



**ST. MARY'S UNIVERSITY SCHOOL OF GRADUATE STUDIES**

**DEPARTMENT OF PROJECT MANAGEMENT**

**ASSESSMENT OF FUEL DEPOT CONSTRUCTION PROJECT PLANNING,  
MONITORING AND EVALUATION PRACTICE AT ETHIOPIAN PETROLUUM  
SUPPLY ENTERPRISE (EPSE)**

**BY**

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**FEBRUARY 2023**

**ADDIS ABABA, ETHIOPIA**

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**THESIS SUBMITTED TO ST. MARY'S UNIVERSITY, SCHOOL OF GRADUATE  
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**ADDIS ABABA, ETHIOPIA**

**ST. MARY'S UNIVERSITY**

**SCHOOL OF GRADUATE STUDIES**

**DEPARTMENT OF PROJECT MANAGEMENT**

This is to certify that the project work titled "Assessment of fuel depot construction project planning, monitoring and evaluation practices at Ethiopian Petroleum Supply Enterprise" prepared by Ayalneh Medagnaw, submitted in partial fulfillment of the requirements for the degree of Masters of Arts in project management complies with the University's regulations, and meets the accepted standards in terms of originality and quality.

**APPROVED BY BOARD OF EXAMINERS**

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### **Statement of Declaration**

I, Ayalneh Medagnaw, declare that this project work titled “Assessment of fuel depot construction project planning, monitoring, and evaluation practices at Ethiopian Petroleum Supply Enterprise” is the result of my own efforts and that all sources of materials used for the study have been properly cited. Except for the research advisor's guidance and suggestions, I created it entirely on my own. This research has not been submitted for a degree at this or any other university. It is available as part of the Masters of Art in Project Management degree program.

By: Ayalneh Medagnaw

Signature \_\_\_\_\_

February, 2023

### **Statement of Certification**

This is to certify that Ayalneh Medagnaw worked on the project "Assessment of Fuel Depot Construction project planning, monitoring, and evaluation practices at Ethiopian Petroleum Supply Enterprise" under my supervision. This work is one-of-a-kind, and it can be submitted as partial fulfillment for the Masters of Art in Project Management award.

**Research Advisor**

**Date**

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Maru Shete (PhD, Associate Professor)

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## **Acronyms/Abbreviations**

ADO	Automotive diesel Oil
AI	Artificial Intelligence
ANSI	American National Standardization Institute
APM	Association for Project Management
Dev't	Development
EPSE	Ethiopian Petroleum Supply Enterprise
HRM	Human Resource Management
IPMA	International Project Management Association
ISO	International Organization of Standardization
MGR	Motor Gasoline Regular
PRINCE2	Project IN Controlled Environments
PMBOK	Project Management Body of Knowledge
PMI	Project management Institute
SPSS	Statistical Package for Social Sciences
UNDP	United Nations Development Program
WBS	Work Breakdown Structure

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## **Abstract**

*Using project management best practices is essential to organizational performance. Project management is considered to be a more efficient and resourceful method to achieve goals than other existing methods, processes and techniques. Construction project management includes many different phases, including planning, monitoring and evaluation. It can be used to help create an easy-to-understand overview of a project's progress and status, and it can help resolve issues sooner, reduce cost changes, realize benefits expected benefits and complete the project within the agreed period. Therefore, the purpose of this study was to evaluate the project planning, monitoring and evaluation activities of the Ethiopian Petroleum Supply Enterprise. The study applied mixed approach and used descriptive research design. Primary data was collected using interviews and questionnaires. Data were analyzed using percentage, standard deviation and mean. As a result, the research results show a low level of project management practice in the organization. Research also shows a higher level of planning practice in the organization than in other process groups. In addition, the study revealed a low level of practice in terms of risk, procurement, communication, project control, cost, time, and documentation. Therefore, the study recommends that the organization emphasize or pay more attention to the processes related to project control, risk, procurement, communication, cost, time, documentation, usage. Project management standards and disseminate lessons learned during the implementation of each process group to strengthen project management practices at the Ethiopian Petroleum Supply Enterprise.*

*Key words:* Project management, Project management standards, Project management life cycle

# CHAPTER ONE INTRODUCTION

## 1.1 Background of the study

The world is on the verge of a major technological revolution. The economy is rapidly moving from a mobile computing first world to an AI first world. In an AI-first world, intelligent machines can handle trillions of points of interest to make more efficient and effective decisions. Intelligent models that combine the physical, digital and biological worlds, collectively known as industrial technologies, will revolutionize industries, businesses and lifestyles in unprecedented ways. As the pace of technological innovation accelerates, this disruption is imminent and will have far-reaching effects on many aspects of work and life, for better or worse. Project management as a key area will also change dramatically because of this wave of disruption and exponential growth (Chaudhary, 2020). According to Chaudhary (2020) project management as a profession has evolved significantly over the last 60 or so years. The power of modern project management is to deal with the complexity inherent in deadline- and resource-constrained projects. McGrath & Kostalova (2020) also outline that project management is constantly evolving and becoming an increasingly important strategy.

Expertise and key business areas across all industries and organizations are increasingly adopting a project-based approach, and there are no signs that this journey will slow down or lose momentum over the next decade. Project-based work is now commonplace in many traditional areas of the company. The world of work has changed, and so have the disciplines of project management. As social, environmental, economic and technological changes continue, project management adapts to evolving and changing conditions, remains relevant, and meets the evolving needs of progressive organizations (McGrath & Kostalova, 2020).

Project planning, monitoring, and evaluation play an important role in project management. Can be used to create an accessible overview of project progress and status, facilitating early problem resolution, reducing cost changes, meeting expected benefits, and on-contract or anticipated completion time-frames helps complete projects within. As mentioned in UNDP-PME-HANDBOOK-(2009) efforts should be made to increase the chances of success by addressing some of the most common weaknesses of projects. Planning, stakeholder engagement, communication, monitoring, and evaluation are four consistently recognized areas of focus. The Project Planning, Monitoring, and Evaluation Policy establish a framework for all those involved

in the management of HI projects, whether directly or indirectly (International Union for Conservation of Nature and Natural Resources 2004). A good project planning combined with effective monitoring and evaluation can make a significant difference in project effectiveness. Monitoring and evaluation help us learn from past successes, challenges, and inform decision-making so that current and future initiatives are better to improve people's lives and expand their choices (UNDP-PME-HANDBOOK-2009). The interrelationships and dependencies between planning, monitoring, and evaluation are clearly noted that without proper planning and clear communication of intended results, it is not clear what should be monitored the basis for evaluation is weak; hence, evaluation cannot be done well (UNDP-PME-HANDBOOK-(2009).

Organizations may greatly enhance overall project performance across growing territories with adequate project planning and scheduling. Regarding how much work is necessary to invest in production and outcomes planning or to make project management successful, there are several points of view. Numerous studies that have previously been published in the literature clearly imply that improving the planning process can improve a project's performance as a whole. Poor planning is one of the primary reasons projects fail, claims (Heagney, J., 2016).

The more clearly defined the project's goals and parameters are, the more likely that it will achieve its goals if the project has clear specifications. Additionally, Serrador (2013) suggested that a building project's likelihood of achieving its economic objectives increases with the amount of planning it has undergone.

The Ethiopian Petroleum Supply Enterprise was established in 1967 as the Ethiopian Petroleum Refinery Share Association with capital of 48 million ETB. The Ethiopian Petroleum Supply Enterprise (EPSE) was subsequently re-established by the Council of Ministers by Regulation No. 265/2004 with the following institutional responsibilities (EPSE's Annual magazine 2004).

According to EPSE's ten year Strategic Plan (2021/2022) the enterprise puts goal by surveying the country's oil needs, importing refined oil and crude oil from suppliers, building its own oil storage facilities, and investing in oil storage companies and other related activities. In addition, the organization has delegated duties and legal responsibilities to engage in strategic refueling and related activities. In order to maximize these responsibilities, in addition to human resources development and management policy, take the direction of the board of directors seriously, implement it and realize comprehensive organizational change. Through consideration, sincerely

accept the direction of the Board of Directors, implement it, and carry out a wide range of organizational reforms after thoughts. This set the direction for existing problems and solutions.

Ethiopia's annual fuel import has increased steadily over the past decade, with a compound annual growth rate of 813%. Total annual imports of petroleum products in 2019/20 were about 3.8 million tons, which equates to US\$2.2 billion or 85.6 billion ETB (SAF Roadmap for Ethiopia ,2020). According to Ethiopian Petroleum Supply Enterprise annual report (2022) the country imported 3.9 tons of refined petroleum products with the cost of US\$ 4.3 billion or 231billion ETB in 2021/2022. The Ethiopian Petroleum Supply Enterprise (EPSE) has developed a strategic plan for the second period of expansion projects (2023-2028) to improve service delivery and reduce costs. EPSE has also worked to increase access to the fuel needed for economic, social and political development. As a result, the country is working to increase its oil supply, which is growing at a rate of 10% to 14% per year, in order to provide an adequate and reliable fuel supply. Currently, 400 million liters of fuel, including 330 million liters of gas oil and 64 million liters of gasoline has been imported.

Fossil fuel consumption is increasing with the economy and so to improve the efficiency of the fuel stockpile oil infrastructure such as terminals, tank farms, pipelines and other related logistics are growing and being built (African power initiatives,2019). The Ethiopian Petroleum Supply Enterprise (EPSE) anticipates that by making this change, the company's management and employees are involved in the development of a large fuel depot project at Awash Sebat, near the route Ethio-Djiboutirailway line. As well as there is a plan to build a new fuel depot with a capacity of 240 million liters in Dukem, on the outskirts of Addis Ababa. The new fuel depot project will increase the nation's total oil reserves by 607 million liters and could increase the life of the stockpile from 40 to 90 days (Addis Fortune, 2019). The fuel depot can receive, store and transport automotive diesel fuel (ADO), conventional motor gasoline (MGR), jet fuel (Jet A-1) and ethanol. It has an expected completion time of three years from the date of award. Therefore this paper examines the status and extent of fuel depot construction project planning, monitoring and evaluation practices in Ethiopian Petroleum Supply Enterprise (EPSE) mainly at Awash sebat site.



## **1.2. Statement of the Problem**

The application of project management best practices is essential to the functioning of organizations. The practice of project management is more practical and resourceful than other methods, processes, and techniques for achieving goals (Fraz, 2016).

Thus, project management activities enable construction projects to achieve their goals of meeting scope, quality, and time and cost targets while protecting the environment (King, 2015). Despite best practice, predictability of project outcomes is still a concern. Failure to meet target deadlines, budget costs and quality specifications leads to many undesirable negative impacts on projects (Hailu, 2016). Despite playing a leading role, Ethiopia's construction industry, like that of other developing countries, faces many challenges in adapting and implementing best practices (Mengesha, 2004). Furthermore, in Ethiopia, the level of project management practice in terms of applying common project management processes, functions, tools and techniques is not good enough, according to (Ayalew, 2016).

The main reason for the failure of projects in developing countries is lack of project management capacity (Malan, 2007). Furthermore, most of the construction projects in Ethiopia are not successfully handed over to customers (Fetene, 2008). In addition, as mentioned in Lema (2014) 79.06% of the projects carried out in Ethiopia failed to achieve their goals. Regarding research to address this issue Hailu(2016) recommended that adequate studies should be conducted to evaluate the effectiveness of the project management process of projects, especially in large organizations subject to responsibility for public projects. The Ethiopian Petroleum Supply Enterprise is responsible for huge fuel depot construction projects for the nation's strategic energy storage, so issues related to project management practices will have a direct impact on development of the country.

Based on preliminary observations and interviews conducted by the researcher, the organization stated that it conducts detailed planning of projects prior to implementation, but despite implementing the planning, the organization still faces challenges with problems of cost overruns, schedule deviations, and large scope changes. These issues have a significant influence on the Company's strategic plan, as many of the projects undertaken by the organization are strategic projects.

Due to the lack of empirical studies, particularly in planning, monitoring, and evaluation in Ethiopia, the researcher was motivated to contribute his own work to the project management

process groups at EPSE and the industry of fuel depot construction. So, there appears to be a knowledge deficit in this domain. As a result, this study attempted to address the issue and give a thorough review of more current data regarding the role that project planning, monitoring, and evaluation processes have in ensuring project success.

