSS version 21) for analysis. The software packages enabled the researcher to

analyze the data into percentages, means and standard deviations. Multiple regression analysis was used to determine whether the group of factors proposed influenced project completion. The data collected from this study was mainly presented using tables, pie charts tables and graphs.

3.9.1 Multiple Regression Analysis

Project Completion was regressed against four variables of the role of procurement function namely (Procurement Planning, Solicitation, Contract Management and Risk Management).The equation was expressed as follows:

$$Y = \alpha + \beta_1 X_{1+} \beta_2 X_2 + \beta_3 X_{3+} + \beta_4 X_4 + e.$$

Where,

Y = Project Completion

α = constant (coefficient of intercept)

X_1 = Procurement Planning

X_2 = Solicitation

X_3 = Contract Management

X_4 = Risk Management

e = error term

$B_1 \ldots B_4$ = regression coefficient of four variables.

DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter contains the analysis of the data collected and the interpretation of the findings made in the study. In this regard, the study sought to determine the role of procurement function on project completion in private sector organizations. The responses to the items directly related to the research questions were presented in frequency tables, pie charts and bar charts to simplify their interpretation and understanding.

4.2 Response rate

According to Bogdan& Biklen (2007) the response rate is the percentage of the sample that returns the questionnaires completed during data collection. In this case, out of the 54 questionnaires issued to the respondents by the researcher, 48 of them were received fully completed recording a response rate of 89 percent as indicated in Table 4.1. According to Mugenda and Mugenda (2003) a response rate that is 50 percent is adequate to be used in research, 60 percent is good and above 70 percent is very good.

Table 4.1

Response Rate

Respondents	Frequency	Percentage
Responded	48	89%
Did not Respond	6	11%
Sample size	54	100%

4.3 Reliability analysis

Reliability analysis is a test on the consistency of results yielded by a data collection instrument after a number of repeated trials (Mugenda and Mugenda, 2003). Cronbach's alpha was used by the researcher to test on the internal consistency of the items in the questionnaire used in the study. Cronbach's alpha for each value was established by the SPSS application and gauged against each other at a cut off value of 0.91 which is acceptable according to Cooper and Schindler (2008). In this study all the values were above 0.7 which concludes that the data collection instrument was reliable. This information was recorded in Table 4.2.

Table 4.2

Reliability analysis

Variables	Cronbach's Alpha
Procurement Planning	.924
solicitation	.872
contract management	.877
Risk Management	.848

4.4 Descriptive Statistics

Descriptive statistics are used to describe the basic features of the data in a study by providing summarizes about the sample and the measures. Together with simple graphical analysis, they form the basis of virtually every quantitative analysis of data (Kothari, 2004). The study used descriptive statistics to present the frequency and the

percentages of the gathered data on the role of procurement function on project completion in private sector organizations.

4.4.1 Demographic Characteristics

This section presents personal information of the respondents who participated in the research study.

4.4.2 Respondents Respective Departments

The study further sought to establish the respondents departments in order to determine if the respondents were from the key departments concerned with the execution of procurement functions. Based on the study findings, the majority 25.0% respondents were from technical services department, 12.5% were from Finance/Accounts department, 10.3% were from operations department, 8.3% were from Greenland Fedha ltd, 8.3% were from Corporate Affairs, 8.3% were from human resource & administration department, 6.3% were from Procurement department, 6.3% were from Ktda Power (KTPC), 6.3% were from legal department, 4.2% were from ICT department and 4.2% were from strategy & planning department (See Table 4.3). This demonstrated that the majority of the respondents were involved in the execution of project management functions which helped in gathering reliable data on the role of procurement function on project completion in private sector organizations.

Table 4.3

Respondents Department

Respondents Department	Frequency	Percent
Procurement	3	6.3

Operations	5	10.3
Finance/Accounts	6	12.5
Greenland Fedha	4	8.3
Ktda Power (KTPC)	3	6.3
HR & Administration	4	8.3
ICT	2	4.2
Corporate Affairs	4	8.3
Technical services	12	25.0
Strategic planning	2	4.2
Legal	3	6.3
Total	48	100.0

4.4.3 Duration of service

From the study findings, 9 percent of the respondents had worked in the organization for a period of between 0-2 years, 15 percent for a period of between 4-6 years, 12 percent for a period of between 6-10 years and 12 percent for a period of above 10 years as shown in Table 4.4. This means that all the respondents involved in the study were suitable to participate in the study.

Table 4.4

Duration of service

Working Experience	Frequency	Percent	Cumulative Percent

0-2	9	18.8	18.8
4-6	15	31.3	50.0
6-10	12	25.0	75.0
Above 10 years	12	25.0	100.0
Total	48	100.0	

4.4.4 Education Level of the Respondents

It was important to establish the education level held by the study respondents in order to ascertain if they were equipped with relevant knowledge and skills on role of procurement function on project completion in private sector organizations. The findings indicated that the majority 75% had master's education level, 25% had bachelors degree level of education while none had certificate, diploma or doctorate level of education (See Figure 4.1). These findings implied that most of the respondents were qualified to understand the nature of the study problem. This concurs with Joppe (2000) that during research process, respondents with technical knowledge on the study problem assist in gathering reliable and accurate data on the problem under investigation.

