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Assessment of project implementation practices and challenges: The case of Lideta Sub City Office Building Construction project.

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ID No: SGS/0508/2015A

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ST. MARY'S UNIVERSITY
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ASSESSMENT OF PROJECT IMPLEMENTATION PRACTICES AND CHALLENGES: THE CASE OF LIDETA SUB CITY OFFICE BUILDING CONSTRUCTION PROJECT.

BY
ENDRIAS FIKREMARIAM

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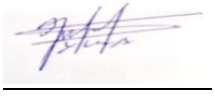
Yilkal Wassie (Asst. Prof.)	
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Table of Contents **page**

LIST OF TABLES

Table's **pages**

List of Figures

ABBREVIATION & ACRONYMS

GDP: Gross Domestic Product

PMI: Project Management Institute

PMBOK: Project Management Body of Knowledge

AADCWB: Addis Ababa Design and Construction Works Bureau

ECWC: Ethiopian Construction Works Corporation

CBE: Commercial Bank of Ethiopia

DB: Design and Build

QBS: Qualification-Based Selection

EFY: Ethiopian Fiscal Year

ODF: Open Defecation Free

HH: Household

EFY: Ethiopian Fiscal Year

PEFA REPORT: Public Expenditure and Finance Accountability Report

PI: Performance Indicator

MEFF: Macro-Economic and Fiscal Framework

MTEF: Medium Term Expenditure Framework

FEDC: Finance and Economic Development Committee

MoFED: Ministry of Finance and Economic Development

BoFED: Bureau of Finance and Economic Development

CSA: Central Statistical Agency

GST: Good and Services Tax

M&E: Monitoring and Evaluation

APM: Association of Project Managers

BCP: Building Construction Project

IPMA: International Project Management Association

SPSS: Statistical Package for the Social Sciences

AABIA: Addis Ababa Bole International Airport

ABSTRACT

The purpose of this study is to assess project implementation practices and challenges in the case of Lideta Sub City B+G+12 story Office Building Construction project. The study adopts a descriptive case study design and utilizes non-probability sampling techniques, such as judgmental and quota sampling. The participants include project management team members, contractors, and consultants involved in the office building project owned by Addis Ababa Design and Construction Works Bureau on behalf of Lideta sub city. Data is collected through interviews and questionnaires, and both qualitative and quantitative analysis methods are employed. A survey was conducted by using 55 structured close ended questions which were distributed to 7 contractors, 3 consultants and 10 owners of building construction projects. The analysis is done qualitatively by relating the results with literatures and quantitatively using descriptive percentage, mean and standard deviation statistical tools were used to assess the implementation practices and challenges of the project. The findings of the study revealed that the assessment of knowledge areas shows a high level of mean value. To conclude the analysis showed that a good management practices of knowledge areas. Thus, this study recommended that the project should continue with this performance until completion of the project.

Key words: Project implementation, Construction project, Practices, Challenges, Case study

CHAPTER ONE

Introduction

1.1 Background

The construction industry globally is critical to the economic growth and development of a nation. "The construction sector is the economic prime mover and the bedrock of survival of nations". The provision of buildings, roads, bridges, among other structures, job creation, contribution to gross domestic product (GDP) and national income; are all evidence of the contributions to economic growth and development of the economics of the world, (Reuben et al 2022).

Ethiopia as one of the country lives in the world, construction sector contributes a lot in the country economic growth which is the growth of GDP. According to some studies construction of infrastructure put a remarkable contribution of the economic growth of the nation. Construction infrastructure includes construction of roads, bridges, railways, dams, buildings and so on. Building construction as an infrastructure considered as a project. (Shaikh et al., 2020).

Project is defined as a temporary endeavor undertaken to create a unique product or service. Temporary means that every project has a definite beginning and a definite end. Unique means that the product or service is different in some distinguishing way from all similar products or services. From the above definition point of view any project has its own beginning and ending time and also every project has its own unique characteristics (William R. Duncan, 1996, p.4)

Project management defined as the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements. In other words Project management is accomplished through the application and integration of the 47 logically grouped project management processes, which are categorized into five Process Groups which are initiating, planning, executing, monitoring and controlling, and closing (PMI 2013, p. 5).

The Project Management Knowledge Areas are:-Project Integration Management, Project Scope Management, Project Time Management, Project Cost Management, Project Quality Management, Project Human Resource Management, Project Communications Management, Project Risk Management, Project Procurement Management, and Project stakeholder management (William R. Duncan ,1996, p.6-7),

These knowledge areas represent different aspects of project management that need to be addressed and managed throughout the project lifecycle. Each knowledge area consists of specific processes and activities that contribute to the successful execution of a project.

From the perspective of Garold D. Oberlender (2000, p.1), Project management for engineering and construction requires teamwork among the three principal contracting parties: ***the owner***, ***designer***, and ***contractor***. The coordination of the design and construction of a project requires planning and organizing a team of people who are dedicated to a common goal of completing the project for the owner. Even a small project involves a large number of people who work for different organizations. The key to a successful project is the selection and coordination of people who have the ability to detect and solve problems to complete the project.

This research was conducted to assesses the project implementation practices and challenges: in the case of Lideta Sub City B+G+ 12 stories Office Building Construction project. It identified the gaps and recommends possible solution to improve the implementation of project management practices and the determinants of project management practices. So far, as far as the researcher's knowledge is concerned little research has been done in the country in this regard. This thesis is thus undertaken to fill the gap, primarily by addressing the knowledge areas like project scope, project budget, project schedule, project quality and the issues of contractor selection and contractual agreement. Doing the foundational work of determining where we are and where we need to go, leaving aside the how, for further research.

1.2 Statement of the problem

Yonas (2021) stated that Construction industry contains large number of parties as clients, contractors and consultants. This makes the industry complex and the success of construction project depends on its performance, and measured based on timely completion, within the budget, required quality standards and customer's satisfaction.

This research focused on the assessment of project implementation practices and challenges: The case of Lideta Sub City B+G+12 story Office Building Construction project. In this project the researcher observed that project delays which is occurred due to unanticipated circumstances.

The second problem that the researcher observed is that cost overrun which makes for unhappy customers and can damage future business opportunities. Budgets can be fixed or cut, and when contingency funds are exhausted, then cost overruns have to be made up with remaining activities (Erik W. Larson et al 2011).

According to Addis Ababa Design and Construction Works Bureau (May and June 2023 G.C) monthly newsletter reported that contractual disagreement between the client (Addis Ababa Design and Construction Works Bureau) and previous contractors Etete Construction Company, due to contractor leaved and sized construction works of the project in different performance levels now the case tile in the court. Currently the project continues by signing new contractual agreement with another contractor whose is the bid winner known as Bamacon Construction Company for the rest of finishing work with 833 million birr for sub city office building and 954 million birr for the remaining cinema complex 4B+G+8 story building project works and the contractor agree to complete the project within 6 months with joint Account prepayment system.

The project delayed for 16 months due to the process of bid. Ignacio, (2014), "A contract is a mutual business agreement recognized by law under which one party undertakes to do work (or provide a service) for another party for a previously agreed sum of money". In the case of lideta, Bamacon provides as a contractor provides a construction service and Addis Ababa Design and Construction Works Bureau as a client accepting the service. This contractual agreement has to bind by law of contract. The researcher also observed contractual disagreement between the client and the former contractor

Etete Construction Company. According to Ignacio Manzanera, "Owner contracting arrangements would cover: Contract Conditions, Commercial Terms & Pricing Arrangements, Scope of Work (Technical) and, Project Execution Plan".

There are no common factors about the implementation practices challenges of building project management in Ethiopia. Most studies the researcher referred in the study areas are focused on the issue related to delays of the project. Even if delays of the project may affect other constraints, there is no similar impact in all projects. The researcher may try to find out the possible practical implementation challenges of building projects with in the iron triangle and contractor selection process and the content (concept) of contractual agreement between the client and contractor.

1.3 Research objective and/or Research question

1.3.1 General objective

- To assess the practical implementation and challenges in the Lideta sub city B+G+12 story office building project.

1.3.2 Specific objectives

- To describe project planning, administration and implementation related problems.
- To describe the project time constraints this is delays related problems.
- To describe the project cost overrun this is beyond the budget related problems.
- To describe the project government financial, legal and regulations related problems.
- To describe the project contract management and Contractor selection, monitoring and evaluation related problems.

1.3.3 Research questions

- What are the project planning, administrations and implementation related problems?
- What are the project time constraints this is delays related problems?
- What are the project cost overruns this is beyond the budget related?
- What are the project governments financial, legal and regulations related problems?
- What are the project contract management, Contractor selection, monitoring and evaluation related problems?

1.4 Significance of the study

The study intends to provide the following significances.

- Considering the importance of project management in the construction companies, specifically in building construction, and the booming of construction activities in Ethiopia, it is assumed that the research output will contribute in identifying which project management knowledge area is practiced well and lead to the best project implementation practices on construction projects in Ethiopia.
- Even though the research focuses on construction projects, the findings and the outcome will be relevant to practitioners in other types of projects.
- Since project management is an area with a growing body of knowledge, this research will contribute in adding other concepts to the existing body of knowledge with a particular emphasis on construction practices being currently implemented & for future practices should be implemented appropriately.

1.5 Scope and limitation of the study

1.5.1 Scope

This study is limited to project implementation practices and challenges: The case of Lideta Sub City Office Building Construction project. Generally, the study is limited to the iron triangles of knowledge areas and contractor selection and contractual agreement process there by assessing (identifying) building construction project implementation practices and challenges.

1.5.2 Limitations

The major challenge of this study was on the data collection from respondents which may take so much time because the respondents were busy on filling the questioners. Due to limitation of time on the study all the respondents were not able to participate in the questioner and interview. It took time to analyze the given data by the respondents. Since the research assess projects owned by Addis Ababa Design and Construction Works Bureau on behalf of Addis Ababa city administration the lideta sub city some government officials were not accept the study objectives by fearing subjected them accountable for the fail of the project. The study area was only limited on the building project the conclusions to be found is not possibly to represent other projects. Furthermore only project owner (client), consultants and contractors who have direct day to day relationship to the projects were included as respondents of the questioners which makes the study specific and bounded in some area.

1.6 Organization of the study

The paper consisted of five chapters. The first chapter dealt with introduction, background of the study, statement of the problem, objectives of the study (general and specific), basic research questions, significance of the study, scope and limitation of the study and organization of the paper, and finally, definition of terms. Chapter two presented review of related literatures (theoretical and empirical). Chapter three described the research methodology of the study. The research approach and design, population, sample size and sampling procedure, data sources and data collection method. Chapter four presented empirical findings, Analysis and Interpretations of Data of the study. Chapter five deal with summary, conclusions and recommendations. Finally, references listed; appendices and annexes will attach at the end.

CHAPTER TWO

Literature review

In this chapter included the theoretical and empirical reviews which found were essential to the research inquiry. In this section the researcher tried to refer secondary published and unpublished sources of literature which was related to the practical implementation practices of building projects. These sources were books, journals, articles and others which were reliable and can be cited as a reference.

2.1 Theoretical literature

The construction industry as one of the most significant sectors in Ethiopia, specifically in terms of its contribution to the Ethiopian Gross Domestic Product (GDP) and facilitation of other industries to enhance their productivity outcome by constructing buildings and facilities for them. However, the process of constructing buildings and facilities will take a long period of time if done according to conventional practices. This paper intends to assess building construction practical implementation practice in the case of lideta sub city office building project.

According to Oberlender (2000) the construction industry has matured and continued to enhance the integration of activities in the design, fabrication, construction, and operation of constructed facilities.

1.2.1 Construction

Oberlender (2000) define Construction as the process of creating or building physical structures, infrastructure, or facilities. It involves the assembly, installation, or erection of materials, components, and systems to form a completed structure.