As mentioned above, project planning, monitoring, and evaluation aim to increase project performance and meet three key aspects of project objectives (time, cost, and quality). Therefore, the overall aim of this study was to evaluate the project planning, monitoring, evaluation activities, and their impact on the project performance of the Ethiopian petroleum Supply Enterprise.

### **1.3. Research Questions**

In order to answer the research questions the study formulate the following research questions

- What is the trend of project planning practice at the Ethiopian Petroleum Supply Enterprise?
- How is project monitoring practiced at the Ethiopian Petroleum Supply Enterprise?
- How is the project evaluation practiced at the Ethiopian Petroleum Supply Enterprise?

### **1.4. The Study's Objectives**

#### **1.4.1 General Objective**

The main objective of the study is to examine the project planning, monitoring and evaluation practice in Ethiopian Petroleum Supply Enterprise.

#### **1.4.2 Specific Objectives**

The study aims to address specifically the following objectives:

- To assess the practice of project planning in the Ethiopian Petroleum Supply Enterprise (EPSE),
- To evaluate practices of monitoring and evaluation of fuel depot construction projects in Ethiopian Petroleum Supply Enterprise (EPSE).
- To examine the evaluation of fuel depot construction projects in Ethiopian Petroleum Supply Enterprise (EPSE).

### **1.5. Significance of the study**

This study will provide an insight to the project planning, monitoring and evaluation practice of the Ethiopian Petroleum Supply Enterprise, which is the sole importer of refined petroleum products in the country. The study's findings will be documented in a lesson-learned document for the organization, which will assist the management in making decisions to either improve project management practice or conduct additional research to increase project success in the organization. The findings will be significant and used as baseline information for similar new projects that are going to be established in Ethiopian Petroleum Supply Enterprise and other contractors in general to gain a better understanding of the issues of project planning, monitoring, and evaluation and their importance in achieving the project's goal. Ethiopian Petroleum Supply Enterprise will identify existing gaps in project planning, Monitoring and Evaluation practice and opportunities for improvement to get better project deliverable. The findings and recommendations of the study will help to improve efficiency and effectiveness in project management.

Furthermore, the study could serve as a reference for other governmental or non-governmental organizations involved in or not involved in the construction industry. Additionally, the research will serve as a foundation for future studies on project management practice in the organization or other organizations, as well as investigations on public projects in this country or other related topics.

Even though the research focuses on depot construction project, the findings and the outcome could be relevant to practitioners in other industries, with particular emphasis on the various stages involved in project planning, monitoring, and evaluation.

### **1.6 Study Delimitation/Scope**

This study focuses on the assessment of project management practices of Ethiopian Petroleum Supply Enterprise (EPSE) construction projects. According to HRM report (2022 ),Currently 207 employees work at Addis Ababa's headquarter. The remaining 366 employees work in 15 branch offices in Bahirdar, Gonder, Mekelle, Adigrat, Gambella, Shashemene, Agaro, Nekemet, Harer, Kombolecha, Awash, and Wolayita, Mekelle, as well as overseas branches in Djibouti and Sudan. Due to the number and geographical extent of the projects, data collection for the survey was limited to at Addis Ababa head office and in Awash operational depot construction projects. For the simplicity and reliability of the data collection, the respondents' samples were selected only

from professional engineers, contractors as well as different departments that have direct or indirect association with the projects.

### **1.7 Study limitations**

Due to the remoteness of the project areas, this study lacks regular observation of the project. In addition, due to company policy, the research under provided in a more in-depth, greater number of secondary projects document analyses. The other limitations encountered by the researcher was in carrying out this study were the lack of availability of properly documented and published data on the planning, monitoring and evaluation of construction projects by the organization, those data have be useful if they were found. However; the researcher has used his own way to select

the dependable data from which he considered the source was reliable. Furthermore, the research methodology was descriptive as a result, the study aimed only to identify practices rather than causes or reasons of problems.

### **1.8 Definitions**

**Construction:** is the art and science of forming material or immaterial objects, systems or organizations (Glossary of construction terms,2012).

**A project:** is a temporary endeavor undertaken to create a unique product, service, or result (Pm Glossary of terms,2007).

**Planning:** A process performed to define and mature project scope,develop the project management plan,and identify and schedule the activities that occur within the project (Project management Glossary of terms,2007).

**Monitoring:** means being aware of the state of a system and may refer to observing a situation for any changes that may occur over time (Project management Glossary of terms,2007).

**Evaluation:** is the systematic determination of a subject's merit, worth, and significance using criteria governed by a set of standards (Project management Glossary of terms,2007).

**Engineers:** An engineer is a professional practitioner of engineering, concerned with applying scientific knowledge, mathematics, and ingenuity to develop solutions for technical, societal, and commercial problems(Glossary of construction terms,2012).

## **1.9 Organization of the Paper**

This research paper is organized into five chapters. The first chapter deals with the introduction part, which encompasses the background of the study, the statement of the research problem, objectives of the study, significance of the study, scope of the study, and limitations of the study.

The second chapter deals with the review of related literature. The third chapter is about the research methodology, under this chapter issues such as research design and approach, data collection and procedures, samples, and sampling techniques as well as data analysis and tools of analysis. Moreover, chapter four contains the result and discussion part of the research. Finally, chapter five includes the summary of findings, the conclusion and recommendation part of the study as well as indications for future study.

## **CHAPTER TWO**

### **REVIEW OF THE RELATED LITERATURES**

#### **2.1 Definition and Concept**

##### **2.1.1. What Is a Project?**

For the purpose of this study, it is important to define what is considered as a project. Different scholars' defined project in diverse provisions, which arguably stated that projects are a temporary activity or sequence of tasks to deliver an optimal solution for a certain problem, which has a predefined starting and end time span. For instances Wysocki (2003), defined a project as a sequence of unique, complex, and connected activities having one goal or purpose and that must be completed by a specific time, within budget and specifications. PMI (2004), also defines a project, as a temporary endeavor undertaken to create a unique product, service, or result. Larson and Gray (2011), gave a definition of a project, but besides being unique, temporary, and focused, a project is also characterized by strict performance requirements. Moreover Singh et al. (2017), outlined a project as a set of activities implemented within a specific period of time and with specific resources to achieve a specific objective. Many authors stated that a project is often evaluated according to its degree of accomplishment, cost, and time spent. This means that a project is constantly facing trade-offs between time, cost, and performance quality in order to satisfy the customer. Larson and Gray (2011), supported the definition as an important part of the uniqueness of a project.

To summarize from the above definitions, a project is any series of activities and tasks that have a specific objective to be completed within certain specifications. A Project has a defined start and end dates. It also has funding (budget) and limits if applicable. It needs human and non-human resources (i.e. money, people, and equipment) and multifunctional (i.e., cut across several functional lines). According to Lewis (2005), projects often involve many different disciplines. For instance, in construction projects, architects, civil engineers, construction engineers, electrical engineers, mechanical engineers, accountants, purchasers, carpenters, plumbers, electricians, painters, suppliers, and unskilled laborers are involved. Projects also have various phases where the nature of the project changes with its life cycle.

### **2.1.2 Characteristics of a project**

Projects differ from programs and routine work. All projects have their own character, which distinguishes them from others. Nicholas and Herman (2008), stated the following seven project characteristics:

1. A project involves a single, defined purpose, end-item, or result, usually specified in terms of cost, schedule, and performance requirements.
2. Every project is unique in that it requires doing something different from what has been done previously. Even in routine projects such as home construction, variables such as terrain, access, zoning laws, labor market, public services, and local utilities make each project different. A project is a one-time activity, never to be exactly repeated again.
3. Projects are temporary activities. An organization of personnel, materials, and facilities is assembled to accomplish a goal, usually within a scheduled period. Once the goal is achieved, the organization is disbanded or reconfigured to begin work on a new goal.
4. Projects cut across organizational lines because they need the skills and talents of multiple professions and organizations. Project complexity often arises from the complexity of advanced technology, which creates task inter-dependencies that may introduce new and unique problems.
5. Given that a project differs from what was previously done, it also involves unfamiliarity. It may encompass new technology and, for the organization undertaking the project, possess significant elements of uncertainty and risk.
6. The organization usually has something at stake when doing a project. The activity may call for special scrutiny or effort because failure would jeopardize the organization or its goals.
7. Finally, a project is the process of working to achieve a goal. During the process, projects pass through several distinct phases, called the project life cycle. The tasks, people, organizations, and other resources change as the project moves from one phase to the next. The organization structure and resource expenditures slowly build with each succeeding phase, peak, and then decline as the project nears completion.

### 2.1.3 Project Parameters

Project parameters are constraints that are so important to the success or failure of the project. According to Wysocki (2003), there are five constraints operating on every project; these are Scope, Quality, Cost, Time and Resources.

**Scope:** Is a statement that defines the boundaries of the project. It tells us, not only what will be outdone also what will not be done.

**Quality:** Two types of quality are part of every project; they are product quality and process quality.

**Cost:** Cost is a major consideration throughout the project management life cycle. The first consideration occurs at an early and informal stage in the life of a project.

**Time:** The customer specifies a time-frame or deadline date within which the project must be completed. To a certain extent, cost and time are inversely related to one another. The time a project takes to be completed can be reduced, but the cost will increase as a result.

**Resources:** Resources are assets, such as people, equipment, physical facilities, or inventory that have limited availability. They can be scheduled or can be leased from an outside party. Some are fixed; others are variable only in the long term. In any case, they are central to the scheduling of project activities and the orderly completion of the project.

### 2.1.4 Types of projects

According to Lock (2007) projects are classified as four different general types

**Type 1 projects: Civil engineering, construction, petrochemical, mining and quarrying**

**Projects:** In this category are those, which spring to mind most readily whenever industrial projects are mentioned. One common feature is that the fulfillment phase must be conducted on a site that is exposed to the elements and usually remote from the contractor's main office. These projects incur special risks and problems of organization. They often require massive capital investment, and they deserve (but do not always get) rigorous management of progress, finance, and quality. For very large industrial projects, the funding and resources needed are often too great for one contractor to risk or even find. The organization and communications are therefore



likely to be complicated by the participation of many different specialists and contractors, with the main players possibly acting together as a consortium or joint venture company.

**Type 2 projects: manufacturing:** Manufacturing projects aim to produce a piece of equipment or machinery, a ship, aircraft, land vehicle, or some other item of specially designed hardware. The finished product might be purpose-built for a single customer, or the project could be generated and funded from within a company for the design and development of a new product intended for subsequent manufacture and sale in quantity. Manufacturing projects are usually conducted in a factory or other home-based environment, where the company should be able to exercise on-the-spot management and provide an optimum environment.

**Type 3 projects: IT projects and projects associated with management change:** This type of project demonstrates that every company, regardless of size, can expect to require project management expertise at some point during its existence. These projects arise when companies relocate their headquarters, develop and introduce a new computer system. Furthermore, they may launch a marketing campaign, prepare for a trade exhibition, produce feasibility or other study reports, restructure the organization, mount a stage show, or engage in any operation that involves the management and coordination of activities to produce result that is not identified primarily as an item of hardware or construction.

**Type 4 projects: projects for pure scientific research:** A scientific research project is a special type of project. These projects are attempting to expand current human knowledge on a subject, which has the potential to be very profitable, but it may also simply consume a lot of money over a long period with no usable outcome. It is the uncertainty of the outcome that makes this type of project unique, since you cannot totally predict the result of the project. The outcome of the scientific research project has the potential to give birth to projects of the other three types or to improve other projects in some way, depending on what the scientific research is about and what the outcome is.

### **2.1.5 Categories of Projects**

Their character can also further classify projects. According to Wysocki (2003), organizations have chosen to organize projects based on the following project characteristics. These are Risk—Establish levels of risk (high, medium, low), Business value—Establish levels (high, medium, low), Length—Establish several categories (i.e., 3 months, 3 to 6 months and 6 to 12 months, etc.). Complexity—Establish categories (high, medium, low), Technology used—Establish several

categories (well-established, used somewhat basic familiarity, unknown, etc.). Number of departments affected establishes some categories (one, few, several, and all). Using the above seven project characteristics projects can be classified further into four types:

**Type A projects:** Projects of Type A are the high business value, high complexity projects. They are the most challenging projects the organization undertakes. Type A projects use the latest technology, which, when coupled with high complexity, causes risk to be high also. To maximize the probability of success, the organization requires that these projects utilize all the methods and tools available in their project management methodology. An example of a Type A project is the introduction of a new technology into an existing product that has been very profitable for the company. The Ethiopian Petroleum Supply Enterprise Fuel depot construction projects are grouped in this category due to the length, complexity, budget, risks and economic benefits to the country too.