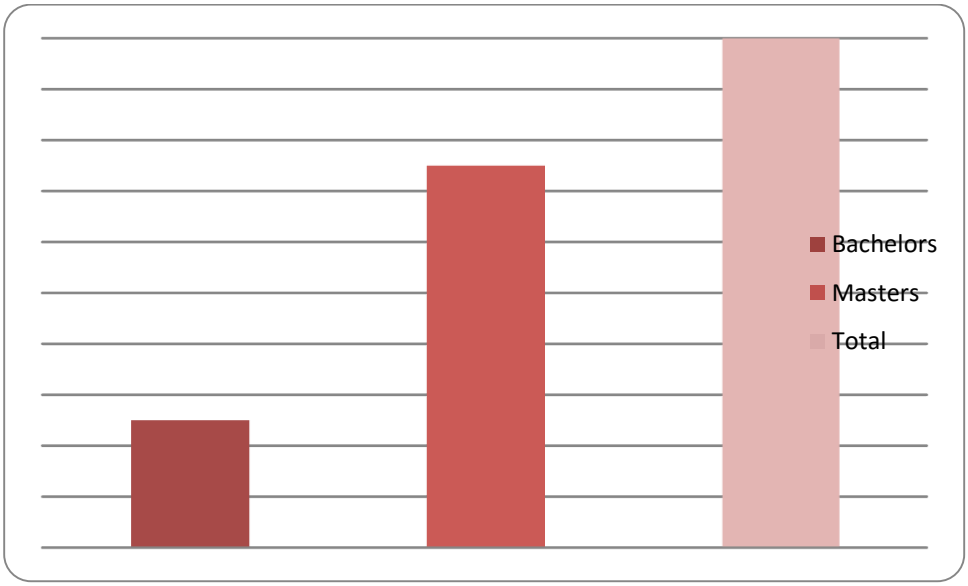


Figure 4.1. Education Level of the Respondents

4.4.5 Projects completed and Implemented by KTDA

From the study findings the researcher found out that KTDA has implemented and completed various projects. Some of the projects listed by the respondents include: implementation of fire alarm systems in the KTDA building; construction of Chinga Tea Factory boiler house; expansion of Chebut Tea Factory; construction of Olengwuone Tea Factory; construction of go downs in Mombasa; construction of Boito Tea Factory; expansion of Kanyenyaini Tea Factory; and construction of Imenti small hydro electric power project. Based on these study findings the data collected on role of procurement function on project completion in KTDA had a high level of accuracy and reliability.

4.4.6 Projects completed in KTDA within the last five years on budget, time and to the required quality/specifications

Based on the study findings the researcher found out that out of four projects, three were completed to the required specifications/quality as shown by a mean of 3.19 and a standard deviation of 0.96 while two were completed within set budget and planned

time/schedule as shown by a mean of 1.63, standard deviation of 0.70 and a mean of 1.50 and a standard deviation of 0.86 respectively (See Table 4.5). The study findings show that the organization puts more emphasis on project completion to the required specifications/quality as shown by a higher mean of 3.19 while a low emphasis is put on project completion within set budget and planned time/schedule as shown by the study findings. Traditionally, researchers and organizations have focused on the three project completion/ performance criteria of cost, time and quality (Dainty et al., 2003; Chan & Chan, 2004; Swan & Khalfan, 2007).

Table 4.5

Project Completion

Statements on Project Completion	N	Mean	Std. Deviation
Project completion Within set budget	48	1.6250	.70334
Project completion To the required specifications/quality	48	3.1875	.95997
Project completion Within planned time/schedule	48	1.5000	.87519

4.4.7 Extent of importance of factors contributing to Projects completion in KTDA on budget, time and to the required quality/specifications

According to the likert-scale from the questionnaire that sought to determine extent of importance of factors contributing to Projects completion in KTDA on budget, time and to the required quality/specifications, 5 represented most important, 4 represented

important, 3 represented fairly important, 2 represented less important and 1 represented not important. Based on the study findings the most important factor that influenced project completion in KTDA was procurement and contractor factors as shown by a mean of 4.63 and a standard deviation of 0. 49, followed by technical factors as shown by a mean of 4.13 and a standard deviation of 0.79, organization characteristics- culture, structure, vision, strategies as shown by a mean of 3.56 and a standard deviation of 1.01, financial factors as shown by a mean of 3.25 and a standard deviation of 1.26 while the least important factor was natural calamities as shown by a mean of 1.69 and a standard deviation of 1.06 (See Table 4.6).

Table 5

Extent of Importance of Project Completion Factors

Statements on Project Completion Factors	N	Mean	Std. Deviation
Procurement and contractor factors	48	4.6250	.48925
Organization characteristics- culture, structure, vision, strategies	48	3.5625	1.00861
Technical	48	4.1250	.78889
Financial	48	3.2500	1.26323
Natural calamities	48	1.6875	1.05500

4.4.8 Challenges affecting completion of projects in KTDA in relation to budgets, time/schedule and required quality/specifications

The study sought to establish the challenges affecting completion of projects in KTDA in relation to budgets, time/schedule and required quality/specifications. Based on the study findings the researcher found out that the most significant challenges of project completion included: poor project management, project scope variations, rigid procurement process leading to delays in project implementation, scope creep, poor bidding process, inadequate resources and contractor non-performance.

