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St. Mary's University, Ethiopia

**ST. MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES
Department of Project Management**

**AN ASSESSMENT ON THE PRACTICES AND CHALLENGES
OF PROJECT PLANNING AND IMPLEMENTATION:
THE CASE OF FEDERAL TECHNICAL AND VOCATIONAL
EDUCATION TRAINING AGENCY (FTVETA) OFFICE
BUILDING EXPANSION PROJECT**

BY

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(SGS/0253/2012A)

ADVISOR: MARU SHETE (PhD. and Associate Professor)

**FEBRUARY, 2022
ADDIS ABAB, ETHIOPIA**

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**ST. MARY'S UNIVERSITY SCHOOL OF GRADUATE
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DEPARTMENT OF PROJECT MANAGEMENT

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DECLARATION

I, the undersigned, declare that this thesis is my own original work, prepared under the guidance of MaruShete(PhD and Associate Professor). All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis hasn't been submitted either in part or in full to any higher learning Institution for the purpose of earning any degree.

Mengistu Ashenaf

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St. Mary's University, Addis Ababa

FEBRUARY, 2022

ENDORCEMENT

This thesis has been submitted to St. Mary's University, School of Graduate Studies for examination with my approval as a university advisor.

MaruShete(PhD and Associate Professor)

Signature _____

St. Mary's University, Addis Ababa

February, 2022

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ABBREVIATIONS AND ACRONYMS

BIM	Building Information modeling
COVID	Corona Virus Disease
CPM	Critical Path Method
FTVETA	Gross Federal Technical and Educational Training Agency
GDP	Domestic Product
LFA	Logical Framework Approach
MA	Master of Art
PERT	Program Evaluation and Review Technique
PMBOK	Project Management Body of Knowledge
PMI	Project Management Institute
PM MS	Project Management Microsoft ware
RMP	Risk Management Plan
SD	Standard deviation
WBS	Work Break Down Structure

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ABSTRACTS

This research assessed the practice and challenges of project planning and implementation in the case of FTVET Agency office building expansion project. The objectives of the research were to assess the extent of project management knowledge area implemented during the planning process construction project, and identify the level of use project management tools and techniques during planning stage of construction project in the organization, finally to identify the major problems frequently encountered in the planning and implementation process in the organization project. Different literatures were reviewed to show the significance of project planning knowledge in the construction project. To achieve the objective of the research, the study used a mixed approach as both Qualitative and quantitative data were collected and analyzed. Both primary and secondary source of data were used. Both close ended and open ended questions were included on the questionnaires while the interview was used in the form of structured and semi-structured, these two were used as a primary source of data. For the purpose of data collection, the population size of 84 project planning members was selected to participate in survey questionnaires and interviews. The data obtained through questionnaire has been analyzed quantitatively using descriptive statistics namely frequency and percentages through SPSS version 20. In addition, the data obtained using interviews has been analyzed qualitatively. The data gathered were analyzed and brought to a discussion where major challenges of project planning and Implementation, and knowledge-based project planning practices were identified as Lack of decision of risk -making process, Lack of budgeting, Improper procurement management, Lack identification, inadequate skills for the project, Insufficient uses of project management tools and also Lack of integration. As a result, the research recommended special attention must be given for managerial decision-making process, cost estimation plan, project risk plan, procurement plan and budget allocation, which has been delivered under this study on what actions should be taken to tackle the factors affecting the project planning.

Key words: - Project plan, project plan practices, project Tools and techniques

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

In developing countries, construction industry directly and indirectly related to a big portion of the economy. The construction industry plays a major role in the economy as its share of the Gross Domestic Product (GDP) and its interaction with other sectors of the economy. When the project complete on time, and on budget, it achieves the performance goals, it is also considered as success. However, there are a few projects which were not completed on time. Therefore, there is a need for the organizations that involve in construction projects to come out with the strategies on how to guide the project until it becomes success in the future (Joseph, 2015).

Project management is the application of knowledge, skills, tools and techniques to project activities to achieve project requirements. Project management is accomplished through the application and integration of the project management processes of initiating, planning, executing, monitoring and controlling, and closing (PMI, 2004).

Barbara Allan (2004) describes Project planning as researching the project, and thinking ahead, and identifying what needs to be done, the people who will carry out the work and the cost. In addition to this he noted that project planning involves identifying potential problems and developing contingency plans. He further divided the project planning process in to three stages of: researching the project, detailed planning, and finally documenting and communicating the plan.

The planning process consists of those processes performed to establish the total scope of the project effort, define and refine the objectives, and develop the course of action required to attain those objectives. These include, developing the project management plan and documents that will be used to carry out the project; such us Schedule development, determining the budget, Work break down structure, developing the quality plan, the procurement plan, risk response plan, communication plan and human resource plan(PMI, 2008).

Planning should also involve all project stakeholders so as to guarantee that there will be understanding of scope and specifications of the project. Involving all the stakeholders will also

allow the gathering of support for the project. One of the objectives of project planning is to completely define all work required (possibly through the development of a documented project plan) so that it will be readily identifiable to each project participant (Krezner, 2009).

There are different causes for project failure or to fall short of realizing its full potential. This is the most common problem faced by many projects and is seen throughout different phases of the project. Different authors such as Metzger (1990) and Annie (2003) have identified a number of factors for failure of projects one of which is poor planning.

The current trend of government organization in Ethiopia shows that during project planning and practices they face several challenges related with project management knowledge areas and also the application of tools and techniques. Despite this trend, there is lack of sufficient published studies that address in educational sectors so it makes some contribution in the research area about project planning and implementation. Therefore, this study would try to assess on the current practices and challenges project planning and implementation of FTVEA construction expansion project and possible remedial actions for these challenges.

1.2. Organization Background

Federal Technical and Vocational Education and Training Agency (FTVETA) which is an autonomous young governmental organization established on march 25,2011 by the council of minister's regulation number 199/2011. It is found under the umbrella of Ministry of science and Higher Education.

As to the organizational set up of the Agency, FTVETA has one Head office in Addis Ababa and 12 regional offices in 12 regional towns. At this moment, there are 675 TVET colleges and institutes nationally. They are offering both short term and long term trainings up to level V.

As to Center Of Competency concerned, there are 12 offices in 12 regional towns of the country. FTVETA management system is decentralized to the regions. FTVETA is responsible to manage the entire national TVET operational process. Currently, the main tasks performed by FTVETA are:

- Issue and prepare policies, different manuals and other guidelines concerning Ethiopian TVET system.
- Support and supervise regional TVET offices and institutions.
- Prepare and Issue occupational standards and conduct competency assessment.
- Developing institutions capacity and capacitating trainees and trainers
- Provide Industry extension services to micro enterprises and copying and transferring appropriate technologies to laid foundation for the industrial sector growth of the country.

The Agency has the responsibility of supplying competent lower and middle level technicians and technologists both for the working and future demand of the prioritized development sectors of the country. The Agency has been working in coordination with core Ethiopian development leading sectors especially with highly prioritized sectors of the economy and regions.

1.3. Statement of the Problem

According to Antvik and Sjöholm (2007) the planning processes are highly important, and project execution without proper development of a project plan often causes delays, high cost and general execution problems in the project. The lack of an implemented project plan has caused problems in all project management areas and has made it impossible for the management team to have the required control of project activities

Damoah, et al. (2011), discuss that, the top ten overall rankings for the causes of project's failure in the order of importance were as follows: (1) Monitoring (2) Corruption (3) Political interference (4) Change in government (5) Bureaucracy (6) Lack of continuity (7) Fluctuation of prices (8) Planning (9) Delays in payments and (10) Release of fund.

Planning is one of the key elements of every project and failure to plan intensely can cause the project's failure. This is one of the most common problems that bring about project failure. If project deliverable and how these would be achieved are not clearly outlined in the planning phase of the project, projects are likely to fail. In other words, projects that start without understanding the full content or the project baseline/constraints of what the project seeks to achieve is susceptible to failure. In fact, researcher specifically traces the root cause of project failure to poor initial planning phase of projects (Pinto, 1990).

Planning is often cited as the most critical of the management functions in determining the overall project performance. And it is also considered the most important and critical phase to the success of an organization in meeting its goal and objectives (Richard, 2012).

The performance of complex projects varies according to the nature and scope of the complex concept. The performance of projects around the world, especially in Africa and Ethiopia, is known to be of great concern. An example of this is the Great Ethiopian Renaissance Dam. According to government social media the project is expected to be completed in four years and would be completed at a cost of US \$ 4 billion. In addition, our country did not get what it deserved due to the failure to meet the deadline, and the huge financial losses due to the delay as well as the tension with neighboring countries are the main problem caused by the delay. Although there are various reasons why projects are not completed on time and on budget, the following are some of the main reasons. Firstly, the management's competence, secondly, the capacity of the contractor to carry out the project, as well as the consultants' skills, experience and knowledge, and thirdly, the financial and raw materials allocated for the project Completion and non-completion are important.

The Federal Technical and Vocational Education and Training Agency aims to improve the country's socio-development with a competent, motivated, employed, adaptable and innovative human resource solution. The agency is developing various expansion projects to achieve this goal. The Agency has been implementing several expansion projects in recent years. The success of these projects is believed to play a key role in the success of the agency's vision. In this regard, studies show that even if there is a complete set of inputs, it can lead to failure if there is not reliable project plan and analysis, but the more successful the project plan, the more successful the project would be. The researcher believes that the success of the project requires careful analysis of the project plan before the project is implemented. However, in the past, we have seen problems in the planning process from the minutes of the management meeting and the contract with the contractor when the project was started as a starting point for the study it is possible to understand the improper allocation of budget, delay of procurement process due to the fact that the project was not completed on time considering the date and time of the project.

Since, there is no comprehensive and objective study of project planning and challenges in the Agency's expansion project, this study focuses on identifying and evaluating project planning processes and problem areas and ultimately providing better advice to the Agency. Prevent project failure by developing a reliable project plan that takes project planning procedures and corrective action.

1.4. Research Questions

To address the issues mentioned under the statement of the problem, this study addressed the following research questions:

- To what extent are the project management knowledge areas implemented during the planning process at FTVET Agency construction project?
- To what extent does project management tools and techniques are applied during planning stage of construction projects at FTVET Agency?
- What are the major problems that are in the planning practices at FTVET Agency construction project?

1.5. Objective of the Study

1.5.1. General Objectives of the study

The main objectives of this study is to assess the practice and challenges facing in the planning and implementation process at the additional Office Building in the Federal TVET Agency and to recommend possible solution for problems.

1.5.2. Specific Objectives

In order to achieve the general objective of the study in detail, the research has addressed the below specific objectives:

- To assess the project management knowledge areas are implemented during the planning process at FTVET Agency construction project.
- To assess the project management tools and techniques are applied during planning stage of construction projects at FTVET Agency.

- To identify the challenges of the planning practices of the FTETA construction project.

1.6. Significant of the Study

Basically, the purpose of Expansion projects are a type of capital investment project, designed to help an organization expand and grow. Every organization initiates project to achieve their objective. Accordingly; the TVETA also has responsibility “to create competent and self-reliant citizens to contribute to the economic and social development of the country, thus improving the livelihoods of all Ethiopians and sustainably reducing poverty”. Based on this responsibility the findings of the research will expect to contribute a lot for different stakeholders. The research result would become important for the following groups:-

- To the management bodies: - to improve the preparation of project planning based on the findings of the research. It helps in understanding weakness and strengths of the organizations in planning and implementing projects.
- To the region: - since the selected project area runs a large amount of public money for project implementation every year; their project planning experience can be an example to the other organization in the region.
- To the country at large: - since Project plays an important role in the overall mission of the government good project planning process have a great role for the development of the country and studies are needed in project planning to understand the existing challenges.
- To researchers (others): - hopefully it would inspire other researchers to further deep their research knowledge while opening the doors to investigate project planning. The study will also be a useful input for further research on the area. The study will be given insight to other fellow researchers for their extensive investigation of the field which is the most forgotten function by researchers in Ethiopia.

