ADDIA ABABA UNIVERSITY SCHOOL OF COMMERCE DEPARTMENT OF PROJECT MANAGEMENT

CHALLENGES OF PROJECT PROCUREMENT AND CONTRACT ADMINISTRATION: THE CASE OF OPTIMAL TRAFFIC ROUTING AUTOMATION PROJECT, ETHIO TELECOM

BY: HELEN TEKLU

ADDIS ABABA UNIVERSITY
SCHOOL OF COMMERCE MA PROGRAM

JUNE, 2018
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A RESEARCH PROJECT WORK SUBMITTED TO ADDIS ABABA UNIVERSITY SCHOOL OF COMMERCE IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF ARTS DEGREE IN PROJECT MANAGEMENT

ADVISOR: SEIFU MAMO (ATO)

JUNE, 2018

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Approved Board Committee:

_____	_____
Advisor	**Signature**
_____	_____
Internal Examiner	**Signature**
_____	_____
External Examiner	**Signature**

DECLARATION

I declare that the project entitled “Challenges of Project procurement and Contract Administration, The Case of Optimal Traffic Routing Automation Project, Ethio Telecom,” is my original work and has not been presented for a degree in this university or any other university and that all sources of material used for the project have been duly acknowledged.

Helen Teklu Signature _____

June 2018

ENDORSEMENT

This is to certify that Ms. Helen Teklu has carried out this project work entitled “Challenges of Project Procurement and Contract Administration: The case of Optimal Traffic Routing Automation Project, Ethio Telecom” under my supervision.

This work is original and suitable for the submission in partial fulfillment of the requirement for the award of Master of Arts Degree in Project Management.

Seifu Mamo (Ato) _____

Date & signature

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First and for most, my praise is to the Almighty God for his guidance and help.

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ACRONYMS

ET: Ethio Telecom

ETA: Ethiopian Telecommunications Authority

ETC: Ethiopian Telecommunications Corporation

ETS: Ethiopian Telecommunications Service

IBTE: Imperial Board of Telecommunication of Ethiopia

IPMA: International Project Management Association

MOAs: Memoranda of Agreement

PMI: Project Management Institute

RFI: Request for Information

RFP: Request for Proposal

RFQ: Request for Quotation

SFD: Sourcing and Facilities Division

SLAs: Service Level Agreements

SPSS: Statistical Package for Social Sciences

ABSTRACT

The purpose of this study is to examine how scope/specification development and involvement of concerned stakeholders in the planning stage of the project procurement management process of an Optimal traffic routing automation project at Ethio Telecom affect the performance of the project. Descriptive research design was employed for the study. Semi-structured interview with purposive sampling technique was conducted with five management staffs of the sourcing department of the company. Close ended questionnaire was distributed to thirty-five employees where thirty-two are completed and returned. The data collected through questionnaire has been analyzed quantitatively using descriptive statistics; mean and standard deviation of SPSS version 20.00 software. And, the data obtained using interviews has been analyzed qualitatively. The study focused on the project procurement management practice of optimal traffic routing automation project undertaken by the company in order to improve the performance of voice traffic quality and take advantage of the cost involved for each call routing. The study examines the project considering plan procurement management, conduct procurements and control procurements processes of the project procurement management knowledge area. Contract administration practice of the project was also observed in the study. Accordingly, the findings showed that, scope and specifications for the project were not properly prepared, concerned stakeholders were not involved, risk related to the project was not considered, cost, schedule and detail requirements documents were not properly developed in the planning stage which in turn affects the conduct and control processes. Besides, no regular training is being provided to both sourcing and procurement requesting unit staffs, there is a skill gap that needs to be filled to improve the project procurement management process. Thus, planning should be given due consideration, and regular training must be provided on project procurement and contract administration related issues to all concerned staffs of the company.

Key words: Scope, *Specification, Stakeholders, Sourcing, procurement*

CHAPTER ONE

1. INTRODUCTION

1.1 Background of the Study

The project Management Institute (PMI, 2017), define project management as “the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements.” If no proper and integrated project management process is identified for a project, organizations cannot execute projects effectively and efficiently. According to PMI (2017), there are ten project management knowledge areas, project procurement management is one of these knowledge areas, which includes the processes necessary to purchase or acquire products, services, or results needed from outside the project team. As per PMI (2017) project procurement management processes include: Plan procurement management, Conduct procurements and control procurements.

According to Yilma (2011), Project procurement management includes the processes necessary to purchase or acquire products and services. Procurement management includes the contract management issued by an outside organization (Buyer) or issued by the performing organization to an outside organization (sub contract management) and change control processes required to develop and administer contracts or purchase orders issued by authorized project team members.

Any project is sure to fail if there is no effective project management principle, process and method is in place. A number of factors have been identified for the poor performance of projects in developing countries. Generally, factor such as government policies, insufficient funds, withdrawal by donors, shortage of foreign exchange, inappropriate contract conditions, political priorities, poverty, socio-cultural conditions, corruption, low institutional and human capacity, and occurrence of unexpected events such as war and drought. (Yilma 2011)

Project failures particularly in developing countries are caused by lack of necessary skills in the project management work force. (Nguyen, 2007).

Challenges in procurement are in the area of implementation both in developing and developed nations, but, the malpractice in developing countries is more than the developed nations. Kinyeki (2012). Planning is one of the key elements of every project, and failure to plan is one of the top causes for project failure. Damoah et. al (2015)

The growing recognition of the need to automate and improve contractual processes and satisfy increasing compliance and analytical needs has led to an increase in the adoption of more formal and structured contract management processes and an increase in the availability of software applications designed to address these needs for planning, conducting and controlling the procurement process and contract administration.

1.2 Background of the company and the project

According to the company profile booklet, the introduction of telecommunications services in Ethiopia dates back to 1894. Due to different reasons its name changed many times, it was called Imperial Board of Telecommunications of Ethiopia (IBTE), Ethiopian Telecommunication Services (ETS), Ethiopian Telecommunications Authority (ETA), and Ethiopian Telecommunications Corporation (ETC). In 2010 by regulation No 197/2010 Ethio-Telecom (ET) was born as public enterprise. ET is the only telecom service provider to the whole nation for voice (fixed and mobile), internet & data.

The vision of the company states that it wants “to become a world-class provider of telecom services”. And its mission is “to provide world class, modern and high quality telecom services accessible to all citizens thereby to support the multifaceted development of the country to the highest level”.

From this ambition, Ethio telecom was born to bring a paradigm shift in the development of the telecom sector to support the growth of the country. To this end, the current Sourcing and Facilities Division (SFD) is one of the main divisions in the company. SFD has three departments under it, Sourcing, Facilities and Fleet, and Supply Chain and logistics

departments. Sourcing Department is in charge of all the sourcing and procurement activities of the whole organization.

All user divisions requesting units submit their respective project procurement need plans, and the sourcing unit will prepare annual sourcing plan considering the companies sourcing strategy centrally.

Optimal traffic routing system project is one of the projects undertaken by the company to automate international voice traffic routing. It is a system that process, analyze, select and direct the path of outbound and inbound voice traffic, it is both hardware and software deployment project to integrate the routing system with the existing switches. The system helps to route the traffic depending on the best rate/cost and quality available.

When the requesting unit submits its project procurement plans, all stakeholders were not involved, scope/specification was not well defined, and hence, the execution and control of the project was also affected negatively.

To this end, the purpose of the researcher is to examine project procurement process and related contract administration practices of the above mentioned project procurement and see the challenges hindering the effective and efficient performance, and therefore, provide recommendation.

1.3 Statement of the Problem

Project procurement is dependent on the objectives and goals of the project which it supports. Project objectives are predetermined primarily in the project proposal, and there are a corresponding set of procurement activities undertaken in accordance with the project procurement plan over a period of time to achieve the project objectives. Project procurement is a fundamental part of project management because it is crucial to the success of the project, that procurement activities are appropriately planned and executed; hence project procurement planning and strategy development are vital to the implementation and successful outcome of a project.

What distinguishes project procurement from other forms of procurement is that there are series of procurement activities carried out during the execution of a project. According to PMI (2017), the Project Procurement Management processes include planning procurement management, conducting procurements, control Procurements. Thus, a project procurement management practice needs to consider these points in order to be effective and efficient. A good procurement planning before undertaking a procurement process is a key contributor to project success (Deme A., 2009). According to PMI (2017), conducting procurements is the process of obtaining seller responses, selecting a seller, and awarding a contract. Sellers play a vital role in success of the procurement, hence, conducting procurement should be well managed to have the desired outcome. There should be a well-defined procurement process.

Ethio Telecom is currently undertaking several telecom projects. Procurement work is undertaken in the company centrally at headquarter level under a department called “Sourcing”. All divisions requesting units submit their respective project procurement need plans, and the sourcing unit will prepare annual sourcing plan considering the companies sourcing strategy.

Optimal traffic routing system is a project undertaken by the company to automate the international voice traffic routing in order to change the manual routing of calls which was inefficient and ineffective, it is both hardware and software deployment project to integrate the routing system with the existing switches. Hence, the systems’ main objective is to improve call quality performance and take advantage of costs to route international voice call. The researcher as an employee of the company, and from preliminary discussion made with staffs of the sourcing department who facilitate the procurement of the project, observed and understands that, although there is a procurement manual, while the requesting unit submit the project procurement plan, scope/specification was not well defined, end users of the project result were not involved, and lack of deep knowledge regarding the project from requesting unit team who involve in the technical and commercial evaluation of the procurement of the project results in delayed project delivery, cost increase and poor specification. Although such problems are frequent at the company, no proper study was conducted in relation to the issue to improve performance of the project procurement

management process. Therefore, this study will help in filling the gap between the existing practices of project procurement management in Ethio Telecom by synthesizing with the theoretical perspective of the project procurement management knowledge area.

1.4 Research Questions

This study attempts to address the following five questions:

1. How scope (specification) is developed for procurement of the project and its contribution to the timely delivery, cost and quality of the project?
2. How all stakeholders are being involved in the project procurement Process? (end users, requesters and suppliers) and their contribution to the effectiveness of the project procurement process?
3. What is the procurement contract administration system support to the procurement management process?
4. What are the challenges hindering Ethio Telecom from implementing effective project procurement management?