Construction projects can range from residential buildings, commercial buildings, and industrial facilities to roads, bridges, dams, and other types of infrastructure.

Garold (2000) the construction phase is important because the quality of the completed project is highly dependent on the workmanship and management of construction. The quality of construction depends on the completeness and quality of the contract documents that are prepared by the designer and three other factors: *laborers* who have the skills necessary to produce the work, *field supervisors* who have the ability to coordinate the numerous activities that are required to construct the project in the field, and *the quality of materials* that are used for construction of the project. Skilled laborers and effective management of the skilled laborers are both required to achieve a quality project.

The construction phase is also important because a majority of the total project budget and schedule is expended during construction. The design costs for a project generally range from 7% to 12%. Using a 10% medium value, then 90% of the cost of a project is expended during construction. Thus, a 15% variation in design costs may impact the project by only 1.5%, whereas a 15% variation in construction costs may impact the project by 13.5% (Garold, 2000)

Similar to costs, the time required to build a project is always disproportionally greater than the time required to design it. Most owners have a need for use of their projects at the earliest possible date; therefore, any delay from a planned completion date can cause significant problems for both the owner and contractor. Due to the risks that are inherent to construction, and the many tasks that must be performed, the construction contractor must carefully plan, schedule, and manage the project in the most efficient manner.

The objective during the construction phase is to build the project in accordance with the plans and specifications, within budget and on schedule. To achieve this objective there are three assumptions: ***Scope*** The design plans and specifications contain no errors and meet the owner's requirements and appropriate codes and standards. ***Budget*** The budget is acceptable; that is, it is what the owner can afford and what the contractor can build it for, with a reasonable profit. ***Schedule*** The schedule is reasonable; that is, short enough to finish when the owner needs it and long enough for the contractor to do the work.

2.1.2 Project

According to William (1996), Project is defined as a temporary endeavor undertaken to create a unique product or service. Temporary means that every project has a definite beginning and a definite end. Unique means that the product or service is different in some distinguishing way from all similar products or services.

A project may be defined as a set of activities implemented within a specific period of time and with specific resources to achieve a specific objective (Kultar Singh et al 2017).

Oberlender (2000) can be generally classified Projects into three sectors: *buildings, infrastructure, and process.* **Building-sector projects** include commercial buildings, schools, office buildings, and hospitals. For building-sector projects, where the architect is the prime designer, the design follows three stages: *schematic design*, *design development*, and *contract documents*. The **schematic design** produces the basic appearance of the project, building elevations, layout of floors, room arrangements within the building, and overall features of the project. At the conclusion of schematic design the owner can review the design configuration and the estimated cost before giving approval to proceed into design development. **Design development** defines the functional use and systems in the project in order to produce the contract documents, the plans and specifications for constructing the project the **contract documents** are the final drawings and specifications for constructing the project.

According to Oberlender (2000) Projects may also be classified as private-sector or public-sector projects. **The owner of a private-sector project** is typically a business that provides goods and services for a profit. Examples include commercial retail stores, manufacturing facilities, industrial process plants, and entertainment facilities.

Since the owner is a private business, the business administrators have the flexibility to choose any engineering and construction services that suit their specific needs. For example, they can competitive bid the project or select a sole source firm to provide engineering and construction services.

They are not restricted to accepting the lowest bid for the work and can choose any form of payment for services. The owner of public-sector projects is typically a government agency, such as city, county, state, or federal. Examples include local school boards, state highway departments, or the federal department of energy or defense. For public-sector projects the owner typically uses the competitive-hid method based on the lowest bid price for securing engineering and construction services. However, in recent years there has been an increase in qualification-based selection (QBS) for securing engineering and construction services. Using the QBS process, the owner selects engineering and construction services based on specific qualifications and other factors, rather than only price.

Projects with nature of complexity, temporariness and uniqueness it needs a proper management.

Garold (2000) a project may be design only for construction or a combination of design and construction. A project consists of three components: scope, budget, and schedule. When a project is first assigned to a project manager, it is important that all three of these components be clearly defined. The term **Scope** represents the work to be accomplished, i.e., the quantity and quality of work. **Budget** refers to costs, measured in dollars and/or labor-hours of work. **Schedule** refers to the logical sequencing and timing of the work to be performed. The **quality** of a project must meet the owner's satisfaction and is an integral part of project management". These components are interrelated each other, one will affect the other. The delay (schedule) of the project will affect the cost (budget) of the project and the scope of the project will affect also budget, schedule, and the quality.

2.1.3 Project management

William (1996) defined Project management as the application of knowledge, skills, tools, and techniques to project activities in order to meet or exceed stakeholder needs and expectations from a project. Meeting or exceeding stakeholder needs and expectations invariably involves balancing competing demands among: Scope, time, cost, and quality, Stakeholders with differing needs and expectations, Identified requirements (needs) and unidentified requirements (expectations).

Project management is application of knowledge, skills, tools, and techniques to project activities to meet the project requirements. In other words Project management is accomplished through the application and integration of the 47 logically grouped project management processes, which are categorized into five Process Groups which are initiating, planning, executing, monitoring and controlling, and closing (PMI , 2013, p.5)

Gamld (1976) Project management requires teamwork among the three principal contracting parties. Members of *the owner's team* must provide the project's needs, the level of quality expected, a permissible budget, and the required schedule. They must also provide the overall direction of the project. *The designer's team* must develop a set of contract documents that meets the owner's needs, budget, required level of quality, and schedule. In addition, the work specified in the contract documents must be constructible by the contractor. *The contractor's team* must efficiently manage the physical work required to build the project in accordance with the contract documents.

Garold (2000) a discussion of project management is difficult because there are many ways a project can be handled. The design and or construction of a project can be performed by one or more parties. Regardless of the method that is used to handle a project, the management of a project generally follows these steps:

Step 1: Project Definition (to meet the needs of the end user) intended use by the owner upon completion of construction Conceptual configurations and components to meet the intended use

Step 2: Project Scope (to meet the project definition) Define the work that must be accomplished Identify the quantity, quality, and tasks that must be performed

Step 3: Project budgeting (to match the project definition and scope) Define the owner's permissible budget Determine direct and indirect costs plus contingencies

Step 4: Project planning (the strategy to accomplish the work) Select and assign project staffing identify the tasks required to accomplish the work

Step 5: Project scheduling (the product of scope, budgeting, and planning) Arrange and schedule activities in a logical sequence Link the costs and resources to the scheduled activities
Step 6: Project tracking (to ensure the project is progressing as planned) Measure work, time, and costs that are expended compare "actual" to "planned work, time, and cost
Step 7: Project Close Out (final completion to ensure owner satisfaction) Perform final testing and inspection, archive documents, and confirm payments

Jeffrey (2016) Project plans and schedules, refers to the importance of developing a detailed plan of the required stages of the implementation process. It is important to remember, however, that the activities associated with project planning and project scheduling is distinct from each other. *Planning*, which is the first and more general step in developing the project implementation strategy, is composed of scope definition, creation of a Work Breakdown Structure, and resource and activity assignments. *Scheduling* is the setting of time frames and milestones for each important element in the overall project. The project plans and schedules factor is concerned with the degree to which time schedules, milestones, labor, and equipment requirements are specified. There must be a satisfactory measurement system to judge actual performance against budget allowances and time schedules.

2.1.4 Project process

Joseph (2012) and PMI (2013) a process is a way of doing something. Although some of them will be predominant at certain phases of a project, they may come into play at any time. Broadly speaking, however, they tend to be employed in the sequence listed as the project progresses. That is, initiating is done first, then planning, then executing, and so on. In the event that a project goes off course, re planning comes into play, and if a project is found to be in serious trouble, it may have to go all the way back to the initiating process to be restarted.

The five major processes any project may pass through are Initiating, Planning, Executing, Monitoring and controlling, and Closing.

Initiating processes performed to define a new project or a new phase of an existing project by obtaining authorization to start the project or phase.

Once a decision has been made to do a project, it must be initiated or launched. There are a number of activities associated with this. One is for the project sponsor to create a project charter, which defines what is to be done to meet the requirements of project customers.

This is a formal process that is often omitted in organizations. The charter should be used to authorize work on the project; define the authority, responsibility, and accountability of the project team; and establish scope boundaries for the job. When such a document is not produced, the team members may misinterpret what is required of them, and this can be very costly

Planning processes required to establish the scope of the project, refine the objectives, and define the course of action required to attain the objectives that the project was undertaken to achieve.

One of the major causes of project failures is poor planning. Actually, I am being kind. Most of the time the problem is caused by there being no planning! The team simply tries to "wing it," to do the work without doing any planning at all. Many of us are task oriented, and we see planning as a waste of time, so we would rather just get on with the work. As we will see when we turn to controlling the project, failing to develop a plan means that there can be no actual control of the project. We are just kidding ourselves.

Executing processes performed to complete the work defined in the project management plan to satisfy the project specifications.

There are two aspects to the process of project execution. One is to execute the work that must be done to create the product of the project. This is properly called technical work, and a project is conducted to produce a product. Note that we are using the word "product" in a very broad sense. A product can be an actual tangible piece of hardware or a building. It can also be software or a service of some kind. It can also be a result—consider, for example a project to service an automobile that consists of changing the oil and rotating the tires.

There is no tangible deliverable for such a project, but there is clearly a result that must be achieved, and if it is not done correctly the car may be damaged as a result. Executing also refers to implementing the project plan. It is amazing to find that teams often spend time planning a project, and then abandon the plan as soon as they encounter some difficulty. Once they do this, they cannot have control of the work, since without a plan there is no control. The key is to either take corrective action to get back on track with the original plan or to revise the plan to show where the project is at present and continue forward from that point.

Monitoring and Controlling processes required to track, review, and regulate the progress and performance of the project; identify any areas in which changes to the plan are required; and initiate the corresponding changes.

Monitoring and controlling can actually be thought of as two separate processes, but because they go hand in hand, they are considered one activity. Control is exercised by comparing where project work is to where it is supposed to be, then taking action to correct for any deviations from target. Now the plan tells where the work should be. Without a plan, you don't know where you should be, so control is impossible, by definition. Furthermore, knowing where you are is done by monitoring progress. An assessment of quantity and quality of work is made using whatever tools are available for the kind of work being done. The result of this assessment is compared to the planned level of work; if the actual level is ahead or behind of the plan, something will be done to bring progress back in line with the plan. Naturally, small deviations are always present and are ignored unless they exceed some pre-established threshold or show a trend toward drifting further off course.

Closing processes performed to finalize all activities across all Process Groups to formally close a project or phase.

In too many cases, once the product is produced to the customer's satisfaction, the project is considered finished, or closed. This should not be the case. A final lessons-learned review should be done before the project is considered complete. Failing to do a lessons-learned review means that future projects will likely suffer the same headaches encountered on the one just done.

2.1.5 Project Management Body of Knowledge

According to William (1996) The Project Management Knowledge Areas are:

Project Integration Management describes the processes required to ensure that the various elements of the project are properly coordinated. It consists of project plan development, project plan execution, and overall change control.

Project Scope Management, describes the processes required to ensure that the project includes all the work required, and only the work required, to complete the project successfully. It consists of initiation, scope planning, scope definition, scope verification, and scope change control.

Project Time Management describes the processes required to ensure timely completion of the project. It consists of activity definition, activity sequencing, activity duration estimating, schedule development, and schedule control.

Project Cost Management describes the processes required to ensure that the project is completed within the approved budget. It consists of resource planning, cost estimating, cost budgeting, and cost control.

Project Quality Management describes the processes required to ensure that the project will satisfy the needs for which it was undertaken. It consists of quality planning, quality assurance, and quality control.

Project Human Resource Management, describes the processes required to make the most effective use of the people involved with the project. It consists of organizational planning, staff acquisition, and team development.