4.5 Procurement Planning

4.5.1 Extent of importance of Project scope definition to Projects completion in KTDA on budget, time and to the required quality/specifications

Based on the study findings the researcher found out that project scope definition at the project procurement planning stage is very important for completion of projects in KTDA within set budget and within planned time/schedule as shown by a mean of 4.82 and a standard deviation of 0.39 and to the required specifications/quality as shown by a mean of 4.86 and a standard deviation of 0.33 (See Table 4.7). In an open ended question the respondents were asked to indicate ways in which project scope definition/scoping affect project completion in KTDA, some of their responses included: developing an initial work break down structures (WBS) helps in defining all this potential work in a project enabling it to be executed in time; and variation of scope at a later date of project execution; scope definition saves on costs and time.

A complete definition of the scope of a project upfront during early stages ensures smooth and successful implementation during the project execution (Fageha & Aibinu,

2014). Inadequate pre-project planning and poor definition of project elements have been identified as the major reasons for the project failures in Saudi Arabia (Al-Humaidan, 2011).

Table 4.7

Importance of Project scope definition to Project Completion

Project scope definition at the project procurement planning stage is important for completion of projects in KTDA	N	Mean	Std. Deviation
Within set budget	48	4.8125	.39444
Within planned time/schedule	48	4.8125	.39444
To the required specifications/quality	48	4.8750	.33422

4.5.2 Extent of importance of Make or buy decisions to Projects completion in KTDA on budget, time and to the required quality/specifications

According to the likert-scale from the questionnaire that sought to determine the extent of importance of make or buy decisions to projects completion in KTDA on budget, time and to the required quality/specifications, 1 represented strongly disagree, 2 represented Disagree,3 represented Moderately agree,4 represented Agree,5 represented strongly agree. Based on the study findings, most respondents strongly agreed that make or buy decisions at the project planning stage play a role on completion of projects in KTDA within set budget and within planned time/schedule as shown by a mean of 4.63 and a

standard deviation of 0.61 and to the required specifications/quality as shown by a mean of 4.69 and a standard deviation of 0.47 (See Table 4.8). The study sought to found out the opinion of the respondents on circumstances when make or buy decision should be made during project procurements. Based on the findings the respondents' opinions included the following: when time is a constraint; when quality is a key component of the projects success; when there is partial in-house completion; and when the company has internal technical capacity.

A make-or-buy decision must be made for all major segments of projects work before the project plan can be completed. Prior to doing any analyses, all of the choices or alternatives for that segment of project work should be determined, that is, the organization should lay out the various ways the work could be "made" internally, (sources and methods) for external procurement, or hybrids of the two (Oxendine, 2011).

Table 4.8

Importance of Make or buy decisions to Project Completion

Make or buy decisions at the project planning stage play a role in completion of projects in KTDA	N	Mean	Std. Deviation
Within set budget	48	4.6250	.60582
Within planned time/schedule	48	4.6250	.60582
To the required specifications/quality	48	4.6875	.46842

4.5.3 Extent of importance of Project procurement plans to Projects completion in KTDA on budget, time and to the required quality/specifications

Based on the study findings, most respondents strongly agreed that project procurement plans is important for completion of projects in KTDA within set budget and within planned time/schedule as shown by a mean of 4.56 and a standard deviation of 1.01 and to the required specifications/quality as shown by a mean of 4.44 and a standard deviation of 0.62 (See Table 4.9). The study sought to found out the opinion of the respondents as to why project procurement plans are important for projects completion in KTDA. Based on the findings, the respondents' opinions included the following: it gives clear guidelines on project implementation; it establishes contract deliverables and timelines; it determines evaluation criteria; and it determines the procurement process and method. Starting a project without a procurement plan is like embarking on a journey whose direction and destination are unknown or undefined. It would be difficult to define the scope, resource need and allocation and their sources as well define with certainty the expected outcome. The overall approach to the project acquisition program is captured in the procurement plan; itself linked to the project master plan/system timeline. The procurement plan sets out top level policies for sourcing, tender management, contract evaluation and approvals, the regulatory environment, responsibilities and authorities, procurement strategies, and pointers to detailed procedures and guidance (Ashley, 2009).

Table 4.9

Importance of Project procurement plans to Project Completion

Project procurement plans is important for completion of projects in KTDA	N	Mean	Std. Deviation
Within set budget	48	4.5625	1.00861
Within planned time/schedule	48	4.5625	1.00861
To the required specifications/quality	48	4.4375	.61562

4.6 Solicitation

4.6.1 Extent of agreement of statements on Solicitation that affect Projects completion in KTDA on budget, time and to the required quality/specifications

The study sought to determine the extent of agreement of statements on Solicitation indicators (Preparation of project tender documents, Contractor selection and ethical issues in project procurement) that affect Projects completion in KTDA on budget, time and to the required quality/specifications. Based on the study findings, most respondents agreed that preparation of project tender documents contributes to completion of projects in KTDA within set budget as shown by a mean of 4.19 and a standard deviation of 1.20, within planned time/schedule as shown by a mean of 4.25 and a standard deviation of 1.10 and to the required specifications/quality as shown by a mean of 4.13 and a standard deviation of 0.70 (See Table 4.10). Some of the key considerations during preparation of project tender documents that contributes to completion of projects indicated by the respondents included: procurement method; tendering procedure; cost and project specifications; and user requirements.