1.5 Objective of the Study

This study examines the project procurement management process of optimal traffic routing system, in the case of Ethio Telecom, while attempting to achieve the general objective, the study also tried to specifically meet the following objectives.

1. To examine the scope (specification) development practice and its effect on project delivery, cost and quality.
2. To examine the effect of stakeholders' involvement (end users, requesting unit), and vendors in the procurement process on the effectiveness of the project procurement management process.
3. To see if there is procurement contract administration system that supports the procurement process's effectiveness.
4. To investigate the challenges hindering Ethio Telecom implementing effective project procurement management.

1.6 Significance of the Study

The research findings will help to see how well developed scope/specification and involvement of relevant stakeholders in the project procurement planning process contributes to the effectiveness of the whole procurement management process. Moreover, the research recommendations will help to take steps towards adjusting the procurement process at Ethio Telecom by focusing on the plan procurement management process. In addition, other researchers, students working on project procurement process can use it as a secondary source of information.

1.7 Scope/Delimitation of the study

The study will be basically a case study that focuses on Ethio Telecom's project procurement management practice by considering a single project, optimal traffic routing automation system project. The study merely focuses on the sourcing departments function with respect to one of the project management knowledge areas, which is project procurement management.

1.8 Limitation of the Study

Since questioners and interview were administered with sourcing department employees and requesting unit staffs who involved in preparing project procurement plan of a specific project which is procurement of optimal traffic routing system, the findings may be limited to Ethio Telecom only. In addition, the research design employed is descriptive design, certain degree of subjectivity can be found.

1.9 Definition of terms

According to PMI, 2013),

> Project Scope: Is the work that must be done or deliver a product, service or result.
>
> Project Stakeholders: Are individual(s), group, or organization that may affect or be affected by or perceived itself to be affected by a decision, activity, or outcome of a project.

According to Merriam-Webster Dictionary, Contract*:* is a binding agreement between two or more persons or parties, especially one legally enforceable.

USlegal.com define Contract administration as the management of contracts made with customers, vendors, partners, or employees. It refers to the management of all actions after the award of a contract. This is to assure that terms of a contract are complied with. For example, timely delivery, acceptance, payment, and closing contract.

Operational Definition of Terms

Procurement: the process undertaken by ET sourcing department for managing orders/requests, related invoices and purchases delegation with respect to the company's sourcing policy to support requesters and financial controllers as being interface with all players of the process.

Purchase Request: A formal written request initiated by the requesting unit and submitted to the sourcing department to issue purchase order or enter into an agreement with the supplier.

Requesting Unit: Ethio Telecom's working units who are responsible to assess annual needs of goods, services, and works from concerned end users; compile the request and send purchase request to sourcing Department.

End Users: Ethio Telecom Divisions who ultimately use the goods, services and works.

Tendering: The process of identifying and selecting the best deliverable with best price from potential Suppliers

1.10 Organization of the Study

The research report comprises five chapters; the first chapter contains introduction of the study which consist background of the study, background of the organization and the project, statement of the problem, research questions, objectives of the study, scope of the study, limitation of the study, definition of terms and organization of the paper.

The second chapter focuses on exploring both theoretical and empirical review of related literatures. The third chapter presents the methodology employed for the study; it includes research design, population and sample of the study, type and source of data, procedure of data collection, method of data analysis and reliability test made for the study. The fourth chapter includes the data analysis and presentation. The final chapter, chapter five, presents the summary of findings, conclusion drown from the findings and recommendations suggested by the researcher.

CHAPTER TWO

2. REVIEW OF RELATED LETERATURE

This chapter presents related literatures review to the purpose of this study. The main purpose of the review is to give insight on project procurement management and establish the conceptual/theoretical and empirical foundations for the study. According to Saunders et al. (2009), Literature search is a systematic search of one or more databases for materials on a specific subject. According to A. Fink, Literature Review is "a systematic and explicit method for identifying, evaluating, and synthesizing the existing body of completed and recorded work produced by researchers, scholars, and practitioners." Hence, it gives the researcher clear insight on how previous works were done and their relation to the study at hand.

Thus, in this study, literatures are reviewed mainly under the concept of project procurement management in line with the three processes of project procurement management; Plan project procurement management, Conduct procurements and Control procurements processes. Finally, based on the information from the reviewed literature, conceptual framework of the study has been developed.

2.1. Definition of Project and project management

2.1.1 Project Definition

According to PMI (2017), a project is a temporary endeavor undertaken to create a unique product or service, or result. A unique product that can be either a component of another item, an enhancement or correction to an item, or a new end item in itself; a unique service or a capability to perform a service; a unique result, such as an outcome or document, and unique combination of one or more products, services, or results. The term temporary in the definition shows that project has a defined beginning and end time.

International Project Management Association (IPMA) define project as “a time and cost constrained operation to realize a set of defined deliverables up to quality standards and requirements”. According to H. Kerzner (2013), a project can be any series of activities and tasks that have a specific objective to be completed within certain specifications, have defined start and end dates, have funding limits, consume human and non-human resources and is multifunctional. Similarly, Wysocki (2014), define project as, “a sequence of unique, complex, and connected activities that have one goal or purpose and that must be completed by a specific time, within budget, and according to specification.

Although all the definitions mentioned above are put in different details, it is clearly seen that projects are short term (temporary) endeavors, constrained by resources to delivery unique product, service or result in order to achieve a specific objective (well defined scope).

2.1.2. Project Management definition

Project management is the process of managing all the aspects of a project from its initiation to closure of the project using structured and scientific methods to manage it effectively. Wysocki (2014) define project management as “an organized common-sense approach that utilizes the appropriate client involvement in order to meet sponsor needs and deliver expected incremental business value”.

According to PMI (2017), Project management is “the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements”. Project management is accomplished through the appropriate application and integration of the project management processes identified for the project.

Therefore, PMI states that, Project management enables organizations to execute projects effectively and efficiently. Effective project management helps individuals, groups, and public and private organizations to:

- Meet business objectives;
- Satisfy stakeholder expectations;
- Be more predictable;
- Increase chances of success;

- Deliver the right products at the right time;
- Resolve problems and issues;
- Respond to risks in a timely manner;
- Optimize the use of organizational resources;
- Identify, recover, or terminate failing projects;
- Manage constraints (e.g., scope, quality, schedule, costs, resources);
- Balance the influence of constraints on the project (e.g., increased scope may increase cost or schedule); and
- Manage change in a better manner.

Poorly managed projects or the absence of project management may result in:

- Missed deadlines,
- Cost overruns,
- Poor quality,
- Rework,
- Uncontrolled expansion of the project,
- Loss of reputation for the organization,
- Unsatisfied stakeholders, and
- Failure in achieving the objectives for which the project was undertaken.

According to H. Kerzner (2013), project management is "the planning, organizing, directing, and controlling of company resources for a relatively short-term objective that has been established to complete specific goals and objectives". Hence, project management is all about managing and controlling of company resources on a given activity to achieving it within time, cost and performance. Roberts and Wallace (2004), also state that project management is concerned with the life cycle of the project: planning and controlling the project from inception to completion. It is therefore about deciding the various success and failure criteria of a project and then organizing and running the project as a single entity so that all the success criteria are met.

2.2 Procurement and procurement management definition

2.2.1 Procurement definition

According H. Kerzner (2013), procurement can be defined as the acquisition of goods or services. Procurement and contracting is a process that involves two parties with different objectives who interact on a given market segment. Kerzner also mentioned that good procurement practice can increase corporate profitability by taking advantage of quantity discounts, minimizing cash flow problems, and seeking out quality suppliers.

2.2.2 Procurement Management definition

According to PMI (2017), Project Procurement Management is the processes necessary to purchase or acquire products, services, or results needed from outside the project team. Project Procurement Management includes the management and control processes required to develop and administer agreements such as contracts, purchase orders, memoranda of agreements (MOAs), or internal service level agreements (SLAs).

What distinguishes project procurement from operational procurement is that, it is the series of procurement activities carried out during the execution of a project, hence, project procurement management includes creation of relationships with outside suppliers for goods and services needed to complete the project. Richardson (2015), Procurement management represents the processes involved in the acquisition of a defined set of goods and/or services from a third party for use in various project activities. this can occur for many reasons. One obvious reason is that the buying organization is not technically capable of making the needed item, they may not have the skill to produce the item and they might not wish to invest in the time and effort to create that capability. In other situations, it is a matter of trade-off between make or buy decision.

As mentioned in PMI (2017), project procurement management is the process that involves agreements that describe the relationship between two parties, a buyer and a seller. Project procurement management is one of the ten knowledge areas of project management, it consists of processes: Plan procurement management, Conduct procurements, and Control procurements.

2.3 Project Management process groups and Knowledge Areas

According to PMI (2017), the project life cycle is managed by executing a series of project management activities known as project management processes. Every project management process produces one or more outputs from one or more inputs by using appropriate project management tools and techniques. The output can be a deliverable or an outcome. Outcomes are an end result of a process.

Project management processes apply globally across industries. Project management processes are logically linked by the outputs they produce. Processes may contain overlapping activities that occur throughout the project. The output of one process generally results in either:

- An input to another process, or
- A deliverable of the project or project phase.

The PMI Guide (2017) group processes into five categories called Process Groups, a Project Management Process Group is a logical grouping of project management processes to achieve specific project objectives. Process Groups are independent of project phases.

- Initiating Process Group: Those processes performed to define a new project or a new phase of an existing project by obtaining authorization to start the project or phase.
- Planning Process Group: Those processes required to establish the scope of the project, refine the objectives, and define the course of action required to attain the objectives that the project was undertaken to achieve.
- Executing Process Group: Those processes performed to complete the work defined in the project management plan to satisfy the project requirements.
- Monitoring and Controlling Process Group: Those processes required to track, review, and regulate the progress and performance of the project; identify any areas in which changes to the plan are required; and initiate the corresponding changes.
- Closing Process Group: Those processes performed to formally complete or close the project, phase, or contract.