**Type B projects. Projects of Type B:** Are shorter in length, yet they still are significant projects for the organization. All of the methods and tools in the project management process are probably required. The projects generally have good business value and are technologically challenging. Many product development projects fall in this category.

**Type C projects:** Projects of Type C are the projects occurring most frequently in an organization. They are short by comparison and use established technology. Many are projects that deal with the infrastructure of the organization. A typical project team consists of five people; the project lasts six months, and the project is based on a less-than-adequate scope statement. Many of the methods and tools are not required for these projects. The project manager uses those tools, which are optional, if he or she sees value in their use.

**Type D projects:** Projects of Type D just meet the definition of a project and may require only a scope statement and a few scheduling pieces of information. A typical Type D project involves making a minor change in an existing process or procedure or revising a course in the training curriculum.

## 2.2 Project Life cycle

According to Singh et al. (2017), every project has its own unique cycle of operation, though the fundamental project cycle remains the same. Therefore, it is essential to understand the project cycle in order to better conceptualize, design, plan, and implement it and also monitor and evaluate it effectively.

A project life cycle divides a project into different developmental stages. The life cycle acknowledges that projects have a predetermined life span and that there will be changes in the level of effort and focus on the project's survival. The life cycle enables the evaluation of a number of similarities that can be found in any project, regardless of context, applicability, or area of activity. In project management text, there are numerous life-cycle models. Many are specific to a particular type of project. A project typically goes through four stages: defining, planning, executing, and closing (Larson, 2011).

**Defining stage:** The project's need is identified, project specifications are defined, objectives are established, teams are formed, and primary responsibilities are assigned.

**Planning stage:** The level of effort increases, and plans are developed to determine what the project will entail when it is scheduled, who will benefit from it, what quality level should be maintained, and how much money will be spent.

**Execution stage:** A significant portion of the project work is done both physically and mentally. The physical product is manufactured (bridge, building, hardware, or a software program). Control measures such as time, cost, and specification are used, and revisions or changes are made as needed.

**Closing Stage:** Closing consists of three major activities: delivering the project's product, service, or result to the customer, redeploying project resources, and conducting a post-project review. Customer training and document transmission may be included in the project's final product delivery. Relocation typically entails transferring project equipment/materials to other projects and assigning new tasks to team members. Post-project evaluations include not only evaluating performance but also documenting lessons taught (Larson, 2011).

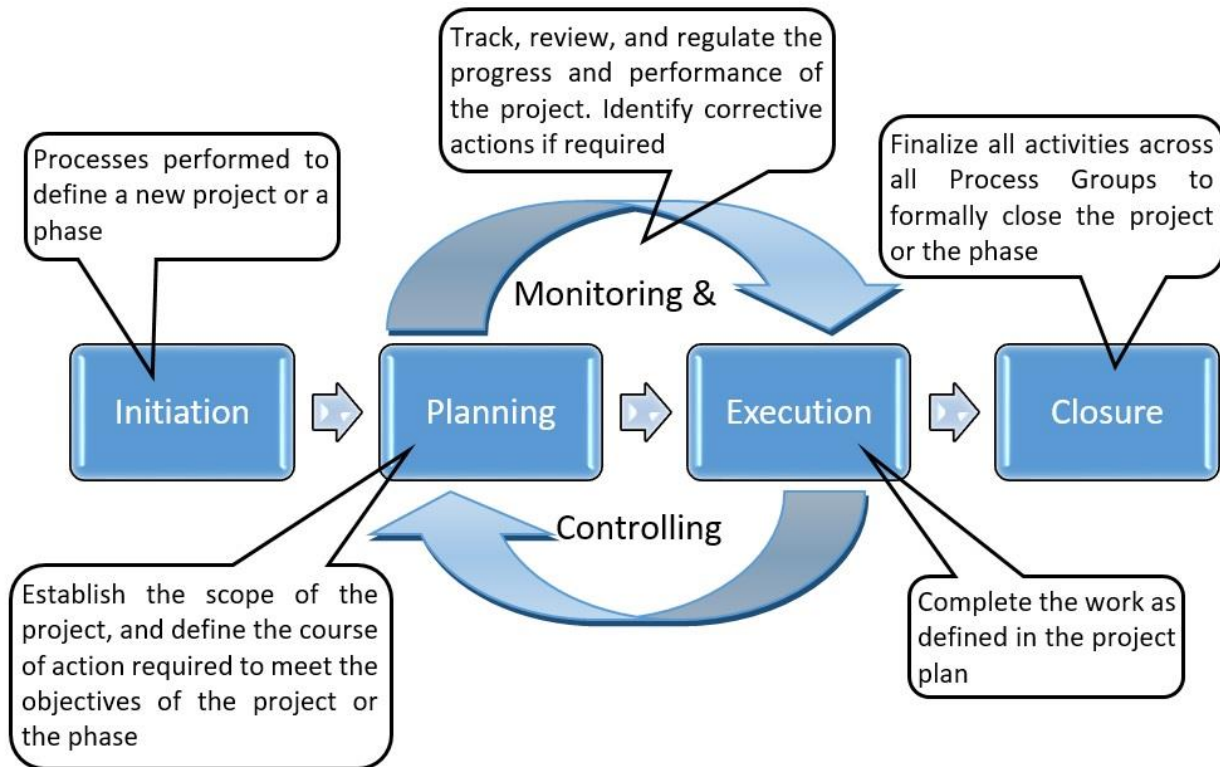


Figure 2.1 Project Life cycle

Source: (Larson, 2011)

### 2.2.1 Project Planning

During the project planning stage, objectives are defined, strategies by which to achieve these objectives are formulated, activities are identified, timeline-based targets are set, and resources are allocated to the project (Singh et al., 2017). Additionally UNDP (20097), defines planning as the process of setting goals, developing strategies, outlining the implementation arrangements and allocating resources to achieve those goals. It is important to note that planning involves looking at a number of different processes. Planning and scheduling concern two interrelated elements of construction management: strategy and time. Completing a project on time is a big deal. However, completing a project on time does not happen by accident. It takes a great deal of effort and planning. According to UNDP (2009), planning involves a number of different processes. Mubarak (2010), defined the planning process in his book as "Those processes performed to establish the total scope of the effort, define and refine the objectives, and develop the course of action required to attain those objectives."

### **2.2.1.1 Planning reason**

According to Heagney, J. (2016), one of the major causes of project failures is poor planning. Projects and programmes have a greater chance of success when the objectives and scope of the programmes are clear. Projects are properly defined and clarified. In addition, Serrador (2013), argued that an increase in pre-project planning for construction projects increased the likelihood of a project meeting its financial goal. Projects are properly defined and clarified. This reduces the likelihood of experiencing major challenges in implementation. Due to this, the benefits associated with planning make it important for organizations to plan. Aiyetan (2010) , enumerates these benefits as the following:

Planning provides direction and helps managers as well as non-managers focus on forward thinking, it creates a participatory work environment, and it reduces the impact of change. In a turbulent environment, planning enables managers to anticipate change and to develop appropriate responses; it reduces the overlap of activities. When means and ends are clear, the overlapping activities and wasteful activities become obvious, and Planning sets the standards to facilitate control. Planning sets objectives, and in so doing, it complements the control function. Controlling enables performance to be compared against the established objectives. If significant deviations occur, corrective steps can be taken. Without planning, control cannot take place (Naeem et al., 2018). The study also support by Phullsunder (2019), as project planning is positively associated with project success.

According to J. Jackson (2010), project planning has to be developed by a team of individuals from different departments and the team has to consider the project schedule, considering details and elements of the job, materials, labor, subcontractors, and equipment that it will take to complete the project. In addition, they have to consider all the factors that influence the efficient use of those resources. They will have a chance to ponder and discuss the circumstances that could slow down the process and cause the project to be delayed. They will have an opportunity to develop the strategy that will carry the project to a successful completion.

### 2.2.1.2 Planning Types

As discussed above, before executing the work, the activities listed have to be planned well, and the activities have to be planned neither in too much detail nor in more detail. According to Lewis (2003), planning answers the following questions:

1. What must be done?
2. Who will do each task?
3. How long will each task take?
4. What materials, supplies, and equipment are required?
5. How much will each task cost?

**Resource planning** entails determining what physical resources (people, equipment, and materials, as well as money) should be used and when they will be required to carry out project activities.

**Procurement Planning:** Procurement planning is the process of identifying which project needs can be best met by procuring products or services outside the project organization and should be accomplished during the scope definition effort. According to Yimam (2011), a procurement plan involves consideration of whether to procure, how to procure, what to procure, how much to procure, and when to procure. If a contractor fails to plan for the procurement of the material requested, it will be either purchased early or purchased late. Early purchase may cause money to be tied up, and the late purchase will cause delays in construction progress as well as completion time. According to J. Jackson (2010), contractors usually take measurements and prepare payment requests on a monthly basis, but this has to be done on schedule. The schedule contains when to submit the take off sheets and payment certificates to the consultant for approval, when to get the approval and when to effect payments by the client. Most of the time, the payments are prepared by the contract instead of approved, and they will be returned due to a lack of quality in the payment preparation.

**Risk Management Plan:** Risk management is the systematic process of identifying, analyzing, and responding to project risk. A project risk is an uncertain event or condition that, if it occurs,

has a positive or negative effect on a project objective. Project risk includes both threats to the project's objectives and opportunities to improve on those objectives. It has its origins in the uncertainty that is present in all projects. Known risks are those that have been identified and analyzed, and it may be possible to plan for them. As supported by the existing literature. As previously established, plan risk management is viewed as the key to successful implementation of project planning, thus ultimately leading to the project's success (Raz & Michael, 2001). Risk management planning has the following activities:

Risk identification involves identifying and documenting risks that may affect the project. Qualitative risk analysis: Perform a qualitative risk and condition analysis to prioritize the impact on the project objectives. Quantitative risk analysis includes the calculation of risk probabilities and outcomes and risk assessment. Develop procedures and methods to improve the impact on project goals, risk response plans, and opportunities, and reduce threats to project goals.

### **2.3 Project management**

Most authors agree that project management is about meeting time, cost, and quality targets while meeting customer requirements using project resources. According to the PMI-PMBOK (2016), project management is defined as “the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements.” Project managers must not only strive to meet specific scope, time, cost, and quality requirements of projects; they must also facilitate the entire process to meet the needs and expectations of the stakeholders involved in or affected by project activities. (Schwalbe, K., 2009).

Classical management functions such as planning, organizing, directing, and controlling are incorporated into project management. Thus, project management is the practice of planning, organizing, directing, and managing company resources for a relatively short period in order to achieve specific goals and objectives. Furthermore, project management employs the systems approach to management by assigning functional personnel to a specific project (Kerzner, 2011). Project management is now one of the most important skill sets required by organizations all over the world. According to PMI (2009), 20 percent of global GDP, or more than \$12 trillion spent on projects each year from 2010 to 2020.

### **2.3.1 Project management practices and standards**

Many research evidences suggests that when managing projects, the structured application of project management, fundamental knowledge, and ethical practices enhances successful delivery. It takes more than a skilled, experienced, knowledgeable and competent project manager to make a project a success. It requires basic project management knowledge from all project stakeholders, as well as various well-defined processes that are put into practice, to smooth the progress of real cooperation and ensure that the drive to make it happen is realized (Zandhuis & Stellingwerf, 2013).

Several businesses and organizations use a project management system to establish consistent work methods. An integrated project management system also helps an organization establish a certain level of professionalism. The developed systems cover all areas and aspects of project management (Antvik & Sjöholm, 2007). These systems are created as handbooks that include management activities that should be carried out in a project and can be used as a guide for the project management team to ensure that all required plans and activities are handled in the project (PMI,2013).There are a variety of project management practices on the market that can be effectively adapted from international standards and guidelines such as PMI, ISO, IPMA (International Project Management Association), and ANSI (American national standards institute). Different project management standards and practices differ and overlap in their approach, terminology, classification of processes and project life cycles (phases), applications (some subject-specific), and many other aspects.