1.7. Scope and Limitation of the Study

The scope of the study focused on specifically on the construction activities and problems of FTVETA expansion project in Addis Ababa, and the study attempted to analyze the practices

and challenges of the project plan and implementation under the office expansion project of FTVETA.

The study should be understood in consideration the following limitations. Some relevant records would not be readily accessible; some of the respondents were not willing to reveal correct information needed for the study for fear of any adverse consequence.

1.8. Definition of Terms

The following terms are defined according to the context they are used the study

PLANNING: According to Mintzberg(1990), discussed that planning as the effort to formalizing decision-making activities through decomposition, articulation, and rationalization. Planning is not a one-time event. It occurs throughout the project. Initial plans will become more detailed as additional information about the project becomes available. Additionally, as changes are approved for the project or product, many of the planning processes will need to be revisited and the documents revised and updated Snyder (2014).

PROJECT: A project is a temporary endeavor undertaken to create a unique product or service. The fact that a project is temporary does not mean that the result of the project also will be temporary. Most projects are undertaken to create a long lasting result. The uniqueness with a project means that the provided service or product is different from all other services and products. Many organizations use projects to respond to requests that cannot be handled within the normal organizational limits. The size and length of a project can vary from one person to thousands and from a few weeks to more than five years (PMI, 2008).

PROJECT MANAGEMENT: Project management is the application of knowledge, skills, tools, and techniques to project activities to achieve project requirements. Project management is accomplished through the application and integration of the project management processes of initiating, planning, executing, monitoring and controlling, and closing (PMI, 2008).

PROJECT MANAGEMENT PLAN: The project management plan describes how the team will execute, monitor, control, and close the project. While it has some unique information, it is primarily comprised of all the subsidiary management plans and the baselines. The project

management plan combines all this information into a cohesive and integrated approach to managing the project Snyder (2014).

1.9. Organization of the Thesis

This study is organized into five chapters:- Chapter one, is an introductory part of the study that contain background of the study, statement of the problem, research objectives, scope and Limitation, significance of the study, definition of terms and Organization of the study. The second chapter devoted to literature review informing the reader of what is already known in this area of study and discusses different concepts on project planning and implementation in sufficient details using related literatures from international and local sources are reviewed and presented. The third Chapter discusses the methodology employed in the study including Research approach and design, Population and sampling, Data sources and data collection methods, Data Analysis method and Instruments to check validity and reliability. The forth Chapter described the presentation, analysis and interpretation of the analyzed collected data through the proposed instruments finally, Chapter five presented general conclusions and recommendations along with future research directions based on observations and results from the study.

CHAPTER TWO

2. Literature Review

2.1. Theoretical Literature Review

2.1.1. What is Project Plan?

Kerzner(2003) discussed that Project plan must be systematic, flexible enough to handle unique activities, disciplined through reviews and controls, and capable of accepting multifunctional inputs. Successful project managers realize that project planning is an iterative process and must be performed throughout the life of the project. If line managers cannot commit because the milestones are perceived as unrealistic, the project manager may have to develop alternatives, one of which may be to move the milestones. Upper-level management must become involved in the selection of alternatives. Project planning is widely thought to be an important contributor to project success.

To plan a project properly, you must attend to three kinds of activities that may have to be performed during the life of the job: strategy, tactics, and logistics. Strategy refers to the overall method you would employ to do the job, sometimes referred to as a game plan. Too often, planners choose a project strategy because “it has always been done that way” rather than because it is the best way to go. You should always ask yourself, “What would be the best way to go about this?” before you proceed to do detailed implementation planning. In fact, it is implementation planning that many people think of when they talk about planning. However, a well-developed implementation plan for the wrong project strategy can only help you fail more efficiently (Joseph, 2015).

Banjoko (2009) identify that Project planning is concerned with establishing a predetermined course of action within a forecasted environment. Planning involves decision making of choosing alternative courses of actions to accomplish the project set objectives. Project planning involves all managerial activities necessary in structuring a course of action.

Kerzner (2003) discussed that Planning, in general, can best be described as the function of selecting the enterprise objectives and establishing the policies, procedures, and programs necessary for achieving them. Planning in a project environment may be described as

establishing a predetermined course of action within a forecasted environment. The project's requirements set the major milestones.

According to Annie (2003) project planning yields the following importance for construction projects in particular:

- Planning helps to minimize the cost by optimum utilization of available resources.
- Planning reduces irrational approaches duplication of works and inters departmental conflicts.
- Planning encourages innovation and creativity among the construction managers.
- Planning imparts competitive strength to the enterprise.

Control is exercised by comparing where you are to where you are supposed to be so that corrective action can be taken when deviation occurs. First, you must have a plan that tells where you are supposed to be in the first place. If you have no plan, then you cannot possibly have control. Second, if you don't know where you are, you can't control. Knowing where you are isn't as easy as it may seem, especially when doing knowledge work. Another trap that causes people not to plan is to believe that they have no time to plan; they need to get the job done really fast! This is counterintuitive, but think about it: If you have forever to get something done, then you don't need a plan (Joseph, 2015).

Dvir, et al. (2003), identify three levels of project planning: 1) the end-user level, in which planning focuses mainly on the functional characteristics of the project end-product; 2) the technical level, which focuses on the technical specifications of the project deliverables required to support the functional requirements and 3) the project management level, which focuses on planning the activities and processes required to ensure that the technical work proceeds effectively. These three planning levels can otherwise be regarded as project conception planning, project design planning and construction planning, respectively.

According to the PMI (2008), a plan helps the project team achieve the goals of the project by describing the tasks they need to perform. Essentially, a correctly completed project plan describes the work required, the time required to complete the work, the resources assigned to do the work and the cost of the project.

Joseph (2015) discussed that the three planning phases 1) the strategy phase of a project determines the high-level approach that your project will take to achieve the project requirements. 2) the implementation planning phase of a project includes tactics and logistics. If you are going to build boats upside down, you must work out the details of how it will be done. Logistics deals with making sure the team has the materials and other supplies needed to do their jobs. Ordinarily, we think about providing teams with the raw materials they need, but if the project is in a location where they can't get food, work will soon come to a grinding halt. So provisions must be made for the team to be fed and possibly housed. 3) Execution and Control phase once the plan has been developed and approved, the team can begin work. This is the execution phase of the project, but it also includes control because, while the plan is being implemented, progress is monitored to ensure that the work is progressing according to the plan.

Kerzner (2003) discussed that Project planning takes place at two levels. The first level is the corporate cultural approach; the second method is the individual's approach. The corporate cultural approach breaks the project down into life-cycle phases. The life-cycle phase approach is not an attempt to put handcuffs on the project manager but to provide a methodology for uniformity in project planning. Many companies, including government agencies, prepare checklists of activities that should be considered in each phase. These checklists are for consistency in planning. The project manager can still exercise his own planning initiatives within each phase. A second benefit of life-cycle phases is control. At the end of each phase there is a meeting of the project manager, sponsor, senior management, and even the customer, to assess the accomplishments of this life-cycle phase and to get approval for the next phase. If the project is large and complex, then careful planning and analysis must be accomplished by both the direct and indirect labor charging organizational units. The project organizational structure must be designed to fit the project; work plans and schedules must be established so that maximum allocation of resources can be made; resource costing and accounting systems must be developed; and a management information and reporting system must be established.

Kerzner (2003) identifying those four basic reasons for project planning:-

- i) To eliminate or reduce uncertainty
- ii) To improve efficiency of the operation;
- iii) To obtain a better understanding of the objectives and
- iv) To provide a basis for monitoring and controlling work.

Planning, in general can best be described as the function of selecting the enterprise objectives and establishing the policies, procedures, and programs necessary for achieving them. Planning in a project environment may be described as establishing a predetermined course of action within a forecasted environment. The project's requirement set the major milestones. One of the objectives of project planning is to completely define all work required (possibly through the development of a documented project plan) so that it will be readily identifiable to each project participant. This is a necessity in a project environment because: If the task is well understood.

Lester (2017) on the other hand defined a project plan as a road map that defines how to get to the end. Effective project planning requires particular skill far beyond writing a document with schedules and budget. Unlike small projects that involve few activities, complex projects that go beyond a certain threshold level of magnitude should proceed on the basis of a sound formal planning platform without which there may be chaos. Sound formal planning provides the basis for organizing the work on the project and allocating responsibilities to individuals.

Suri (2017) discussed that how to plan a project properly, you must attend to three kinds of activities that may have to be performed during the life of the job: strategy, tactics, and logistics. Kerzner (2003) discussed that Planning varies at each level of the organization. At the individual level, planning is required so that cognitive simulation can be established before irrevocable actions are taken. At the working group or functional level, planning must include: Agreement on purpose; assignment and acceptance of individual responsibilities; Coordination of work activities; increased commitment to group goals. If the project is large and complex, then careful planning and analysis must be accomplished by both the direct and indirect labor charging organizational units. The project organizational structure must be designed to fit the project; work plans and schedules must be established so that maximum allocation of resources can be

made; resource costing and accounting systems must be developed; and a management information and reporting system must be established .

Project plan consists of the following documents:-

- **Project Charter:** Provides a general overview of the project. It describes the project's reasons, goals, objectives, constraints, stakeholders, among other aspects.
- **Statement of Work:** Defines the project's scope, schedule, deliverables, milestones, and tasks.
- **Work Breakdown Structure:** Breaks down the project scope into the project phases, subprojects, deliverables, and work packages that lead to your final deliverable.
- **Project Plan:** The project plan document is divided in sections to cover the following: scope management, quality management, risk assessment, resource management, stakeholder management, schedule management and the change management plan.

2.1.2. Project Planning Process

According to PMI (2004), the main concern in the Planning Process group is to develop and manage the project management plan. The planning processes include identifying, defining and managing all parts of the project management plan. These processes are continuously iterated as new information is discovered in order to keep the project management plan updated. The first and most important step of the project planning process is a clear statement of the fundamental issue to be addressed by the project. Correctly implemented, directed planning ensures that a clear definition of the problem is developed before any additional resources are committed. The project planning team should understand clearly the conditions or circumstances that are causing the problem and the reason for making a decision.

The planning process consists of those processes performed to establish the total scope of the effort, define and refine objectives, and develop the course of action required to attain those objectives. Accordingly the project Management plan which is the primary source of information for how the project would be planned, executed, monitored and controlled, and closed includes and documents actions required to define, prepare, and integrate, and coordinate subsidiary plans such as the detail project scope, schedule development; determine budget, quality plan, human resource plan, risk response plan, communication plan and the procurement plan (PMI, 2008).

Effective total program planning cannot be accomplished unless all of the necessary information becomes available at project initiation. These information requirements are: the statement of work(SOW); the project specifications; the milestone schedule; the (WBS) work breakdown structure. Based on this fact Planning is determining what needs to be done, by whom, and by when, in order to fulfill one's assigned responsibility (Kerzner, 2003).

2.1.3. Project Planning Knowledge Area

Planning processes develop the project management planning process group. This group will be focusing on identifying, defining and maturing the project scope, project cost; also it will help scheduling all activities which may occur throughout the project. Planning process group covers development of the project management plan and other subsidiary plans such as; scope planning, risk management planning, purchase and acquisition plan, scheduling, cost budgeting, human resource and communication plan (Ngoc se, 2010).