In addition to Process Groups, in PMI (2017), processes are also categorized by Knowledge

Areas. A Knowledge Area is an identified area of project management defined by its knowledge requirements and described in terms of its component processes, practices, inputs, outputs, tools, and techniques.

Although the Knowledge Areas are interrelated, they are defined separately from the project management perspective. The ten Knowledge Areas identified in the PMI Guide (2017), are used in most projects most of the time. The ten Knowledge Areas described in this guide are:

- Project Integration Management: Includes the processes and activities to identify, define, combine, unify, and coordinate the various processes and project management activities within the Project Management Process Groups.
- Project Scope Management: Includes the processes required to ensure the project includes all the work required, and only the work required, to complete the project successfully.
- Project Schedule Management: Includes the processes required to manage the timely completion of the project.
- Project Cost Management: Includes the processes involved in planning, estimating, budgeting, financing, funding, managing, and controlling costs so the project can be completed within the approved budget.
- Project Quality Management: Includes the processes for incorporating the organization's quality policy regarding planning, managing, and controlling project and product quality requirements, in order to meet stakeholders' expectations.
- Project Resource Management: Includes the processes to identify, acquire, and manage the resources needed for the successful completion of the project.
- Project Communications Management: Includes the processes required to ensure timely and appropriate planning, collection, creation, distribution, storage, retrieval, management, control, monitoring, and ultimate disposition of project information.
- Project Risk Management: Includes the processes of conducting risk management planning, identification, analysis, response planning, response implementation, and monitoring risk on a project.

- Project Procurement Management: Includes the processes necessary to purchase or acquire products, services, or results needed from outside the project team.
- Project Stakeholder Management: Includes the processes required to identify the people, groups, or organizations that could impact or be impacted by the project, to analyze stakeholder expectations and their impact on the project, and to develop appropriate management strategies for effectively engaging stakeholders in project decisions and execution.

2.4. Project procurement management Processes

As per PMI (2017), the project management processes are linked by specific inputs and outputs where the result or outcome of one process may become the input to another process that is not necessarily in the same Process Group. Note that Process Groups are not the same as project phases; a project phase is a collection of logically related project activities that culminates in the completion of one or more deliverables. The phases in a life cycle can be described by a variety of attributes. Attributes may be measurable and unique to a specific phase.

Accordingly, Project Procurement Management processes include the following: (PMI 2017)

- **Plan Procurement Management:** The process of documenting project procurement decisions, specifying the approach, and identifying potential sellers.
- **Conduct Procurements**: The process of obtaining seller responses, selecting a seller, and awarding a contract.
- **Control Procurements:** The process of managing procurement relationships, monitoring contract performance, making changes and corrections as appropriate, and closing out contracts.

Although the processes are presented as discrete processes with defined interfaces, it is also mentioned in PMI (2017) that in practice, procurement processes can be complex and can interact with each other and with processes in other knowledge areas. Below

figure shows the three project procurement management processes with their respective inputs needed for the process, tools & techniques used and outputs of that process.

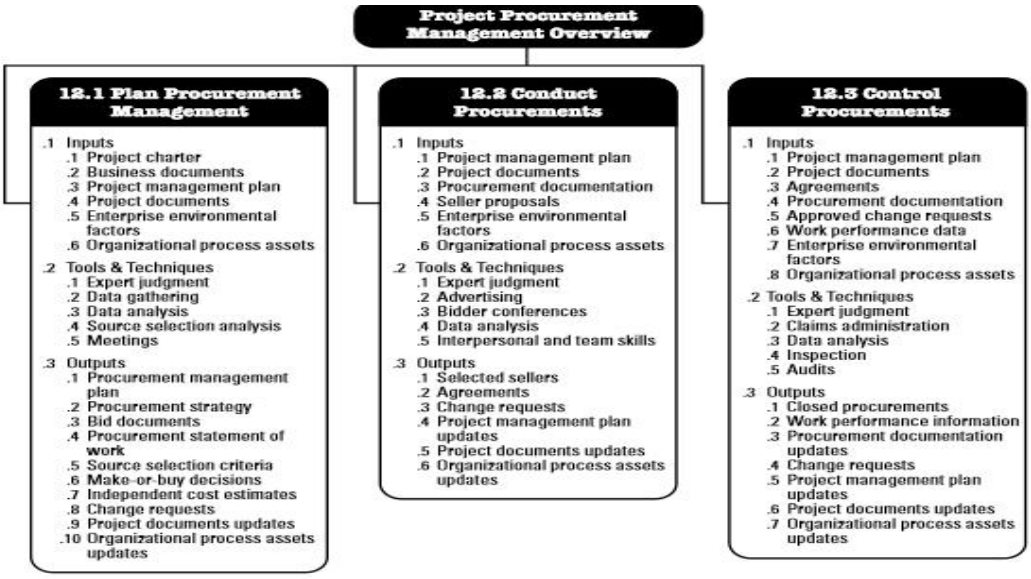

Figure 2.1Overview of Project procurement Management Process, PMI (2017)

As mentioned in PMI (2017), More than most other project management processes, there can be significant legal obligations and penalties tied to the procurement process. The Project Procurement Management processes involve agreements that describe the relationship between two parties, a buyer and a seller. Agreements can be as simple as the purchase of a defined quantity of labor hours at a specified labor rate, or they can be as complex as multiyear international contracts. A complex project may involve managing multiple contracts simultaneously or in sequence. In such cases, each contract life cycle may begin and end during any phase of the project life cycle. A contract should clearly state the deliverables and results expected, including any knowledge transfer from the seller to the buyer. Anything not in the contract cannot be legally enforced.

For smaller organizations or startup companies and those without a purchasing, contracting or procurement department, the project manager may assume the purchasing authority role to negotiate and sign contracts directly (decentralized purchasing). For more mature organizations the actual procurement and contracting functions will be carried out by a

separate department with specific role to purchase, negotiate and sign contracts (centralized purchasing).

In PMI (2017), it is also mentioned that there are major trends and emerging practices like advances in tools, risk management, changing contracting processes, logistics and supply chain management, technology and stakeholders' relations that can affect the success of a project. And procurement management should be tailored with complexity of procurement, physical location, government regulatory environment and availability of contractors.

2.4.1 Plan procurement management

According to H. Kerzner (2013), the first step in the procurement process is the planning for purchases and acquisitions, specifically the development of procurement plan that states what to procure, when to procure and how.

Plan Procurement Management is the process of documenting project procurement decisions, specifying the approach and identifying potential sellers. The key benefit of this process is that it determines whether to acquire goods and services from outside the project and, if so, what to acquire as well as how and when to acquire it. PMI (2017). Below figure shows different inputs, tools & techniques used in the plan procurement management process and the output of the process.

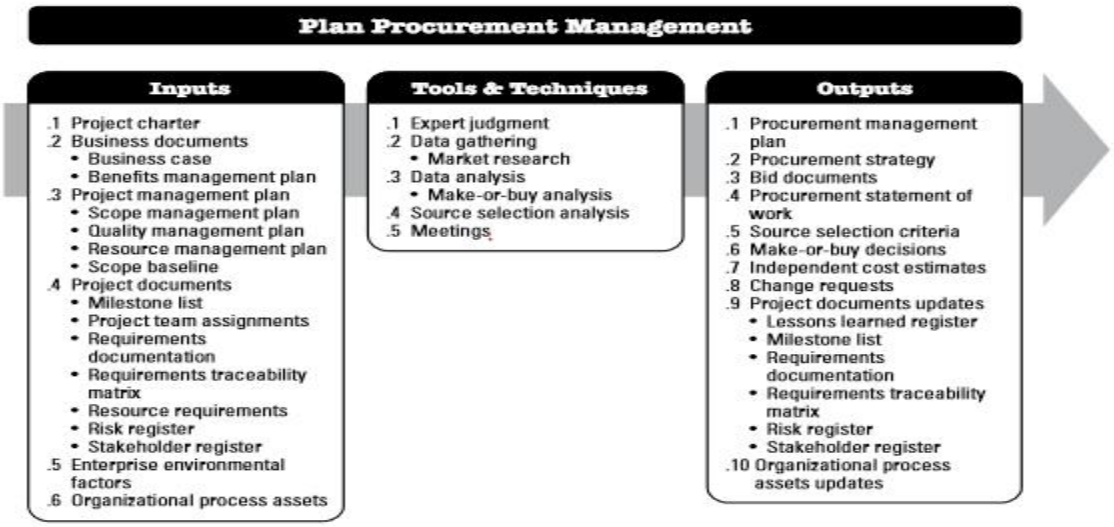

Figure 2.1 Plan procurement management: inputs, tools & techniques and outputs. PMI (2017)

Different authors describe in different ways as to what is to be addressed or included in the plan procurement process. As shown in the above figure, PMI (2017) detailed what inputs, tools and techniques can be used and the output of the plan procurement process could be the procurement management plan, procurement strategy, bid documents, procurement statement of work, source selection criteria, make or buy decisions, independent cost estimates.

According to Darnall and Preston (2012), decision to self-perform the work or contract it to others influences the scheduling of critical activities of any project. Kerzner (2013), also state that procurement planning must address the risks on the contract and risks associated to procurement.

Product, work, or service a specification for what is going to be procured is one of the most important planning documents. This procurement statement of work should be developed for each item to be procured. A well-defined statement of work can be of use for a vendor/suppler to reasonably use it to estimate its response. Richardson, (2015).

2.4.2 Conduct Procurement

Once the requirements are identified and a procurement plan has been prepared, a requisition form for each item to be procured is sent to procurement to begin the procurement process. The process of conducting the procurement includes: evaluating/confirming specifications, confirming qualified sources, reviewing past performance of sources, reviewing of team or partnership agreements and producing the solicitation package. (H. Kerzner, 2013)

As per PMI (2017), Conduct Procurements is the process of obtaining seller responses, selecting a seller, and awarding a contract. The key benefit of this process is that it selects a qualified seller and implements the legal agreement for delivery. The end results of the process are the established agreements including formal contracts. This process is performed periodically throughout the project as needed. The inputs, tools and techniques, and outputs of the Conduct Procurements process are shown in the figure below.