Project Communications Management, describes the processes required to ensure timely and appropriate generation, collection, dissemination, storage, and ultimate disposition of project information. It consists of communications planning, information distribution, performance reporting, and administrative closure**.**

Project Risk Management, describes the processes concerned with identifying, analyzing, and responding to project risk. It consists of risk identification, risk quantification, risk response development, and risk response control.

Project Procurement Management, describes the processes required to acquire goods and services from outside the performing organization. It consists of procurement planning, solicitation planning, solicitation, source selection, contract administration, and contract close-out.

Project stakeholder management involves identifying stakeholders and their interests in the project, engaging with them throughout the project's life cycle, responding to their concerns or questions promptly, and keeping them informed about the progress made toward completion. These knowledge areas represent different aspects of project management that need to be addressed and managed throughout the project lifecycle. Each knowledge area consists of specific processes and activities that contribute to the successful execution of a project.

2.1.5.1 Project Integration Management

PMI (1996) Project Integration Management includes the processes required to ensure that the various elements of the project are properly coordinated. It involves making tradeoffs among competing objectives and alternatives in order to meet or exceed stakeholder needs and expectations. While all project management processes are integrative to some extent, the processes described in this chapter are primarily integrative.

- Project Plan Development—taking the results of other planning processes and putting them into a consistent, coherent document.
- Project Plan Execution—carrying out the project plan by performing the activities included therein.
- Overall Change Control—coordinating changes across the entire project.

2.1.5.2 Project Scope Management

PMI (1996) Project Scope Management includes the processes required to ensure that the project includes all the work required, and only the work required, to complete the project successfully. It is primarily concerned with defining and controlling what is or is not included in the project. The major project scope management processes are:

- Initiation—committing the organization to begin the next phase of the project.
- Scope Planning—developing a written scope statement as the basis for future project decisions.
- Scope Definition—subdividing the major project deliverables into smaller, more manageable components.
- Scope Verification—formalizing acceptance of the project scope.
- Scope Change Control—controlling changes to project scope.

These processes interact with each other and with the processes in the other knowledge areas as well. Each process may involve effort from one or more individuals or groups of individuals based on the needs of the project. Each process generally occurs at least once in every project phase.

2.1.5.3 Project Time Management

PMI (1996) Project Time Management includes the processes required to ensure timely completion of the project. The major processes are:

- Activity Definition—identifying the specific activities that must be performed to produce the various project deliverables.
- Activity Sequencing—identifying and documenting interactivity dependencies.
- Activity Duration Estimating—estimating the number of work periods which will be needed to complete individual activities.
- Schedule Development—analyzing activity sequences, activity durations, and resource requirements to create the project schedule.

- Schedule Control—controlling changes to the project schedule.

These processes interact with each other and with the processes in the other knowledge areas as well. Each process may involve effort from one or more individuals or groups of individuals based on the needs of the project. Each process generally occurs at least once in every project phase.

2.1.5.4 Project Cost Management

PMI (1996) Project Cost Management includes the processes required to ensure that the project is completed within the approved budget. The major processes are:

- Resource Planning—determining what resources (people, equipment, materials) and what quantities of each should be used to perform project activities.
- Cost Estimating—developing an approximation (estimate) of the costs of the resources needed to complete project activities.
- Cost Budgeting—allocating the overall cost estimate to individual work items.
- Cost Control—controlling changes to the project budget.

2.1.5.5 Project Quality Management

PMI (1996) Project Quality Management includes the processes required to ensure that the project will satisfy the needs for which it was undertaken. It includes "all activities of the overall management function that determine the quality policy, objectives, and responsibilities and implements them by means such as quality planning, quality control, quality assurance, and quality improvement, within the quality system". The major project quality management processes:

- Quality Planning—identifying which quality standards are relevant to the project and determining how to satisfy them.
- Quality Assurance—evaluating overall project performance on a regular basis to provide confidence that the project will satisfy the relevant quality standards.

- Quality Control—monitoring specific project results to determine if they comply with relevant quality standards and identifying ways to eliminate causes of unsatisfactory performance.

2.1.5.6 Project Human Resource Management

PMI (1996) Project Human Resource Management includes the processes required to make the most effective use of the people involved with the project. It includes all the project stakeholders—sponsors, customers, individual contributors, and others described in Section

- Organizational Planning—identifying, documenting, and assigning project roles, responsibilities, and reporting relationships.
- Staff Acquisition—getting the human resources needed assigned to and working on the project.
- Team Development—developing individual and group skills to enhance project performance.

2.1.5.7 Project Communications Management

PMI (1996) Project Communications Management includes the processes required to ensure timely and appropriate generation, collection, dissemination, storage, and ultimate disposition of project information. It provides the critical links among people, ideas, and information that are necessary for success. Everyone involved in the project must be prepared to send and receive communications in the project "language" and must understand how the communications they are involved in as individuals affect the project as a whole.

- Communications Planning—determining the information and communications needs of the stakeholders: who needs what information, when will they need it, and how will it be given to them.
- Information Distribution—making needed information available to project stakeholders in a timely manner.

- Performance Reporting—collecting and disseminating performance information. This includes status reporting, progress measurement, and forecasting.
- Administrative Closure—generating, gathering, and disseminating information to formalize phase or project completion.

2.1.5.8 Project Risk Management

PMI (1996) Project Risk Management includes the processes concerned with identifying, analyzing, and responding to project risk. It includes maximizing the results of positive events and minimizing the consequences of adverse events.

- Risk Identification—determining which risks are likely to affect the project and documenting the characteristics of each.
- Risk Quantification—evaluating risks and risk interactions to assess the range of possible project outcomes.
- Risk Response Development—defining enhancement steps for opportunities and responses to threats.
- Risk Response Control—responding to changes in risk over the course of the project.

2.1.5.9 Project Procurement Management

PMI (1996) Project Procurement Management includes the processes required to acquire goods and services from outside the performing organization. For simplicity, goods and services, whether one or many, will generally be referred to as a "product."

- Procurement Planning—determining what to procure and when.
- Solicitation Planning—documenting product requirements and identifying potential sources.
- Solicitation—obtaining quotations, bids, offers, or proposals as appropriate.
- Source Selection—choosing from among potential sellers.
- Contract Administration—managing the relationship with the seller.

- Contract Close-out—completion and settlement of the contract, including resolution of any open items.

2.1.5.10 Project stakeholders Management

PMI (1996) Project stakeholders are individuals and organizations who are actively involved in the project, or whose interests may be positively or negatively affected as a result of project execution or successful project completion. The project management team must identify the stakeholders, determine what their needs and expectations are, and then manage and influence those expectations to ensure a successful project. Stakeholder identification is often especially difficult. For example, is an assembly line worker whose future employment depends on the outcome of a new product design project a stakeholder?

Key stakeholders on every project include:

- Project manager—the individual responsible for managing the project.
- Customer—the individual or organization who will use the project product. There may be multiple layers of customers. For example, the customers for a new pharmaceutical product may include the doctors who prescribe it, the patients who take it, and the insurers who pay for it.
- Performing organization—the enterprise whose employees are most directly involved in doing the work of the project.
- Sponsor—the individual or group within the performing organization who provides the financial resources, in cash or in kind, for the project.

These processes interact with each other and with the processes in the other knowledge areas as well. Each process may involve effort from one or more individuals or groups of individuals based on the needs of the project. Each process generally occurs at least once in every project phase.

2.1.6 Contract

Erik W. Larson et al (2011), a contract is a formal agreement between two parties wherein one party (the contractor) obligates itself to perform a service and the other party (the client) obligates itself to do something in return, usually in the form of a payment to the contractor.

A contract is more than just an agreement between parties. A contract is a codification of the private law, which governs the relationship between the parties to it. It defines the responsibilities, spells out the conditions of its operations, defines the rights of the parties in relationship to each other, and grants remedies to a party if the other party breaches its obligations. A contract attempts to spell out in specific terms the transactional obligations of the parties involved as well as contingencies associated with the execution of the contract. An ambiguous or inconsistent contract is difficult to understand and enforce.

William (1996) A contract is a mutually binding agreement which obligates the seller to provide the specified product and obligates the buyer to pay for it. Contracts generally fall into one of three broad categories:

• **Fixed price or lump sum contracts**—this category of contract involves a fixed total price for a well-defined product. Fixed price contracts may also include incentives for meeting or exceeding selected project objectives such as schedule targets.

• **Cost reimbursable contracts**—this category of contract involves payment (reimbursement) to the contractor for its actual costs. Costs are usually classified as direct costs (costs incurred directly by the project, such as wages for members of the project team) and indirect costs (costs allocated to the project by the performing organization as a cost of doing business, such as salaries for corporate executives). Indirect costs are usually calculated as a percentage of direct costs. Cost reimbursable contracts often include incentives for meeting or exceeding selected project objectives such as schedule targets or total cost.

• **Unit price contracts**—the contractor is paid a preset amount per unit of service (e.g., $70 per hour for professional services or $1.08 per cubic yard of earth removed) and the total value of the contract is a function of the quantities needed to complete the work.

Garold (2000) Contract pricing may be divided into two general categories: fixed price and cost reimbursable. For fixed-price contracts the contractor may be compensated on a *lump-sum* or *unit-price* basis. Cost-reimbursable contracts may include methods of payment by any one or combination of the following: cost plus a percentage or fixed fee, guaranteed maximum price, or incentive.

Erik W. Larson et al (2011) there are essentially two different kinds of contracts. The first is the "fixed price" contract in which a price is agreed upon in advance and remains fixed as long as there are no changes to scope or provisions of the agreement. The second is a "cost-plus" contract in which the contractor is reimbursed for all or some of the expenses incurred during the performance of the contract. Unlike the fixed price contract, the final price is not known until the project is completed. Within these two types of contracts, several variations exist.

Fixed-price or "lump sum" contract

A contract in which the contractor agrees to perform all the work specified in the contract at a predetermined, fixed price.

Cost-plus contract

A contract in which the contractor is reimbursed for all direct allowable costs (materials, labor, travel) plus an additional fee to cover overhead and profit.

2.1.7 Contract management or administration

Alberto (2018) and **Contract Administration** is the selection of the appropriate contract organization is a central element the owner has to pay attention to during the feasibility phase of a project. A late definition in the contract organization (e.g. when design is underway) may affect the intended results and prevent, for instance, from the usage of integrated-design delivery systems. Since the contract establishes the rules of the game, the contract itself has to develop according to the project life-cycle: the contracting mechanism has to be chosen during the feasibility stage, the contract documents prepared and finalized during or after design, depending on the delivery system and award method used.

Then the contract has to be managed all throughout the construction phase, and eventually closed-out.

2.1.8 Contractor's selection

Reuben A. Okereke, et al (2022) Major contractor's selection criteria on civil engineering construction projects are financial soundness, technical ability, managerial capability and competent supervisory staff , competitive tender/bid price, health and safety policy/performance , the reputation of the contractor, Quality compliance records, size in relation to project size, previous track record and past experience in similar projects, competence and knowledge to do the job, Project duration/time of completion, resource availability, project location, proper planning, Environment measures, political consideration These criteria's must be addressed when we select the contractor otherwise the project will be fail cause of selection of incapable contractor.

2.1.9 Types and elements of contract

Alberto (1976) The **Contract Documents** A contract is typically composed of several documents, as follows. **The Agreement**, is a few page signed document that summarizes the main elements of the contract, namely scope, price, baseline schedule. **The General Conditions** are usually defined as a standard document that regulates all administrative procedures such as change orders, disputes, etc. **The Special Conditions or Special Provisions** add specific project-related issues to the general Conditions. **Specifications and Drawings** together form the design documents, either basic or detailed depending on the delivery system. In the first case, the specs describe the functional requirements and expected performance of the project outcomes. Detailed specifications precisely describe all items to be performed with regard to construction techniques to be applied, materials to be used, operating procedures, and other subtleties. **The Proposal or Tender presented** by the awarded bidder is usually attached as a formal component of the contract.