The Project Management Institute PMI based in the United States, has developed the oldest and most widely used body of project management knowledge (PMBOK). It is constantly updated, and in its sixth edition, ten knowledge areas have been identified, along with 49 processes and five process groups. While the UK's Association of Project Management (APM), whose body of knowledge differed significantly from PMI introduced its own in 1988. It covers project management concepts (such planning and control procedures), as well as more general project management issues (like social and environmental concerns) and subject-specific themes. The APM BOK (body of knowledge) defined seven knowledge domains in its fifth edition, which were further broken down into 40 pieces or processes. In 1998, the International Project Management Association (IPMA) was founded in Switzerland as a global association. The IPMA developed the IPMA Competence Baseline (ICB) in 1999, which consists of forty-two components—twenty-eight fundamental and fourteen supplementary—of project management



expertise. Another standard is the ISO 21500 project management guidance, which was developed by the ISO (International organization of standardization).The ISO 21500 guideline draws on other project management standards, methods, and best practices, such as PMBOK, PRINCE2, Agile, and ICB, to bring together the best project management practices. The ISO standard is divided into ten subject groups (knowledge areas) and 39 project management processes. In addition to the practices mentioned above, there are prince2, agile, Japan's P2M and others.

Despite the fact that there are numerous project management practices to choose from, this study will compare the PMI (project management body of knowledge) and the ISO 21500 (Guidance on project management). The PMBOK Guide contains knowledge and practices that are applicable to the majority of projects the majority of the time (which could apply to all subject areas). The ISO brings together the best project management practices, and Ethiopian businesses have previous ISO experience.

#### **2.4 Who is a project manager?**

One simple and clear definition of who is a project manager is the person assigned by the performing organization to lead the team that is responsible for achieving the objectives of the project. Project managers distinguish themselves from typical functional managers, who instead provide managerial oversight for a functional or business unit (PMI,2013). Larson and Gray (2011), who states that project managers are the ones with the ultimate responsibility for a project's performance, even though they often have too little authority, provide a similar definition. The authors further argue that the role is similar to that of a functional manager, with the exception that project managers manage temporary, non-repetitive activities.

There are also expectations for a project manager to perform at or above a certain level of performance. One should anticipate and demand that the project manager will do the right things at the right time and get things done (Bredillet, Tywoniak & Dwivedula, 2015). Various project management frameworks have been developed over the years that try to list the competencies that a competent project manager should possess. PMI (2013), states that besides any area-specific skills and general management proficiency required for the project, effective project managers are required to have ethical, interpersonal, and conceptual skills that help them analyze situations and interact with team members appropriately.

## **2.5 Monitoring and Evaluation of the Project**

Monitoring and evaluation are project management tools for decision-making. According to Metalign (2015), while monitoring and evaluation are always referred to as the singular terms M & E, they are two related but very different processes.

### **2.5.1 Project Monitoring**

Monitoring is the systematic and continuous process of collecting, analyzing, and using information for the purpose of management and decision-making. As Metaling (2015), explains, monitoring is a systematic and continuous process of collecting, analyzing, and using information to track efficiency (efficiency measures how productively inputs such as money, time, equipment, personnel, etc. were used in the creation of outputs). An activity assesses whether project inputs are being delivered, being used as intended to create output, and whether they are having the initial effects as planned. As a result, it represents an exhaustive and regular examination of the resources, outputs, and results of a project. Monitoring is an essential part of good management and is a tool to identify strengths and weaknesses and provide the people responsible for the project with sufficient information to make the right decision at the right time to provide its quality.

According to Jody and Ray (2004), monitoring gives information on where a project is at any given time (and over time) relative to its respective targets and outcomes. It is descriptive in intent. According to J. Jackson (2010), the three primary elements associated with managing the construction project are quality, cost, and time. These factors must be monitored throughout the duration of the job. Data for monitoring the project must be directly related to the project plans, outputs, schedules, and budgets; materials purchasing invoices; worker time cards; change notices; test results; and standards.

### **2.5.2 Monitoring Techniques**

According to Jody and Ray (2004), project monitoring includes the following major items:

Physical project progress monitoring, Finance progress monitoring, Project Quality Control and Assumption monitoring

### **2.5.3 Monitoring Devices**

As mentioned by Metalign (2015), the three most widely used communication tools are: progress reports, meetings, and site observation. Progress reports are prepared at regular intervals for review of the status of the project. Progress reports enable the assessment of progress and achievements and help focus on the results of activities, enabling the improvement of subsequent work plans. Reporting helps form the basis for decision-making and learning at the management level. Reporting communicates how effectively and efficiently a project is meeting its objectives. Regular progress review meetings help managers to inform all the members about the general progress and to identify where and when problems are likely to arise and then to act to prevent them from occurring as much as possible. Site Visits: Site visits are another important means of communication in the monitoring of project activities and output progress. A site visit is an in-depth gathering of project information for monitoring purposes.

### **2.5.4 Project Evaluation**

An evaluation is a rigorous and independent assessment of completed or ongoing activities to determine their effectiveness in meeting stated objectives and contributing to decision making. Evaluations, like monitoring, can apply to a variety of things, such as an activity, project, program, strategy, policy, topic, theme, industry, or organization. The key difference between the two, according to UNDP (2009), is that evaluations are done independently to provide managers and staff with an objective assessment of whether or not they are on track. They are also more rigorous in their procedures, design, and methodology, and they generally involve analysis that is more extensive. The goals of monitoring and evaluation, however, are very similar: to provide information that can help inform decisions, improve performance, and achieve planned results. The periodic evaluation of completed actions to measure the degree of deviation from completed activities and plans is known as performance evaluation (Singh et al.,2017). Furthermore, evaluation is defined as a type of research in which an effect is measured and the measured effect is attributed to a project or intervention. An impact evaluation assesses the program's impact on project outcome levels and determines whether these effects are intended or unintended. As a result, two key questions must be addressed in an evaluation: Is there a difference? How significant is this shift? Can the program be blamed for the change?

## **2.6 Empirical literature review**

This section of the study will discuss various reviewed literature relevant to the study. According to the reviewed literature, studies have been conducted in Ethiopia to evaluate various organizations' project management practices. Many research studies, however, confirm that project management is still in its infancy in this country. Local and international literature was reviewed for this study.

The literature was primarily reviewed in relation to project management practices in the Ethiopian construction industry. As a result Ayalew (2016), carried out a study titled "Assessment on Performance and Challenges of Ethiopian Construction Industry" to ascertain the level of project management practice in the construction industry. As part of the study, a literature review was conducted, and a structured questionnaire was used as a research instrument. The study included 69 professionals from major construction stakeholders. Based on the responses of professionals and the reviewed literature, the study concluded that the level of project management practices in terms of adopting general project management procedures, functions, tools and techniques is unsatisfactory. In addition, the study discovered that the level of practice for variables such as cost, safety, risk, and time management is deficient when compared to their predetermined or planned values.

By examining case studies of successful and unsuccessful projects, another study was carried out by Hailu(2016), to ascertain which project management procedures are effective for project success. Two significant building construction projects one of which was successful and the other unsuccessful were the subjects of the investigation. The two initiatives each used a survey questionnaire as a research tool. The study found that the success of a project is certain if 88% of the efficient knowledge area procedures, such as the quality, cost, time, and communication processes, are applied.

The results of the study show that the subject groups' communication methods and the triple constraints of cost, quality, and time are the most efficient Processes used in project management that are beneficial to project success. Additionally, planning procedures from process groups are advantageous to the accomplishment of projects. The analysis came to the additional conclusion that a sizable proportion of Ethiopian initiatives had failed. It advises that throughout project implementation, particular attention be paid to project management processes like planning, schedule, and quality, cost, and communication processes.

**Research Gaps** According to the literature and empirical assessments, Ethiopia's governmental and private organizations' project management techniques have not been adequately researched and evaluated. There is no prior research on evaluating the project management practice of EPSE, at least not to the best of the researcher's knowledge based on the examined literature. This study will close a gap in the literature by evaluating EPSE's project planning, monitoring, and evaluation practices. This will broaden our understanding of the organization's project management practices and provide fresh information. The study will also establish the groundwork for a deeper understanding of how Ethiopian mega- and strategic public projects utilize project management techniques.

## 2.7 Conceptual Frame work

The research uses the two process categories outlined by the PMI ((PMBOK) to evaluate EPSE's project management practices the graph below shows the suggested framework for this study. A conceptual framework, according to Upton (2001), is a group of overarching concepts and principles used to organize a subsequent research. These ideas and principles are drawn from pertinent disciplines of inquiry. Hence, a conceptual framework is used to give a preferred approach to an idea or notion that evolved based on the material studied in relation to the study done or to describe prospective courses of action.

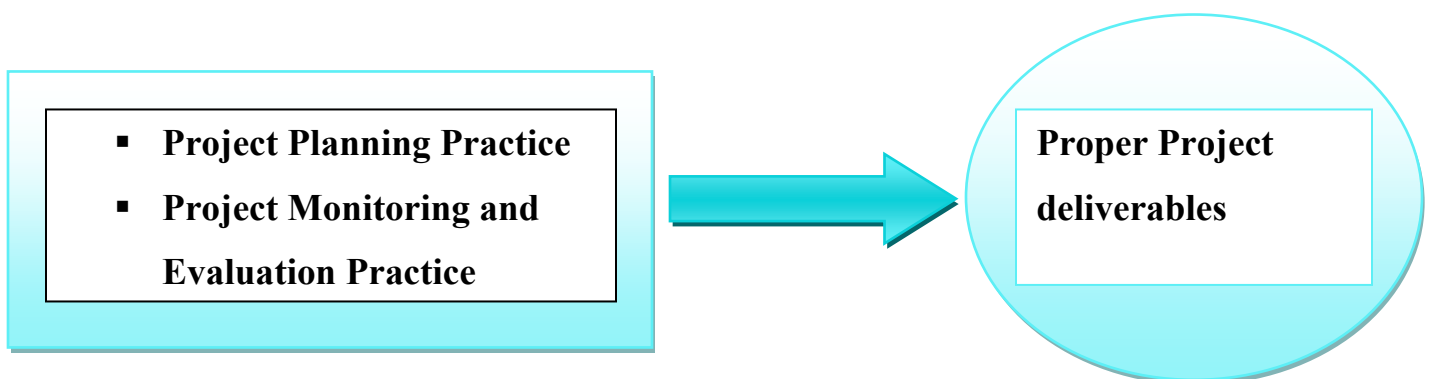


Figure 2.2 Conceptual Framework

*Source:* Researcher 2022

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

This chapter provides an overview of the various approaches to data collection and analysis used to carry out this research; it describes the type of research strategy used, the mode of data collection, and the methodology used to carry out this research. It consists of the research design, sample size and sampling technique, data source and collection method, data collection procedure, data analysis method, and questionnaire reliability test.

#### **3.1 Research Design**

A research design is a logical framework for the study that establishes and describes how to analyze the gathered data to address specific research questions or test hypotheses (Kothari,2004).Research design constitutes decisions regarding what,when,why,where and how concerning an inquiry or research (Sekarm,2011).

This study employed descriptive study design to examine how the EPSE plans, monitors, and evaluates its construction projects. Kothari (2004), and Sadelow (2000), define descriptive research as studies related to characterizing a particular individual or group that depict the findings obtained from the descriptive statistical analytical tools to address the stated objectives.Descriptive survey is conducted to describe the present situation of an event in an organization as it was,as it is and as it will be ( Kombo & Trump,2006).

##### **3.1.1 Research Approach**

The quantitative approach is defined as "one in which the investigatory primary uses post positive claims for developing knowledge (i.e., cause and effect thinking, reduction to specific variables and hypotheses and questions, use of measurement and observation, and the test of theories), employs inquiry strategies such as experiments and surveys, and collects data on predetermined instruments yielding statistics data" (Creswell, 2012).

A "qualitative approach" is "one in which the inquirer frequently makes knowledge claims based primarily on constructivist perspectives (i.e., the multiple meanings of individual experiences, meanings socially and historically constructed, with the intent of developing a theory or pattern) or advocacy/participatory perspective (i.e., political, issue-oriented, collaborative or change oriented) or both" (Creswell, 2012).

The Mixed Method Approach is defined as "one in which the researcher tends to base knowledge claims on pragmatic grounds (e.g., consequence-oriented, problem-centered, and pluralistic)"

(Creswell, 2012). It employs quantitative and qualitative approaches, research methods, and other paradigm characteristics.