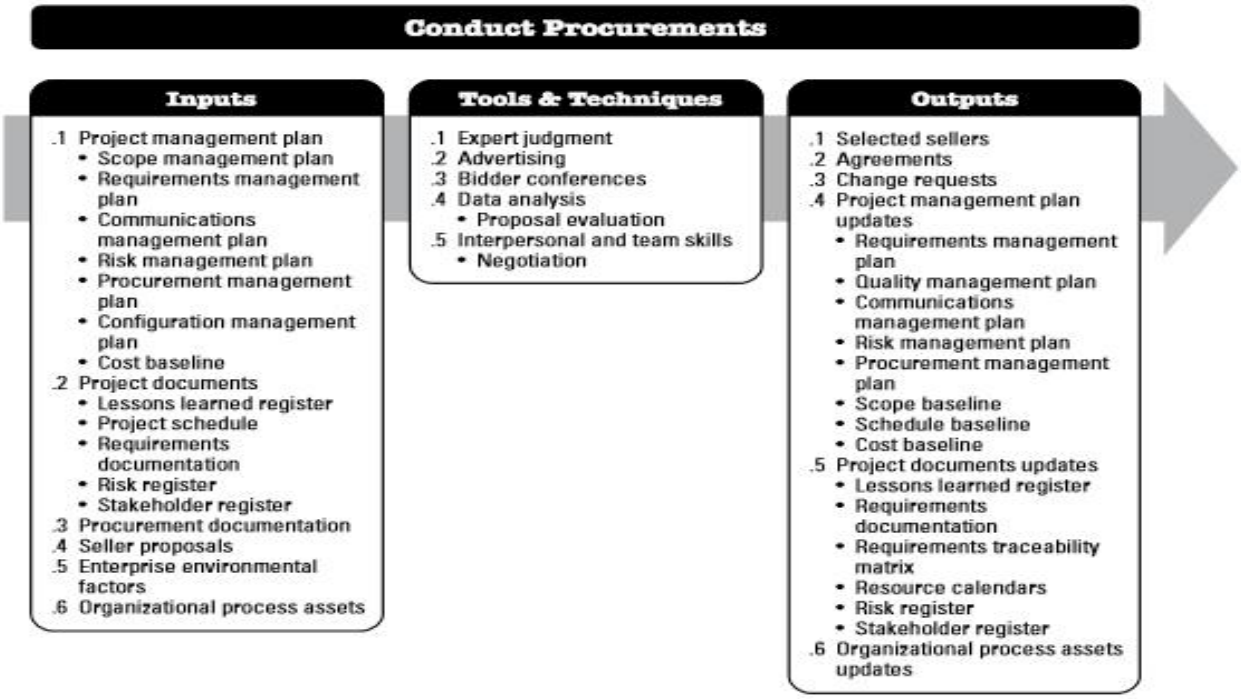

Figure 2.3 Conduct Procurement: inputs, tools & techniques and outputs, PMI (2017)

As per PMI (2017), the possible outputs of the conduct procurement process could be list of selected sellers, agreements (contracts), and relevant change requests.

According to Richardson (2015), the major component of conducting procurement is making contract with respective suppliers to establish interest in bidding, receiving sellers' responses for statement of works and selecting preferred vendors, negotiating contracts and communicating status to various stakeholders and processes.

According to PMI (2017), Bid documents are used to solicit proposals from prospective sellers. Terms such as bid, tender, or quotation are generally used when the seller selection decision is based on price (as when buying commercial or standard items), while a term such as proposal is generally used when other considerations such as technical capability or technical approach are the most important. Specific procurement terminology used may vary by industry and location of the procurement.

Depending on the goods or services needed, the bidding documents can include a request for information, request for quotation, request for proposal, or other appropriate procurement documents. The conditions involving their use are presented below:

- Request for information (RFI): An RFI is used when more information on the goods and services to be acquired is needed from the sellers. It will typically be followed by an RFQ or RFP.
- Request for quotation (RFQ): An RFQ is commonly used when more information is needed on how vendors would satisfy the requirements and/or how much it will cost.
- Request for proposal (RFP): An RFP is used when there is a problem in the project and the solution is not easy to determine. This is the most formal of the “request for” documents and has strict procurement rules for content, timeline, and seller responses.

According to Wysocki (2014) also, the Request for Information is frequently used when there is little knowledge of exactly what is available on the commercial market or cannot identify vendors who have the specific capability the buyer is looking for. Similarly, Richardson (2015) defines Requests for Information (RFI) as a formatted seller response that is intended to allow vendors to uniformly describe how their solutions meet the functional and nonfunctional requirements.

The buyer structures procurement documents to facilitate an accurate and complete response from each prospective seller and to facilitate easy evaluation of the responses. These documents include a description of the desired form of the response, the relevant procurement statement of work (SOW), and any required contractual provisions.

The complexity and level of detail of the procurement documents should be consistent with the value of, and risks associated with, the planned procurement. Procurement documents are required to be sufficiently detailed to ensure consistent, appropriate responses, but flexible enough to allow consideration of any seller suggestions for better ways to satisfy the same requirements.

According to Kerzner (2013), selecting the appropriate seller is not necessarily left exclusively to the evaluation criteria. As per PMI (2017, The source selection criteria may include but are not limited to: Capability and capacity, Product cost and life cycle cost, Delivery dates, Technical expertise and approach, Specific relevant experience, Adequacy of the proposed approach and work plan in responding to the SOW, Key staff’s qualifications,

availability, and competence, Financial stability of the firm; Management experience; and Suitability of the knowledge transfer program, including training.

A negotiation process can be part of the selection process because the buyer may like several of the ideas among the many bidders and then may try to have the preferred seller take on added work at no additional cost to the buyer. Kerzner (2013),

According to H. Kerzner (2013), the objective of the conduct procurements process is to negotiate a contract type and price that will result in reasonable contractor risk and provide the contractor with the greatest incentive for efficient and economic performance.

Types of Contract

1. Fixed Price (Lump Sum): If the scope is clear and well defined, we can sign a contract on a fixed total price and the risk is on the seller side as the buyer need not bother about any variations in the cost. There are 3 types of fixed price contract as shown below:
   i. Firm Fixed Price: Seller has to fulfill the obligations with in a fixed price. The risk is on the seller side as any cost overrun will be borne by the seller.
   ii. Fixed Price Incentive Fees Contract: Based on the complexities or certain conditions apart from fixed price buyer will pay some incentive, if the seller is completing the project on time or meet certain performance conditions set by the buyer etc. If the cost reaches above a ceiling limit, the seller has to bear the excess cost.
   iii. Fixed Price with Economic Price Adjustment Contracts: for a long duration project, to meet the escalation or price variations of some materials or labor charges, buyer has to pay a Fixed Price and cost of escalation within the duration of the project, it protects both the parties from price inflation.
2. Cost Reimbursable Contract: In this type of contract scope is not exactly defined and not known to both the parties and the price is open based on the final incurred costs of the product. In this type of contract risk is on the buyer side as buyer has to pay for facing the uncertainties. There are 3 type of cost reimbursable contract as given below:

i. Cost plus Fixed Fees Contracts: Here the buyer has to pay the actual cost of the work plus the additional fixed fee for doing the work to the seller. Fee will not be changed based on the seller performance. Risk is moderate to the buyer as the fee is fixed and costs are variable.

ii. Cost plus Incentive Fees Contracts: In this type of contract the buyer has to pay the cost of the work as it incurred and an incentive fee for exceeding the performance criteria. In the end of the project cost can be higher or lower, then both the parties share the cost based on the pre-negotiated cost sharing formula. Risk is moderate as costs are variable.

iii. Cost plus Award Fee Contracts: The buyer has to reimburse all the allowable cost and award a price based on meeting the performance criteria mentioned in the contract by the seller. Risk is moderate as there is a conditional payment.

3. Time and Material: This is also called unit price contract and it is the mix of fixed price and cost reimbursable contract. In this cost is charged to the identified tasks of an ongoing activity, and for doing some work for which scope is not clear ex. research. Here Scope per unit is defined.

2.4.3 Control Procurement

Control Procurements is the process of managing procurement relationships; monitoring contract performance, and making changes and corrections as appropriate; and closing out contracts. The key benefit of this process is that it ensures that both the seller's and buyer's performance meet the project's requirements according to the terms of the legal agreement. This process is performed throughout the project as needed. PMI (2017). The inputs, tools and techniques, and outputs of this process are show in figure below.

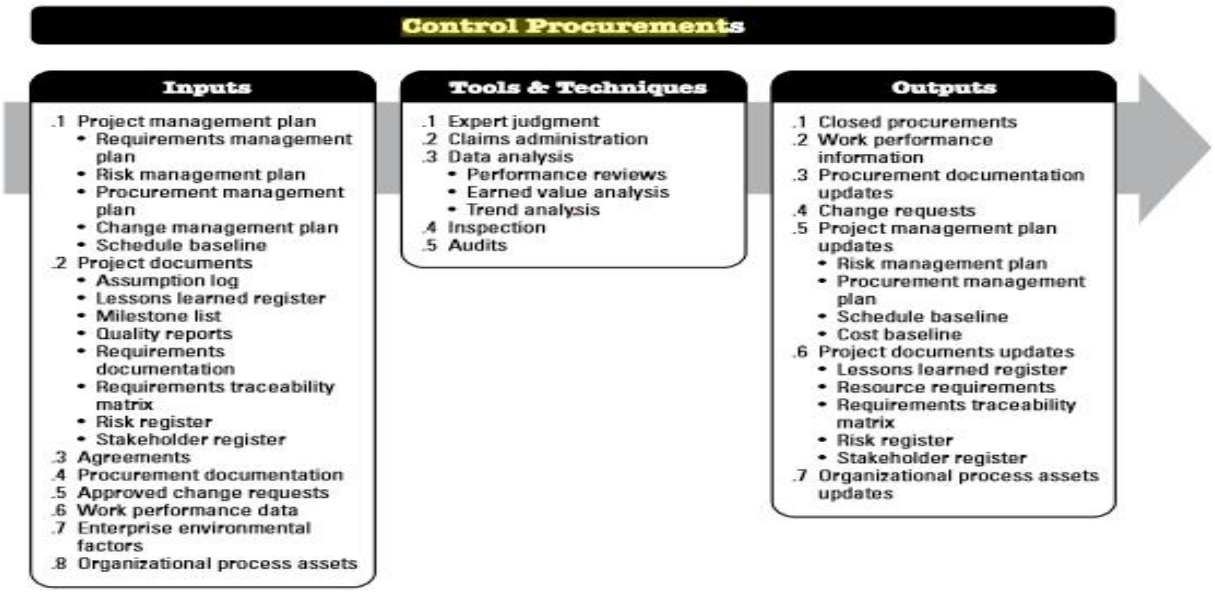

Figure 2.4 control procurement process: inputs, tools & techniques and outputs, PMI (2017)

As shown in the figure above, PMI (2017), listed the control procurement process outputs as closed procurements, work performance information, procurement documentation updates and other updates. Here it is noticed that, unlike the previous editions of the PMI Guide, PMI (2017), incorporate closure of procurements under the control procurement process.