The study further revealed that most respondents strongly agreed that contractor selection play an important role in completion of projects in KTDA within set budget and to the

required specifications/quality as shown by a mean of 4.56, standard deviation of 1.01 and a mean of 4.63 and a standard deviation of 0.49 respectively. In addition, majority also agreed with the statement that contractor selection play an important role in completion of projects in KTDA within planned time/schedule as shown by a mean of 4.34 and a standard deviation of 1.06.

The study sought to found out the opinion of the respondents as to which key factors are considered during contractor selection that ensure project completion on time, within budget and to the required specification. Based on the findings, the respondents' opinions included the following: contractor's capacity (technical and financial); experience of the contractor; and skills and qualifications of the contractor's staff.

Selecting a capable contractor is one of the most important tasks faced by the client who wishes to achieve success project outcome (Fong & choi, 2000). This is because contractors are one of the major players in the project and the services they render are critical to quality of the end product as well as meeting the cost and time targets of the project.

The study findings also indicated that majority strongly agreed that ethical issues contributes to completion of projects in KTDA within set budget as shown by a mean of 4.50 and a standard deviation of 1.07. the respondents agreed with the statement that ethical issues contributes to completion of projects in KTDA within planned time/schedule as shown by a mean of 4.19 and a standard deviation of 1.08 and to the required specifications/quality as shown by a mean of 4.13 and a standard deviation of 1.00. The researcher sought to establish the respondent's view of which ethical issues affects project completion in KTDA. Based on the study findings the respondents indicated that conflict of interest, confidentiality, fraudulent practices and corruption

affects project completion in KTDA. Ethical issues, just like risks, traverse the entire project procurement process from need recognition, planning, contractor selection, contract administration and close-out (Hassim, Aliza, & Bambang, 2011).

Table 4.10

Solicitation towards Projects completion in KTDA

Statements on Solicitation	N	Mean	Std. Deviation
Procurement department role of tendering contributes to completion of projects in KTDA			
Within set budget	48	4.1875	1.19674
Within planned time/schedule	48	4.2500	1.10126
To the required specifications/quality	48	4.1250	.70334
Contractor selection play an important role in completion of projects in KTDA			
Within set budget	48	4.5625	1.00861
Within planned time/schedule	48	4.3750	1.06441
To the required specifications/quality	48	4.6250	.48925
Ethical issues play an important role on completion of projects in KTDA			

Within set budget	48	4.5000	1.07188
Within planned time/schedule	48	4.1875	1.08483
To the required specifications/quality	48	4.1250	1.00266

4.7 Contract Management

4.7.1 Extent of agreement of statements on Contract Management that affect Projects completion in KTDA on budget, time and to the required quality/specifications

According to the likert-scales from the questionnaire that sought to determine the extent of agreement of statements on Contract Management that affect Projects completion in KTDA on budget, time and to the required quality/specifications, 1 represented strongly disagree, 2 represented Disagree,3 represented Moderately agree,4 represented Agree,5 represented strongly agree. Based on the study findings, most respondents agreed that monitoring and evaluation of contractor's performance play a role on projects completion in KTDA within set budget as shown by a mean of 4.12 and a standard deviation of 1.25, within planned time/schedule as shown by a mean of 4.00 and a standard deviation of 1.34 and to the required specifications/quality as shown by a mean of 3.81 and a standard deviation of 1.53 (See Table 4.11). The study sought to found out the opinion of the respondents as to reasons why monitoring and evaluation of contractor performance is important for completion of projects on time, within budget and to the required specification in KTDA. Based on the findings, the respondents' reasons included the following: to ensure contractors adhere to contract terms; to enhance completion of work on time and in the required quality; and to measure performance. Chandra (2008) on his

part avers that monitoring, evaluation and control is critical to implementation success in so far as it compels regular comparison of performance against targets, a search for the causes of deviation, a commitment to check adverse variances. Monitoring triggers off an effort to search for solutions to the identified threats to the project success.