This study involved both qualitative and quantitative approaches, also known as a mixed approach. The justification for using this approach is as stated by Creswell & Plano Clark (2007), proposed that a mixed approach is used to increase the overall strength of a study over either qualitative or quantitative research. According to Holme & Solvang (1997), the qualitative method is used to gain a better understanding of the problem under investigation. Quantitative techniques primarily consist of general conclusions and assessments; they also determine which situations and units the drawn conclusions are valid.

### **3.2 Data Sources and tools of Data Collection**

This study used primary and secondary data sources. A thorough review of related literature, including books, articles, journals, and various other related written publications to collect secondary data. Researcher relies on the collection of primary data through questionnaires and interviews. The decision to use the two devices has been made after careful consideration of their strengths and weaknesses, as well as the size of the population in each category. A series of questionnaires were distributed to Ethiopian Petroleum Supply Enterprise (EPSE) top management, project professionals and to other selected supportive staffs to study the project planning, monitoring and evaluation practices of fuel depot construction.

The questionnaires were distributed to the respondents at head office and projects site at awash depot. Interviews were conducted to gather feedbacks as the researcher is working at the enterprise; it was easy to follow up on each of the questionnaires as well as to carry out piloting surveys and the interviews.

#### **3.2.1. Questionnaire**

According to (Kothari, 2004), questionnaires are one of the most commonly used data collection methods. It consists of a series of questions asked in a specific order on a form or set of forms. A questionnaire was used in the study because as (Kothari, 2004), pointed out, it is simple to administer and relatively inexpensive to analyze, and it is thought to be the best tool for reaching the study's population with limited time. Furthermore, because the answers are in the respondents' own words, the questionnaire is free of the interviewer's bias, and respondents have enough time to provide well-thought-out responses. Questionnaires are frequently regarded as the beating heart of a survey. To meet the study's aims and objectives, the questionnaire was designed by bench

marking PMBOK and based on a review of related literature. As a result, the questionnaire was created by adapting and modifying surveys from related studies by Ashenafi (2015), and Wondimu(2016), as well as by employing processes defined by PMI (PMBOK) and ISO (ISO 21500, project management guidance).

The questionnaires were printed and distributed to the appropriate departments before being collected by hand. In addition, the questionnaires were distributed and obtained using an online platform called outlook and telegram to reach the population in remote project areas.

### **3.2.2. Interviews**

The goal of this method is to interview a few people about a specific open ended questions. In this study four top management members were engaged in the interview questions. This tool distinguishes itself by allowing the conversation to flow freely, allowing for easier access to comprehensive answers. To achieve a good result, the interviewer should be adaptable to responses and new topics revealed during the interview. In addition, the interviewer should either take notes or record the interview in order to obtain useful compiled data (Svenning, 2003). The interviews were carried out in order to obtain the necessary detailed information and data about the overall project management practices at EPSE.

### **3.3 Study Population and Sampling**

Sampling is a fundamental feature of the survey research strategy (Cohen, Manion, & Morrison, 2007). According to Cohen, Manion, & Morrison, (2007), there are two kinds of sampling methods: probability sampling and non-probability sampling. Each of these methods employs a variety of sampling techniques. Quota sampling, Snowball sampling, Judgment sampling, and Convenience sampling are examples of non-probability sampling. Probability sampling includes Simple random, stratified random, Cluster sampling, Systematic sampling, and Multi stage sampling.

The Ethiopian Petroleum Supply Enterprise's target population includes project managers, project coordinators, team leaders, project support staff, professional engineers, contractors, and top management at the head office and the Awash Depot construction project. The study focuses on employees who are in charge of project planning, execution, control, and support within their organization by purposive sampling technique. The organization's identified target population was fifty employees. The census survey was used for the study in order to meet the research objectives



and due to the size of the population. Furthermore, as stated by, the study used a census survey, which allowed all 50 participants to participate, reducing concerns about accuracy (Parker, 2011).

### **3.4 Methods of Data Analysis**

The method of analysis in this research was selected for the data available to achieve and address the objectives of the research. The research data was first processed by editing (the process of examining the collected raw data to detect errors, omissions, and correct these when possible), coding, classification and tabulation. The quantitative data collected was analyzed descriptively using SPSS software version 20. Frequencies, means, percentiles, and bar charts are used to present quantitative data. The qualitative data were analyzed using narrative analysis. To help understand the results, the qualitative data is presented through transcription, with logical and deductive narratives integrated with the descriptive findings.

### **3.5 Validity and Reliability**

#### **3.5.1 Validity**

The importance of validity in conducting effective research cannot be overstated Cohen et al, (2007). To ensure that the data collection instrument accurately measures the research data, the questionnaires have been reviewed to ensure that the research objectives and questions shall be addressed adequately.

#### **3.5.2 Reliability**

The presence or absence of a biased value indicates validity, while the presence or absence of an error value indicates reliability (Stensen & Lydersen, 2022). There are various methods for determining whether a measurement tool is valid and reliable. There are construct validity and internal consistency based on the Cronbach alpha. According to Saunders et al. (2009), an instrument's reliability is the degree of consistency that it measures attribute, specifically whether it will produce consistent results at different times and under various conditions, such as with various samples. Internal consistency entails correlating the responses to each questionnaire question with those to other questions in the questionnaire. As a result, it evaluates the consistency of responses across all questions or a sub group of questions from the questionnaire. There are several methods for calculating internal consistency; the most popular in social studies is Cronbach's alpha. As a result, it determines the consistency of responses across all questions or a sub group of questions from the questionnaire. Cronbach's alpha is a measure of internal consistency, or how closely related a group of items. It is considered as a scale reliability

measurement. Lee Cronbach (1951) developed the standardized Cronach's alpha with the formula is as follows:

$$\alpha = \frac{N * \bar{C}}{\bar{V} + (N - 1) * \bar{C}}$$

Where N is the number of items,

C-bar is the average inter-item covariance among the items and

V-bar equals the average variance.

A commonly accepted rule of thumb according to Sale (2009) for describing internal consistency using Cronach's alpha is as follows.

$0.9 \leq \alpha \leq 1.0$  Excellent

$0.8 \leq \alpha < 0.9$  Good

$0.7 \leq \alpha < 0.8$  Acceptable

$0.6 \leq \alpha < 0.7$  Questionable

$0.5 \leq \alpha < 0.6$  Poor

$0.0 \leq \alpha < 0.5$  Unacceptable

The research's reliability has ascertained by running a statistical test with SPSS version 20. The result revealed that the project planning scale with 22 items has Cronbach alpha value of 0.957 and project monitoring and evaluation scale with 32 items has Cronbach alpha value of 0.914, which is considered as acceptable. The result demonstrates that the questions have a high level of internal consistency.

Table 3.1 below shows the scale reliability of the questionnaire instrument. As shown in the table the Cronbach's alpha coefficient for the items under evaluation is greater than 0.7, indicating statistically acceptable reliability. This implies that the questionnaire's data can be used for further analysis

Table 3. 1 Scale Reliability Result

Variables	Cronbach's Alpha Coefficient	No of Items	Scale
Project Planning	0.957	22	1-5
Project Monitoring & Evaluation	0.914	32	1-5

*Source: Field Survey, 2022*

### **3.6 Ethical Consideration**

Throughout the preparation of this document, this research used ethical and morally acceptable processes. The research employed processes such as requesting the respondents' voluntary consent to use instruments and collecting data with their full permission. In addition, the confidentiality & anonymity of the research participants were kept throughout the study and different methods and processes were used to minimize the researchers and respondents bias. While conducting this research, wide ranges of ethical issues were considered.

## CHAPTER FOUR

### DATA PRESENTATION, ANALYSIS AND INTERPRETATION

#### 4.1. Introduction

This chapter presents a comprehensive analysis & discussion of results acquired from the direct interview conducted and the questionnaire survey distributed among EPSE staff members. The obtained data were analyzed by using a statistical package for social sciences (SPSS version 20) software. Descriptive statistics such as mean, frequency, standard deviation and percentage were employed to describe the results. In addition, tables, pie charts, histograms and bar charts were used to present the data.

This chapter is classified into six sections: the first section describes the questionnaires response rate. The second section discusses the demographic profile of the respondents. After that, the next part presents the result for general project management issues within the organization. The following portion displays the result and discussion for project management practice within EPSE. The last or fifth section assesses the project management practice in the organization and compares the research findings with other literature reviewed. And the last section is presentation of correlation analysis between variables.

#### 4.2. Response Rate

Among the fifty questionnaires distributed within the organization, forty-two were adequately filled and returned. This shows there is 84 % response rate which is assumed to be enough to do further analysis. In addition, an interview was conducted with the EPSE project program leaders' chief executive officer, deputy executive officer, finance manager and human resource and property administration manager.

Table 4.1: Response Rate

Method of questionnaire distribution	Number of Distributed questionnaires	Number of Returned questionnaires	Response Rate (%)
Physically using hard copy questionnaires	40	35	87.5
Using online platform Google form	10	7	70.0

<b>Overall</b>	<b>50</b>	<b>42</b>	<b>84.0</b>
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Source: Field Survey, 2022

### 4.3. Demographic Data

In order to provide the demographic information and composition of the population under study, the respondents were asked about their gender, age, education level, years of experience in the organization, position in the organization and if they had previous project management training or education.

Table 4. 2: Respondents Sex Profile

		Frequency	Percent	Valid Percent
Valid	M	32	76.2	76.2
	F	10	23.8	23.8
	Total	42	100.0	100.0

Source: Field Survey, 2022

As shown in the table above the survey included a higher percentage of male participants (76.2%) than female participants (23.8%) did, this indicates that the gender distribution of the study is not proportional.

Table 4. 3: Respondents Age Profile

	Age	Frequency	Percent	Valid Percent
Valid	Below 30	1	2.4	2.4
	31-40	18	42.9	42.9
	41-50	11	26.2	26.2
	Above 50	12	28.6	28.6
	Total	42	100.0	100.0

Source: Field Survey, 2022

The result illustrates that only a single respondent which covers (2.4%) was found below the age of 30, 18 respondents (42.9%) are between the age of 31 and 40, 11 respondents (26.2%) are between the age of 41 and 50 and 12 (28.6%) respondents are above the age of 50. As we can see from the result, the field survey included a more experienced audience

Table 4. 4: Respondents Educational Background & project management training

Educational Background		Frequency	Percent	Valid Percent
Valid	Diploma	1	2.4	2.4
	BA/BSC	26	61.9	61.9
	MA/MSc	15	35.7	35.7
	Total	42	100.0	100.0

Pm Training		Frequency	Percent	Valid Percent
Valid	No	20	47.6	47.6
	Yes	22	52.4	52.4
	Total	42	100.0	100.0

Source: Field Survey, 2022

Table 4.4 presents the educational level and project management training of the respondents who participated in the study. As shown in the table, 61.9% of the respondents have a bachelor degree (BA/BSc) education where as 35.7% of the respondents have a master’s (MA/MSc) degree education and the remaining 2.4% of the respondents have diploma level of education. Moreover, 52.4% of the respondents have project management training ranging from once to monthly. The educational background and project management training result suggests that the respondents would understand and interpret the research instrument and offer reliable information.

The majority of respondents, as shown in Figure 4.1 below, with 52.38% having more than 15 years of experience and 33.3% of the respondents have 6-10 years of experiences .Moreover 9.52 % of the respondents have 11 to 15 years of experience. The remaining 4.76% have less than 5 years of experience. According to the findings, the majority of respondents have considerable experience working in the organization, implying that they have a thorough understanding of the project management practice within the organization.