As per PMI (2017), both the buyer and the seller administer the procurement contract for similar purposes. Each is required to ensure that both parties meet their contractual obligations and that their own legal rights are protected. On larger projects with multiple providers, a key aspect of contract administration is managing communication among the various providers.

Because of the legal aspect, many organizations treat contract administration as an organizational function that is separate from the project.

Control Procurements includes application of the appropriate project management processes to the contractual relationship(s) and integration of the outputs from these processes into the overall management of the project. This integration often occurs at multiple levels when there are multiple sellers and multiple products, services, or results involved.

Administrative activities may include:

- Collection of data and managing project records, including maintenance of detailed records of physical and financial performance and establishment of measurable procurement performance indicators;
- Refinement of procurement plans and schedules;
- Set up for gathering, analyzing, and reporting procurement-related project data and preparation of periodic reports to the organization;
- Monitoring the procurement environment so that implementation can be facilitated or adjustments made; and
- Payment of invoices.

Control Procurements has a financial management component that involves monitoring payments to the seller. This ensures that payment terms defined within the contract are met and that compensation is linked to the seller's progress as defined in the contract. A principal concern when making payments is to ensure there is a close relationship of payments made to the work accomplished. A contract that requires payments linked to project output and deliverables rather than inputs such as labor hours has better controls.

According to PMI (2017), one of the outputs of control procurements is 'closed procurements'. The buyer, usually through its authorized procurement administrator, provides the seller with formal written notice that the contract has been completed. Requirements for formal procurement closure are usually defined in the terms and conditions of the contract and are included in the procurement management plan. Typically, all deliverables should have been provided on time and meet technical and quality requirements, there should be no outstanding claims or invoices, and all final payments should have been made. The project management team should have approved all deliverables prior to closure.

Agreements can be amended at any time prior to contract closure by mutual consent, in accordance with the change control terms of the agreement. Such amendments are typically captured in writing.

In closing contracts, the buyer verifies that all tasks and requirements defined in the contract have been produced and the contract is completed (Richardson, 2015). Closing out the contract is often an overlooked function, while closing a contract there are important points needed to be considered. There should be a clear understanding of when the project is finished, state what the final product of the project is to be, who is to determine if it has been delivered, and what is to be done with any open issues. Wysocki, (2014).

2.5 Empirical Review

MK. Amour (2014), mentioned on his study "the role of procurement contract management in the effectiveness of project management for the telecommunication companies", taking the case of tiGo Tanzania, that effective contract management is very important to guarantees organizations in realization of business value by successful delivering of projects on time, and within budget. His study was made by interviewing and distributing questionnaires to the supply chain department and other stakeholder employees of the company. From his study, he discovered that there is paramount dependency of effective project management on suppliers' compliance with terms and conditions, suppliers technical capabilities, and close monitoring of suppliers during the project implementation, hence, he suggested that contract management is essential for effective project management, and recommended the company to recruit more experienced and qualified staff for its contract management function and to introduce contract management solution or system for making activity contracts visible.

Ogunsami (2013), conducted a study in Nigeria, his objective was to see the effect of procurement related factors on project performance. The researcher used snowball sampling technique in 40 selected organizations in Lagos, and 31 responses were collected. The findings show that variation orders impact project performance with time overrun, cost overrun and dispute. Ogunsami concluded that for better procurement management in developing countries, parties who directly or indirectly involved in the project should give proper attention for the better procurement management methods.

Furthermore, A. Deme (2009), states that procurement planning templates are helpful for completeness of files, to facilitate planning and documentation of the planning discussions, decision making and review of the overall procurement. Deme states that the purpose of any procurement planning template should be to present a factual summary and analysis of the Project Authority's defined contractual requirements, for review and validation by the Project Authority and the Contracting Authority, to ensure the departments compliance with all obligations and responsibilities, and to establish a project plan schedule and work breakdown structure with the responsible parties for completing each step and the planned timeline for completion.

Nguyen (2007), made a study considering Vietnam as a typical example, to describe and discuss the challenges of transferring modern project management principles and methodologies for developing countries, he identified that poor project control implementation and lack of training in contemporary project management knowledge mainly in international procurement are the major challenges.

Meseret A. (2016), conducted a study on Alemgena road maintenance project with a purpose of examining the project procurement management practice with respect to the plan, conduct and control project procurement management processes. Her findings were, lack of training on procurement management, lack of risk consideration and market research while planning procurement, no procurement pre-meeting held with suppliers, no confirmation of specifications and source of supply. No verification of suppliers with respect to technical and financial capability and past experience. Poor monitoring and controlling with unclear process of closing a procurement in the project management were also her findings.

Since, project procurement management is the process of buying or acquiring products or services needed for the project from outside source, an efficient process of procurement and management of material resources based on good relationships with the suppliers will help increase the effectiveness and efficiency of the organization and achieving lasting success by meeting the expectations of all stakeholders. (Carstea et. al, 2014).

2.6 Conceptual Framework

As McGaghie *et al*. (2001) put it, the conceptual framework “sets the stage” for the presentation of the particular research question that drives the investigation being reported based on the problem statement. The problem statement of a thesis presents the context and the issues that caused the researcher to conduct the study.

The conceptual framework lies within a much broader framework called theoretical framework. Theoretical framework draws support from time-tested theories that represent the findings of many researchers on why and how a particular phenomenon occurs.

Therefore, based on the reviewed theoretical and empirical literatures, the researcher developed the conceptual framework for the purpose of the study.

According to PMI (2017), Project procurement management includes the processes necessary to purchase or acquire products, services or results needed from outside the project team. These processes are linked in that the specific input and output of one process may become the input to another process. This processes are plan procurement management, conducting the procurement and controlling of the procurement.

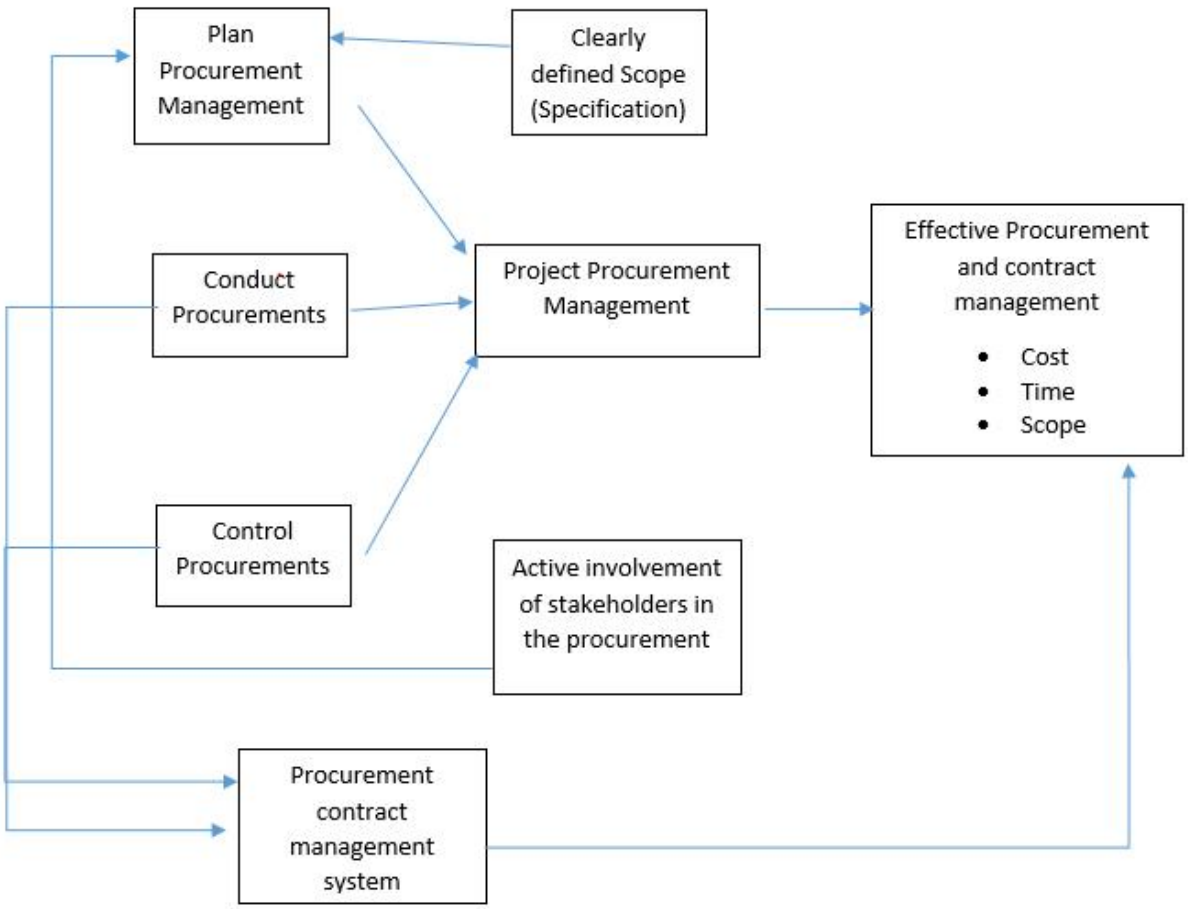

Figure 2.5 Conceptual framework for effective project procurement management,
Adopted from PMI, (2017)

If plan procurement process is conducted by involving all concerned stakeholders and if scope and specification of the project to be procured is defined and described clearly, the plan for the project procurement becomes complete; hence, the outputs of this process provide the required input to the other processes.