Table 4.11

Contract Management towards Projects completion in KTDA

Statements on Contract Management	N	Mean	Std. Deviation
Monitoring and evaluation of contractor's performance play a role on projects completion in KTDA			
Within set budget	48	4.1875	1.24894

Within planned time/schedule	48	4.0000	1.33687
To the required specifications/quality	48	3.8125	1.52506
Contracts administration during project execution facilitates projects completion in KTDA			
Within set budget	48	4.0625	1.21000
Within planned time/schedule	48	4.1250	1.12278
To the required specifications/quality	48	3.8125	1.19674
Contract close out for projects is important for completion of project in KTDA			
Within planned time/schedule	48	4.0625	1.09944
Within set budget	48	3.9375	1.15604
To the required specifications/quality	48	3.8125	1.02431

The findings from the second indicator of contract management indicated that most respondents agreed that involvement of procurement department in contracts administration during project execution does facilitate projects completion in KTDA within set budget as shown by a mean of 4.06 and a standard deviation of 1.21, within planned time/schedule as shown by a mean of 4.13 and a standard deviation of 1.12 and to the required specifications/quality as shown by a mean of 3.81 and a standard deviation of 1.20 (See Table 4.11). The researcher sought to establish the respondent's view on which challenges affects administration of contracts for project procurements in KTDA. Based on the study findings the respondents indicated that lack of

multidisciplinary project implementation teams, lack of involvement of the procurement department in project execution, ambiguous terms of reference, improper policing, lack of consultancy and contract variations as the key challenges affecting contract administration in the project management in KTDA. Contract Administration is the process of ensuring that each party's performance meets the contractual requirements (Garrett & Rendon, 2005). The goal of contract administration is to ensure proper mechanisms are in place to monitor and evaluate contractors, suppliers and service providers' performance in the fulfillment of their contractual obligations, and to ensure appropriate actions are taken to promptly remedy any deficiencies observed in contract execution or the contract scope, and terms and conditions.

The findings from the third indicator of contract management indicated that most respondents agreed that involvement of procurement department in closing of contracts for projects facilitate projects completion in KTDA within set budget as shown by a mean of 4.06 and a standard deviation of 1.10, within planned time/schedule as shown by a mean of 3.94 and a standard deviation of 1.16 and to the required specifications/quality as shown by a mean of 3.81 and a standard deviation of 1.02. Based on the study findings the respondents indicated that contract management indicators which included monitoring and evaluation, contract administration and contract close out played a role on project completion with an equal mean of 3.81 (See Table 4.11). However, these indicators had different standard deviation of 1.53, 1.20 and 1.02 respectively which shows that the respondents extent of agreements were diversely dispersed from the mean score with the lesser standard deviation showing a close dispersion of agreements towards the mean and vice versa. The researcher sought to establish the respondent's view on which challenges affects contract close-out for project procurements in KTDA.

Based on the study findings the respondents indicated that lack of unambiguous guidelines on contract close-out, delays in contract close-out, poor project management, delays in contractor payments, bureaucratic procedures in contract close-out and disagreements between the parties to the contract as the key challenges affecting contract close-out. The closure of project procurement contracts contain potential factors that can lead to delays and cost overrun. Being the very last part of the project life-cycle it is often been ignored even by organizations, especially in multi-project environments (Athens, 2009).

4.8 Risk Management

4.8.1 Extent of agreement of statements on Risk Management that affect Projects completion in KTDA on budget, time and to the required quality/specifications

The study sought to determine the extent of agreement of statements on risk Management indicators (risk identification, risk assessment and risk response) that affect Projects completion in KTDA on budget, time and to the required quality/specifications. Based on the study findings, most respondents agreed that involvement of procurement department in identification and listing of project procurement risk is important in completion of project in KTDA within set budget as shown by a mean of 4.25 and a standard deviation of 1.04, within planned time/schedule as shown by a mean of 4.19 and a standard deviation of 1.08 and to the required specifications/quality as shown by a mean of 4.31 and a standard deviation of 0. 78 (See Table 4.12). The study sought to found out the opinion of the respondents as to reasons why risk identification is important for completion of projects on time, within budget and to the required specification in KTDA. Based on the findings, the respondents' reasons included the following: to assess the probability of occurrence; to assess the impact of their occurrence; to prepare mitigation

measures in advance; to ensure project completion on time; and to eliminate cost and time overruns. The risk identification processes serves the purpose of generating a list of risks with both negative and positive consequences and are entered in the risk register (PMI, 2004). The primary aim of the register should be one that is comprehensive as possible and should include threats and opportunities whether or not their consequences are under control of the organization (ISO 3100:2009).

The findings from the second indicator of risk Management indicated that most respondents agreed to the statement that involvement of procurement department in evaluation, ranking and prioritization of the identified project risks is necessary for completion of projects in KTDA within set budget as shown by a mean of 4.00 and a standard deviation of 1.01, within planned time/schedule as shown by a mean of 4.06 and a standard deviation of 1.04 and to the required specifications/quality as shown by a mean of 4.13 and a standard deviation of 0.70 (See Table 4.12). The researcher sought to establish the respondent's view on which challenges are faced in risk assessment on project procurements in KTDA. Based on the study findings the respondents indicated that lack of skills in risk assessment, lack of detailed procedure in risk assessment, risk assessment is viewed as a barrier to operational activities, organization culture hindrance, legal issues and liabilities associated, budget overruns, little involvement of the procurement department and lack of expertise to evaluate as the challenges faced in risk assessment on project procurements in KTDA.