2.1.3.1. Project Scope Planning

The scope planning process yields a scope management plan, and the scope definition results in an updated scope management plan, scope statement and requested changes to the project scope PMBOK (2008). This effort is proven to be an effective way of increasing the chances of project success while significantly decreasing the risks that could arise during project implementation (Wang & Gibson, 2008).

Project scope includes the features and functions that characterize the product, service, or event, and includes the work that must be done to deliver it with its specified features and functions. Scoping a project is putting boundaries around the work to be done as well as the specifications of the product to be produced. When defining scope, it is wise to articulate not only what is included within the scope but also what is excluded (Paul & Jeannette, 2006).

Ideally, the scope of a project should remain constant throughout the life of the job. Naturally, this seldom happens. In most cases the magnitude (scope) of the work increases as a result of overlooked details, unforeseen problems, or an inadequately defined problem. The most common reason for scope changes is that something is forgotten (Lewis, 2007).

Validate scope during the project, which means making sure that the deliverables is being approved regularly by the sponsor or stakeholder. This occurs during the monitoring and controlling process groups and is about accepting the deliverables, not the specs laid out during planning. The scope statement is likely going to change over the course of the project to control the scope, such as if a project falls behind schedule(Jason, 2019).

2.1.3.2. Project Risk Management Plan

There will always be some uncertainty associated with any project which represents risk. If risk exists then the way to manage it has to be found. According to Suleiman (2007), formal risk management in the construction industry became an integral process only within the past 20 years. Since the effect is not specified risk could mean either negative or positive and taking this into consideration risk has been defined by PMI(2008), as an uncertain event or condition that, if it occurs, has a positive or negative effect on one or more of the project's objectives.

According to Kerzner (2003), if risk management is set up as a continuous, disciplined process of planning, assessment (identification and analysis), handling, and monitoring, then the system will easily supplement other systems as organization, planning and budgeting, and cost control. Surprises will be diminished because emphasis will be on proactive rather than reactive management. It forces us to focus on the future where uncertainty exists and develop suitable plans of action to prevent potential issues from becoming potential problems and adversely impacting the project. The RMP is the risk-related roadmap that tells the project team how to get from where the program is today to where the program manager wants it to be in the future.

All projects have uncertainties that can either turn out to be an opportunity or a risk. Uncertainties often occur in areas where the management has little information of the current conditions. By effective management many uncertainties can be evolved into an opportunity rather than a risk Antvik & Sjöholm, (2007). The purpose of a risk analysis is to gain control of the uncertainties in the project. When risks are identified it is therefore important that a strategy is developed in order to response to the risk (PMI, 2004).

2.1.3.3. Project Procurement Plan

According to PMI (2008), procurement planning involves a process of documenting project purchasing decisions, specifying the approach and identifying potential sellers. The outputs from this process include; Procurement Management Plan, Procurement Statement of Work, Make or Buy decisions, Procurement documents, Source selection Criteria and Change request.

Ocharo (2013) stated that planning is one of the main decisions made by the clients. In order to ensure that the project can be completed successfully, the client must select the most appropriate contractor. He further describes procurement methods as the procedures used by the procuring entity to acquire goods, services and works.

Advance planning of the contracting and procurement activities is particularly critical on large projects. Subcontracting activity has a direct effect on project costs, schedules, and overall success, so it normally receives attention early in the planning process (Paul & Jeannette, 2006). Construction procurement process on the other hand is defined as a series of operations or actions taken to achieve the intended aim of construction project procurement (Harris & McCaffe, 2005).

The procurement plan is an important tool for efficient procurements throughout the project. It should be developed based on the project's WBS and time schedule in order to include all procurements and to be timely integrated in the project. The procurement plan includes budgeted cost and required finished date for procurement. A poorly developed procurement plan is likely to cause high procurement costs and in worst case even force the production to be stopped (Antvik & Sjöholm, 2007).

2.1.3.4. Project Communication Plan

PMI (2008) defines project communication as a process of determining project stakeholders 'information need and defining a communication approach.

According to Barbara (2004), a common feature of successful projects is that the project communication process has been thought through and planned in some detail. At the project analysis stage it is worthwhile thinking about how this communication process is going to be managed. He further noted that communication involves thinking in broad terms about the

answers to questions such; who will be working on the project? Who will be affected by the project? When do we need to communicate? Who is responsible for implementing the communications strategy? With whom will you communicate? What will you communicate? How to communicate? What channels are required for feedback? Who is responsible for giving, receiving and acting on feedback?

Project Communications Management includes the processes that are required to ensure timely and appropriate planning, collection, creation, distribution, storage, retrieval, management, control, monitoring, and the ultimate disposition of project information. Project managers spend most of their time communicating with team members and other project stakeholders, whether they are internal (at all organizational levels) or external to the organization. Effective communication creates a bridge between diverse stakeholders who may have different cultural and organizational backgrounds, different levels of expertise, and different perspectives and interests, which impact or have an influence upon the project execution or outcome PMI (2013).

2.1.3.5. Project Quality Plan

According to PMBOK (2008) quality planning is the process of identifying quality requirements and/standards for the project and product, and documenting how the project will demonstrate compliance. This activity is the foundation for quality being planned in, not inspected in. Project managers need not, and must not, depend on inspection and correction to achieve project quality. Instead, they should use conformance and prevention to achieve quality. Project managers should, through planning, design in and build in quality (Kenneth, 2005).

Project quality planning knowledge area involves all processes and activities in the project organization to determine quality policies and control that the performed work is of a satisfying quality. The major processes in quality management are quality planning, quality assurance and quality control (PMI, 2013).

2.1.3.6. Project Human Resource Plan

Human resource planning knowledge areas is the processes used to ensure that the project organization is established in a way that provides the project with good conditions to Succeed.

Major processes in human resource management knowledge area include; human resources planning, acquire project team, develop and manage project team(PMI, 2004).

Human resource planning determines project roles, responsibilities, and reporting relationships culminating in the staffing management plan to acquire project team process of obtaining the human resources needed for completing the project. Each role in the project team should be assigned with areas of responsibility, authority and required competence. It is important that a role with a defined area of responsibility also has the authority to make decisions within that area. Responsibility without authority makes it very hard for middle management to influence the work, which most likely will affect the project negatively (Walker, 2007).

2.1.3.7. Project Integration Plan

Project integration planning knowledge areas coordinates the various elements of the project and it is an important part in planning processes. Prioritizing between competing objectives and alternatives are an important task in the integration management. The plan should include general plans regarding all areas of the project such as; project objectives, time schedule, budget, etc(PMI, 2004).Project integration management includes the processes and activities to identify, define, combine, unify, and coordinate the various processes and project management activities within the project management process groups. In the project management context, integration includes characteristics of unification, consolidation, communication, and integrative actions that are crucial to controlled project execution through completion, successfully managing stakeholder expectations, and meeting requirements (PMI, 2013).

2.1.3.8. Project Schedule Plan

Construction planning, as well as scheduling, must be done by people who are experienced in, and thoroughly familiar with, the type of field work involved. Significance learning takes place during the planning phase of a project. Therefore, the people doing the planning are in the best position to manage the work. Participation by key sub-contractors and suppliers is also vital to the development of a workable plan (Sars et al, 2008).To develop an efficient schedule it is important that the critical chain is identified and that the lags in the schedule is used to allocate the projects resources effectively (PMI, 2004). The development and management of realistic

project schedule and project plan is a primary responsibility of the project manager to complete the project on time (PMI, 2013).

A time schedule without control is fairly useless to the project organization. The control must be carried out regularly and relatively often in order to detect deviations early. This makes it possible for the project team to take necessary actions to avoid longer delays (Antvik & Sjöholm, 2007).

Developing a schedule according to PMI (2008) is the process of analyzing sequences, duration, resource requirements, and schedule constraints to create the project schedule. Outputs from this process include; project schedule, schedule baseline and schedule data. Determining budget on the other hand is the process of aggregating the cost estimates of individual activities or work packages to establish an authorized cost baseline. A cost estimate in this case is defined as the process of developing an approximation of the monetary resources needed to complete project activities.

Project time management involves plan schedule management, which involves creating a schedule for the project and determining who is responsible for what. That means defining activities, which is not the same as making a WBS, but similar. So, you create a task list that touches on every aspect of the project (Jason, 2019).

2.1.3.9. Project Cost Estimation Plan

Similarly, Paul and Jeannette (2006) define Cost estimating as the process of assembling and predicting costs of a project. The cost budgeting process involves establishing budgets, standards, and a monitoring system by which the cost of the project can be measured and managed.

This area involves the project budget, which means having good estimating tools to make sure that the funds cover the extent of the project and are being monitored regularly to keep stakeholders or sponsors informed (Jason, 2019).

The cost estimation should be based on the project scope, the WBS and be connected to the project plan. To reach a correct estimation it is important that each activity is estimated based on

the conditions of the execution of the specific activity. Since there often are several factors that are uncertain in a project, a reserve cost can be assigned to activities with a low level of detailed information or work packages with potential high financial risks. Cost plans are generally prepared by cost consultants (often quantity surveyors). They evolve through the life of the project, developing in detail and accuracy as more information becomes available about the nature of the design, and then actual prices are provided by specialist contractors, and suppliers. If you engage with a designer, they may provide different options for your consideration that they believe meet your requirements. To determine which of these options provides the best value and fits within your budget, you'll need to have cost plans prepared on your behalf (AdisaOlawale& Sun, 2010).

2.1.4. Project Planning Tools and Techniques

2.1.4.1. The Work Break Down Structure

According to Ralph (1998) the WBS is a detailed listing of the deliverables and tasks for building the product or delivering the service. It is a top-down, broad-to-specific hierarchical outcome of the work to perform. The larger the scope of the project, the larger the WBS will be. A good WBS makes planning and executing a project easier. Generally the more specific WBS, the more accurate the planning and the greater the ability to monitor progress. The WBS generally consists of two components. The first component is the product breakdown structure (PBS), which delineates the segments that constitute the final product or service. It may also contain items deemed importance (e.g., training). Each item in PBS is described with a noun and a unique number. The other component is the task breakdown structure (TBS), which contain the tasks to build or deliver something. It may also list tasks deemed important to the project. Each task in the TBS is described with an action verb, a noun, and a unique number.

2.1.4.2. Gantt Charts

According to Paul (2020) a Gantt chart is the most generally useful tool in project planning. They are used for scheduling and monitoring tasks, for showing costs and expenditure at all stages

throughout the project, for communicating progress and producing reports. They show, on a simple block diagram, the activities and costs over time in an easy-to-understand way

2.1.4.3. Critical Path Method

The Critical Path Method or Critical Path Analysis, is a mathematically based algorithm for scheduling a set of project activities....It is an important tool for effective project Management Commonly used with all forms of projects, including construction, software development, research projects, product development, engineering, and plant maintenance, among others....Any project with interdependent activities can apply this method of scheduling. The essential technique for using CPM is to construct a model of the project that includes the following: A list of all activities required to complete the project (also known as Work Breakdown Structure). The time that each activities dependencies between the activities(Santiago & Magallon, 2009).

2.1.4.4. Brainstorming

Brainstorming is a useful technique in all areas of business and, indeed, for other parts of the project management process but it is also a vital first element in project planning. Because brainstorming is a creative process designed to encourage random and lateral thinking, it is most useful for highlighting potential problems and raising concerns that are not immediately obvious. It can also be used to produce ideas to improve efficiency and reduce costs (Paul, 2006).