Contracts and related documents to the project procurement management should also be supported by a contract management system that can facilitate the conduct and control procurement processes. Therefore, the project procurement management becomes effective with respect to time, cost and required specification.

CHAPTER THREE

3. RESEARCH DESIGN AND METHODOLOGY

This chapter explains the research design, population and sample of the study, the type and source of data, procedure of data collection and methods of data analysis and presentation.

3.1 Research Design

Saunders et al. (2009), defined research design as, the general plan of how the research questions could be answered. Depending on the objective of the study, a research can be exploratory, descriptive, analytical or predictive. Since, the purpose of this study is to examine the project procurement management practice at Ethio Telecom by considering a project intended to automate traffic routing, the researcher employed descriptive research design. According to Fox & Bayat (2007), Descriptive Research is aimed at casting light on current issues or problems through a process of data collection that enables them to describe the situation more completely than was possible without employing this method. Therefore, this study tried to describe the challenges of project procurement and contract management practice at Ethio Telecom, in the case of optimal traffic routing automation project.

Mixed research approach that involves collecting, analyzing and integrating quantitative and qualitative data is employed in this research; this helps to offset the weakness of both. Creswell (2009), mixed method research approach is an approach to inquiry that combines or associates both qualitative and quantitative forms of research.

3.2 Population and Sample

3.2.1 Target Population of the Study

Oso and Ornen (2009), define the term target population as the total number of subjects or the total environment of interest to the study. The target population of this study was project team members who are involved in the optimal traffic routing automation project, both from the sourcing department and the project procurement requesting unit of the company. This group is targeted because it can help to meet the objective set for the study.

3.2.1 Sample

The study constitutes project team members and end users of the project. According to the information obtained from the sourcing department and requesting work unit, there are a total of 35 people related to this project. 10 staffs from the sourcing department and 25 employees of the requesting unit are involved in the project. Since the total population in the study is small, all 35 people in the project were enumerated for the study; hence, census method is used.

Respondents for the interview were selected using purposive sampling technique. Purposive sampling, also called judgment sampling, is the deliberate choice of respondents due to the qualities the respondent possesses. According to Sekaran U., Bougie R., (2009) purposive Sampling is a sampling technique confined to specific type of people who can provide the desired information, either because they are the only one who have the information or confirm to some criteria set by the researcher. The sample respondents for the interview were Sourcing Department Officer, three section managers and the project manager.

Questionnaire was distributed to all 10 sourcing department staffs and the 25 employees from project requesting unit who involve in the project procurement, and the users of the system.

3.3 Type and Source of Data

In order to get appropriate data, both primary and secondary sources of data were used. Interview and questionnaire were prepared and administered based on the review of related literature made on the subject of the study. For primary data source, semi-structured interview and close ended questionnaire were used to get answers for the basic and specific questions related to the objective of the study. As a secondary data source, relevant documents like company sourcing policy and procedures and other related documents, books, articles, journals and online information were used to supplement the study.

3.3 Procedure of Data Collection

In order to gather primary information, interview and questionnaire were prepared and administered based on review of related literatures by focusing on the purpose of the study.

Close ended Questionnaire was administered with 10 sourcing staffs and 25 employees from the project requesting unit who directly involved in the procurement process and who are end users. Semi-structured Interview was conducted with five individuals, four management level employees of sourcing department, (the Sourcing Department officer and three managers), and the project manager.

3.5 Method of Data Analysis and presentation

The data is analyzed using qualitative and quantitative data analysis methods. The data collected using close ended questionnaire was analyzed mainly by using descriptive statistics. SPSS version 20.00 software was used to present results qualitatively using average response and standard deviation. The semi-structured interview made is analyzed by organizing common ideas of the respondents in to a generalized format.

3.6 Validity

The closed ended questionnaire and the semi-structured interview were developed and checked by benchmarking the literature review to generate a valid and comparable response in order to make sure that conclusion and recommendations are appropriate and meaningful.

3.7 Reliability

The Likert scale questionnaire items reliability is checked by the cronbach –Alpha test using SPSS software, which scored 0.823. The combined alpha for the Likert scale and the multiple choice questions (dichotomous group) is 0.818, thus the score supports the presence of good internal consistency among the items and assures reliability and acceptability of the items for the study.

Reliability Statistics

Cronbach's Alpha	N of Items
.823	33
.818	42

CHAPTER FOUR

4. DATA ANALYSIS AND PRESENTATION

4.1 Introduction

This chapter shows the analysis of the data obtained from respondents, and presents the result accordingly. To examine the project procurement management process of optimal traffic routing system, a project undertaken by Ethio Telecom, the researcher has collected data through close ended questionnaire and semi-structured interview from relevant sourcing unit staffs and requesting unit employees who involve in the procurement process of the project and end users of the project. SPSS statistics version 20.00 was used to perform statistical procedures to analyze the data.

4.2 Descriptive statistics and Respondents Profile

The questionnaire was developed using five level likert scale where 1 represents strongly disagree, 2 disagree, 3 neutral, 4 agree and 5 strongly agree. Among the 35 (100%) questionnaires 10 were distributed to Ethio Telecom's Sourcing Department staffs who involve in the project, 9 questionnaires are filled and collected. 25 questionnaires were distributed to the optimal traffic routing system project procurement requesting unit staff members who directly involved in the process and the end users of the system in the requesting unit. From the 25 questionnaires, 23 are completed and collected back, hence, a total of 32 (91%) of the questionnaire are filled and collected. Descriptive statistics is used to analyze the 32 collected questionnaires; these questionnaires are inserted into SPSS version 20.00 to perform the descriptive analysis of the data, which enables to present the information in average and standard deviation.

In order to get more insight on the matter, semi-structured interview was conducted with the Sourcing Department management team and the project manager. The questionnaire and interview questions used to collect data are attached in the appendix section.

4.3 Respondent Profile

Respondents' profile describes the respondents' gender, age, work experience and educational qualification.

As it is shown in the below table 4.1, 59.4% of the respondents were male and the remaining 40.6% Female, hence, gender of the respondents' is relatively proportional.

65% of the respondents' are between the ages of 30 to 45 years, the remaining 18.8% and 15.6% are below 30 and, above 45 years respectively, i.e. most of the respondents' are between the ages of 30 to 45.

71.9% of the respondents have work experience of 5 to 10 years in the company. 18.8% of the respondents work for the company above 15 years and the remaining 9.4% have below 5 years work experience, therefore, most of them have work experience of 5 to 10 years in the company.

With respect to educational qualification, 65.6 % of the respondents have first degree and the remaining 34.4% with Master's degree, there was no respondent with educational qualification below first degree or above Master's degree.

Table 4 .1 Respondent Profile

Respondent Profile		Frequency	Percent
Respondent Gender	Male	19	59.4
	Female	13	40.6
	Total number of respondents	32	100.0
Respondent Age	Age below 30	6	18.8
	Age between 30 - 45	21	65.6
	Age above 45	5	15.6
	Total number of respondents	32	100.0
Respondent work experience	Experience below 5 years	3	9.4
	Experience 5 - 10 years	23	71.9
	Experience above 15 years	6	18.8
	Total	32	100.0
Respondent educational Qualification	Degree	21	65.6
	Masters Degree	11	34.4
	Total number of respondents	32	100.0

Source: Own survey, 2018

4.4 Project Procurement Management Process issues

Table 4.2 below reveals that, the average response obtained for the question if project procurement requesting unit team is well aware of the procurement management process is (2.56). the result shows most of the respondents feel neutral or disagree about awareness of the process, this indicates lack of awareness regarding the procurement process among procurement requesting work unit staffs of the company.

The mean response to the question about existence of documented policies, rules, and procedures on procurement management is (3.69), it shows that most of the respondents agree that there are well documented policies, rules and procedures for procurement management. Mean value of 3.66 shows that majority of the respondent are agreed to the point there is a standardized, formal procedure for the procurement management process.

The Mean response of (2.09) to the question if there is regular training being provided to procurement requesting unit and sourcing staffs, shows that training is not regularly being provided to both requesting work units and the sourcing staff of the company.

The overall result shown in the below table, and the interview result indicates that lack of awareness in project procurement requesting unit about the company's sourcing and procurement procedures and, lack of regular training to staffs of the company affects the effectiveness of the project procurement management process.

Table 4.2 Response to Project procurement management process issues

No	**Project procurement management process**	N	Mean	Std. Deviation
1	Project procurement requesting unit team is well aware of the procurement management Process.	32	2.56	.564
2	There are documented policies, rules and procedures on procurement management.	32	3.69	.471
3	There is a procedure that procurement requesting units follow in placing their procurement requests.	32	3.06	.759
4	There is a standardized, formal procedure for the procurement management process.	32	3.66	.483
5	Regular Training is being provided to procurement requesting units and sourcing staffs	32	2.09	.390
	Group Mean		3.01	

Source: Own survey, 2018

4.5 Plan Project Procurement Management issues

As it is shown in table 4.3 below, the overall mean result (2.60) obtained to the plan project procurement management related issues indicate that, the plan for the project was not well done from the beginning, scope/specification of the project was not properly provided by the requesting unit, procurement statement of work was not prepared for each item to be procured for the project with the detail requirements document, risk that might be involved with the project procurement was not analyzed, cost and schedule for the project procurement was not estimated and developed. In addition to this concerned stakeholders were not involved in the planning process of the project.