According to Ignacio (2014) **the document agreement**, There is no particular mandatory form of document agreement required to create a construction contract. Despite of this, the construction industry has developed to the point where most contracts follow a fairly predictable format and consist of certain standard parts.

An **"agreement"** itself is usually the shortest document of all the contract documents. It establishes the essential elements of the contract varying from project to project. These essential elements are **price, payment, quality, risk, and schedule**.

If **bid contracts** are required by policy to be fixed-price, both a detailed scope of work and a reasonable change order process for these contracts should be expected.

Cost plus contracts are priced on the basis of the contractor's cost of the work plus a fixed fee. These contracts call for the contractor to be paid its direct and indirect costs of performing the work, **plus a fixed fee** serving as the contractor's profit.

The total cost of the project may be more or less than the original estimate, the owner will bear this cost and the contractor will receive the same fee originally negotiated. One of the real difficulties while drafting a cost-plus contract is to come up with a good definition of the contractor's performance cost. **Direct costs**, such as labor and materials, are usually not much of a problem. **Indirect costs**, such as insurance and office overhead, are a problem, as these costs must be allocated among all the projects being performed by the contractor. On costplus, it is not unusual for the definition of "cost" to cover several pages. This is necessary to avoid misunderstandings and disputes.

A cost-plus contract enables the contracting parties to work with less precise scope definition. This is true only to some extent and it should be carefully controlled to avoid the contractor thinking he has a blank check to incur all the costs it wants.

Cost-plus contracts usually include a guaranteed maximum price cost plus fee, which is not to be exceeded without owner's consent. On the other hand, a contractor cannot commit itself to a guaranteed maximum price unless it has an accurate idea of what it will be required to construct.

Cost-plus contracts may also include a "shared savings" provision. In addition to establishing a guaranteed maximum price, the contract states a target amount of costs to be incurred in constructing the project and if the contractor is able to complete the work for less than the target cost, the contractor and the owner share the savings according to a previously established formula.

The purpose of the shared savings provision is to give the contractor an incentive to minimize costs, because in the absence of such a clause, the contractor has no incentive to optimize operations as long as the total cost plus fixed fee stays within the guaranteed maximum price.

Another method of pricing construction work is **the "unit-price"** method. The project is divided into certain elements which can be quantified, such as linear meters of conduit or cubic meters of concrete. The contracting parties agree on a price per unit of each element of the work and payment is made on the basis of the actual quantities of work executed.

Typically, the contract documents for a unit-price contract will state estimated quantities for the various elements of the work. These quantities are not binding on the owner and are used primarily for purposes of bid comparison. Total bid amounts are computed by applying the bid unit prices to the estimated quantities of work.

Unit-price contracts are widely used on projects such as excavation, highways, sewer lines, and water pipe networks. The routine nature of this work lends itself to unit-price measurement. The contractor knows it will be paid for all work performed and the owner knows that it will pay for no more than the actual volume of work performed. This kind of contract is also called re measured.

Yet another method of pricing construction work is **"time and materials."** A fixed price is placed on each hour of labor the contractor furnishes. The owner also agrees to pay the direct costs of the material and equipment used on the project. Typically, no payment is made for any indirect costs. The parties should agree in anticipation as to who will receive the benefit of any trade discounts on materials that the contractor receives from its suppliers.

The time and materials method provides very little certainty for project owners and is not typically used on large projects. It is a useful method for small projects where the parties want to avoid the time and expense of a detailed scope of work and detailed cost estimates. It is also widely used as a method of pricing extra work on change orders.

2.1.10 Construction delays

Ignacio (2014) **Construction delays** are considered as time lag in completion of activities from its specified time as per contract or can be defined as late completion or late start of activities to the baseline schedule, directly affecting specified cost. As a result, there will be extensions of time required which will further result in fine, increased cost due to inflation, termination of contract, court cases etc. or combinations of above stated factors, resulting in delay damages.

Construction delays are often result of a mismanaged event/s and can be seen as a risk for the projects, which if identified, analyzed and managed in a systematic process at inception, could be managed, minimized, shared, mitigated or accepted to give some good results and minimize chances of further delay. Delay in construction project has a negative effect on clients, contractors, and consultants in terms of growth in adversarial relationships, mistrust, litigation, arbitration, and cash-flow problems.

Garold (2000) a common source of delay during construction is late delivery of major equipment and material.

2.1.11 what is the Meaning of Public Budget?

According to The Citizens' Guide to Ethiopian Fiscal Year (EFY) 2014 (2021/22) National Budget of Ethiopia, Public budget is a document that forecast a government expenditures and revenues for a given fiscal year. It indicates how a public entity spends the financial resources in order to realize specific public goals. The document becomes a legal financial plan after it has been approved through the legislative process of the country.

The national budget arrangement shows that the government intends to do during the period of its fiscal calendar and how it intends to finance its activities. The Ethiopian government budget shows a process which government will decide on amount of tax to be collected, services to be provided, and amount debt to take on in order to accelerate economic growth and job creation opportunities, modernize infrastructure, and eradicate poverty and inequality.To realize this, the government should inform and engage citizens on these essential decisions that bring impact on their lives by producing a guide on this Fiscal Year budget document

According to the city government of Addis Ababa financial management performance of the city government Public expenditure and finance accountability report (PEFA REPORT June 2015), scope of the City of Addis Ababa has three administrative levels: the City Government of Addis Ababa is the first level, which includes 58 budgetary institutions - sectorial bureaus, authorities and agencies.

The second level of the city consists of ten sub-cities (but now reach 11), which are equivalent to the zonal level in the regions. Sub-cities are a separate level of government below the City Government, having their own cabinets and elected councils. Sub-cities administer the woredas under their jurisdiction and are responsible for law and order in their respective areas (City Revised Charter, section 30).

The third level is urban woredas, which are units of sub-cities. There are currently 116 woredas , but the number has been increasing. Sub-cities and woredas have elected councils, so they have dual accountability to their councils and upward to the city government.

The city budget and accounts consolidate revenue and expenditure at all three levels: there are no separate accounts at each level. A single legal framework also applies at all three levels. This assessment therefore covers all three levels, even though the sub-cities and woredas are separate legal bodies and have considerable autonomy in budget allocations.

According to the city government of Addis Ababa financial management performance of the city government (PEFA REPORT June 2015), Policy-Based Budgeting performance indicator (PI-11) Orderliness and participation in the annual budget process Budget preparation is in accordance with the Addis Ababa Government Budget Administration Manual Proclamation no. 3/2003, which is closely aligned to the Federal Proclamation.

The City Budget Department follows the Federal budget calendar. A rolling three year macro-economic and fiscal framework (MEFF) and medium term expenditure framework (MTEF) are prepared by Bureau of finance and economic development (BoFED City Government Financial Administration Regulations no. 39/2011), based on: a review of revenue and expenditure over the previous three years, GDP projection by BoFED, central statistical agency (CSA) projection of inflation, data from the Addis Land Bureau, Road Fund, external assistance estimates Ministry of finance and economic development (from MoFED by January) etc. It is finalized by the end of March.

The budget is prepared consultatively, with major inputs from the Council Finance and Economic Development Committee (FEDC) and the public (see also under PI-27). Five hundred city dwellers are invited to debate for an entire day the budget proposed by BoFED, and changes are agreed. The City Cabinet reviews the budget, which is approved by the Council normally by the end of the fiscal year (July 7).

2.1.12 Monitoring and Evaluation of the project

Kultar Singh, et al (2017), as we embark upon our journey to understand how to monitor and evaluate projects, it is important to first understand the fundamentals and underlying concepts of projects and project management. At the outset of every project, it is envisaged that several activities will be performed over the course of the project's implementation. These activities constitute the work that will be done during the project and they form the mainstay of the action that will take place. Every project has a ***specific objective*** and it is envisioned that through these activities the project will achieve its objective.

The example of a five-year project of making its target villages open defecation free (ODF) is used to illustrate this point. To achieve this objective, the project engages in several activities like construction of household (HH) and community toilets, conducting awareness campaigns to motivate people not to defecate in the open, educating people about the technologies that should be used for toilet construction etc.

The types of activities performed as part of the project vary depending on the project objective and the implementing organization's capacity. These activities form the key work that is done as part of the project implementation.

Another important aspect of every project is that it has ***a specific start date and a specific end date*** i.e., a specific time period within which it has to be executed. The project is expected to achieve its desired objective within this specific time period, which in the example quoted above, is duration of five years.

Last but not the least, it is very critical to understand that each project is allocated a limited set of resources. Resources, which may be financial, human and physical, are allocated to a project so that its activities may be implemented and its objectives achieved within a specific time period.

Accordingly, the example project is also allotted a fixed budget, human resources and fixed physical resources with which its activities may be implemented and its objective achieved in a specific period of time. Hence, a project may be defined as: "A set of activities implemented within a specific period of time and with specific resources to achieve a specific objective."

According to Kultar Singh et.al (2017) **Monitoring** is defined as the concurrent process of tracking the implementation of activities of the project and attaining its planned outputs. It helps to provide real time information of the progress of the project in terms of completing its activities and achieving its immediate outputs, both in terms of quality and target.

Monitoring, thus, is an activity to see if an ongoing project is proceeding on track. It involves the process of systematically collecting data to provide real time information for all stakeholders (managers, funders, participants) on the progress of implementation and the achievement of desired outcomes.

The critical functions of monitoring are: to gather feedback from the participants; collect data; observe the implementation of activities of the project; analyze contextual changes; and provide an early warning system of potential challenges.

Analysis of monitoring data is critical to ensure that the project is being implemented in the right direction for it to achieve its intended outcomes. In case the project is not moving in its intended direction, midcourse correction should be done.

Monitoring is applicable to all programmed levels (from input, process, output and outcome). Most commonly, the focus is on output data, although it is also important to track the goals and the objectives.

Monitoring should ideally be an internal function of the project management team. Monitoring, thus, plays a critical role in the success of a project. Monitoring of results helps to: Improve strategies and targeting, enabling decision makers to focus the project resources on areas where they can get the maximum output, Understand project implementation barriers or challenges in real time and suggest course correction measures, Ensure that the project is more effective and result oriented. It also focuses on impact level changes throughout the project, rather than just at the end of project evaluation.

Evaluation is defined as systematic research to see if a programed can achieve its intended outcomes and impacts. Evaluation is done firstly to see whether the envisaged objectives and goals have been achieved or not, and secondly, to see whether the achievement is because of the project interventions.

It should assess the magnitude of change in the outcome and impact and whether the change in the outcome or the impact can be attributed to the project intervention.

Evaluation assesses if there is any deviation from the goals and the objectives, and whether it can confidently be said that the objectives are achieved only because of project intervention.

Evaluation, then, is a type of causal research that establishes the cause-effect relationship between the activities and the outputs on the one hand and the objectives and the goals on the other.
While monitoring facilitates mid-course correction in attainment of project outcomes, evaluation helps analyze variances from envisioned objectives and goals. By providing feedback to the project functionaries, M&E facilitates learning by doing. Development and enhancement of in-house capacities to anchor the M&E functions is, thus, a prerequisite for learning organizations.

Project management cannot succeed unless the project manager is willing to employ the systems approach to project management by analyzing those variables that lead to success and failure. The following four topics are included: Predicting project success, Project management effectiveness, Expectations, Force field analysis

2.1.13 what are project successes?