Table 4.12

Risk Management towards Projects completion in KTDA

Statements on Risk Management	N	Mean	Std. Deviation
Risk identification is important in completion of projects in KTDA			
Within set budget	48	4.2500	1.04168
Within planned time/schedule	48	4.1875	1.08483
To the required specifications/quality	48	4.3125	.77614
Risk assessment is necessary for completion of projects in KTDA			
Within set budget	48	4.0000	1.01058
Within planned time/schedule	48	4.0625	1.03977
To the required specifications/quality	48	4.1250	.70334
Risk response facilitates completion of projects in KTDA			
Within planned time/schedule	48	4.0000	.94531
Within set budget	48	4.0000	.94531
To the required specifications/quality	48	4.1250	.60582

In risk Assessment step the identified projects risks are evaluated and ranked. The goal is to prioritize risks for management. The research literature offers a large number of models that use both qualitative and quantitative methods for assessment of project risks.

Tah and Carr (2000) develop a formal model for qualitative risk assessment based on fuzzy estimates of risk components. Baccarini and Archer (2001) describe a methodology for risk ranking of projects, which allows an effective and efficient allocation of the resources for the management of project risks.

The findings from the third indicator of risk Management indicated that most respondents agreed to the statement that involving procurement department in identifying ways of dealing with identified and assessed projects risks does facilitate completion of projects in KTDA within set budget and within planned time/schedule as shown by a mean of 4.00 and a standard deviation of 0.95 and to the required specifications/quality as shown by a mean of 4.13 and a standard deviation of 0.61. Based on the study findings the respondents indicated that risk management indicators which included risk identification, risk assessment and risk response played a role on project completion with closely dispersed means of 4.31, 4.13 and 4.13 respectively (See Table 4.11). However, these indicators had different standard deviation of 0.78, 0.70 and 0.61 respectively which shows that the respondents extent of agreements were diversely dispersed from the mean score with the lesser standard deviation showing a close dispersion of agreements towards the mean and vice versa. (See Table 4.12). The researcher sought to establish the respondent's view on which risk mitigation measures are taken in project procurements in KTDA. Based on the study findings the respondents indicated that departmental involvement, contract management, effective contractor selection, monitoring and evaluation of project delivery and implementation of standard rules and procedures as the key risk mitigation measures taken in project procurements in KTDA.

Risk response process is directed at identifying a way of dealing with the identified and assessed project risks. There are four main risk response strategies: risk avoidance, risk reduction, risk transfer and risk retention (IEC 2001; PMI 2004; & Smith, 2006).

4.9 Regression analysis

A multiple regression model was fitted to determine whether independent variables notably, X_1 = Procurement Planning, X_2 = Solicitation, X_3 = Contract Management and X_4 = Risk Management simultaneously affected the dependent variable Y = Project Completion. As a result, this subsection examines whether the multiple regression equation can be used to explain the nature of the relationship that exists between the independent variables and the dependent variable.

The multiple regression model was of the form:

$$Y = \beta_o + \beta_1 X_{1+} \beta_2 X_2 + \beta_3 X_{3+} + \beta_4 X_4 + ¢$$

As it can be observed in Table 4.13, the regression model on Project Completion coefficient of determination R Square was 1 and R was 1. The coefficient of determination R Square indicated that 1% of the variation on Project Completion can be explained by the set of the independent variables. This shows that the model has a good fit since the value is above 80%. This concurs with Orodho (2009) that R-squared is always between 0 and 100%: 0% indicates that the model explains none of the variability of the response data around its mean and 100% indicates that the model explains the variability of the response data around its mean. In general, the higher the R-squared, the better the model fits the data. The adjusted R square is equal to the R square which implies that the regression model was of good fit by including the study's independent variables. Dropping one independent variable will reduce the R square to the value of the adjusted R square.

Table 4.13

Regression Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
1.000[a]	1.000	1.000	.00000

The study further used Analysis of Variance (ANOVA) in order to test the significance of the overall regression model. Kothari (2004) posit that Analysis of Variance helps in determining the significance of relationship between the research variables. The results of Analysis of Variance (ANOVA) for regression coefficients in Table 4.14 reveals that the significance of the F statistics is 0.007 which is less than 0.05 and the value of F (3.908) being significant at 0.00 confidence level. The value of F is large enough to conclude that the set coefficients of the independent variables are not jointly equal to zero. This implies that at least one of the independent variables has an effect on the dependent variable.

Table 4.14

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	32947.313	4	8236.828	3.908	.007[b]
Residual	1253.465	43	.000		
Total	32947.313	47			

Table 4.15 presents the beta coefficients of all independent variables versus efficient supply chain management. The values, 0.98, 0.92, 0.77 and 0.67 are the un-standardized coefficients. These were the coefficients that the study would obtain when standardized of all of the variables in the regression, including the dependent and all of the independent variables, and running of the regression. By standardizing the variables before running the regression, the study put all of the variables on the same scale, and compared the magnitude of the coefficients of the independent to determine which one had more effects on Project Completion.

The larger betas were associated with the larger t-values and lower p-values. The column of coefficient shows the predictor variables of constant, Procurement Planning, Solicitation, Contract Management and Risk Management.