Table 4.3 Response on plan project procurement Management

No.	Plan Project procurement Management	N	Mean	Std. Deviation
1	Procurement planning is done for the project.	32	3.47	.507
2	Clear and detail Scope/specification of project procurement is provided by the requesting unit	32	2.50	.508
3	Procurement statement of work developed for each item to be procured for the project	32	2.31	.471
4	Detailed requirements document developed for the project procurement	32	2.13	.336
5	Risk involved with the procurement analyzed	32	1.88	.609
6	All stakeholders (end users, suppliers…) involved in the project procurement planning	32	2.56	.669
7	Schedule of the project procurement Developed well in advance	32	2.97	.538
8	Cost estimation of the procurement need made	32	2.97	.538
	Group Mean		2.60	

Source: Own survey, 2018

4.6 Conduct procurements issues

The average response given to the question whether specification of items to be procured confirmed before supplier selection or not is (2.28), this shows that specifications of items are not confirmed before supplier selection.

Average response of (4.00) to the question about existence of standardized and formal procurement templates used to obtain bid or proposal indicates that there are standardized procurement templates to obtain bids and proposals.

The Mean responses to items 3 and 4, (3.69 and 3.63 respectively), in table 4.4 indicates that standardized bid or proposal evaluation technique and predefined supplier selection criteria are recognized.

Mean response of (2.94) for the question if there is supplier involvement through bid conference, field visit or the like to clarify any doubt from supplier side indicates that there is no clearly seen supplier involvement technique.

Table 4.4 Responses related to conduct procurement issues

No.	Conduct Procurement	N	Mean	Std. Deviation
1	Specification of items to be procure are confirmed before suppler selection	32	2.28	.813
2	Standardized and formal procurement templates are used to obtain bids or proposals	32	4.00	0.000
3	There is standardized bid or proposal evaluation technique	32	3.69	.471
4	There is predefined supplier selection criteria	32	3.63	.492
5	There is suppliers involvement through bid conference, field visit or the like to clarify if they have any question on the bid or proposal	32	2.94	.246
	Group Mean	32	3.306	

Source: Own survey, 2018

As it can be seen in the below table 4.5, for the project procurement, Request for Quotation was used to invite potential suppliers. Both Technical and Financial capability of supplier and cost are considered in selecting supplier. The type of contract for the project was fixed price contract.

The interviewees confirm that although Request for Quotation (RFQ), was used to invite suppliers for the project under this study, which is optimal traffic routing system, the company also uses Request For Information (RFI) and Request For Proposal (RFP) to invite potential suppliers in its sourcing and procurement process at different procurement scenarios. From review of the company's sourcing policy direct purchase is also allowed based on the appropriateness to the project under consideration.

The interview response also supports the result obtained from the questionnaire that technical and financial capability and cost are the considerations in supplier selection with fixed price contract.

Table 4.5 Supplier invitation documents, Supplier selection and type of contract

		Responses	
		N	Percent
Documents used to invite supplier[a]	RFQ	32	100.0%
Total		32	100.0%
a. Dichotomy group tabulated at value 1.			

		Responses	
		N	Percent
Consideration for supplier selection[a]	Technical and Finacial Capability	32	50.0%
	Cost	32	50.0%
Total			100.0%
a. Dichotomy group tabulated at value 1.			

		Responses	
		N	Percent
Type of Contract[a]	Fixed price contract	32	100.0%
Total		32	100.0%
a. Dichotomy group tabulated at value 1.			

Source: Own survey, 2018

4.7 Control procurement issues

As it is seen in the below table, the overall average response obtained for questions related to control procurement activities is (2.84), this indicates that there is poor procurement control.

Responses for questions no. 1 and 2 (mean response of 2.84 and 2.53) in the below table indicates lack of proper procurement relationship management of stakeholders, and lack of regular review on progress of the project procurement respectively.

Average response of (3.09) for the question, if there is a predefined change request and management procedure to take appropriate correction implies lack of clearly defined procedure.

The response to the question about existence of frequent change request on requirements is (3.47), which indicates that above average respondents agree that there is frequent change request. The average response for items 5 and 6 (3.69 and 2.06) indicates that most of the change request for the project procurement was due to scope/specification change, majority of the respondents disagree cost and schedule change caused the change request.

Mean response to question if there is a clearly defined process for closing procurement is (2.69), it shows lack of process clarity to close procurement and contracts. Mean result of (2.31) obtained for the question whether work performance information and procurements documentations are updated and documented for further reference, indicates that there is no such information and documentations that can be referred for future project procurements.

Table 4.6 Responses to control procurement related issues

No.	Control Procurement	N	Mean	Std. Deviation
1	Procurement relationship with end users, suppliers and other stakeholders managed properly.	32	2.84	.369
2	Regular review is done on the progress of the procurement underway	32	2.53	.507
3	There is a predefined change request and management procedure to take appropriate corrections.	32	3.09	.296
4	There is frequent change request on requirement and contract amendment	32	3.47	.761
5	Scope/specification change causes requirement change request and contract amendment	32	3.69	.738
6	Cost and schedule change causes the change request for requirements	32	2.06	.435
7	There is a clearly defined process for closing procurement and contracts	32	2.69	.535
8	Work performance information and procurement documentations are updated and documented for future reference	32	2.31	.471
	Group Mean		2.84	

Source: Own survey, 2018

4.8 Contract Administration Related Issues

Mean response to the question if contract related documents are maintained is (3.81), implies that majority of the respondents agree that all contract related documents are maintained. The average response obtained to the question, claims and disputes related to the contract are addressed properly is (3.44), this indicates that most of the respondents are neutral to this point.

Average responses to questions regarding existence of contract administration system, and training level of contract administrators, is (1.97 and 1.78 respectively) shows that there is no contract administration system that can support the procurement process and contract administrators are not well trained.

Interview response also support the result obtained in the below table 4.7, interviewees states that there is no established contract administration system that can support the procurement process, monitoring, and reporting of the status of contracts is also poor. Interviewees' responses also affirm that there is no properly organized contract administrating staff who can manage project contracts.

Table 4.7 Response related to contract administration issues

No.	Contract Administration	N	Mean	Std. Deviation
1	There is monitoring and administration of contract from the time contract has been awarded or signed until closeout	32	2.91	.466
2	There is a contract administration system that supports the procurement process	32	1.97	.647
3	There is regular observation and reporting on Contractor's performance	32	2.22	.553
4	All changes to contract are managed properly	32	3.13	.492
5	All contract related documents are maintained	32	3.81	.535
6	Claims and disputes related to the contract addressed properly	32	3.44	.669
7	Contract administrators are well trained	32	1.78	.706
	Group Mean		2.75	

Source: Own Survey, 2018

CHAPTER FIVE

5. MAJOR FINDINGS, CONCLUSION AND RECOMMENDATION

This final chapter includes summary of findings, conclusion and recommendations. Conclusion and recommendations have been provided based on the findings of the study in order to improve project procurement management practice at Ethio Telecom.

The major purpose of the study was to examine how scope/specification preparation and involvement of all concerned stakeholders during project procurement affect the delivery of a project, besides to see the contract administration practice in order to make recommendation on areas where gaps exist.

In order to achieve the objective of the study, descriptive research design was employed, interview was made with purposive sampling and responses have been analyzed qualitatively, and questionnaire results gave satisfactory result using cronbach's alpha value.

5.1 Major Findings of the Study

In this study the analysis done on project procurement management process issues revealed that although there is a standardized procurement management process, policies, rules and procedures project procurement requesting unit staffs lack the awareness on the sourcing and procurement process and procedures of the company. Besides, the company is not providing a regular training to its staffs to improve their awareness and performance in the procurement process.

5.1.1 Plan Project procurement Management

With respect to the plan project procurement management, the result shows that even if there was a plan for the project procurement, the plan was not well developed. Scope and specifications made in the planning were not clear enough and detailed. Procurement statement of work and requirements document was not produced for the project procurement needed.

Risk that might be involved in the project procurement was not considered, cost and schedule for the project requested was not estimated. From the analysis in this area it is also found out that, lack of involvement of concerned stakeholders of the project in the planning process was the main problem.

5.1.2 Conduct Procurement

From the analysis of issues related to conduct procurement activities, respondents agree that there is standardized and formal procurement template used to obtain bids or proposals for the project procurement. Evaluation techniques and predefined supplier selection criteria are available, but, these techniques and criteria seems not well communicated by the sourcing unit to requesting unit staffs.

The analysis result of the conduct procurement process also reveals that specification of the project was not confirmed before supplier selection and there is also no clearly seen supplier involvement technique that can help getting inputs from suppliers regarding the project procurement under consideration.

The result also revealed that the supplier invitation technique used for the project under this study was request for quotation (RFQ), but the sourcing policy of the company also allow request for information (RFI), request for proposal (RFP) and a direct purchase depending on the nature of the project to be procured. It could be better if the project team used Request for Proposal, because there was lack of detail knowledge in the team in developing the specification for the project.

It is also found out that the supplier selection criteria used was technical and financial capability and cost, past experience of supplier was not considered for selecting a supplier.

The contract type was fixed price contract.

5.1.3 Control Procurement

In the control procurement area, the results of the analysis revealed that, concerned stakeholders were not managed properly in the process of the project procurement.

There was no regular review done on the progress of the project procurement. Frequent change request was made on the project due to scope/specification change, but, there was no predefined change request management procedure to take appropriate correction on the changes needed.

The analysis result revealed that there is no clearly defined process for closing of procurements and contracts. From review of the project procurement documents the researcher understands that the system is deployed by the supplier in the premises of the company, the supplier claims that it completes the project and looking for signing of final acceptance, but, there is no formal acceptance from project user and sourcing unit given to the suppliers yet, and the project and the contract are not still closed.

From the review of the project documents again, the project procurement request for this project was first made by the requesting unit and submitted to the sourcing department in May 2014, organizing project procurement team, and other internal activities to start supplier invitation and selection took more than six months, after that also, due to specification changes and retendering of bid the implementation of the project delayed further.