2.1.4.5. Program Evaluation and Review Technique

Program evaluation and review technique (PERT) charts depict task, duration, and information. Each chart starts with an initiation node from which the first task, or tasks, originates. If multiple tasks begin at the same time, they are all started from the node or branch, or fork out from the starting point. Each task is represented by a line, which states its name or other identifier, its duration, the number of people assigned to it, and in some cases the initials of the personnel assigned. The other end of the task line is terminated by another node, which identifies the start of another task, or the beginning of any slack time, that is, waiting time between tasks (Pelin, 1996).

2.1.4.6. Logical framework

A Log frame is another name for Logical Framework, a planning tool consisting of a matrix which provides an overview of a project's goal, activities and anticipated results. It provides a structure to help specify the components of a project and its activities and for relating them to one another. It also identifies the measures by which the project's anticipated results will be monitored (Kirsten, 2021).

2.1.5. Project Implementation

To implement a project means to carry out activities proposed in the application form with the aim to achieve project objectives and deliver results and outputs. Its success depends on many internal and external factors. Some of the most important ones are a very well organized project team and effective monitoring of project progress and related expenditures. Monitoring of project implementation provides vital information on the overall performance of the programme; in particular, in terms of how (quantitatively as well as qualitatively) programme objectives and key targets have been met. Other main reasons for monitoring are that it: Gives an accurate picture of the status of project implementation. Allow programme to keep track of whether projects are being implemented, according to the plan and thus keep track of all major project variables – cost, time, scope and quality of deliverables. · Provides programme managers with important information on significant achievements which support programme information and publicity. Allows problem identification, Verifies and provides transparency on the spending of public funds (PMI, 2013).

According to Morardet,(2005), the project implementation process is complex, usually requires extensive and collective attention to a broad aspect of human, budgetary and technical variables. In addition, projects often possess a specialized set of critical success factors in which if addressed and attention given to improve the likelihood of successful implementation. Business today is operating under high level of uncertainty, projects implementations are open to all sorts of external influence, unexpected events, ever-growing requirements, changing constraints and fluctuating resource flows. This clearly shows that if projects are undertaken and critical process steps not taken to manage them effectively and efficiently, the chances of failure are high.

A project is implemented through programs, activities and tasks that serve to deploy resources to interact within the environment. Project Planning and Implementation cannot succeed unless a good project manager is in control. A project manager is the individual responsible for the success of a project in terms of time, cost and technical performance (Ewurum, et al. 2009).

The process of project implementation involves the successful development and introduction of projects in the organization currently, presents an on-going challenge for managers. The project implementation process is complex, usually requiring simultaneous attention to a wide variety of human, budgetary and technical variables. As a result, the organization's project manager is faced with a difficult job, characterized by role overload, frenetic activity, fragmentation and superficiality (Pinto& Levin, 1987).

2.1.6. Challenges of Project Planning and Implementation

2.1.6.1. Challenges of Project planning

The key issue in our region, as in other African countries, is project delay and inability to complete projects on time. A project's success is calculated in terms of expense, time, and efficiency. Typically, projects fail due to issues in the project's selection, planning, execution, or control phases. A failure in one of the steps could lead to the failure of the whole project (Yardley, 2002).

The existence of poor planning implementation and execution culture is an antithesis is to development. All of mankind's greatest accomplishments from building the great pyramids to discovering a cure for polio, Ebola and even putting a man on the moon began as a project. It is nearly impossible to pick up a newspaper, government periodicals or business magazine and not find something about projects (Gray, 2008).

That is why the failure of a project be it in private or public sector through poor projects planning and implementation practices carries three serious repercussions to the economy and environment. First is the waste of resources/finances and human effort(s) used in its execution. Secondly is the denial of opportunity for other projects from coming on streams. Thirdly is the consequence on the mental psyche of the failure syndrome on the project participants and

stakeholders. No matter how hard we try, planning is not perfect, and sometimes plans fail. Typical reasons include:

- Corporate goals are not understood at the lower organizational levels.
- Plans encompass too much in too little time.
- Financial estimates are poor.
- Plans are based on insufficient data.
- No attempt is being made to systematize the planning process.
- Planning is performed by a planning group.
- No one knows the ultimate objective.
- No one knows the staffing requirements.
- No one knows the major milestone dates, including written reports. Project estimates are best guesses, and are not based on standards or history.
- Not enough time has been given for proper estimating.
- No one has bothered to see if there will be personnel available with the necessary skills.
- People are not working toward the same specifications.
- People are consistently shuffled in and out of the project with little regard for schedule.

Many schemes around the world fail to be finished on time owing to inadequate project preparation and complications during the project's planning process (Ewurum et al, 2009).

The thesis by Donnelly, et al. (1998) demonstrated the significance of project preparation and its effect on project performance. According to the findings of their report, higher levels of project preparation commitment can result in substantial expense and scheduling reductions, while low planning can lead to project failure and cost increases.

In the construction industry planning is a complex and challenging task and there is an increasing need for a more comprehensive view in the projects. When describing planning in construction the definition varies depending on who is asked. To simplify how planning is conducted in a construction project, it can be described as a process where the planner tries to identify the required activities for reaching a pre-determined result (Hendrickson, 1998).

Normally the prime contractor sets the general timing reference for the overall project. Individual subcontractors then review the portions of the plan relevant to their work and help develop additional details pertaining to their operations. An important side effect is that this procedure brings subcontractors and the prime contractor together to discuss the project. Problems are detected early and steps toward their solutions are started well in advance (Sirs et al, 2008).

According to Brisgon (2007), there are number of challenges that affect the quality of project planning and consequently the entire project performance. These are:

- Time Management
- Determining budget
- Prioritizing Project tasks
- Getting up-to-date information
- Availability of qualified personnel
- Meeting the required quality
- Identifying risks
- Coordinating the various stakeholders, etc.

Kerzner (2003) discussed that typical problems with developing objectives include: Project objectives/goals are not agreeable to all parties, Project objectives are too rigid to accommodate changing priorities, insufficient time exists to define objectives well, Objectives are not adequately quantified, Objectives are not documented well enough; Efforts of client and project personnel are not coordinated, Personnel turnover is high.

Managers can't think of everything, their estimates of task durations are wrong, and everything falls apart after the projects are started. The first rule of project management is that the people who must do the work should help plan it (Joseph, 2015).

Projects are needed to be completed within the time frame, budgeted cost and required quality. However, unfortunately many projects take longer time to complete, cost more than necessary and some projects are cancelled because of inefficient planning and related challenges directly and/or indirectly related with it (Richard, 2012).

2.1.6.2. Challenges of Project Implementation

If the project takes longer time than anticipated, it requires additional resources, and budgets. This consequently increases labor, material, machinery and equipment cost. This affects the budget of other projects and in general, it affects the economy of the country. Similarly, due to delay in project implementation the people and the economy have to wait for the provision of public and services facility longer than necessary. Thus failure of a project limits the growth of the economy because the output provided by infrastructure, construction, manufacturing, IT projects serve as input for many other sectors of the economy. One of the primary causes of project failure in developed nations is a lack of successful or ineffective project preparation(Richard, 2012).

Nothing could be more detrimental to project implementation than for resources to be allocated in ways not consistent with priorities indicated by approved objectives. Resources as the third greatest factor for implementation failure. Many companies attempt to “save the dollar” by doing everything on overtime basis, in the end people reach burn out after putting in extensive hours over a long time. Resources include human resources, financial resources, physical resources and technological resources. Effective resource allocation is inhibited by the following challenges: overprotection of resources, lack of sufficient knowledge, vague strategy targets, organizational politics, and a reluctance to take risks, too great emphasis on short-run financial criteria(PMI, 2004).

Barbara (2004) portrays communication as a key link that can make or break project implementation. One of the causes of implementation failure is poor project communications, beginning with a failure to alert stakeholders the reasons for up-coming project and continuing to update the organization of the progress and importance of the project implementation.

The most challenging issue in project implementation and control is lack of commitment and focus from the top management to give their energy and express loyalty to the implementation process. The need for efficient and effective leaders in Project implementation and control to guide the rest of the employees through the strategy plan with ease while providing solutions and explanations to unclear issues. Involvement of middle and lower management in the implementation process helps ensure employee buy-in and own-up of the process (PMI, 2004).

For Henry(2014),implementation and control challenges are related with misalignment between projects and their business objectives, late or delayed projects, dependency conflicts, overlapping and redundant projects, resource conflicts, unrealized business value, diffused decision making, no accountability and fragmentation. Jason (2006) identified lack of good data on activity progress, inadequate definition of requirements, frequent and uncontrolled changes to the baseline requirement, poor time and cost estimates, lack of completion criteria, frequent replacement of developmental personnel, inadequate tracking and directing of project activities were also identified as key challenges when it comes to in project implementation and control.

According to Jason (2019) the most important challenges associated with cost management are; uniqueness of projects, varying price of resources, integration engineering costs that are difficult to calculate, and high uncertainty that leads to large contingencies.

However, for (Kenneth, 2005).from the point of view of the owners of a project, quality can also be a challenge. The owner representatives (sometimes also referred to as the client) tend to spend the bulk of their time on stewarding to the managers. This means that the representatives may not be focusing on quality nearly as much as they should be. Schedule pressure is also another challenge when it comes to managing schedules. These pressures come from all avenues of a project, including the shareholders of the company involved, the company owners, the project management team and the government. Stretch targets can be a major contributor to project delays. Stretch targets are essentially over-ambitious goals that require breakthrough is to be achieved.

Gary (2008) depicts lack of risk decision making structure and lack of accountability for risk decisions in an organization are the most common challenges when it comes to managing risks. He further added almost every business executive is comfortable with risk decision making, however, in many cases the right people aren't making those decisions. In many cases, big risk decisions are being made too low in organizations, with people who aren't incentivized to make the right decisions for the organization.

2.2. Empirical literature

When we come to the empirical literature review, Lemma (2012) research indicates that project success is highly determined by the quality of the project plan. The probability of successfully completing a given project will be high if it has a well-established plan. A research paper Morardet, et al.(2005) proves that weakness in planning and implementation have been identified as one of the main reasons for the disappointing results of agricultural water development and management projects.

Mulu (2017), on the study the analysis was done on factors affecting project planning revealed that majority of the respondents are in agreement with that the proper planning was not done. One factor for this was that the targeted institutions (Clients) were also not involved in the project planning phase. This also holds true to the functional managers who had minimum involvement in the project planning phase. The project manager and the project team members were not experienced in project planning and project management in general and also lacked the technical skills required. Throughout the planning phase of the project very little was actually done to remedy this. However, it was discovered that the team members were actually very committed to the project but were still forced to leave the project due to personal reasons. Also, the number of team members assigned to the planning team was adequate considering the scope of the project. As a result of this, the time that was given for the project planning was adequate.

Sisay (2017) on the study project planning and its practices in the construction industry which is indicated that the level of knowledge of project management tools and techniques applied for planning purpose is limited to LFA and WBS. Other project management tools are not well known by the surveyed professionals and not utilized by the institution for the planning purpose as well. Lack sufficient trainings in the area of project planning and management, lack of well qualified project managers /team leaders is also reported. With regards to the practice of project management knowledge areas in the planning phase, the assessment result show that the organization is limited to the development of the broader project management plan which takes in to account the strategic direction of the government and the project /activity requirements of all departments /processes/ which intern aligned with the interest of the sector, regional urban centers. There is lack of understanding and/ adequate attention given to each knowledge area.