Table 4.15

Coefficients of Overall Regression model

Model	B Coefficients	Std. Error	t	Sig.
Constant	8.000			

Procurement Planning	0.980	.228	2.813	.003
Solicitation	0.916	.106	5.351	.004
Contract management	0.767	.176	2.965	.002
Risk Management	0.670	.019	2.444	.001

The first variable constant of 8.00 represented the constant which predicted value of Project Completion when all other variables affecting the dependent are at zero (0). From the regression model below, it was found that project completion in the private sector organizations would be at 8.00 holding procurement planning, solicitation, contract management and risk management constant at zero. Procurement Planning would lead to an increase in project completion by factor of 0.98 with P value of 0.003 while solicitation would lead to an increase in project completion by a factor of 0.916 with P value of 0.004. The study also found that contract management affected project completion in private sector organizations by a factor of 0.77 with P value of 0.002 while risk management would result to increase in project completion by factor of 0.67 with P value of 0.001. This clearly indicates that procurement planning, solicitation, contract management and risk management are key determinants of project completion in private sector organizations as they were statistically significant with a P-Value of 0.03, 0.04, 0.02 and 0.01 at 95% confidence level.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter discusses the summary of the key findings along the study objectives and the corresponding hypothesis. It then draws conclusions based on these findings and discussions are put forth for the recommendations of the study based on both policy and

practice. Finally, the chapter presents the study limitations and recommendations for further areas of research.

5.2 Summary of Key Findings

The general objective of the study was to establish the role of procurement function on project completion in private sector organizations: a case study of Kenya Tea Development Agency. The study specifically determined the role of procurement planning, solicitation, contract management and risk management on project completion in private sector organizations. The reviewed literature showed that the independent variables play an important role in project completion. The key findings summarized from the four specific objectives are as follows:

5.2.1 What role does project procurement plans play on projects completion in Kenya Tea Development Agency?

The study sought to find out the role project procurement plans play on projects completion in Kenya Tea Development Agency on budget, time and to the required quality/specifications. From the findings, the researcher found out that procurement planning has a significant strong positive correlation with projects completion of 0.98. Increasing levels of procurement planning by a unit would increase the levels of projects completion on budget, time and to the required quality/specifications by 0.98. On overall, a high percentage of the respondents rated all procurement planning factors which included project scope definition, make or buy decisions and project procurement plans as being very important in projects completion. The study therefore, concluded that factors such as project scope definition make or buy decisions and project procurement planning influenced projects completion on budget, time and to the required quality/specifications in Kenya Tea Development Agency to great extent. The study

further revealed that the procurement plan should set out top level policies for sourcing, tender management, contract evaluation and approvals, the regulatory environment, responsibilities and authorities, procurement strategies, and pointers to detailed procedures and guidance. A complete definition of the scope of a project upfront during early stages ensures smooth and successful implementation during the project execution (Fageha & Aibinu, 2014). Inadequate pre-project planning and poor definition of project elements have been identified as the major reasons for the project failures in Saudi Arabia (Al-Humaidan, 2011). Starting a project without a procurement plan is like embarking on a journey whose direction and destination are unknown or undefined. It would be difficult to define the scope, resource need and allocation and their sources as well define with certainty the expected outcome. The overall approach to the project acquisition program is captured in the procurement plan; itself linked to the project master plan/system timeline.

5.2.2 What is the role of solicitations on projects completion in Kenya Tea Development Agency?

The study sought to determine the extent of agreement of statements on solicitation indicators (involvement of procurement function in preparation of project tender documents, contractor selection and ethical issues in project procurement) that affect Projects completion in KTDA on budget, time and to the required quality/specifications. Based on the study findings, most respondents agreed that involvement of procurement function in preparation of project tender documents, contractor selection and ethical issues in project procurement contributes to completion of projects in KTDA on budget, time and to the required quality/specifications. The study therefore, concluded these

factors influenced how solicitation affected affect Projects completion in KTDA on budget, time and to the required quality/specifications by 0.92. Selecting a capable contractor is one of the most important tasks faced by the client who wishes to achieve success project outcome (Fong & choi, 2000). This is because contractors are one of the major players in the project and the services they render are critical to quality of the end product as well as meeting the cost and time targets of the project. A good contractor is expected to complete a project on time, within budgeted cost and the desired level of quality (Aje, 2012).

5.2.3 What role does contract management play on projects completion in Kenya Tea Development Agency?

The study sought to determine the extent of agreement of statements on contract management that affect projects completion in KTDA on budget, time and to the required quality/specifications. Based on the study findings, most respondents agreed contract management indicators (monitoring and evaluation, contracts administration and contracts close-out) facilitate projects completion in KTDA within set budget, time and to the required quality/specifications. From the findings, the researcher found out that contract management has a significant strong positive correlation with projects completion of 0.77. Increasing levels of contract management by a unit would increase the levels of projects completion by 0.77. Procurement contracts between the seller and the buyer is clearly the most critical input to administer procurements on the basis that the contract contains all of the responsibilities, undertakings, and obligation of the contracting parties. Contracting parties will continuously refer to the procurement contract through out as a tool to ensure that each party is meeting the contracted

obligations. The procurement contract also serves as a baseline to approved change request (Guth, 2009).