Finally, supplier is selected and awarded the project in April 2015. After signing of contract, the selected supplier started the work in July 2015. There were change requests made by requesting unit after the supplier start implementation. Supplier claimed completed the system implementation in March 2017 and submit final acceptance letter to be signed by the company, but the project and the contract is still not formally closed from Ethio Telecom side. There was no estimated cost and schedule for the project defined at the planning stage of the project. It seems that the requesting unit planned to have the project within a budget year (12 months), but it took three years and the project is not yet formally closed.

The contract type used for the project was fixed price contract, but due to request for additional modules by the requesting unit during the project implementation, the project cost increased. Since final acceptance and confirmation on the project is not yet give quality cannot be confirmed.

The other point revealed from the result of the analysis is that, there is no practice of keeping work performance information and update of documentation to learn from project procurement experience of projects undertaken for future reference.

5.1.4 Contract Administration

The analysis results of contract administration issues revealed that, contract and contract related documents are maintained, but claims, disputes and change requests to contract are not managed properly. There is no clear monitoring and administration of contracts, there is no contract management system that can support the procurement process, regular observation and reporting was not made on the contractor's performance on the project.

In summary, the main challenges of the project were:

- Lack of detail knowledge in project requesting unit staffs in planning the procurement need properly.
- Lack of engagement of stakeholders in the procurement process.
- Since there is no regular training provided to staffs on project management and procurement related issues, skill gap challenges both sourcing and project procurement requesting unit staffs.
- Lack of contract administration system that can support the procurement process is also a challenge.

5.2 Conclusion

Based on the findings and data analysis of the research, the following conclusion is made on the project procurement of Ethio Telecom, optimal traffic routing automation project.

The project plan was made without the consultation of all stakeholders, especially with end users of the project result, and without consideration of any risk that might be involved in the project procurement, besides, specification was not well developed.

Although there is an established sourcing or procurement policy, rules and procedures in the company, these documents were not properly considered while requesting units initiate project procurement.

The company allows request for information (RFI), request for Quotation (RFQ), request for proposal (RFP) and also direct purchase depending on the appropriateness of the information required for the deliverables to be sourced, for the project taken in this study, the supplier invitation method used for the project procurement was request for quotation (RFQ), but, the project requesting unit team members who involved in the project lack the detail knowledge of what is going to procure, hence, the supplier invitation method used for the project was inappropriate.

From the findings it can be concluded that there was poor planning for the project procurement, the monitoring and control of the project performance was not undertaken properly, hence, it was difficult to take corrective actions.

There was no estimated cost and schedule for the project defined at the planning stage of the project. It seems that the requesting unit planned to have the project within a budget year (12 months), but it took three years and the project is not yet formally closed.

The contract type used for the project was fixed price contract, there is no direct cost increase based on the finally selected suppliers offer, but it is easy to understand that the delay in whole procurement process of the project have other indirect costs to the project and the company as a whole.

Quality of the project procured is not yet confirmed by user department and the sourcing unit; this indicates that there might be quality issue with the project that needs to be sorted out.

Since there was no practice of keeping work performance information and update of documentations, lessons cannot be learned to perform well in future project procurements.

There is no well-organized contract administration staff and system that can support the procurement process by monitoring and reporting contractors' performance, and administer claims, disputes and change requests.

5.3 Recommendations

The practice of project procurement management in Ethio Telecom, in the case of optimal traffic routing system project, shows some deviation and gap from the theoretical aspects of the project procurement management knowledge area. To overcome this deviation and improve the practice, the researcher recommends the following actions:

- Regular training should be given to sourcing unit staffs including contract administrators on project procurement management and contract administration related issues in order to build their capacity.
- Any Sourcing process related document should be communicated to the company staffs to make them aware of the sourcing and procurement policy, rules and procedures.
- Planning should be given due consideration in placing a project procurement need. Scope and specifications, requirements related document, cost, schedule and any risk involved should be well considered in the planning stage.
- Before moving to the execution of project procurement, specifications should be confirmed.
- There are different supplier invitation methods available depending on the nature of the project to be procured, supplier inviting method should be based on appropriateness to the project.
- In addition to technical and financial capability and cost consideration, past experience of suppliers should also be considered to select a supplier.
- Contract management is an important aspect of managing relations and a contract management solution is the critical tool used to get the most out of the agreement, therefore, there should be contract management or administration system that can support the project procurement process in the company.

- Contract administrators should be trained of contract management.

- Contractors' performance should be monitored and reported regularly and claims, disputes and change requests should be properly followed up.

- There should be a formal supplier sign off, final project scope analysis, release of resources and contract closure.

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ANNEX -1 QUESTIONNAIRE

Addis Ababa University College of Business and Economics

School of Commerce

Masters of Art in Project Management

Dear Participant,

First, I would like to thank you in advance for taking your time to fill this questionnaire.

My name is Helen Teklu, I am an MA graduating student in Project Management at AAU, School of Commerce. I am studying the Challenges of project Procurement and Contract Management practice in Ethio Telecom, the case of Optimal traffic routing system project as part of my MA project work.

Therefore, I kindly request you to participate in this study by completing this questionnaire. Please be sure that this research is only for academic purpose and no other party will have the access to the data collected.

If you need any clarification, please contact me @ 911 24 72 95 or heluteklut@gmail.com

General Instruction

1. You do not need to mention your name.
2. please put check **(✓)** mark in the appropriate space provided
3. Please respond all questions.

Thank you again for your time.

Section I, Demographic Information

1. Sex: Male ☐ Female ☐
2. Age: Below 30 ☐ 30 – 45 ☐ Above 45 ☐
3. Number of years working in Ethio Telecom (in years)
   Below 5 ☐ 5 – 15 ☐ Above 15 ☐
4. Educational Qualification:
   College Diploma ☐ First Degree ☐ Second Degree ☐
   Other Specify _____

Section II, Research Questionnaire

Please indicate the extent to which you agree or disagree with each of the following statements by putting a check mark (✓) in the appropriate column.

The Item scales are five point Likert scale:

1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, and 5= Strongly agree

A. Points related to Project Procurement Management Process

S.N.	Question	1	2	3	4	5
1	Project procurement requesting unit team is well aware of the procurement management Process.					
2	There are documented policies, rules and procedures on procurement management.					
3	There is a procedure that procurement requesting unit follows in placing their procurement request.					
4	There is a standardized, formal procedure for the procurement management process.					
5	Regular Training is being provided to procurement requesting units and sourcing staffs					

B. Points related to Plan Procurement Management

1= Strongly Disagree, 2= Disagree, 3=Neutral, 4= Agree, and 5= Strongly agree

S.N.	Question	1	2	3	4	5
1	Procurement planning is done for the project.					
2	Clear and detail Scope/specification of project procurement is provided by the requesting unit					
3	Procurement statement of work developed for each item to be procured for the project					
4	Detailed requirements document developed for the project procurement					
5	Risk involved with the procurement analyzed					
6	All stakeholders (end users, suppliers…) involved in the project procurement planning					
7	Schedule of the project procurement Developed well in advance					
8	Cost estimation of the procurement need made					

C. Points related to Conduct Procurements

1= Strongly Disagree, 2= Disagree, 3= neutral, 4= Agree, and 5= Strongly agree

S.N.	Question	1	2	3	4	5
1	Specification of items to be procure are confirmed before suppler selection					
2	Standardized and formal procurement templates are used to obtain bids or proposals					
3	There is standardized bid or proposal evaluation technique					
4	There is predefined supplier selection criteria					
5	There is suppliers involvement through bid conference, field visit or the like to clarify if they have any question on the bid or proposal					

6. What procurement documents are used in inviting suppliers? You can choose more than one.

A. RFI B. RFP C. RFQ

7. What considerations are followed in selecting Suppliers? You can choose more than one.

A. Review of past performance

B. Technical and Financial Capability

C. Cost

8. What types of Contract used for the project?

A. Fixed price Contract

B. Cost reimbursable contract

C. Time and material/unit price contract

D. Points related to Control Procurements

1= Strongly Disagree, 2= Disagree, 3= neutral, 4= Agree, and 5= Strongly agree

S.N.	Question	1	2	3	4	5
1	Procurement relationship with end users, suppliers and other stakeholders managed properly.					
2	Regular review is done on the progress of the procurement underway					
3	There is a predefined change request and management procedure to take appropriate corrections.					
4	There is frequent change request on requirement and contract amendment					
5	Scope/specification change causes requirement change request and contract amendment					
6	Cost and schedule change causes the change request for requirements					
7	There is a clearly defined process for closing procurement and contracts					
8	Work performance information and procurement documentations are updated and documented for future reference					

E. Points Related to Contract Management/Administration

1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, and 5= Strongly agree

S.N.	Question	1	2	3	4	5
1	There is monitoring and administration of contract from the time contract has been awarded or signed until closeout					
2	There is a contract administration system that supports the procurement process					
3	There is regular observation and reporting on Contractor's performance					
4	All changes to contract are managed properly					
5	All contract related documents are maintained					
6	Claims and disputes related to the contract addressed properly					
7	Contract administrators are well trained					

ANNEX-2 INTERVIEW CHECKLIST

Addis Ababa University College of Business and Economics
School of Commerce
Masters of Art in Project Management

Dear Participant,

First, I would like to thank your willingness to respond to my questions.

My name is Helen Teklu, I am an MA graduating student in Project Management at AAU, School of Commerce. I am studying the Challenges of project Procurement and Contract Management practice in Ethio Telecom in the case of Optimal traffic routing system project, as part of my MA project work.

This interview is needed to get in depth knowledge on the process of project procurement management process in the company and identify and examine the challenges so as to suggest on improvement areas.

1. Could you please tell me about the procurement management process of Ethio Telecom?
2. Do you think that the procurement management process is standardized and clear to understand?
3. How is project procurement plan prepared in Ethio Telecom?
4. What are the mechanisms you use to monitor and control the procurement process?
5. What procurement documents are used in selecting suppliers? (RFI, RFP, RFQ…)
6. Do you think staffs in the sourcing department are well capacitated?
7. How procurement contracts are administered and managed in Ethio Telecom?
8. Is there a system that supports the contract administration?
9. When and how is procurement and contracts are said closed in Ethio Telecom?
10. What are the major challenges in the procurement management process as a whole?