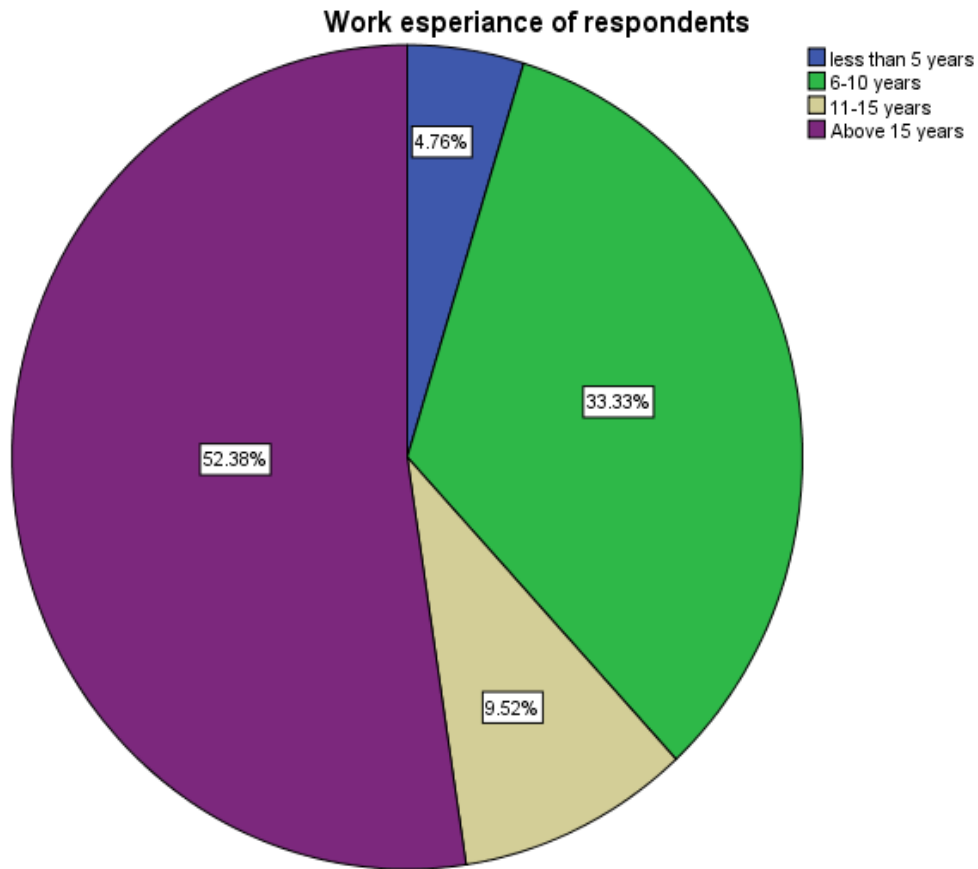


Figure 4.1 Respondents Work Experience

*Source: Field Survey, 2022*

In adding together, the position of respondents in the company is depicted in figure 4.2 below. Team leaders make up 42.9% of respondents, Top Management is the second-largest position with 21.4%, and the remaining 19.0% of respondents are in other roles. Project managers make up 2.4% of the remaining respondents, while engineers make up 14.3%. Thus they are expected to have good level of understanding about items in the questionnaires.



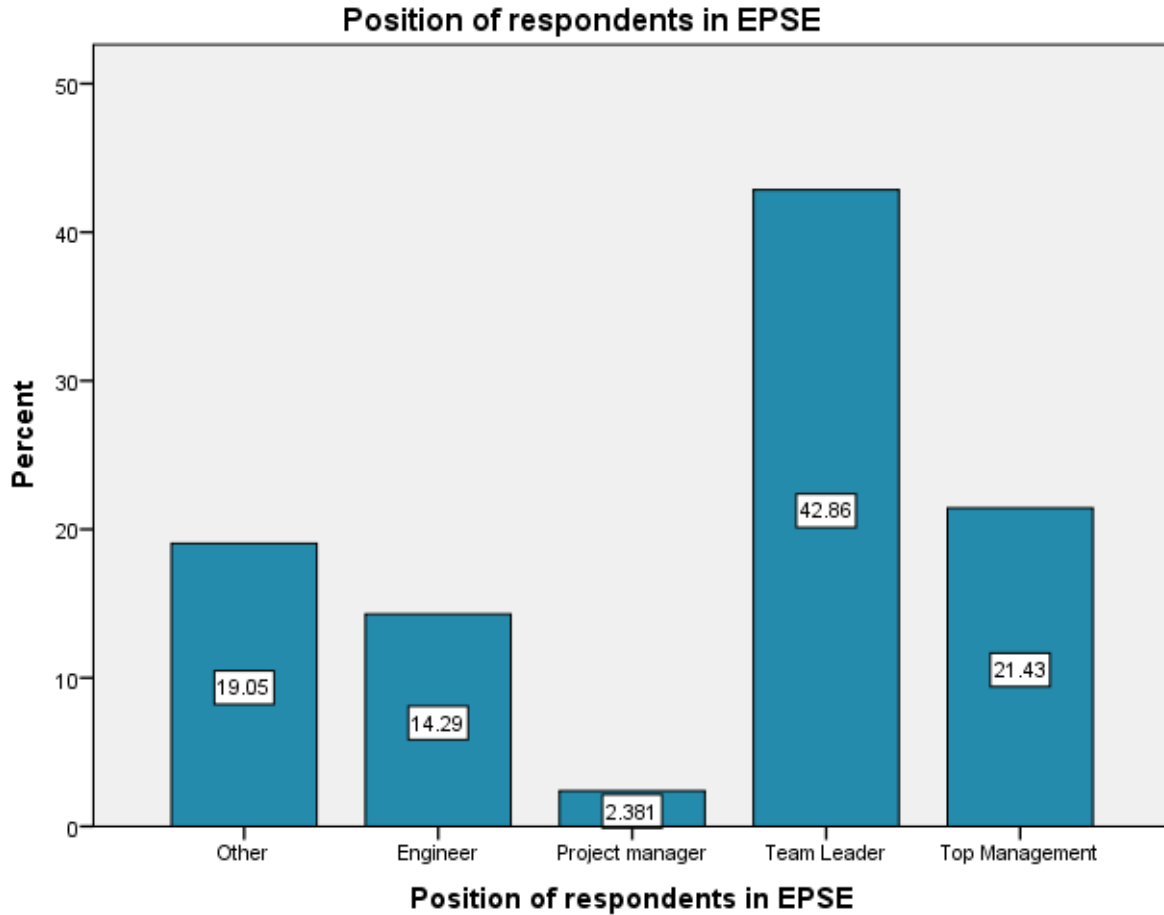


Figure 4.2 Respondents Profile by position within the organization

Source: Field Survey, 2022

#### 4.4. Project Management Practices

##### 4.4.1. General project management issues

General project management questions were raised to the respondents such as major challenges of the projects within the organization, project success rate within the organization from the employee’s perspective, etc.

Table 4.5 General Project Management Issues

		Frequency	Percent	Valid Percent
Valid	No	36	85.7	85.7
	Yes	6	14.3	14.3
	Total	42	100.0	100.0

Source: Field Survey, 2022

Results for general project management challenges inside the company are shown in the table 4.5 above. When asked if the organization has a project management department, 85.7% of respondents said no, while 14.3% said yes. According to the results of the interview questions for the selected four top management members, the enterprise does not have a project management department. The department monitors the adoption of project management procedures inside the company and looks for ways to enhance them. The company's present project management procedures would not be used if there were no project management department.

Table 4. 6 Project management training of Respondents

		Frequency	Percent	Valid Percent
Valid	No	19	45.2	45.2
	Yes	23	54.8	54.8
	Total	42	100.0	100.0

Source: Field Survey, 2022

Table 4. 7 Project management training period of Respondents

	Training duration	Frequency	Percent	Valid Percent
Valid	once	14	33.3	60.9
	Yearly	2	4.8	8.7
	Semi-annually	3	7.1	13.0
	Quarterly	3	7.1	13.0
	Monthly	1	2.4	4.3
	Total	23	54.8	100.0
Missing	System	19	45.2	
Total		42	100.0	

Source: Field Survey, 2022

When the selected 42 respondents asked if the organization provides project management training, 54.8% of respondents said yes. They also said they have gone once (33.3%), yearly (4.8%), twice (7.1%), three times (7.1%), and monthly (2.4%), as shown in tables 4.6 and 4.7, respectively. The feedback reveals that the company is somewhat hesitant to improve internal project management practices through developing project management capabilities of employees.

Table 4. 8 Major Project management challenges in the organization (Multiple Response Set Result)

Major Challenges to The Projects in The Organization		Frequency	Percentage (%)
Internal	Lack of Clarity in the scope of the Project	12	17.4
	Time, Cost and Quality	26	37.7
	Resources	16	23.2
	Policies and Procedures	15	21.7
	Total	69	100
External	Government policies and procedures	15	23.4
	Political instabilities	20	31.2
	Market instabilities	29	45.3
	Total	64	100

Source: Field Survey, 2022

The key problems of the projects inside the organization are shown in several replies in Table 4.8. Most respondents (37.7%) said that internal problems, particularly those involving time, cost and quality followed by resources (23.2%) were the main challenges they were facing. Political and market instability has been recognized as a key threat from the external ones.

The interview's findings support the previously mentioned conclusion. Issues of schedule deviation and expense overruns are highly essential problems for the project's performance,

according to the response provided by the project, program, and system management teams' senior officers at the organization. Main challenges that hinder project deliveries externally were market instabilities and political instabilities with (45.3 %) and (31.2 %) respectively.

Table 4. 9 Respondents opinions on project success rate

	project success rate	Frequency	Percent	Valid Percent
Valid	Not Successful	3	7.1	7.1
	Fairly Successful	25	59.5	59.5
	Successful	10	23.8	23.8
	Very Successful	4	9.5	9.5
	Total	42	100.0	100.0

Source: Field Survey, 2022

The table above represents respondents' perceptions of the success rate of projects within the organization. According to the findings, 9.5% of respondents believe their organization's projects are very successful, while 59.5% believe the success rate is successful. In comparison, 23.8% of respondents believe it is successful, while 7.1% believe it is not. According to the project management office, the organization's project success rate was evaluated, and the result showed a 70-77% success rate. These show inconsistency with the survey results, implying that the respondents' perception is inconsiderate, or the evaluation is incorrect.

#### 4.4.3 Project planning, monitoring and evaluation Practices

Following the identification of profiles and general project management issues, respondents were questioned about their project management approaches. Specifically, the extent to which the company practiced project management processes within each project planning, project monitoring, and assessment process group. Respondents were asked to score each parameter on a Likert scale as follows: 1 strongly disagrees, 2 disagrees, 3 neutral, 4 agrees, and 5 strongly agrees. The replies of the respondents were examined using mean scores, standard deviations, and percentages to evaluate project management practices. The mean value indicates how much the sample group agrees or disagrees with the statement on average. As a result, more people disagree when the mean value is lower and agree when the mean value is greater. Table 4.11 provides an explanation of how the mean percentage scores are calculated using (Ali, 2010). It was used to specify the type of project management technique, procedures, or process groups being applied.

Table 4. 50 Interpretation of percentage mean values

Range of Mean Values	Range of percentage Mean Values (%)	Level of Project Management Practice
Less than 2.50	Less than 50	Very Low
2.50 - 3.20	50 – 64	Low
3.25 - 3.95	65 – 79	Moderate
4.00 - 4.45	80 – 89	High
4.50 - 5.00	90 – 100	Very High

Source: (Ali, 2010)

#### 4.4.3.1 Project Planning Practices

The study sought to determine the degree to which project planning process group was applied in EPSE. The respondents were asked to specify the degree to which they agree with the statement in relation to project planning. Hence, the results are presented in the table 4.11 below. For the sake of simplicity and space management the researcher gave code for 22 item questions of project planning as (PP1-PP 22) respectively and the details are annexed at the end of the paper.

According to Table 4.11, Ethiopian Petroleum Supply Enterprise uses a moderate level of project management planning, with a mean of 3.3 (66%) and a standard deviation of 1.1. Despite being within a moderate level of practice, the table above rates the estimates of resources for comprehensive project planning activities higher than other metrics, with a mean score of 3.9 (78%) and a standard deviation of 0.8. Most other activities are classified as moderate, with mean scores ranging from 3.7 (73%) and 1.0 standard deviation to 3.3 (66%) and 1.2 standard deviation. Members of the enterprise human resource management team's involvement in the project planning, on the other hand, is evaluated at the lowest level, with a mean value of 2.6 (52%). Standard deviation is 1.1. A team of individuals from diverse departments must design the project planning, claims J. Jackson (2010). The group must consider the project schedule, the particulars and elements of the work, and the supplies, labor, subcontractors, and tools required to finish the project.