Harold Kerzner (2003) the definition of project success has been modified to include completion:

- within the allocated time period
- Within the budgeted cost
- At the proper performance or specification level
- With acceptance by the customer/user
- With minimum or mutually agreed upon scope changes
- Without disturbing the main work flow of the organization
- Without changing the corporate culture

The last three elements require further explanation. Very few projects are completed within the original scope of the project. Scope changes are inevitable and have the potential to destroy not only the morale on a project, but the entire project. Scope changes must be held to a minimum and those that are required must be approved by both the project manager and the customer/user.

Project managers must be willing to manage (and make concessions/trade-offs, if necessary) such that the company's main work flow is not altered. Most project managers view themselves as self-employed entrepreneurs after project go-ahead, and would like to divorce their project from the operations of the parent organization. This is not always possible.

The project manager must be willing to manage within the guidelines, policies, procedures, rules, and directives of the parent organization. All corporations have corporate cultures, and even though each project may be inherently different, the project manager should not expect his assigned personnel to deviate from cultural norms. If the company has a cultural standard of openness and honesty when dealing with customers, then this cultural value should remain in place for all projects, regardless of which the customer/user is or how strong the project manager's desire for success is.

As a final note, it should be understood that simply because a project is a success does not mean that the company as a whole is successful in its project management endeavors. Excellence in project management is defined as a continuous stream of successfully managed projects. Any project can be driven to success through formal authority and strong executive meddling. But in order for a continuous stream of successful projects to occur, there must exist a strong corporate commitment to project management, and this commitment must be visible.

2.1.14 what are project failure?

Utkarsh Giri et.al (2020), in modern era, failure of projects has become a common issue. Past history & records shows that there has been a lot of projects that are failed or on the verge of failure. Therefore, it's become very important to understand why projects fail so as to minimize the capital & time loss during the project. By use of formal methods and strategies & introducing

the latest technologies in the projects, updating the procedures with new engineering discoveries, we can controls & minimize the failure of projects.

Generally, poor planning, lack of leadership, inadequate knowledge in employees, ego clash among the departmental people is cause of projects failure. So, various aspects of projects failures & its prevention has been described which should be considered by the project management committees.

- **Poor visualization of the project objectives**

When a project get distracted from its objectives & goals, then it is sure that it is going to fail. Projects management department should be clear with merits & de- merits of the projects. What problems the company is going to face while the execution of projects & its remedies should be discussed. Each and every strength & weakness, favorable & unfavorable conditions and circumstances should be monitored all risks should be discusses & a backup plan must be always ready.

- **Project complexity**

A well-structured project is always easy to implement. Pre – planning & strategic management are the two aspects through which we can reduce the complexity of project. Effort should be made to make project a easy and clear to execute. Planning should be revised and updated as the projects goes on. Project should be clear simple and easy to undertake. An DPR (Detailed Project Report) should be made in which each and every detail of project is mentioned. With DPR we can reduce the project complexity.

- **Over expectations**

Projects should be well analyzed and researched so as to avoid over expectations. All the projects should be monitored & all risks related to the projects should be clearly taken under consideration. Latest techniques & information from the world market should be considered so as to overcome the over – expectation problem. Over – expectation leads to stress, failure & loss of money & time if the project doesn't go according to the expectations.

- **Underfunding of the projects**

Resources like manpower, machineries, money etc. are important to make a project successful. Financial requirement are most important of all.

Funds are needed to hire skilled manpower, good machineries and therefore success of the project .So underfunding the project directly leads to the failure of project. Funds are needed to collects & assemble all the resources which are beneficial for project. Above all, funds are needed for wages to labors & salary for employees.

- **Poor prioritization of tasks**

The series of task to be executed in given time interval should be pre – planned and should be continuously monitored & updated. Tasks should be re – examined or replaced if it is taking more time as before assumed in planning of project. Repetitive tasks should be minimized so as to save time to complete the projects. Projects manager should always examine the series of tasks to be performed and improvement should are made in intervals so that time can be minimized & therefore reduce the possibility of failure.

- **Communication management**

There should be smooth flow of information between various members at different levels of department in company. Each level of management must have proper visibility of ongoing projects. Poor communication between management committee leads to missing of the goal & aim of the project. Improvement in planning & execution of project can be done through good & smooth communication among the people of management. There should be unity of command & unity of power in the company.

- **Conflicts of interest**

It is evident that in the project where peoples at different level have interpersonal & intra-personal conflicts lead to distracted from its goal and objectives. Project should be well-guided and shared equally in planning and execution. If conflicts arise, it needs to be solved immediately with the help of leaders or supreme authority. Transfer of staffs among various departments should be done so as to reduce the misunderstanding among the workers & to make a cheerful environment at work place.

- **Failure to track requirements & progress**

While in an ongoing project, the project manager needs to focus on the needed resources and to maintain the demand on time. All the resources must be restored before its full consumption like cement, sand, aggregate. The progress record should be maintained daily, weekly or monthly on a regular basis.

By tracking the progress, we can improve the work methods and can complete the project on time.

- **Changes in governmental policies**

Government policies need to be kept in mind while planning & execution of project. Hike in the taxes may lead to unplanned expenses that may lead to loss or sometimes failure of the project. Changes in governmental policies should be monitored so as to save taxes & gain tax relaxations for the project. In India, the new tax policy GST (Good and Services Tax) is adopted which is on the theme of "One Nation One Tax", all the clauses & laws of GST needs to be well studied before planning and execution of project.

2.2 Empirical literature

In this section of the study, different reviewed literature relevant to the study will be discussed. The literature reviewed shows that there have been researches done to assess various organizations' project management practice in Ethiopia. However, there are gaps in literature concerning project management practice of building construction in general.

Primarily literatures related to the project management practice of the Ethiopian construction industry are reviewed.

According to Mahider (2022) conducted a study on the Ethiopian construction industry entitled "Assessment of Project Management Practices in high-rise building: The case of CBE headquarter building project" The study aimed to assess the practices of managing high rise building in Addis Ababa with the case of CBE head quarter building project The researcher mainly used semi structured interview as a primary data collection tool which is helpful in answering questions related to the study objectives .

To this end, semi-structured interview was prepared to probe views and opinions of some purposively selected respondents. The interview was prepared based on the review of related literature important to the subject of the study. The sample size of the research is determined by purposively selecting respondents who are project team members who know the area or subject matter very well.

Based on the responses from the survey and interview, the researcher concluded that having skillful experts, documenting every project instruction in written form, providing discrete authority to the contractor with full responsibility (empowerment), harmonization of stakeholders, back-to-back evaluation with continuous progress review meetings were identified as how effective project term managed can be used to bring the project finally to be completed based on the experience of the case study. She also conclude that effectiveness of the DB contract delivery system of the CBE HQ project on time, cost, quality and scope of work is summarized in the way that; this DB project was becoming effective in meeting its project cost though there were some change in cost were made due change in scope, however, the project was not effective in its time schedule as it has having significant time delay and the quality assurance is not certainly known though significant follow-up and supervision were made to ensure that project was in accordance with the details stated in the contract.

Another research by Tensaye (2023) was done to Assessment of the causes and impact of claim in building construction project management of local contractors: The case of CBE in Addis Ababa city the aim of the study is to assess the main causes of claim and how it's affecting a building project construction industry owned by Commercial Bank of Ethiopia. Researcher has chosen the study participants based on their close proximity to the initiatives and their expertise as development, awareness, and involvement specialists he conclude that on site coordination, Noncompliance with specifications and Lack of expertise in schedule management are a major factors that could cause claim in project construction management, Project schedule changes and Poor estimation are identified as major internal causes of price escalation in commercial bank of Ethiopia, and Limited capacity of material producers, Increase in global demand for construction materials, Change in Legislation, Local concerns and requirements,

Fluctuation in money exchange rates, Shortage of labors / skilled workers, Force Majeure, Increase in material cost (material fluctuation), and Local or municipal regulations are identified as major external causes of price escalation in construction bank of Ethiopian construction project, Due to this cancelled projects and delay is the major effect of claim in building construction according to the respondents. Reduced Numbers of Bidders and Dispute among parties contribute equally to the effect of claim in building construction.

He put major effects of claim in descending order with regard of the respondent's response. The first one is "The Client responsible of changing in original design. According to this change will be dispute of delay and increasing cost of change", "these delays represent problems in the contractor's organization such as lack of management or financial capability, sub-contractor caused delays etc." Misunderstanding between the client and contractor, The contractor believes that he is performing extra work, while the owner believes the work was part of original contract, Different measurement pricing claim, the different measurements in final stages affect the plan of the time and price in the project" and "Poorly written contracts."

According to him the major effects of the mitigation method of claim according to the respondent's responses are: "Define changes to the contract (scope, cost, time, approval authority, or communication process)", "Scheduling of the project and key dates", "Process to extend the timeline for key dates and milestones as the project progresses", " Force majeure (suspension of work, and relevant time period)", "Define changes to the contract (scope, cost, time, approval authority, or communication process)", are some of the mitigation

Methods practiced highly in descending order whereas the next factors act next to the above factors accordingly. Therefore "Define a project's scope in an unambiguous and detailed manner", "Require detailed design, specifications, and drawings, including percentage of completion", and "Establish a thorough understanding of site conditions at the onset of the project." Appears to be the next major mitigation methods of claim in the building construction of the commercial bank of Ethiopia.

Yonas (2021) conducted a study titled "Assessment on the cause of project delay in building construction projects: the case for Ethiopian Construction works Corporation**."** The aim of the research is to examine the Causes of Project Delay in Building Construction Projects; The Case for Ethiopian Construction Works Corporation. He used primary and secondary data sources and various data collection methods may be used in studies, and they are likely to be used in conjunction, Interviews, observation, documentary analysis, and questionnaires and the like. Finally he conclude that with respect to client related delay in revising and approving design document, change order by owner during construction and slowness decision making process.

Consultant related delay are e delay in approval of submittals design, drawing and sample materials, insufficient data collection and survey before design and delay in performing inspection and testing. Contractor related delays are Rework due to errors during construction, conflicts between contractor and other parties and delay due to material delivery. Unforeseen site condition, geopolitical and regional stability and lack of site utilities or services such as water and electricity were the top major causes of delay in building construction projects related by external factors.

Habtamu (2019) conducted a study titled "assessing the project implementation practices: a case study on Bole Airport expansion project" The main aim of the study was to assess the project implementation practices of AABIA expansion project using the seven project management knowledge areas and based on the findings of this study have led to the following conclusions.

The researcher concludes that implementing effective coordination of the project activities is a major problem in AABIA Expansion project. The project lacks to give more focus on the practice of project human resource management due to lack of proper acquiring & assigning human resources and managing the project team which led to a major difficulty to manage the project based on the project schedules, budget & quality requirement. Therefore, high cost overrun & the project delay more than 50% of the planned completion time of the project was main problem which lead not to finish until now.

From the finding it can also be concluded that the team members assigned to the project were not well trained & developed. The project procurement management wasn't practiced properly on the initial phase of the project due to inappropriate selection of suppliers & lack of managing supplier's relationship after awarding of the contract. Based on the findings of this study five of the project management knowledge areas of project implementation practices were practiced even though it was not with full extent & formal procedure.

From the seven knowledge areas; project quality, risk, communication, procurement & project stakeholder management were practiced adequately but not in complete intent. From the five practiced knowledge areas of the project implementation 46 practices, project procurement & communication management were executed more adequately than the others knowledge areas.

Hawi (2022) in her study entitled "Factors leading to construction projects delay in Addis ketema sub city Government construction office" she identified the most common causes of delay in Addis Ketema Sub City Construction Office are (1) inflation in currency rate, (2) payment is not provided on time for contractors and consultants, (3) design change, (4) conflict of the drawing and specification, (5) mistakes and delay in producing design documents and, (6) small number of architect and structural designer. In her study she also comes out with the most common effects of construction delay which is (1) time Overrun and (2) cost overrun.