Results of the survey suggest that, there is no practice of developing project quality management plan, risk management plan, procurement management plan; etc with respect to construction activities managed and/ consulted by the study organization. Most projects are awarded to contractors during the last two quarters of the fiscal year. Projects often phase design changes /i.e. scope changes/ during project execution phase activities. So much so, project officers are not interested to participate during the project planning phase, and project team is not acquired /allocated early in the planning phase. Generally, it is possible to conclude that, from the nine planning knowledge areas considered in the study, project time and cost planning, project risk management plans, project procurement planning, project quality planning practices require careful attention. This is partly, because of the fact that, they are not adequately exercised /considered during the planning process according to the survey result, but also because of the magnitude of their effect on the success of construction projects on the other hand.

Another study was conducted by Tadesse (2019), stated that Project time management plan is poorly prepared. According to the data obtained and the analysis made based on it, duration of activities in the projects is not well determined and as result it is impossible to determine the actual time needed for each activity and the whole project schedule of completion. So there is a poor time management plan in commercial bank of Ethiopia and, it is an indication of poor project planning practice. Project cost planning is poorly conducted. Preparing a good cost management plan is one of the most essential inputs in preparing a good project plan. As one part of the aggregate plan failing to properly prepare a good cost management plan have an impact on the whole project plan. So as a result of having poor cost management plan, the study organization completes most of its projects over the initial budget. This is also another indicator of the poor planning practice of the study organization. Project quality management plan is also poorly practiced by commercial bank of Ethiopia projects. Based on the data gathered from the respondents there is no well-organized project quality management plan in the company. In any project. There should be a quality plan and quality assurance mechanism as well. But the study organization has a weak quality management system and planning practice. Project scope planning is not also well done in commercial bank of Ethiopia because. For determining the scope of the project and to prepare a plan each activity in the project should be well defined. But

in the study organization, according to the data obtained from the survey and the analysis made there is a poor practice of defining activities. As a result it is impossible to determine the scope and prepare a good project scope plan. Regarding project risk plan the organization under study has a poor project risk planning practice. Risks are not properly identified, quantified, prioritized, analyzed and planned even if project risk plan is one of the most important components of the whole project plan. So the practice in risk planning is poor. Project procurement planning, communication planning, human resource planning and integration planning practices of commercial bank of Ethiopia are better practiced than the aforementioned specific planning practices. Project planning tools such as Gant chart, logical framework approach etc. are poorly applied in the company. Lack of adequate and effective project time management, lack of effective and adequate project cost management, lack of integration between projects, lack of experienced project managers, lack of qualified and experienced project teams, lack of project management training, inefficient and insufficient communication between project managers and team member, and absence of documenting lessons learned and best practices are the most important challenges in project planning process in commercial bank of Ethiopia.

2.3 Research Gaps

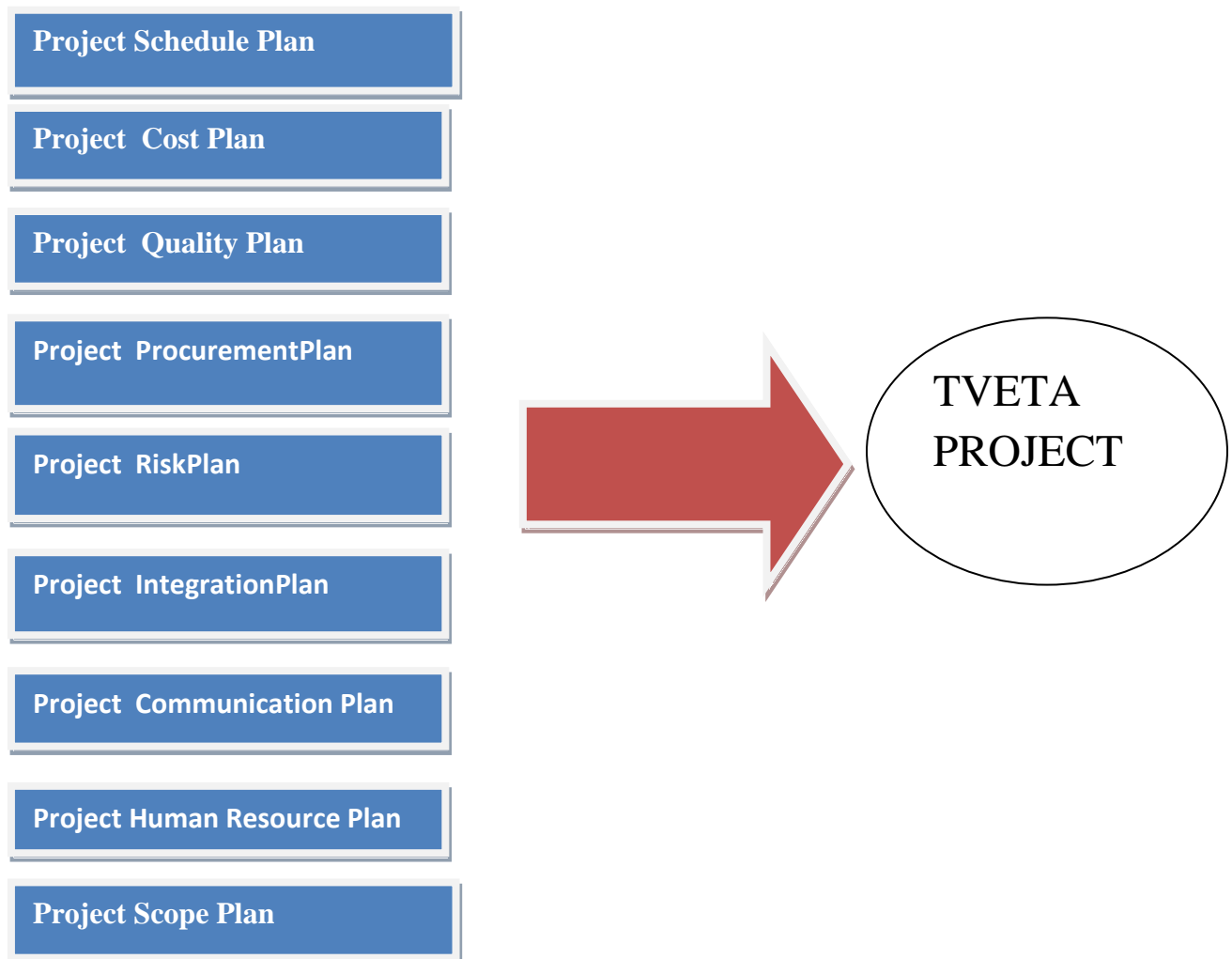
The study has conducted both theoretical and empirical literatures reviewed by the researcher to assess the practice and challenges project planning in TVETA in terms of project management knowledge area. This research which makes it similar with the studies mentioned on both theoretical and empirical literatures parts. Even though assessing the practice of project planning on those organizations makes this study similar on the mentioned literatures, off course some aspects make it different. This study tries to assess the project planning practices and challenges in the organization project in terms of project management knowledge area only and rather than focusing on other educational area project. However, there is no similar literature and a conducted study available on the area in Ethiopia. Therefore, to fill this gap the researcher aims to assess the practice and challenges of project planning in TVETA in Ethiopia especially in Addis Ababa.

2.4. Conceptual Frame work

The research derived its conceptual framework in relation to the project Management knowledge areas that are supposed to be applied during the planning phase of the project planning process with the application of different project planning tools and techniques. To this effect; the study assess the project planning practices and challenges of the Federal Technical and vocational education and training Agency office expansion project.

The following Figure 2.1. Which is developed by the researcher illustrates the intention of the study by relating independent variables (project planning knowledge areas) which affecting the project planning practices of the study organization project.

Figure 2.1 Conceptual Frame work



Source: own survey, 2022

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.4. Research Approach and Design

The main concern of this study was to assess the practice and challenges of Project planning and implementation in FTVETA Construction expansion project, Head Office. Therefore, to serve this purpose descriptive research design was used to obtain reliable and relevant information about the issue under the study. Hence the design would characterize by prior formulation of specific research questions.

The researcher has chosen this design because the major purpose of descriptive research is description of the state of affairs as it exists at present and it reports what has happened or what is happening (Kothari, 2004). Descriptive method is used to collect data of a particular point in time with the intention of describing the nature of existing conditions or determining the relationship that exists between specific events. Hence, on the basis of these arguments, it was found to be convincing to employ descriptive method predominated by qualitative and qualitative approach.

3.5. Population and Sampling

The target population of this study who have been involved in planning and implementation in the TVET Agency project, a total number of the participants (project technical advisor, project team members, clients, consultant, contractor, procurement approval committee, planning officers, procurement and finance officer) are 84. All these groups were targeted.

3.6. Data Sources and Data Collection Methods

Qualitative and Quantitative types of data were used for this study. Both the qualitative and quantitative data were obtained through the primary sources such as questionnaire and interview.

In addition to questionnaire and interview, several documents such as archives, reports, and minutes that were related to the study area were reviewed.

Both the primary and secondary data sources were used in the study. The primary data sources included questionnaire and interview. The questionnaires were distributed to project technical advisor, project team members, consultant, contractor, procurement approval committee, planning officers, procurement and finance officer. A brief interview was also conducted to project Contractor, consultant, and clients.

The secondary sources such as books, journals, research documents, published and unpublished materials and annuals were also retrieved along with information from stakeholders.

The Primary data were collected through questionnaire and interview. An interview which comprises of a few questions was also conducted to randomly selected team members to investigate their perception regarding the planning process in the organization project. In addition to the questionnaire and interview and document analysis would carried out on available archives, reports, minutes held during meetings and working manuals of the above organizations. Moreover, In order to address all research objectives and research questions, exhaustive desk review of all available documentation: books and research documents were retrieved along with information from stakeholders. And the secondary source which involved books, published and unpublished materials and manuals were examined to help the analysis that were discussed under the last chapter.

Measurement of key Variables:-The study used a 5-point liker-scale an ordinal scale of measurement represents an ordered series of relationships or rank order to measure the variables which are project planning practices and project planning tools to come up with the findings. This ranges from strongly agree to strongly disagree (strongly agree, agree, neutral, disagree, and strongly disagree) that was from 5 up to 1 point.

3.7. Data Analysis Method

The research based on the statement of the problem, the research objectives and the research questions employed quantitative and qualitative data. The questionnaire used for this research composed of closed –ended questions with Likert scale and open-ended questions for qualitative

analysis purpose. The questionnaire was distributed to the target population and collected back then the data from the questionnaire were coded and entered to the statistical package for social studies (SPSS) version 20 so as to analyze and summarized the data. After doing this the researcher analyzed the data by using descriptive analysis for the demographic factors and to check the relation between the independent and dependent variables. To do this different statistical tools (tables, figures and charts, frequency, percentage, and mean)were used.

3.8. Instruments to Check Validity and Reliability

To ensure the validity of the instruments, initially the instrument was prepared by the researchers under the close guidance of the advisor which have the close relation with the subject under study and provide their data from different sources i.e, project technical advisor, project team members, clients, consultant, contractor, procurement approval committee, planning officers, procurement and finance officer who are participated in the planning process.

To measure the validity of the data collection instruments an internal consistency technique Cronbach’s Alpha was computed using SPSS version 20. To pre-test the instrument, pilot test involved questionnaire from 40 respective planning staffs who are involved in the project program. Hence, based on respondent responses addition, omission and modification of question made. The reliability coefficient of 0.7 and above is recommended. The Table 3.1 shown that the overall Cronbach’s alpha Value was 0.769 which implies that the research instrument was acceptable for the study.

Table 3.1 Cronbach’s Alpha Reliability results

Reliability Statistics	
Cronbach's Alpha	Number of Items
.769	9

Source: own survey, 2022

CHAPTER FOUR

4. Data Presentation, Analysis and Interpretation

Introduction

Chapter four describes the results and discussion of the data collected through closed ended questionnaires and semi-structured interview concerning practices and challenges of project planning and implementation in FTVET Agency office expansion project from clients, consultants and contractors viewpoints.