Table 4. 61 Project Planning Practice Results

Descriptive Statistics						PM practice
Items	N	Minimum	Maximum	Mean	Std. Deviation	Level
PP1	42	1.0	5.0	3.5	1.1	Moderate
PP2	42	1.0	5.0	3.4	1.1	Moderate
PP3	42	1.0	5.0	3.5	0.9	Moderate
PP4	42	2.0	5.0	3.5	0.9	Moderate
PP5	42	2.0	5.0	3.9	0.8	Moderate
PP6	42	1.0	5.0	3.6	1.0	Moderate
PP7	42	1.0	5.0	2.9	1.4	Low
PP8	42	1.0	5.0	3.7	1.0	Moderate
PP9	42	1.0	5.0	2.6	1.1	Low
PP10	42	1.0	5.0	3.5	1.2	Moderate
PP11	42	1.0	5.0	3.2	1.1	Low
PP12	42	1.0	5.0	2.9	1.1	Low
PP13	42	1.0	5.0	2.8	1.3	Low
PP14	42	1.0	5.0	3.7	1.0	Moderate
PP15	41	1.0	5.0	3.5	1.1	Moderate
PP16	42	1.0	5.0	3.4	1.2	Moderate
PP17	42	1.0	5.0	3.5	1.1	Moderate
PP18	42	1.0	5.0	3.3	1.2	Moderate
PP19	42	1.0	5.0	3.4	1.2	Moderate
PP20	42	1.0	5.0	3.1	1.2	Low
PP21	42	1.0	5.0	2.9	1.0	Low
PP22	42	1.0	5.0	2.9	1.1	Low
<b>Overall average value</b>		<b>1.8</b>	<b>4.8</b>	<b>3.3</b>	<b>0.71</b>	<b>Moderate</b>

Source: Field Survey, 2022

The company develops a detailed strategy and reviews it every three months, but the individuals who will execute the project when it is deployed are not engaged in the planning stage. Lewis (2005) listed five frequent planning mistakes, with the first being unilateral planning failure to include those who must perform the task. Additionally, Jackson, B.J. (2010) identified creating and submitting a project plan to the customer and its representatives as one of the actions throughout mobilization time.

As a result, the company does not create risk response strategies or plan for threats. The result also shows that a procurement strategy was not included in the project master or amended plans by the firm. But, as Jackson B.J. (2010) explains, one of the three project tasks that needs careful

preparation is procurement. A comprehensive procurement strategy should be created in order to accomplish the project task on time, according to Yimer (2011).

According to 79% of respondents, the company created a plan for the resources (materials, people, equipment, etc.) required for the project. However, the researcher discovered from the interview that the machinery plan is lacking in planned maintenance and competent labor force. According to T. Subramani (2014), the building project's equipment plan calls for work on tasks for all projects. Olantunji A. (2010) asserts that the absence of a health and safety strategy may slow down project completion. Although the organization has safety management organizational rules, practices, and standards, there is no safety plan or strategy for promoting the organization's safety management policy.

The results of the interviews support the aforementioned survey results. The organization has a solid tradition of planning practice, according to the interview replies. They aim to implement many of the processes within this process group, however planning activities including risk, procurement, safety, and communication plans get less attention than the others do.

#### ***4.4.3.2 Project Monitoring and evaluation practices***

The purpose of the study was to determine the extent to which the project Monitoring and evaluation process group was implemented in EPSE. The forty-two respondents were asked to indicate how much they agreed with the statement regarding project monitoring and evaluation of fuel depot construction of Awash sebat project. As a result, the analysis findings indicated in the table 4.12 below. Similarly For the sake of simplicity and space management the researcher gave code for 21 item questions of project monitoring and evaluation practice as (PME1-PME 21) respectively and the details are annexed at the end of the paper.

According to the analysis results displayed on table 4.12 project monitoring and evaluation practices of EPSE was found as Low, with a mean score of 3.15, standard deviation of 1.10 and percentage of 64.3. Plans are used by the enterprise to evaluate project activities, which are all rated at a moderate level with mean scores of 3.79 (75.8%), Std. Deviation 1.02, 3.49 (69.8%), Std. Deviation 0.93, 3.26 (65.2%), Std. Deviation 1.08, and 3.48 (69.6%) and Std. Deviation 0.97, respectively.

Table 4. 72 Project Monitoring and Evaluation practice Results

Descriptive Statistics						
	N	Minimum	Maximum	Mean	Std. Deviation	PM practice level
PME1	42	1.00	5.00	3.79	1.02	Moderate
PME2	42	1.00	5.00	3.49	0.93	Moderate
PME3	42	2.00	5.00	3.26	1.08	Moderate
PME4	42	1.00	5.00	3.02	1.14	Low
PME5	42	1.00	5.00	3.02	1.12	Low
PME6	42	2.00	5.00	3.26	1.11	Moderate
PME7	42	2.00	5.00	3.12	1.11	Low
PME8	42	1.67	5.00	3.48	0.97	Moderate
PME9	42	1.00	5.00	3.48	1.04	Moderate
PME10	42	1.00	5.00	3.31	1.16	Moderate
PME11	42	1.00	5.00	3.14	1.14	Low
PME12	42	1.00	5.00	2.93	1.22	Low
PME13	42	1.00	5.00	2.64	1.12	Low
PME14	42	1.00	5.00	2.81	1.23	Low
PME15	42	1.00	5.00	2.71	1.29	Low
PME16	42	1.00	5.00	3.24	1.16	Moderate
PME17	42	1.00	5.00	2.69	1.16	Low
PME18	42	1.00	5.00	2.50	1.17	Very Low
PME19	42	1.00	5.00	3.67	1.18	Moderate
PME20	41	1.00	5.00	3.51	1.08	Moderate
PME21	42	2.17	4.86	3.15	0.73	Low
<b>Overall average value</b>		<b>2.13</b>	<b>4.90</b>	<b>3.15</b>	<b>0.76</b>	<b>Low</b>

Source: Field Survey, 2022

The other activities in this process group, on the other hand, are rated as low. Moreover project monitoring and evaluation activities such as procurement progress reports, standard procurement report format, Effective Control of the project resources and control of project costs as well as People involved in monitoring and evaluation has knowledge or experience or receive training about monitoring and evaluation of projects resulted in low mean values.

Monitoring and evaluating without planning is impossible, asserts UNDP (2009). The survey result shows that the enterprise management team, which comprised the project managers, scheduled meetings on a quarterly basis to assess the project progress reports. The meeting however, only highlights problems and issues about the contractor's capacity and the project deliverables. According to the above survey result monitoring and evaluating project risks (i.e.



identifying and documenting new risks, closing those outdated and tracking those already identified is positioned ) in a very low level with mean value of 2.5 (50%), Std. Deviation 1.17.

The outcome demonstrates that neither an observation report nor an evaluation and feedback are prepared by the project planning monitoring and evaluating team and submitted to the projects. According to Jody and Ray (2004) the project evaluation and monitoring activity includes physical progress, financial progress, project quality, risks, and equipment productivity. According to the study, businesses monitor and assess all costs, the ability of subcontractors' work, the productivity of their equipment, and the performance of their employees, but do not monitor and assess risks or their own work quality.

The interview produced a number of findings that agree with the survey results listed on the table. Respondents stated during the interview that the main challenges for projects are controlling changes, project schedule, and cost. The majority of change issues are related to price changes caused by either contractor claims or overly ambitious planning. Schedule and time deviations are common and can be caused by a variety of factors. The interview also revealed that there is low level of risk monitoring practice and the organization's projects are not constantly monitored and evaluated in accordance with a set period or schedule. According to Callistus & Clinton (2018), if given the necessary attention by the project implementers/team through the provision of adequate resources, technical capacity building, and the creation of a supportive project environment, effective M&E plays a critical role in the implementation of construction projects and will lead to improved project performance.

#### **4.5. Evaluating EPSE's Project planning, monitoring and evaluation Practices**

As mentioned in the previous section, EPSE has not yet adopted project management standards or practices. Although many years have passed, the practice of project management has not been fully implemented in the projects of the organization. According to the results, one of the main causes of this delay is a combination of internal and external problems. Since construction projects involve three parties (consultants, clients, and contractors), their common understanding influences an organization's project management activities. Therefore, the survey results show that the level of awareness, understanding and implementation of project management in the construction industry is still low. As a result, EPSE's use of project management is affected. This finding supports Mengesha's (2004) assertion that the construction industry in Ethiopia faces

many challenges in implementing best practices. This is also consistent with the assertion (Ayalew, 2016) that the level of project management practice on the application and implementation of project management standards is not sufficient..

Table 4. 83 Overall Project planning, monitoring and evaluation practice Result

<b>Descriptive Statistics</b>						
Items	N	Minimum	Maximum	Mean	Std. Deviation	Practice level
Project planning	42	1.82	4.77	3.31	0.71	Moderate
Project monitoring & Evaluation	42	2.13	4.9	3.15	0.76	Low
<b>Overall average value</b>	<b>42</b>	<b>2.02</b>	<b>4.82</b>	<b>3.23</b>	<b>0.74</b>	<b>Low</b>

Source: Field Survey, 2022

According to table 4.13, the organization's overall project planning, monitoring, and evaluation practices were founded by using descriptive analytical tool of computing variables and labeled as low, with a mean value of 3.23, a standard deviation of 0.74, and a mean of 64.6 percent.

The organization's level of project management implementation is displayed in the graph below. The organization's overall project planning, monitoring, and evaluation process was rated as poor since it falls between 2.5 and 3.0 on the chart. The findings also indicate that most planning activities have an intermediate level of practice, with the exception of low practice-level procedures including risk management, procurement, and communication plan preparation.

Generally, the enterprise's projects were delayed, according to the research's findings, because of poor planning, a lack of timely resource supply, and pitiable management decision-making. According to Merith et al. (2013) a project needs to be managed well by continuously planning, monitoring progress, and taking corrective action if necessary to bring progress into alignment with the master plan otherwise cost and time overrun will be an inevitable.

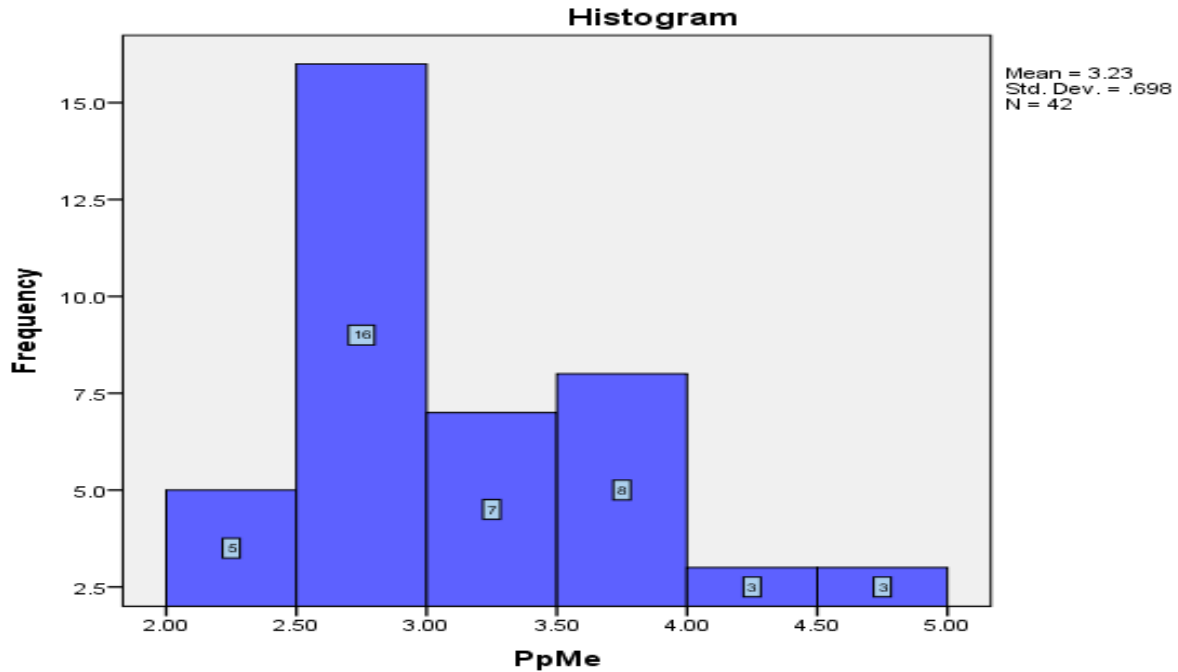


Figure 4.3 Graphical representation of project planning, monitoring and evaluation practice at EPSE

Source: Field Survey, 2022

On the above figure the overall project planning, monitoring and evaluation practice at EPSE is displayed clearly and the highest pick of the histogram was located between 2.5 and 3.0 which indicates that the enterprise has currently low level of project planning, monitoring and evaluation practice in general.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION, AND RECOMMENDATIONS**

#### **5.1. Introduction**

The key conclusions of the data analysis are outlined in this chapter. The findings will be used to make conclusions regarding EPSE's project planning, monitoring, and evaluation processes. The suggestions that might aid in enhancing the company's project management practices are given. The researcher's suggestions for more study are then highlighted.