5.2.4 What is the role of procurement risks management on projects completion in Kenya Tea Development Agency?

The study sought to determine the extent of agreement of statements on risk management indicators (risk identification, risk assessment and risk response) that affect Projects completion in KTDA on budget, time and to the required quality/specifications. Based on the study findings, most respondents agreed that involvement of procurement department in identification and listing of project procurement risk, evaluation, ranking and prioritization of the identified project risks and identifying ways of dealing with identified and assessed projects risks is important in completion of projects in KTDA within set budget, time and to the required quality/specifications.

From the findings, the researcher also found out that project procurement risk management had a significant strong positive correlation with completion of projects in KTDA of 0.670. Increasing levels of risk management by a unit would increase the levels of completion of projects in KTDA by 0.670. This indicates that there exists a strong positive relationship between risk management and completion of projects in KTDA. Risk management is a process of systematically identifying, assessing and responding to project risk (PMI, 2004). The primary objective of the risk management process is to maximize the opportunities and minimize threat. According to Loosemore and McCarthy (2008) risk management provides a systematic and consistent approach to risk identification, assessment and control which is essential to effective risk allocation.

5.3 Conclusions

Based on the study findings, the study concludes that completion of projects in KTDA within set budget, time and to the required quality/specifications, Kenya is affected by procurement planning followed by solicitation, contract management and then risk management. The study concludes that procurement planning is an important factor that affects completion of projects in KTDA within set budget, time and to the required quality/specifications. The regression model of the study shows that procurement planning has a significant influence on completion of projects. This implies that increasing levels of procurement planning by a unit would conversely increase the levels of completion of projects. Procurement planning factors which included project scope definition make or buy decisions and project procurement plans as being very important in projects completion within set budget, time and to the required quality/specifications.

The study also concludes that solicitation is the other important factor that affects completion of projects in KTDA. The regression model of the study shows that solicitation has a significant influence towards completion of projects in KTDA. Increasing levels of solicitation by a unit would conversely increase the levels of projects completion by the same measure. The study therefore, concluded that solicitation (preparation of project tender documents, contractor selection and ethical issues in project procurement) affect Projects completion in KTDA on budget, time and to the required quality/specifications.

The study concludes that contract management has a significant strong positive correlation with projects completion in KTDA within set budget, time and to the required quality/specifications. Contract management indicators (monitoring and evaluation,

contracts administration and contracts close-out) facilitate projects completion in KTDA within set budget, time and to the required quality/specifications to a large extent.

Risk management also affects project completion in KTDA within set budget, time and to the required quality/specifications. According to the study findings, involvement of procurement department in identification and listing of project procurement risk, evaluation, ranking and prioritization of the identified project risks and identifying ways of dealing with identified and assessed projects risks is important in completion of projects in KTDA within set budget, time and to the required quality/specifications.

5.4 Recommendations

Based on the findings and conclusions of this study, it is important for all organizations to use procurement planning factors which includes project scope definition, make or buy decisions and project procurement plans to enhance projects completion within set budget, time and to the required quality/specifications. It is recommended that before project execution the procurement function should formulate a project procurement plan which sets out top level policies for sourcing, tender management, contract evaluation and approvals, the regulatory environment, responsibilities and authorities, procurement strategies, and pointers to detailed procedures and guidance relating to the project. The study also recommends the procurement function in organizations to define the project scope during the early stages of the project management to ensure smooth and successful project implementation. Make and Buy decisions should be made for all major segments of projects work before the project plan can be completed.

The study further recommends the use of solicitation in facilitation of projects completion within set budget, time and to the required quality/specifications. Solicitation indicators (preparation of project tender documents, contractor selection and ethical issues in project

procurement) should be done effectively by the procurement function to enhance projects completion. The study recommends contractor selection factors which includes: contractor's capacity (technical and financial); experience of the contractor; and skills and qualifications of the contractor's staff to be determined during solicitation to ensure projects completion within set budget, time and to the required quality/specifications.

The study recommends the use of contract management factors which include monitoring and evaluation, contracts administration and contract close-out in facilitation of projects completion within set budget, time and to the required quality/specifications. Monitoring and evaluation should be undertaken in every step of project implementation and not once as it is common with many projects to facilitate projects completion within set budget, time and to the required quality/specifications. This will help identify, loopholes and deviations from overall projects goals, and correct them in time so as to ensure successful projects. Contract administration should be employed to ensure proper mechanisms are in place to monitor and evaluate contractors, suppliers and service providers' performance in the fulfillment of their contractual obligations, and to ensure appropriate actions are taken to promptly remedy any deficiencies observed in contract execution or the contract scope, and terms and conditions.

Finally, the study recommends the use of risk management indicators (risk identification, risk assessment and risk response) to facilitate projects completion within set budget, time and to the required quality/specifications.

5.5 Areas for further research

The findings emphasized on the role of procurement function on projects completion in private organizations, which is procurement planning, solicitation, contract management and risk management in Kenya Tea Development Agency. As a future avenue of research, there is need to undertake similar research in other industries in Kenya and other countries in order to establish whether the explored factors can be generalized to affect project completion in organizations.

Project procurement process take place within the wider organization context with unique organization structure, culture, vision and strategy. These may also play a role in completion of projects in private organizations. Therefore l would suggest a study to find out for example how organization vision and strategy affect project completion in private sector organizations.

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