In the analysis part, a total of eighty seven (87) questionnaires were distributed to all the participants of project planning in the TVETA project. Out of eighty seven (87) questionnaires distributed to the participants, eighty four (84) were successfully completed, returned and used for the purpose of this study.

The research used descriptive statistics in this study to analyze the questionnaires that were collected. The questionnaires were inserted into SPSS 20 in order to make a descriptive analysis of the data, which is able to present using frequency and percentage. For further understanding of the subject matter semi-structured interview was conducted with project manager, consultant and top management staff.

4.4. Characteristics of the Respondents

This part mainly designed to provide general information about the respondents in terms of age, year of work experience and level of education.

Table 4.1: Characteristics of the Respondents in FTVETA

No	Item		Frequency	Percent
1	Age Category	20-30 Years	12	13.3
		31-40 Years	44	53.3
		41-50years	22	26.7
		above 50 Years	6	6.7
		Total	84	100
2	Work Experience	< 5 Years	28	33.3
		6-10 Years	22	26.7
		11-15 Years	17	20
		Above 15 Years	17	20
		Total	84	100
3	Educational Level	Below diploma	0	0
		Diploma	12	13.3
		First Degree	56	66.7
		Master's Degree	16	20
		PhD	0	0
		Total	84	100

Source: own survey, 2022

As shown in Table 4.1 the highest percentage of the participants hold age category between 31 to 50 that is 66(80%) of the total participants. Regarding work experiences, the highest percentage of the participants is more than five years which is 56 out of 84 that is 66.7%. Concerning the Educational level, 56 out of eighty four participants have First degree that is 66.7% and 16 (20%) of them are Masters' degree holders.

From the close-ended questionnaire, the responses of the participants obtained were 75% of the respondents did not take project management related training courses. But they have a common understanding on the project management concept so that the organization could help them to know more about the project management and have a sufficient knowledge of project management that can make a better contribution to the organization for future projects.

4.5. Practices of Project planning in FTVETA

This section of the analysis includes project planning knowledge areas practiced in the project planning process. As it has been indicated in the literature review, planning process group covers development of the project management plan and other subsidiary plans.

Table 4.2: Practices of Project planning following the management knowledge areas in FTVETA

Practices PM Knowledge Area	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Std. Deviation
Project scope is well defined in the planning phase	0	6(6.6%)	0	56 (66.7%)	22 (26.7%)	4.12	0.735
Project activity schedule is determined and provided sufficient time for the planning phase.	0	0	12(13.3 %)	28(33.3 %)	44(53.3%)	4.38	0.727
Communication plan and strategies are established	0	0	6(6.6%)	56(66.7%)	22(26.7%)	4.19	0.548
Project Human Resource Management plan well prepared during the planning phase	0	6(6.6%)	0	44(53.3%)	34(40%)	4.26	0.793
In planning Stage, delegates of the organization functional department and Top level management Integrated and actively participated actively as project member	0	78(93.4%)	6(6.6%)	0	0	2.07	0.259
Project cost well defined in the planning phase	0	81(96.7%)	3(3.3%)	0	0	2.04	0.187
Project Procurement plan is prepared early in the planning stage and helps to monitor the whole procurement process	0	17(20%)	0	67(80%)	0	3.60	0.808
Project Quality plan well prepared and have to communicated with the project team	0	0	6(6.7%)	56(66.7%)	22(26.6%)	4.19	0.548
Project Risk planning conducted during the planning phase.	44(53.3%)	34(40%)	6(6.7%)	0	0	1.67	0.608

Source: own survey, 2022

Table 4.2 also indicated that the mean value of project Risk planning practice is the lowest (mean=1.67, standard deviation=0.608) compared to other project planning practices. 78(93.3%)disagrees with the preparation of project risk planning practice and 6 (6.7%) neutral.

When asked, “How the project risk planning was practiced?” According to the interview with consultant, the interviewees explained that:-

External and internal factors affecting the project (peace, foreign exchange, inflation, supply shortages and deadlines) as well as opportunities and threats that affect the project are not properly predicted. Therefore, in order to identify the risk of the project, the project plan was not properly prepared.

The result is supported by literature review “The RMP is the risk-related roadmap that tells the project team how to get from where the program is today to where the program manager wants it to be in the future.”

The data indicated that 93.3% of the respondents responded project risk planning didn't identify, analyze the planning stage. So the interview and literature review is supported by the findings. Therefore, the analysis indicated that project cost estimation plan 81(97%) of the respondents disagrees, it is the highest poorly project plan practices compared to others project planning. Table 4.2reveals that project Integration plan and project risk plan providing tantamount score 78 (93%) they are the second poorly project planning practices in the TVETA project.

Table 4.2. also reveals that project cost planning is the second lowest mean scorer from the project planning practices in the organization (mean=2.04, standard deviation=0.187). 96.7 % of the respondents believed that project cost estimation was not well defined. According to the interview with financial and procurement expert, the interviewees explained that:-

From the outset, the cost estimate plan did not include a budget for consulting services. The interviewee also added that a budget transfer was needed to address the problem, but construction was not possible due to the inability of the concerned party to make an urgent decision. In addition to this delay in payment for completed construction is another problem. .

This is also supported by the literature review that “project cost and budget which means having good estimating tools to make sure that the funds cover the extent of the project and are being monitored regularly to keep stakeholders or sponsors informed. Budget scarcity or financial difficulties by client and also by contractor has been found the main causes of cost overrun in construction projects.

In the empirical evidence, Moges (2018), studied Cost overrun in Addis Ababa Saving House construction projects stated that budget scarcity or financial difficulties by client and also by contractor has been found the main causes of cost overrun in 46/60 construction projects. It is well known the consequence of financial difficulties in construction industries would be time over. If there is delay in construction process, the cost would be the next affected main resource in the project in addition with poor financial management.

So based on the interview and empirical evidence, the findings indicated that most of respondents²⁹ (97. 3%) of them disagree that there is poor project cost estimation planning practices in the TVETA project which affects the project both in terms of time and cost.

The next project planning practice is project Integration planning. It has a (mean=2.07 standard deviation=0.259), which is the third lowest one. As shown in the above table, 78 (93.3%) of the respondents disagree with regard to the question “delegates of the organizations actively participate as project member in the planning stage” 6 (6.7 %) neutral. These indicate those projects Integration planning is not properly practiced in this project.

When asked, “Who were participated in the project planning?” One of the key person shared the idea that:

- A few senior executives, budget and planning experts, consultants, project managers, and site engineers participated in the project planning. However, most of the organization's experts, senior management, and subcontractors were involved in the planning of the project, but were not actively involved. Because of their limited understanding of the project, only a few contributed.

Sisay (2017) on the study Project Planning and its practices in the construction industry, project officers are not interested to participate during the project planning phase, and project team is not acquired /allocated early in the planning phase. Sisay, the researcher recommended that the organization under study is engaged in the management and consultancy of various public projects, specifically, construction project which requires adequate management of resources so as to meet project requirements.

From the interview and empirical evidence, the researcher can understand that actively participation and requirement of adequate management of resources in project planning should be important but the data obtained from the findings indicated that 66 % of the respondents responded “delegates of the organizations did not actively participate as project member in the planning stage”.

Table 4.2 also indicated that the mean value of project schedule planning practice is the highest (mean=4.38, Standard deviation=0.727). 72 (87 %) of the respondents agree with “project schedule determine and provide sufficient time for the planning phase” whereas 12 (13.3 %) of them are neutral. Based on the researcher findings of the study in the Analysis part, (87%) of the respondents believe that project schedule is well prepared in the TVETA project.

When asked “How the project planning was practiced? One of the key interviewees in the project shared the idea that: -

First master schedules are prepared and get into discussion by planning department and project manager about the practicability. Next it will get approval and thereafter every activity progress will be evaluated from this approved schedule. The master schedule can be divided by work schedule, material schedule, manpower schedule, machinery schedule and cash flow; after dividing each category, it is included in the plan. The time is scheduled based on agreement between contractor and client, or the client interest whereas material, manpower and machinery schedules are done based on the time schedule of each work items.

So what the researcher understands that the project schedule requires sufficient time to prepare the appropriate plan for the project.

The findings are supported by literature review that “Schedule management planning can be defined as the process of determining when project activities will take place depending upon defined durations and precedent activities”.

Table 4.2 also indicated that the mean value of Project human recourse plan practice is the higher (mean=4.26, Standard deviation=0.793). 78(93.3 %) of the respondents agree whereas the remaining 6 (6.7 %) of the respondents neutral.

The responses of the respondents are again supported by the literature review, “there is an understanding that project human recourse plan determines project roles and responsibility practicing needed for completing the project.”

When researcher suggested that human recourse planning is well practiced in the TVETA project.

The next project planning practice is project communication plan. It has a (mean=4.19) standard deviation=0.548), which is the higher project planning practice. Here, Table 4.2depicted that 78 (93.3%) of the respondents agree while the others 6 (6.7%) neutral.

From the review of related literature “the project management plan should include proper communication with the head office, with the sight engineers, with the store man, with the client and also others stakes.”

The empirical evidence as illustrated Mishra (2005) project communication plan defines the information needs of the project stakeholders and the project team by documenting what, when, and how the information will be distributed.

According to the finding of the analysis the mean value of project scope planning practice is the higher (mean=4.12, Standard deviation=0.735). 78 (93.3%) of the respondents agree with the project scope well defined in the planning stage and 6 (6.6%) of them disagrees. The data is supported by related literature “project scope plan was clearly defined Validate scope during the project, which means making sure that the deliverables is being approved regularly by the

sponsor or stakeholder.” Compared to others project planning practices scope planning management is well planned in the project of TVETA.

According to the analysis of this study, the mean value of project quality planning practice is the highest (mean=4.19, Standard deviation=0.548).The above table indicated the responses were 78 (93.3%) agree and 6 (6.7%) neutral. Compare with other project planning practices quality planning has the same rank with communication planning practice.

The data are supported by the literature review that “Project managers need not, and must not, depends on inspection and correction to achieve project quality. Instead, they should use conformance and prevention to achieve quality. Project managers should, through planning, design in and build in quality”.

The next project planning practice is project procurement plan. It has a (mean=3.6) standard deviation=0.808), which is the better project planning practice, when compared to other poorly practiced project planning activities. 80% of the respondents answered agree and 17(20%)of the respondents disagree. The finding indicates that project procurement planning practice to some extent it has a problem in the TVTEA project.

As the interviewees responded that:-

According to a financial and procurement expert, as well as a review of the documents, the plan failed to start the bidding process on time. Following the bidding process, but it took a year for the winner to be identified and notified by letter, and construction was difficult to begin on time. In general, however, the purchase plan is properly planned from scratch. It can be seen that the plan allows you to control every purchase process.

The literature rearview also emphasized that “Construction procurement process is defined as a series of operations or actions taken to achieve the intended aim of construction project procurement.”