Jemila (2022) in her study entitled "assessment of project management practice and challenge of construction project the case study of Yotek Construction building project". She conclude that in initiation phase the project had of the objective of project Captured in one precise and complete sentence, identified High-level project schedule milestones properly and Project kick-off meeting was conducted at appropriate time and in the remaining phase such as; planning, executing, monitoring and control.

According to her findings comparatively a good building construction project in her study out of ten knowledge area of project management is to some extent significantly identified Eight areas those are; Integration Management challenge ,scope management challenge, Cost Management Challenge, quality management challenge, Human resource management challenge ,stakeholder's management challenge, communication management challenge and Procurement

management challenges. Project Schedule management challenge knowledge area highly significantly identified and the other area of project management Project Risk management challenge not significantly identified.

From her identified factors the highly significant or major challenging factors are; Project schedule delays, Too tight project schedule and unrealistic deadlines, Inaccurate time estimations and the most to some significant challenging factors are Lack of process for project knowledge management and capturing lessons learned, Changing requirements late in the project and continuing change requests, Design discrepancies, Project requirements inadequately documented, Inaccurate cost estimation, Cash flow difficulties ,Inadequate funding or capital ,Lack of strict quality control measures, Quality checks not performed at satisfactory level, Wrong selection of project team, Inadequate project structure ,Late identification of stakeholders the project, Lack involvement of end users, Not obtaining stakeholder approval, Lack of professional communication support, Lack of effective communication between stakeholders, and Design discrepancies and Lack of Project Management Skills and training in project management in conclusion the factors that influenced mainly the project Scope, quality, cost and schedule. Hence the organization should give high priority and treat these factors to finish the project successfully.

Bethelehem (2023) in her study entitled "Assessing Construction materials price escalation of building projects: in the case of selected high rise building projects in Addis Ababa." She found the causes of price escalation and the impacts of price escalation on building construction projects in light of the findings; it is more likely that the project price increase and the majority of the contributing causes can be manageable.

Some of the data also revealed that there were planning issues and poor preliminary planning, which can be viewed as contributing factors to price escalation materials. Clients are among the stakeholders who are severely affected by price escalation of construction materials. This is because, if the problem persists, Ultimately the client will be compelled to look for an additional fund to cater for the budget deficit induced as a result contractor's high bid offer at tender stage.

The effect has also transcended as far as clients' losing their contractual power to terminate and replace long overdue and liquidated contracts with new ones as a result of the danger of facing an escalated project contract cost for the remaining portion of the work.

Finally, the researcher concluded that, the implementation practices of AABIA expansion project are practiced well except on project integration & human resource management even though they lack some proper practices on the five knowledge areas. Generally, the finding has been shown that the project lacks to apply most of the knowledge areas of project implementation practices exhaustively.

2.3 Research gaps

Construction projects specifically building projects have been increasingly growing in Ethiopia. However, a few studies were conducted as the country and project level and as per the knowledge of the researcher in study, so this shows that as per the researcher's awareness there is no research which generally agreeable reason for factor of delays, cost overrun, and project contract termination was conducted in the study area. According to Yonas (2021) the monthly project performance evaluation of ECWC (2020) showed that only 24.75% of the projects were completed based on the agreed time schedule which shows poor project performance. So, delay of construction projects is critical and serious problem in Ethiopian Construction Works Corporation.

2.4 Conceptual Framework

The aim of this section is to summarize the idea about past literature and to bring out the contributions for this study area. Thus, this part starts with the idea generated and the contribution follows.

The conceptual framework in this study was used to show various variables that affect the performance of construction projects.

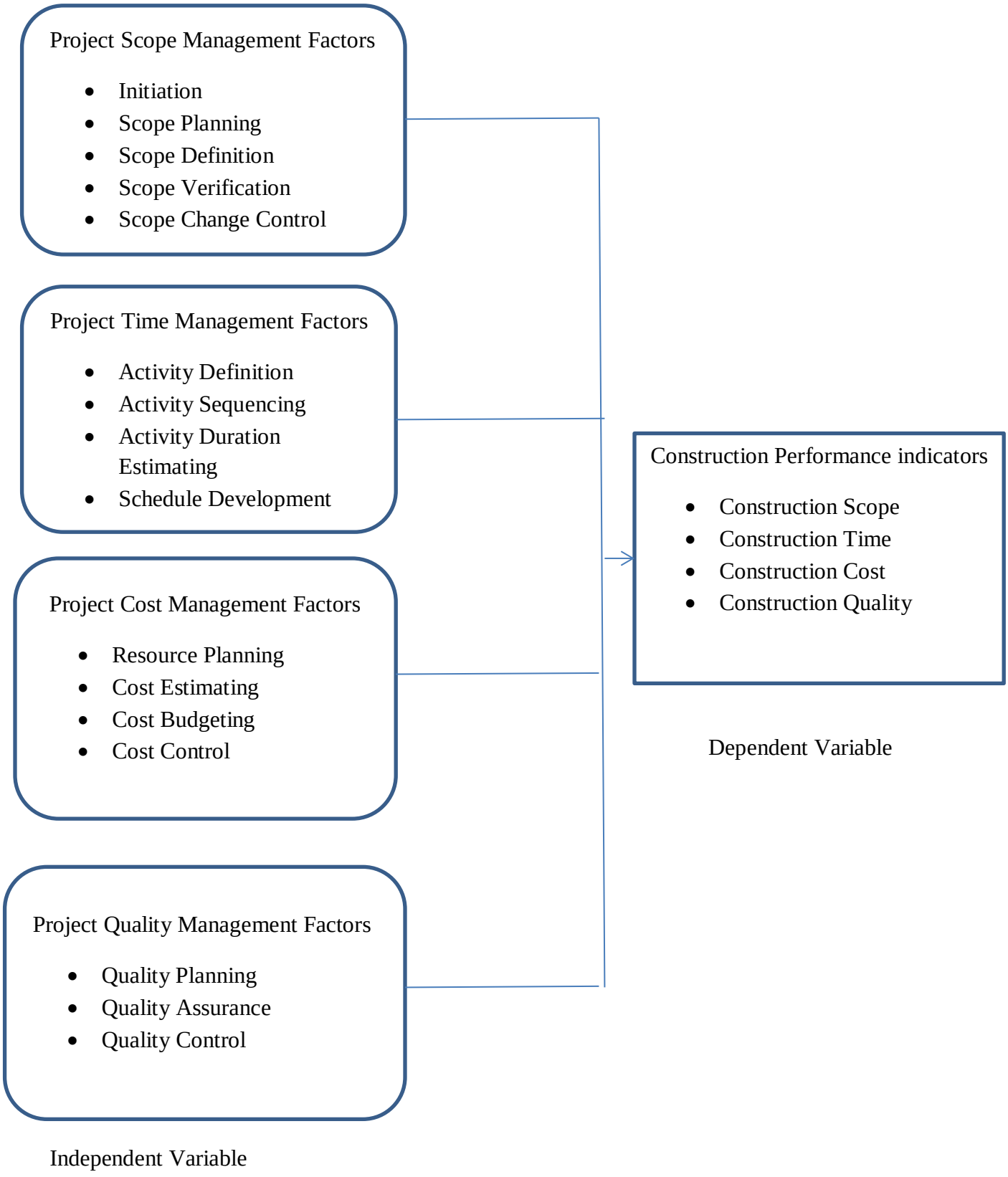

Figure 2.1: Conceptual Framework

CHAPTER THREE

Research Design and Methodology

In this chapter described a review of the various approaches to data collection and analysis adopted in conducting this research; it explained the type of research strategy implemented the method of data collection and the methodology used in carrying out this research. It includes the research design & approach, sampling design, sources of data and collection method, method of data analysis, reliability of the instruments and ethical considerations are presented.

3.1 Research design and approach

John W. Creswell (2003) described three research approaches: such as qualitative, quantitative and mixed. Based on the character of the research questions, here in this study, a mixed approach is used.

The research approach is a plan and procedure that consists of the steps of broad assumptions to detailed methods of data collection, analysis, and interpretation. It is, therefore, based on the nature of the research problem being addressed. The research approach is essentially divided into two categories: the approach of data collection and the approach of data analysis or reasoning.

3.1.1 Research approach

To conduct this study the researcher used both quantitative and qualitative data. Qualitative data's were collected from city Administration procedures and manuals were used to assess the current practical and challenges of the project framework planning practice of the study sub city. Both primary and secondary sources of data used. For collecting the Primary data self-administered survey questionnaire were employ for the current project staffs and project management stakeholder of the case study projects, secondary data were collected from annual report from both published and unpublished.

3.1.2 Research design

The research design for this study was a descriptive survey through interview and questionnaire. The purpose of using descriptive was to collect detailed and information that describe an existing phenomenon.

3.2 Population, sampling procedure and Sample size

3.2.1 Population

Target populations of the study are anyone who is member of client, contractor, and consultants who are directly and indirectly participating in Lideta Sub City office building project. This may include city and sub city Administrative staff and employees on behalf of clients (Addis Ababa Design and Construction Works Bureau), contractors (Bamacon Construction Company), and consultants (Nemad consulting Architects and Engineering Plc).

3.2.2 Sampling procedure

For the purpose of this study, the researcher used Non probability sampling technique particularly purposive sampling which is judgmental and quota sampling technique. The researcher distributed questionnaire to respective or directly involved staff or members of client, contractor and consultant. In this study, the samples may not have equal number of chance due to differences of number of participant from the three involved above mentioned parties rather judgmentally selected.

3.2.3 Sample size

For this study, the researcher was obligated to use Non probability sampling technique select purposive sampling technique, obtain key informants considered knowledgeable about, and central to, project management that best may represent building Construction. it would be better to select groups who practical experience on the subject matter (Project Manager, Control Administration, Project control engineer, Seiner construction engineer, Office engineer,

Site engineers, Structural engineer, Electrical engineer, Mechanical engineer Planning & Level person) of 7 from contractor, 3 from Consultant and 10 from the client who serve as the team of the project total respondents 20 in building project undergoing directly and indirectly participating in Lideta Sub City office building project.

In this regard, various literatures support the rationale for and benefits of purposive sampling, stating that "purposive sampling is a beneficial sampling strategy that allows a researcher to obtain information from a sample of the population that one believes knows the most about the subject matter." Walliman is a character in the film Walliman (2006).

According to Saunders, et al. (2009), if the sample size is small and a focus group is the goal, a purposive sampling strategy allows for the 18 selection of the person who understands the most about the subject area. Purposive or judgmental sampling, according to Saunders, allows you to apply your judgment to choose cases that best enable you to answer your research question(s) and accomplish your objectives.

3.3 Data sources and data collection method

3.3.1 Data sources

The researcher used primary data from the member of the three participants who are clients, contractor and consultants in the project and secondary data from published and unpublished sources to conduct this research.

3.3.2 Data collection method

The study used both primary and secondary data. The primary data were collect through close ended questionnaires. Questionnaires were used because it was easy for respondents to answer; easy to analyzed and responded choices would clarify the question for respondents. The questionnaires were compose of structured questions and measured using 5 point Likert scale. Also the secondary data were obtain from books, records, and internet and published articles.

3.4 Data analysis method

After pertinent data gathered, the data were examined and interpreted using both qualitative and quantitative methods. Typically, interview questions and answers were verbatim tape, transcribed, and then analyzed thereafter. Using computer software tools like the Statistical Package for Social Sciences (SPSS) version 20, quantitative data were statistically analyzed. The SPSS database contains the inter responders matrix (strongly disagree, disagree, neutral, agree, and strongly agree). In particular, the tool's descriptive statistics (mean and standard deviation) have been used. The data were tabulated (organized in a table format) and the measure of central tendency were to condensed the data in to a summery manner used a descriptive analysis (mean and standard deviation)

3.5 Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded[a]	0	.0
	Total	20	100.0

a. List wise deletion based on all variables in the procedure.