#### **5.2. Summary of Major Findings**

The research aimed to assess the project planning, monitoring and evaluation practice in Ethiopian Petroleum Supply Enterprise (EPSE). Based on the analysis of the results obtained, the major findings are:

- The organization used to plan its projects using spreadsheets rather than project management software, and it does not have a project management office that has yet to adopt a combined PMI (PMBOK) and prince2 standards and practices that can be integrated with the ISO 9001 quality management system. Furthermore, the practice is not being implemented at every level of the organization.
- The organization also does not provide regular training for employees who work on the organization's projects. In terms of major challenges, the results identified problems related to time, cost, resources, and external issues as significant challenges faced by the organization's projects.
- The organization's project planning practice is rated as moderate, with activities such as developing the detailed project plan and budget being completed. The organization's project planning practice is rated at a moderate level, with activities such as preparing the detailed project plan and the project budget being performed at a moderate level. In contrast, risk, procurement, and communication activities are performed insufficiently.
- Project monitoring and evaluation practice is rated at a low level, with monitoring activities being carried out largely than monitoring and evaluation activities. The preceding finding demonstrated that project evaluation is not prioritized within the organization.

Generally, the overall assessment of the project planning, monitoring and evaluation practice within Ethiopian Petroleum Supply Enterprise (EPSE) resulted in a low level of score on the defined scale.

### **5.3. Conclusion**

In general, the study found that the Ethiopian Petroleum Supply Enterprise had a low level of project management practice in terms of performance. The main objective of the study was to evaluate project management activities at the Ethiopian Petroleum Supply Enterprise using the project planning, monitoring and evaluation process groups identified by PMBOK. The study used quantitative and qualitative methods, collected field data through questionnaires and semi-structured interviews, as well as an extensive review of relevant literature.

Evaluation of project management activities by Ethiopian Petroleum Supply Enterprise shows that project-planning activities are performed at average level. On the other hand, the project monitoring and evaluation practice is carried out at a lower level. The result revealed that there is a better level of planning practice than the project monitoring and evaluation process groups within the organization. The study also identified gaps in the project management practices of the Ethiopian Petroleum Supply Enterprise. Therefore, the level of application of activities related to risk, procurement, communication, cost, time and documentation is in low level of practice.

Generally, the study found that the Ethiopian Petroleum Supply Enterprise had a low level of project planning, monitoring and evaluation practices in terms of performing the activities of each process group. Furthermore, the findings of this study and the information obtained from the reviewed literature suggest that there is a gap in EPSE project management practices. To fill the gaps in practice, the researcher recommends that risk, procurement, communication, cost, time, quality control, adoption of project management standards and guidelines, documentation and Dissemination of lessons learned should be given more attention in the project implementation process in the organization.

#### 5.4. Recommendations

In order to improve the project management practice within EPSE, the researcher provides the following possible recommendations:

- As a governmental development organization, EPSE needs to create an awareness program on project management for its close partners (clients, contractors and other different stakeholders) by providing short term training, workshops and sharing its experience with project management standards and practices. It will help provide a common understanding between the involved parties and increase compliance between the parties while implementing project management practices.
- It is better to give emphasis to project monitoring and evaluation activities.
- Project activities related to risk, procurement, communication, cost, time, documentation and dissemination of lessons learned should be given attention that is more considerable during the implementation of each process groups within the organization.
- The project management office should be set up for a continuous and reliable documentation process. The knowledge and lessons learned from the project are disseminated systematically, and all project records are archived by an information management department with a full database and archive system. The company is responsible for ensuring that the project management standard and practices are implemented at all organizational levels. A training and development program in project management must be implemented to enhance the knowledge and skills of employees in the organization.
- The development of the capacity, skills and knowledge of company team leaders, project managers and office, site and supervisory engineers in planning, monitoring and evaluation should be Compulsory implementation through training programs.
- The core process must prepare milestone plans for each project's on-site evaluation of quality, safety, and risk.
- The enterprise management must put a strong emphasis on educating all employees about safety issues.

### **5.5. Suggestion for Future studies**

While this study may have provided additional insights into Ethiopian Petroleum Supply Enterprise, project management practices. Other perspectives may be explored in future research such as cause and effects of the problems observed. The researcher suggests that future research should cover various aspects of project management, such as areas of knowledge. Additionally, additional research may be conducted to identify and address gaps in current project management standards and practices. In addition, further research can be conducted in detail by involving different parties in the EPSE to solve the project management problems.

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## Appendices A-C

### Appendix A. Questionnaire



## ST. MARY'S UNIVERSITY SCHOOL OF GRADUATE STUDIES

### DEPARTMENT OF PROJECT MANAGEMENT

#### Dear respondents

I am undertaking a research survey on construction project focusing on planning, monitoring and evaluation practice in Ethiopian Petroleum supply enterprise. The research is an individual research project as part of my study for MBA Degree at St.Mary's University.

The main purpose of the research questionnaire is to collect information regarding the current condition of construction project planning, monitoring and evaluation practice in Ethiopian Petroleum supply Enterprise. As a key staff, you are invited to participate in this survey. The information you provide in response to the items in the questionnaire will be used as part of the data needed for the study.

All the information you provide will kept in strict confidentiality and it will be used only for academic research. Please answer each question carefully .there is no right or wrong answer. If you are unsure of an answer, please respond with your best estimate. I value your participation and thank you for the commitment of time, energy and effort. If you have any further question, I can be reach at the address below.

Kind Regards

Ayalneh Medgnaw

Mobile: +251913968008

Email: [ayalneh.qc2016@gmail.com](mailto:ayalneh.qc2016@gmail.com)

**General Instructions**

- **There is no need of writing your name**
- **In all cases where answers options are available please tick (√) in the appropriate box.**

**Part I. Back ground information about the respondents please use (√) in the relevant box for your responses**

1. Gender:

A. Male

B. Female

2. Age:

A. Below 30

B. 31-40

C. 41-50

D. Above 50

3. Educational Level:

A. PhD

C. BA/BSC

E. High School completed

B. MA/MSc

D. Diploma

if other, please specify \_\_\_\_\_

4. Position in the organization

A. Top Management

B. Middle management (Team leader)

C. Project manager

D. D.Engineer

If other, please specify \_\_\_\_\_

5. Work Experience

A. Less than 5 years  B. 6-10 years  C. 11-15 years  D. above 15 years

6. Have you ever had project management training or education?

A. Yes  B. No

7. If your answer for Question number (6) is yes, what is the duration of the training or education, how often?

A. Monthly

B. Quarterly

C. Semi-annually

D. Yearly

E. Once

**Part II. General Issues**

1. Is there separate project management department in your organization?

A. Yes

B. No

2. Which of the following do you think are major challenges to the Projects in your organization?

(You can choose more than one)

<b>Internal</b>	<b>External</b>
<input type="checkbox"/> Lack of information about the scope of the project	<input type="checkbox"/> Governmental Policies and procedures
<input type="checkbox"/> Time, cost and quality	<input type="checkbox"/> Political Instabilities
<input type="checkbox"/> Resources	<input type="checkbox"/> Market Instabilities
<input type="checkbox"/> Policies and procedures of the Organization	

3. What do you think your company's project management practice in terms of project success?

A. Very successful

C. Fairly Successful

B. Successful

D. Not Successful

**Part III. Listed below are statements about project planning, monitoring & Evaluation.**

Please indicate your level of agreement with the statement so that your answer to these questions will enable the researcher to assess what you think about the project planning monitoring and evaluation practice in your enterprise. (1= *Strongly Disagree*, 2= *Disagree*, 3= *Neutral*, 4= *Agree* and 5= *Strongly Agree*)

S/N	Questions	1	2	3	4	5
<b>I. Project Planning</b>						
1	There were preparations of detailed project plan that describe how to implement the project.					
2	The requirements needed for the project are collected and the scope of the project is defined thoroughly					
3	By using the above defined activities a work breakdown structure (WBS) is created					
4	Relationships among activities are identified and the activities sequenced in planning process					
5	Estimate of resources (materials, people, equipment ...) needed is prepared.					
6	The enterprise revise its plan and communicate with the client of the project					
7	The enterprise uses planning software's for planning					
8	The sub-contractors or suppliers submit their detail activities plan					
9	The enterprise human resource management team member's participate in project planning					
10	The project plan incorporate man manpower plan					
11	The man power plan of the project includes detail skill requirement, Roles & Responsibilities of the position					
12	Risks are considered in planning the projects activities as assumptions					



13	The risks that will affect the project are identified, then assessed and an appropriate risk response plan highlighting how to respond when the risk occurs is prepared for the project					
14	The procurement plan is prepared appropriately and also a clear term of references is prepared for tendering documents					
15	Major and/or special supply items (such as those required in large quantity or those requiring special manufacturing or long lead time etc) identified and special attention is given for them					
16	There was appropriate preparation of communication plan for all related parties in the project					
17	Material requiring long-lead time and critical items given special consideration in planning					
18	The enterprise prepare safety plan (determining safety standards and requirements and devising action plan)					
19	The enterprise has organizational policies. Procedures and guidelines for safety management					
20	The enterprise has quality management policies procedures & guidelines					
21	The quality targets for the project are identified. The quality plan is developed to monitor the quality of the outputs and to identify actions that will be used to achieve the required quality.					
22	The project quality plan (Requirements & quality standards determined and strategic are devised).					
<b>II Project Monitoring &amp; Evaluation</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1	Plans serve as a source of information and input for project monitoring and evaluation of the enterprise's project activity.					
2	The enterprise uses project plans to evaluate					
	a. Performance					

	b. Material usage					
	c. Equipment efficiency					
	d. Procurement activity status					
3	There were effective management and integrated control of changes that arise during the implementation of the project					
4	The enterprise has a central project planning, monitoring & Evaluation team					
5	The enterprise project planning, monitoring and evolutions team have formal meetings for monitoring & evaluating the project progress					
6	The progress report produced by the enterprise's project provides sufficient information to monitor and evaluate the project activity.					
7	People involved in monitoring and evaluation has knowledge or experience or receive training about monitoring and evaluation of projects					
8	Progress Reports	1	2	3	4	5
	a. The enterprise have a standard report format					
	b. The report submission dates are fixed					
	c. The report format includes all the necessary information for management decision.					
9	Project procurement progress reports are prepared and evaluated regularly with project accomplishment					
10	The enterprise has standard procurement report format					
11	Controlling changes and also the scope so that the project is completed within the defined scope					
12	Effective Control of the project resources					
13	Effective controlling the project schedule so that it does not exceed the time constraint					
14	Appropriate control of project costs so that it does not exceed the cost constraint					
15	Quality audits are done in the project are view to determine where project activities comply with polices processes and quality requirements.					

16	The enterprise inspects and evaluate quality of subcontractor work to ensure compliance with quality requirements					
17	The enterprise monitor and evaluate project risks (i.e. identifying and documenting new risks, closing those outdated and tracking those already identified )					
18	The enterprise used risk register/log in the risk to document identified risks with their attributes and to track their status while monitoring and evaluating					
19	control the procurements according to the contracts					
20	Monitor and control the communication					
21	There is a delay on the enterprise's project					
	a. Due to poor planning					
	b. Due to material supply problem					
	c. Due to late equipment delivery					
	d. Late manpower assignment					
	e. Completion on estimated time					
	f. Decision making					
	g. payment request and approval					

## **Appendix B: Interview Questions**

### **Interview Questions**

#### **Purposively selected respondents will answer these interview questions**

1. Is there any project management practice or standard have adopted in your organization?
2. Do you have a project management department in your organization?
3. How are the project success rates in your organization?
4. What is the planning process in your organization?
5. What are the major challenges you encounter while implementing projects?
6. How do you monitor and control the time, cost, scope and quality of your projects and how often do these constraints change compared to the planned values?
7. While closing a project do you document lesson learned & use them for planning other projects?
8. In your opinion, in what areas of project management does your organization need to improve.

**Annex C: EPSE'S Organizational Structure**