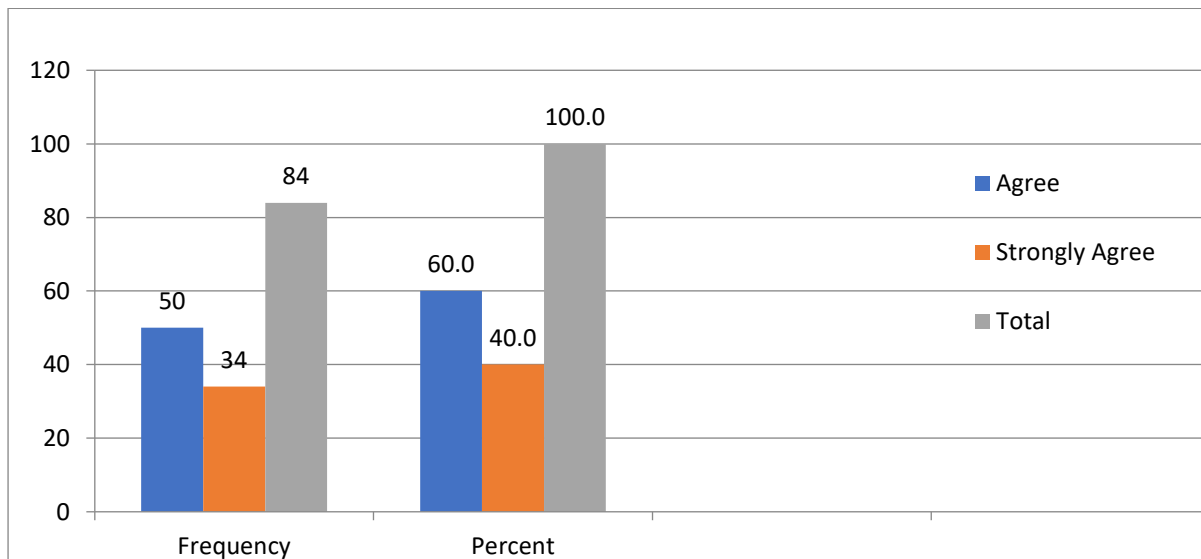
In the empirical evidence, Karlsson (2011) said that a study on project management in Sweden and Ethiopia with the purpose to identify which successful methods of project management in Swedish projects that is appropriate to implement in Ethiopia operations and vice versa to increase the efficiency and minimize the risks in construction projects. The author concluded in Ethiopian construction project experience there is lack of procurement planning that often causes problems in the production when materials, machines and parts delivered too late or not at all. Project procurement managers have limited and little influence and control regards sub-contractors.

The result indicated that 17 (20 %) of the respondents responded in disagreement, the interview and empirical evidence supported the findings that project procurement plan and bidding process took a year to identify the successful bidder and making difficult to begin construction.

4.3. Application Project Planning Tools in FTVETA

This part of the study discussed on the Application of Project Planning tools and techniques. The analysis has been conducted and presented depending on the responses collected from respondents through questionnaires, semi- structured interviews as well as reviewing relevant documents.

Work Breakdown Structure



Source: own survey, 2022

Figure 4.1 The Application of Project Planning Tools “WBS” in FTVETA

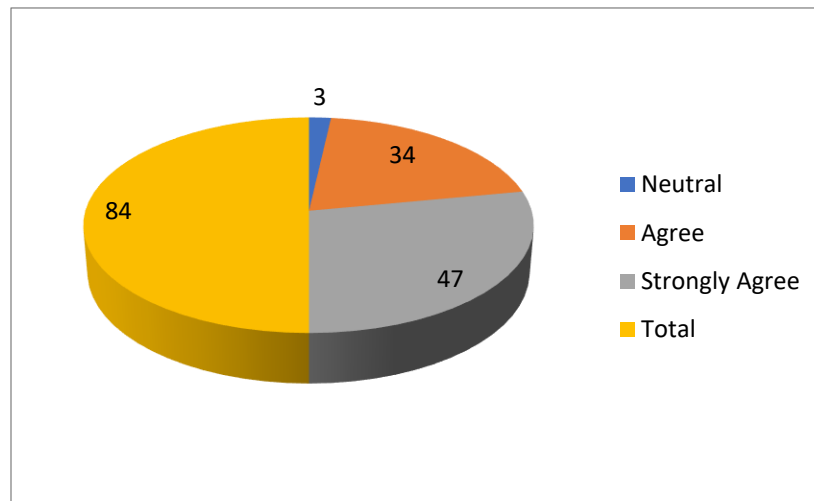
As shown in Figure 4.1 100% of the respondents agree with the most familiar tools in project planning process that is the Work Breakdown Structure (WBS). When Compared to others project planning tools, “WBS” is well planning tools in the project of TVETA.

When asked “Which project management tools are well used in your project” one of the key respondents said that:-

- During the project planning phase, the project mostly used WBS, Gant chart, Critical path and Brain storming as a tools. But other tools like PM MS software and BIM (Building Information Modeling) are not frequently practiced.

The data results are again supported by the literature as Ralph (1998) said that the WBS is a detailed listing of the deliverables and tasks for building the product or delivering the service. It is a top-down, broad-to-specific hierarchical outcome of the work to perform. The larger the scope of the project, the larger the WBS will be. A good WBS makes planning and executing a project easier. In General, the more specific WBS, the more accurate plan and the greater the ability to monitor progress. From the interview and literature review, the researcher can understand that WBS is the most important tool and familiar in project planning.

Gant Chart



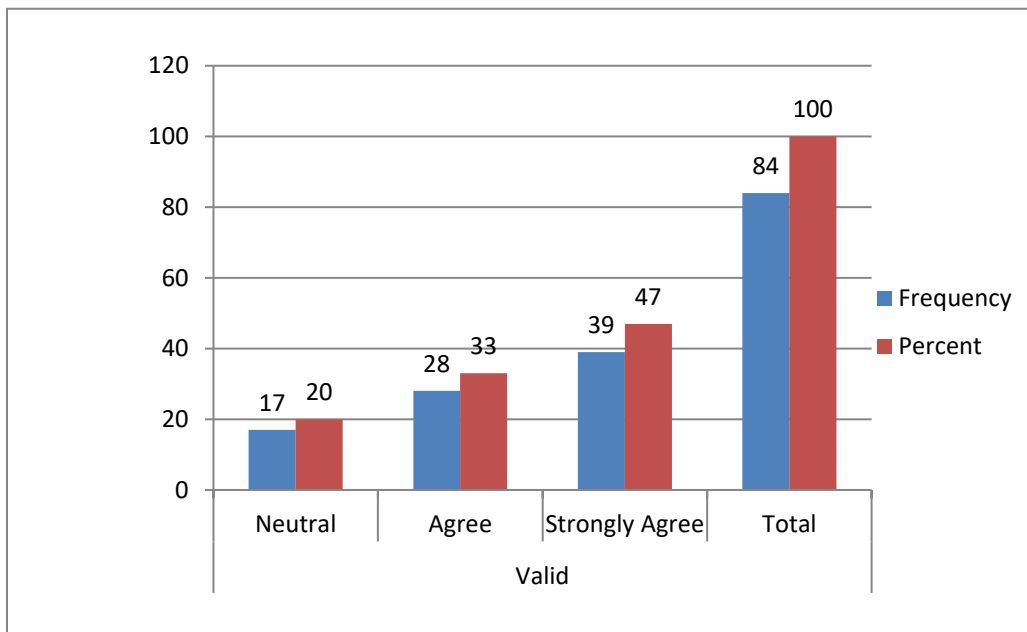
Source: own survey, 2022

Figure 4.2. The application of Project planning Tools “Gantt chart” in FTVETA

Figure 4.2. Presents 81(96%) of the respondents responded agree with Gantt chart uses as tools in the project planning and the remaining 3 (4%) of them responded neutral. From the above analysis, it is possible to say that the Gantt chart is mostly used in the project planning as a tool in TVETA Project.

- The data result is supported by literature review that “a Gantt chart is the most generally useful tool in project planning. It is used for scheduling and monitoring tasks, for showing costs and expenditure at all stages throughout the project, for communicating progress and producing reports. It also shows, on a simple block diagram, the activities and costs over time in an easy-to-understand way.”

Critical Path Method



Source: own survey, 2022

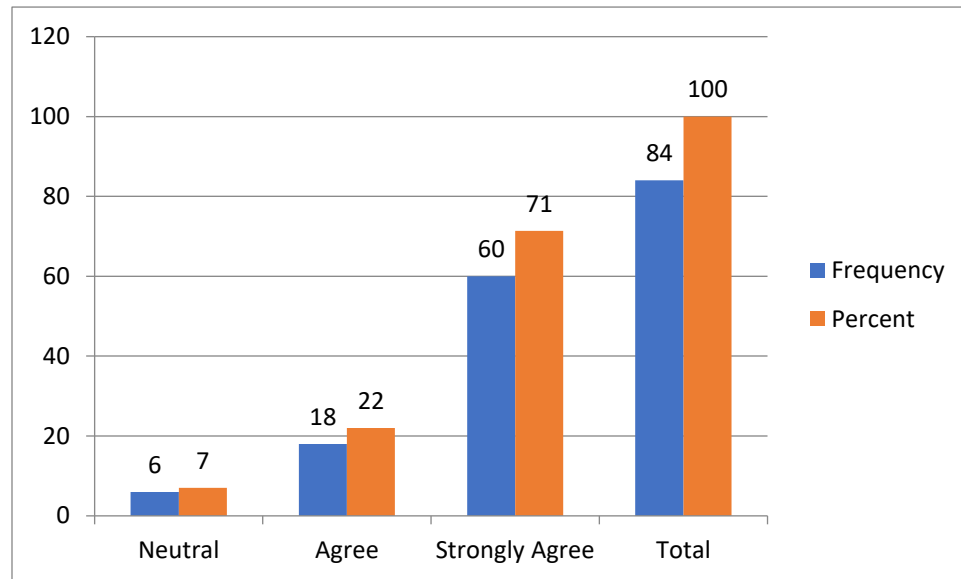
Figure 4.3. The Application of Project Planning Tools “CPM” in FTVETA

As shown in Figure 4.3 the respondents answered 67(80%) agree with Critical path method (CPM) uses as tools and techniques in the project planning process and 17 (20%) considered neutral.

The data results are again supported by the review of related literature; “The Critical Path Method or Critical Path Analysis, is a mathematically based algorithm for scheduling a set of project activities. It is an important tool for effective project management Commonly used with all forms of projects, including construction, software development, research projects, product development, engineering, and plant maintenance, among others. Any project with interdependent activities can apply this method of scheduling. The essential technique for using CPM is to construct a model of the project that includes the following: A list of all activities required to complete the project (also known as Work Breakdown Structure). The duration of that each activity will take to completion. The dependencies between the activities”

Hence, based the findings as well as the review of related literature, the Critical Path Method 67 (80%) of them agree that it is familiar and important tool project planning practices in the TVETA project.

Program Evaluation and Review Technique



Source: own survey, 2022

Figure 4.4 The Application of Project Planning Tools “PERT” in FTVETA

Figure 4.4 shows that whether PERT as a technique in the project planning process is used, the respondents answered 78 (93%) of them agree and 6 (7 %) neutral.

The result of data is supported by review of related literature that “PERT charts depict task, duration, and information. Each chart starts with an initiation node from which the first task, or tasks, originates.

Logical Framework Approach

Table 4.4. The Application of Project Planning Tools “Logical Framework Approach” in FTVETA

Response	Frequency	Percent
Neutral	18	21
Agree	22	26
Strongly Agree	44	53
Total	84	100

Source: own survey, 2021

As shown in Table 4.4 the response to the question of Logical Framework Approach uses as tools in the project planning process. The respondents' responses presented that 66 (79%) agree and 18 (21 %) neutral.

The study revealed that the project planning tools, out of the six tools and techniques presented in the study, three of them are well used by the project such as WBS 84 (100%), Gant chart 73 (87%) and Critical path method 34 (80%).

From the literature review, “the Logical Framework Approach provides an overview of a project's goal, activities, anticipated results and a structure to help specify the components of a project and its activities.”

The interview also indicated that the uses of project planning tools and techniques like Primavera, BMI, PERT, and PM MS Software are not used frequently and even some other tools are unknown by the respondents. As a result, WBS, Gant chart and Critical Path Methods are most dominant tools used by the project in TVETA.