Reliability Statistics

Cornbrash's Alpha	N of Items
.850	55

According to Cornbrash's Alpha (α)

- Coefficient/ Cronbach alpha (α): the most commonly applied estimate of a multiple-item scale's reliability. It represents internal consistency by computing the average of all possible split-half reliabilities for a multiple-item scale.

- The coefficient demonstrates whether or not the different items converge.
- Coefficient alpha ranges in value from 0, meaning no consistency, to 1, meaning complete consistency.
- Scales with a coefficient value between:
  – 0.80 and 0.95: Very good reliability,
  – 0.70 and 0.80: Good reliability,
  – 0.60 and 0.70: Fair reliability, and
  – Below 0.6: Poor reliability.

∴ Reliability of Coefficient/ Cronbach alpha (α): .850 which is found between 0.80 and 0.95 so study data Very good reliability

3.6 Ethical Considerations

According to Pritha Bhandari (2021) a set of rules that direct your study designs and procedures are known as ethical considerations in research. When gathering data from people, scientists and researchers must always abide by a set of ethical principles. Understanding real-world occurrences, researching efficient therapies, examining habits, and enhancing lives in other ways are frequently the objectives of human research. There are important ethical considerations in both what you chose to research and how you conduct that research. These factors contribute to

- Safeguarding research participants' rights
- Improve the validity of research
- Keep your academic or scientific integrity

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATIONS

This chapter deals with the presentation of the data collected from respondents through questionnaire and document review. An attempt was made to collect relevant data from targeted contractors, Clients/owner, and consultants through designed questionnaire. The questionnaire used in this study has fifty five set of questions which are related to Assessment of project implementation practices and challenges: The case of Lideta Sub City Office Building Construction project.

The analysis conducted in this study involves both qualitative and quantitative approaches. Qualitatively, the results are analyzed by relating them to existing literature and theoretical frameworks. This allows for a deeper understanding of project implementation practices and challenges in the context of the Lideta Sub City Office Building Construction project.

Quantitatively, statistical measures such as percentages, frequencies, and means are utilized. The mean values are categorized based on previous literature styles to provide a comprehensive assessment of the data. This quantitative analysis helps in quantifying and summarizing the responses collected through interviews and questionnaires.

The analysis covers various aspects of project implementation, including knowledge areas related to project management such as project integration management, project scope management, project schedule management, project cost management, project quality management, project human resources management, project communication management, project risk management, project procurement management, and other project management issues.

By conducting a thorough analysis of the data, the study aims to provide insights into the practical implementation of the Lideta Sub City Office Building Construction project and identify the challenges faced during its execution.

4.1 Respondents Characteristics

Among the 25 responses 5 of them were not filled. 35% of the responses were from the contractor group, 50% of the responses were from clients and 15% from the consultants group.

Table 4.1 Response Rate

Respondent	**Questionnaire Collected (#)**			
	Questionnaire Distributed (#)	**Invalid/No Filled Questionnaire**	**Complete/ Valid response**	**Response from Total (%)**
Clients	**10**	**0**	**10**	**100%**
Consultant	**5**	**2**	**3**	**60%**
Contractor	**10**	**3**	**7**	**70%**
Total	**25**	**5**	**20**	**80%**

Source: own survey, 2024

4.2 Respondents by Age group

Table 4.2 Respondents age group

Age of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-29	9	45.0	45.0	45.0
	30-39	8	40.0	40.0	85.0
	40-49	3	15.0	15.0	100.0
	Total	20	100.0	100.0	

Source: own survey, 2024

Table 4.2 shows that among the 20 respondents 45% of the respondent have found 20-29 age group, 40% of the respondents have found 30-39 age group, 15% of the respondents have age group 40-49 age group and 0% respondents have found 50 and above age group. From the respondents most of them are found between 20-39 age groups. This shows respondents are young enough for the response.

4.3 Respondents by Educational Background

Table 4.3 Respondents Educational Background

Educational background of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	TVET/ Diploma	2	10.0	10.0	10.0
	1st Degree	9	45.0	45.0	55.0
	2nd Degree	9	45.0	45.0	100.0
	Total	20	100.0	100.0	

Source: own survey, 2024

Table 4.3 shows that among the 20 respondents 10% of the respondent have TVET/Diploma, 45% respondents have 1st degree, and 45% respondents have 2nd degree (Master's Degree) and 0 % or no respondents exist in PhD level. From the respondents larger numbers of respondents are 1st and 2nd degree holders. This may show how the respondents are academically enough for the response.

4.4 Respondents Experience

Table 4.4 Respondents Experience

Experience of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-5	6	30.0	30.0	30.0
	6-10	10	50.0	50.0	80.0
	11-15	3	15.0	15.0	95.0
	22.00	1	5.0	5.0	100.0
	Total	20	100.0	100.0	

Source: own survey, 2024

Among the respondents 30% of respondents have 1 to 5 years' experience, 50% of respondents have 6 to 10 years of experience and 15% of respondents have 11 to 15 years of experience and 0% of respondents have 16 and above years of experience in building construction.

According to the findings as indicated in Table 4.4, above 55% of the participants had more than 5 years of experience which helped in providing a better understanding of this matter and in better position in giving much precise answer required to the questionnaires form.

4.5 Respondents by Job Designation

Table 4.5 Respondents Job Designation

Job Designation of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Project Manager	3	15.0	15.0	15.0
	Customer/client	6	30.0	30.0	45.0
	Other, Specify	11	55.0	55.0	100.0
	Total	20	100.0	100.0	

Source: own survey, 2024

Table 4.5 shows that among the total of 20 respondents 15% of respondents are project manager 30% of respondents are client/customer group 55 % of respondents are other groups of Designation like as per the collected data 1 respondent were Level Person, 1 respondent were Planner, 1 respondent were Control Administrator, 2 respondents were Site engineers, 1 respondent were Project control engineer, 1 respondent were senior construction engineer, 1 respondent were Office engineer, 1 respondent were Structural engineer, 1 respondent were Mechanical engineer, 1 respondent were Electrical engineer. The organization group 10 respondents are from client, 7 respondents are from contractor, and 3 respondents are from consultant. The respondent's designation showed variety positions which helped the study to assess the response of each participant in giving much precise answer.

The participants were working in more moderate and senior positions so that the data collected from each post holder has been very relatable to analyze the views and perceptions of the participants in the area of the study.

4.6 Respondents by Gender

Table 4.6 Respondents by Gender

Gender of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	10	50.0	50.0	50.0
	Female	10	50.0	50.0	100.0
	Total	20	100.0	100.0	

Source: own survey, 2024

Table 4.6 shows that among the total of 20 respondents 50% of respondents were male and 50% of respondents were female and regarding the organization group as per the collected data 10 respondents are from client, 7 respondents were from contractor, and 3 respondents are from consultant.

According to the findings as indicated in Table 4.6 the numbers of male respondents were equal with the number of female respondents; this proportion is showing and helped fair which the study to assess the response of each participant in giving much precise answer.

4.7 Analysis of Project Management Knowledge Areas

In a 5-point likert scale the possible score ranges from 1-5 and 3 become the hypothetical average score. A calculated mean score less than 3, which is hypothetical average, can be considered as low mean score whereas greater than 3 can be considered as high mean score. Therefore the analysis will be made based on this assumption. In this part the planning processes or knowledge areas are descriptively analyzed. The main problem areas from the knowledge areas are identified by comparing their mean and standard deviation. The lower the mean of the knowledge areas indicate that they are poorly performed. In order to assess the current planning practices of the Lideta Sub City Office Building Construction project, analysis is made based on the project planning inputs that are widely applied by PMI. In the following tables the current planning practices of the Lideta Sub City Office Building Construction project is analyzed.

Table 4.7 Descriptive Statistics

	N	Mean		Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
Integration	20	3.6750	.05764	.25777
Scope	20	3.6200	.07093	.31722
Schedule	20	4.0786	.07649	.34209
Cost	20	3.8583	.06975	.31192
Quality	20	3.8875	.14220	.63596
HRM	20	3.5875	.12987	.58081
Communication	20	3.8400	.35291	1.57827
Risk	20	3.0600	.12823	.57345
Procurement	20	3.3500	.15562	.69597
Others	20	3.6875	.07505	.33566
Valid N (list wise)	20			

Source: own survey, 2024

4.7.1 Project Integration Management

Table 4.7.1 Descriptive analysis of Project integration management

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Des Sta
	Sub table N %	Sub table N %	Sub table N %	Sub table N %	Sub table N %	Sub table N %
Integration management	0.0%	0.0%	40.0%	60.0%	0.0%	100.0%
Project Plan Development	0.0%	0.0%	30.0%	65.0%	5.0%	100.0%
Project Plan Execution	0.0%	0.0%	0.0%	95.0%	5.0%	100.0%
Overall Change Control	0.0%	15.0%	40.0%	45.0%	0.0%	100.0%

Source: own survey, 2024

Accordingly from the collected data within the integration management 60% of respondents said agree, 40% of respondents said neutral. Project plan development 65% of respondents said agree, 30% of respondents said neutral and 5% of respondents said strongly agree, project plan execution 95% of respondents said agree, 5% of respondents said strongly agree and overall change control 45% of respondents said agree, 40% of respondents said neutral, 15% of respondents said disagree. From the above discussion maximum percent of respondents said **agree and neutral** with the project has integration management and their mean value is 3.6750. This shows that the project has good project integration management practice.

4.7.2 Project Scope Management

Table 4.7.2 Descriptive analysis of Project Scope management

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Des Sta
	Sub table N %	Sub table N %	Sub table N %	Sub table N %	Sub table N %	Sub table N %
Scope challenge	0.0%	20.0%	35.0%	35.0%	10.0%	100.00%
Scope Planning	0.0%	15.0%	5.0%	75.0%	5.0%	100.00%
Scope Definition	0.0%	0.0%	30.0%	70.0%	0.0%	100.00%
Scope Verification	0.0%	0.0%	25.0%	75.0%	0.0%	100.00%
Scope Change Control	0.0%	5.0%	30.0%	65.0%	0.0%	100.00%

Source: own survey, 2024

Accordingly from the collected data within Scope management:- Scope challenge 35% of respondents said agree, 35% of respondents said neutral, 20% of respondents said disagree, 10% of respondents said strongly agree. Scope planning 75% of respondents said agree, 15% of respondents said disagree 5% of respondents said neutral, 5% of respondents said strongly agree. Scope definition 70% of respondents said agree, 30% of respondents said neutral. Scope verification 75% of respondents said agree, 25% of respondents said neutral. Scope change control 65% of respondents said agree, 30% of respondents said neutral, 5% of respondents said disagree. From the above discussion the researcher found out that maximum percent of respondents said **agree and neutral** with the project has Scope management practice and their mean value is 3.6200. This shows that the project has good project scope management practice.

4.7.3 Project Schedule Management

Table 4.7.3 Descriptive analysis of Project Schedule management

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Des Sta
	Sub table N %	Sub table N %	Sub table N %	Sub table N %	Sub table N %	Sub table N %
Delays challenge	0.0%	0.0%	45.0%	45.0%	10.0%	100.00%
Planned schedule	0.0%	0.0%	0.0%	65.0%	35.0%	100.00%
Activity Definition	0.0%	0.0%	5.0%	90.0%	5.0%	100.00%
Activity Sequencing	0.0%	0.0%	5.0%	90.0%	5.0%	100.00%
Activity Duration Estimating	0.0%	5.0%	10.0%	40.0%	45.0%	100.00%
Schedule Development	0.0%	0.0%	0.0%	75.0%	25.0%	100.00%
Schedule Control	0.0%	5.0%	0.0%	80.0%	15.0%	100.00%

Source: own survey, 2024

Accordingly from the collected data within Schedule management: - Delays challenge 45% of respondents said agree, 45% of respondents said neutral, 10% of respondents said strongly agree. Planned schedule 65% of respondents said agree, 35% of respondents said strongly agree. Activity definition 90% of respondents said agree, 5% of respondents said neutral, 5% of respondents said strongly agree. Activity sequencing 90% of respondents said agree, 5% of respondents said neutral, 5% of respondents said strongly agree, Activity duration estimating 45% of respondents said strongly agree, 40% of respondents said agree, 10% of respondents said neutral, 5% of respondents said disagree. Schedule development 75% of respondents said agree, 25% of respondents said strongly agree. And Schedule control 80% of respondents said agree, 15% of respondents said strongly agree, 5% of respondents said disagree.