4.4. Challenges of Project Planning in TVETA

One of the objectives of conducting this research study was identifying the challenges of planning process in TVETA expansion project. Most of these findings are in line with the finding of Jason (2019) the most important challenges associated with cost management are; uniqueness of projects, varying price of resources, integration engineering costs that are difficult to calculate, and high uncertainty that leads to large contingencies.

After mentioning the practice of project planning in TVETA project, the respondents were asked to list and discuss the major challenges of project planning process in organization. From the general point of view, by analyzing the responses of the respondent, the researcher identified the following challenges in the office building expansion project of TVETA faces in the planning process, having been identified as follows :-

Lack of decision making:-Decision-making bodies always made a payment delay for the completion of the planning and implementation processes. The findings supported by the review of related literature that “Once the plan is implemented, the manager is responsible to monitor and evaluate the progress made. He/she may be required to make the necessary modifications based on the evaluation results. It is likely for plans to be affected by environmental factors. In such a situation, modification of plans becomes very essential. “

Insufficient of Budget allocation: -insufficient cost estimation planning or inability to allocate budget for the consultant service. The project Plan must ensure that the budget includes an accurate estimate of each program. Therefore, budget deficit jeopardize the success of the project. From the literature review “The cost estimation should be based on the project scope, the WBS and be connected to the project plan. To reach a correct estimation it is important that each activity is estimated based on the conditions of the execution of the specific activity”.

Improper use of Managing procurement process:-this is a delay of the bidding process in the initial planning phase (low commitment to prepare bidding process).The findings supported by the review of related literature that “The procurement plan is an important tool for efficient

procurements throughout the project. It should be developed based on the project's WBS and time schedule in order to include all procurements and to be timely integrated in the project."

Challenges identification potential risks: - Having the foresight to identify potential 'what if scenarios and making up contingency plans is an important aspect of project management. Projects rarely go exactly as planned because there are so many variables that can create unlimited possibilities. Project risk plan having a problem of identifying and analyzing external and internal situations adequately, the inability of predicting internal and external situations (foreign currency, price inflation, material supply constraints and their effect on the schedule). From the literature review "The purpose of a risk analysis is to gain control of the uncertainties in the project. When risks are identified it is therefore important that a strategy is developed in order to response to the risk."

Lack of Integration: - project planning team does not work collaborated with the top management as well as the Institution and stakeholders. The findings supported by the review of related literature that "Prioritizing between competing objectives and alternatives are an important task in the integration management. The plan should include general plans regarding all areas of the project such as; project objectives, time schedule, budget, etc"

Lack of participation: - some of the delegates of the organization like the top management, sub-contractors and experts in the Functional Departments of the institution didn't actively participate in the project planning. From the literature review "A common feature of successful projects is that the project communication process has been thought through and planned in some detail. At the project analysis stage it is worthwhile thinking about how this communication process is going to be managed."

Insufficient use of technology-related project management tools: -The project plan was widely used a number of project management tools, such as WBS, Gant chart and CPM. But other new technology resources such as PM Microsoft software, Primavera, BIM (Building Information Modeling) are not effectively used.

Lack of qualified and experienced project plan team in the organization: - Some members who participated in the plan did not receive any training in project management and did not have enough knowledge about the planning process. The findings are supported by literature review that “Human resource planning determines project roles, responsibilities, and reporting relationships culminating in the staffing management plan to acquire project team process of obtaining the human resources needed for completing the project.”

Absence of documenting lessons learned and best practices

CHAPTER FIVE

5. Summary of Key Findings, Conclusion and Recommendation

In this research paper, the researcher sets the objective of identifying the practice and challenges of project planning process in FTVETA and forwarding recommendation based on the findings. This chapter provides the summary of findings, conclusion to the study and forwards recommendations

5.3. Summary of Key Findings

The major purpose of the study was to assess the practice and challenges of project planning and Implementation conducted by FTVETA. With this major objective in mind, the research made recommendations on areas that need improvement and correction. In this study, the analysis was done on practices and challenges of project planning and implementation to reveal the responses of the respondents in agreement with the practices and challenges of the project planning process. The overall findings of this study focus on the project plan practices and implementation process, and although it is generally well-planned and implemented, but the study found that the project plan had problems from its inception to its implementation.

The main findings of this research as indicated in the study among other practices and challenges, were inadequate skills for the project 75%, inaccurate cost estimation plan mean=2.04 (96.7 %), poor risk identification plan mean=1.6 (93%), lack of Integration between the functional departments and the project planning team mean=2.07(93%), only mean=3.6 (20%) poorly managing procurement plan and also improperly use of sophisticated project management tools and also lack of timely decision making by the top management,

Problems included on the budget allocation for the consulting services, participants lack of knowledge about the project management and project planning, lack of coordination between the planning members and stakeholders. The project procurement plan was mismanaged and the bidding process took a year. Another finding is that the inability to delve deeper into disaster risks does not make it easier to address internal and external problems that occur during the implementation of the plan. These are the major challenges identified in the study, and the results

of the study indicate that due to these problems, the project has been delayed and additional costs are incurred.

The challenges presented in this study have been presented in other studies, but this study helps it to fill the gap of project management planning practices. What makes this study different from other studies is that it is related to education sector and also various expansion projects are being carried out at different times, and this project done during the time of the spread of COVID-19 and our country Instability.

5.4. Conclusions

Based on the finding and data analysis of the research, the following conclusions were drawn on the practices and challenges in project planning and Implementation in TVETA expansion project and the tools used in the project planning practices.

From the Analysis of the study the researcher identified the project scope planning, communication planning, Schedule planning, procurement planning, human recourse planning and quality planning are practiced in a better way in TVETA office building expansion project compared to others project planning practices.

The findings further revealed that the project cost estimation planning; Risk planning, and Project integration planning are poorly practiced.

5.5. Recommendations

Based on the finding of this study, the following recommendations have been suggested:-

- On timely basis. the decision-making process by top management bodies should be given
- Attention. should be given for accurate cost estimation plan
- Efficient project risk planning should be provided. Identification of potential challenges and developing a contingency plan should be done by a team of project stakeholders.

- Priority need to be given for the procurement plan together with the priority of budget schedule.
- Internal and external Risk factors should be given more attention to Manage PM practices.
- The FTVET Agency should properly practice Risk Identification tools.
- The project Integration Plan should be encouraged and give more attention
- The sufficient use of technology-related to project management tools should be applied FTVET Agency.
- The Agency should better involve additional stakes in the project planning phase which include the project team members, the end user, top management and anyone who affects or who is affected by the project.
- Functional departments (Planning, budget, finance, and procurement departments) should involve in project planning phase and support contractors and project team members.
- The FTVET Agency should involve experienced members in project Management area while making project plan.
- The organization should provide specialized training on project planning to the project team, functional department staff and top management.

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ANNEXES
SAINT MARY’S UNIVERSITY GRADUATE PROGRAM
PROJECT MANAGEMENT DEPARTMENT

**Assessment of the practices and challenges of project planning and Implementation: the
case of FTVET Agency office Building Expansion Project**

Questionnaire

This questionnaire is prepared to gather the necessary information for a study aimed to assess practices and challenges of project planning and Implementation in the Federal Technical and Vocational and Training Agency office Building Expansion project. The information you provide will be used only for academic purpose (for the study under consideration) and will be kept confidential; hence; you are kindly requested to provide thoughtful and honest responses that will give the most valuable information for the assessment.

I gratefully thank you for your invaluable time you take to answer the question included in this data collection instruments. For further questions pertaining to this project, please contact me on +251-911 146359 or email address: -MengistuAshenafi12@gmail.com

With Best Regards!

ANNEXES A

SECTION A : General Information about the Respondent

Please mark "✓"

1/ what is your age? _____ Years

2/ what is your work Experience in this organization? _____ Years

3/ what is your Educational Level?

- A. Below diploma B. Diploma C. First Degree D. Masters Degree E. PhD
-

4/ Did you take any training to project management provided by your Organization?

- A. Yes B. NO
-

4.1. If your answer for question No. 5 is yes, specify the type of training

SECTION B

INSTRUCTION:- Using the key(where strongly disagree =1 , Disagree =2, Neutral =3 , Agree=4, Strongly agree=5) . Please tick (√) appropriately according to the extent which you agree or disagree with the statements in.

1. How do you rate the existence practicing of project management knowledge areas during the planning process at FTVET Agency construction project?

No	Project planning Practices	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		1	2	3	4	5
1	Project scope is well defined in the planning phase					
2	Project activity schedule is determined and provided sufficient time for the planning phase.					
3	Communication plan and strategies are established during project planning phase					
4	Project Human resource management plan prepared during the planning phase					
5	In planning Stage, delegates of the organization functional department , construction supervision unit and Top level management participated as project member					
6	Project cost is well defined in the planning phase					

No	Project planning Practices	Strongly disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly agree 5
7	Project Procurement plan is prepared early in the planning stage and helps to monitor the whole procurement process					
8	Project Quality plan is well prepared and communicated with the project team					
9	Project Risk identified,riskAnalysis during and risk response planning conducted during the planning stage					

SECTION C

INSTRUCTION:- Using the key(where strongly Disagree =1 , Disagree =2, Neutral =3 , Agree=4, Strongly agree=5) . Please tick (√) appropriately according to the extent which you agree or disagree with the statements in.

3.1. If your answer for question No 3 above is yes, how do you rate the following Tools and Techniques in the table below?

No	project management Tools & techniques	Strongly disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly agree 5
1	Work Breakdown Structure (WBS)					
2	Gantt chart					
3	Critical Path Method (CPM)					
4	Logical Framework Approach					
5	Program Evaluation and Review Technique (PERT)					

Other, specify it _____

ANNEXES B

SECTION D

I/ INTERVIEW GUIDE FOR PROJECT CLIENTS

Dear Interviewees

First of all, I would like to thank you for your willingness to respond to my research questions. My name is Mengistu Ashenafi; I am a student of Masters of Art in Project Management at Addis Ababa Saint Mary's University. As part of my MA project work, I am studying an Assessment of the practices and challenges of project planning and implementation: The Case of FTVET Agency Office Building Expansion Project. This interview is made so as to collect data (have more) in depth)on the research area under study.

Thus, I kindly request you to answer all the questions and assuring you that all responses given will be used only as an input for this study.

Dear Participants: - Please try to answer the following questions shortly and precisely

1. Please describe the project goal/ objectives.
2. Please provide the project details at these stages
 - a. When was the project started?
 - b. How much the estimated expense of the project (Contract Project Cost) and advance Payment
- 3 How much time the project was held to complete?
- 4 How do you describe the community that will benefit from this project?
- 5 Describe the impact of the project not being follow the schedule based on the following:
 - 5.1.In terms Economic damage , social harm ,cost and time

Thank you

II/ INTERVIEW GUIDE FOR CONTRACTOR and CONSULTANT

Dear Interviewee

First of all, I would like to thank you for your willingness to respond to my research questions. My name is Mengistu Ashenafi. I am student of Masters of Art in Project Management at Addis Ababa Saint Mary's University. As part of my MA project work, I am studying an **Assessment of the practices and challenges of project planning and Implementation: The Case of FTVET Agency office building expansion project.** This interview is made so as to collect data for my research work (have more in depth on the matter) under study.

Thus, I kindly request you to answer all the questions and assuring you that all responses given will be used only as an input for this study.

1. How the project planning was practiced?
2. Who were participated in the project planning?
3. How the project risk planning was practiced?
4. What were the content of the project plan?
5. List and discuss the major challenges of project planning process in TVETA?

Thank you!