From the above discussion the researcher found out that maximum percent of respondents said **agree and strongly agree** with the project has Schedule management practice and their mean value is 4.0786. This shows that the project has good project Schedule management practice.

4.7.4 Project Cost Management

Table 4.7.4 Descriptive analysis of Project Cost management

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Des Sta
	Sub table N %	Sub table N %	Sub table N %	Sub table N %	Sub table N %	Sub table N %
Cost overruns challenge	0.0%	0.0%	35.0%	40.0%	25.0%	100.0%
planned budget	0.0%	10.0%	45.0%	40.0%	5.0%	100.0%
Resource Planning	0.0%	0.0%	5.0%	90.0%	5.0%	100.0%
Cost Estimating	0.0%	0.0%	5.0%	90.0%	5.0%	100.0%
Cost Budgeting	0.0%	0.0%	20.0%	75.0%	5.0%	100.0%
Cost Control	0.0%	5.0%	0.0%	85.0%	10.0%	100.0%

Source: own survey, 2024

Accordingly from the collected data within the Cost management:- Cost overruns challenge 40% of respondents said agree, 35% of respondents said neutral, 25% of respondents said strongly agree. Planned budget 45% of respondents said neutral, 40% of respondents said agree, 10% of respondents said disagree 5% of respondents said strongly agree. Resource planning 90% of respondents said agree, 5% of respondents said strongly agree, 5% of respondents said neutral. Cost estimating 90% of respondents said agree, 5% of respondents said strongly agree, 5% of respondents said neutral. Cost budgeting 75% of respondents said agree, 20% of respondents neutral, 5% of respondents said strongly agree. Cost control 85% of respondents said agree, 10% of respondents said strongly agree, 5% of respondents said disagree.

From the above discussion the researcher found out that maximum percent of respondents said **agree and neutral** with the project has Cost management practice and their mean value is 3.8583. This shows that the project has good project Cost management practice.

4.7.5 Project Quality Management

Table 4.7.5 Descriptive analysis of Project Quality management

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Des Sta
	Sub table N %	Sub table N %	Sub table N %	Sub table N %	Sub table N %	Sub table N %
Meet client requirements	0.0%	0.0%	20.0%	35.0%	45.0%	100.00%
Quality Planning	0.0%	0.0%	25.0%	70.0%	5.0%	100.00%
Quality Assurance	0.0%	0.0%	40.0%	20.0%	40.0%	100.00%
Quality Control	5.0%	0.0%	40.0%	50.0%	5.0%	100.00%

Source: own survey, 2024

Accordingly from the collected data within Quality management:- Meet client requirements 45% of respondents said strongly agree, 35% of respondents said agree, 20% of respondents said neutral. Quality planning 70% of respondents said agree, 25% of respondents said neutral, 5% of respondents said strongly disagree. Quality assurance 40% of respondents said strongly agree, 40% of respondents said neutral, 20% of respondents said agree. Quality control 50% of respondents said agree, 40% of respondents said neutral, 5% of respondents said strongly agree, 5% of respondents said strongly disagree. From the above discussion the researcher found out that maximum percent of respondents said **neutral, agree, and strongly agree** with the project has Quality management practice and their mean value is 3.8875. This shows that the project has good project Quality management practice.

4.7.6 Project Human Resource Management

Table 4.7.6 Descriptive analysis of Project Human Resources management

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Des Sta
	Sub table N %	Sub table N %	Sub table N %	Sub table N %	Sub table N %	Sub table N %
Project team necessary skill and expertise	5.0%	0.0%	5.0%	85.0%	5.0%	100.0%
Organizational Planning	0.0%	0.0%	25.0%	50.0%	25.0%	100.0%
Staff Acquisition	0.0%	35.0%	25.0%	35.0%	5.0%	100.0%
Team Development	0.0%	15.0%	35.0%	45.0%	5.0%	100.0%

Source: own survey, 2024

Accordingly from the collected data within Human resource management:- Project team necessary skill and expertise 85% of respondents said agree, 5% of respondents said strongly agree, 5% of respondents said neutral, 5% of respondents said strongly disagree. Organizational planning 50% of respondents said agree, 25% of respondents said strongly agree, 25% of respondents said neutral. Staff acquisition 35% of respondents said agree, 35% of respondents said disagree, 25% of respondents said neutral, 5% of respondents said strongly agree. Team development 45% of respondents said agree, 35% of respondents said neutral, 15% of respondents said disagree, 5% of respondents said strongly agree. From the above discussion the researcher found out that maximum percent of respondents said **neutral and agree** with the project has Human resource management practice and their mean value is 3.5875. This shows that the project has good project Human Resources management practice.

4.7.7 Project Communication Management

Table 4.7.7 Descriptive analysis of Project Communication management

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Des Sta
	Sub table N %	Sub table N %	Sub table N %	Sub table N %	Sub table N %	Sub table N %
Communication channels challenge	0.0%	20.0%	10.0%	35.0%	35.0%	100.00%
Communications Planning	0.0%	20.0%	35.0%	40.0%	5.0%	100.00%
Information Distribution	0.0%	15.0%	15.0%	70.0%	0.0%	100.00%
Performance Reporting	0.0%	15.0%	35.0%	30.0%	20.0%	100.00%
Administrative Closure	0.0%	0.0%	50.0%	45.0%	5.0%	100.00%

Source: own survey, 2024

Accordingly from the collected data within the Communication management:- Communication channels challenge 35% of respondents said strongly agree, 35% of respondents said agree, 20% of respondents disagree, 10% of respondents said neutral. Communications planning 40% of respondents said agree, 35% of respondents said neutral, 20% of respondents said disagree, 5% of respondents said strongly disagree, Information distribution 70% of respondents said agree, 15% of respondents said neutral, 15% of respondents said disagree. Performance reporting 35% of respondents said neutral, 30% of respondents said agree, 20% of respondents said strongly agree, 15% of respondents said disagree. Administrative Closure 50% of respondents said neutral, 45% of respondents said agree, 5% of respondents said strongly agree. From the above discussion the researcher found out that maximum percent of respondents said **neutral and agree** with the project has Communication management practice and their mean value is 3.8400. This shows that the project has good project Communication management practice.

4.7.8 Project Risk Management

Table 4.7.8 Descriptive analysis of Project Risk management

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Des Sta
	Sub table N %	Sub table N %	Sub table N %	Sub table N %	Sub table N %	Sub table N %
Risk challenge	5.0%	20.0%	45.0%	25.0%	5.0%	100.00%
Risk Identification	0.0%	25.0%	55.0%	20.0%	0.0%	100.00%
Risk Quantification	0.0%	55.0%	20.0%	25.0%	0.0%	100.00%
Risk Response Development	0.0%	10.0%	35.0%	50.0%	5.0%	100.00%
Risk Response Control	0.0%	25.0%	40.0%	35.0%	0.0%	100.00%

Source: own survey, 2024

Accordingly from the collected data within Risk management:- Risk challenge 45% of respondents said neutral, 25% of respondents said agree, 20% of respondents said disagree, 5% of respondents said strongly agree, 5% of respondents said strongly disagree. Risk Identification 55% of respondents said neutral, 25% of respondents said disagree, 20% of neutral. Risk Quantification 55% of respondents said disagree, 25% of respondents said agree, 20% of respondents said neutral. Risk response development 50% of respondents said agree, 35% of respondents said neutral, 10% of respondents said disagree,5% of respondents said strongly agree. Risk response control 40% of respondents said neutral, 35% of respondents said agree, 25% of respondents said disagree. From the above discussion the researcher found out that maximum percent of respondents said **neutral and agree** with the project has Risk management practice and their mean value is 3.0600. This shows that the project has good project Communication management practice.

4.7.9 Project Procurement Management

Table 4.7.9 Descriptive analysis of Project Procurement management

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Des Sta
	Sub table N %	Sub table N %	Sub table N %	Sub table N %	Sub table N %	Sub table N %
Procurement challenge	0.0%	25.0%	5.0%	70.0%	0.0%	100.00%
Procurement planning	0.0%	0.0%	45.0%	55.0%	0.0%	100.00%
Solicitation Planning	0.0%	25.0%	15.0%	60.0%	0.0%	100.00%
Solicitation	0.0%	15.0%	40.0%	45.0%	0.0%	100.00%
Source Selection	0.0%	20.0%	15.0%	65.0%	0.0%	100.00%
Contract Administration	0.0%	30.0%	20.0%	45.0%	5.0%	100.00%
Contract Close-out	0.0%	30.0%	45.0%	10.0%	15.0%	100.00%

Source: own survey, 2024

Accordingly from the collected data within Procurement management:- Procurement challenge 70% of respondents said agree, 25% of respondents said disagree, 5% of respondents said neutral. Procurement Planning 55% of respondents said agree, 45% of respondents said neutral. Solicitation Planning 60% of respondents said agree, 25% of respondents said disagree. Solicitation 45% of respondents said agree, 40% of respondents said neutral, 15% of respondents said disagree. Source selection 65% of respondents said agree, 20% of respondents said disagree, 15% of respondents said neutral. Contract administration 45% of respondents said agree, 30% of respondents said disagrees, 20% of respondents said neutral, 5% of respondents said strongly agree. Contract close out 45% of respondents said neutral, 30% of respondents said disagree, 15% of respondents said strongly agree, 10% of respondents said agree.

From the above discussion the researcher found out that maximum percent of respondents said **neutral and agree** with the Project has Procurement management practice and their mean value is 3.3500. This shows that the project has good project Procurement management practice.

4.7.10 Other Project Management Issues

Table 4.7.10 Descriptive analysis of Other Project management Issues

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Des Sta
	Sub table N %	Sub table N %	Sub table N %	Sub table N %	Sub table N %	Sub table N %
Government financial policy	0.0%	10.0%	10.0%	75.0%	5.0%	100.00%
Government legal issues	0.0%	10.0%	55.0%	30.0%	5.0%	100.00%
Government regulations	0.0%	0.0%	35.0%	60.0%	5.0%	100.00%
Contractual issues Client with Contractor	0.0%	5.0%	50.0%	40.0%	5.0%	100.00%
Contractual issues Client with Consultant	0.0%	5.0%	10.0%	85.0%	0.0%	100.00%
contractor selection criteria	0.0%	0.0%	30.0%	70.0%	0.0%	100.00%
Monitoring by consultant and the client project management teams	0.0%	0.0%	10.0%	80.0%	10.0%	100.00%
Evaluation by consultant and the client project management teams	0.0%	5.0%	15.0%	75.0%	5.0%	100.00%

Source: own survey, 2024

Accordingly from the collected data Other Project management Issues: - Government financial policy 75% of respondents said agree, 10% of respondents said neutral,10% of respondents said disagree, 5% of respondents said strongly agree. Government legal Issues 55% of respondents said neutral, 30% of respondents said agree, 10% of respondents said disagree, 5% of respondents said strongly agree.

Government Regulations 60% of respondents said agree, 35% of respondents said neutral, 5% of respondents said strongly agree. Contractual Issues between client and contractor 50% of respondents said neutral, 40% of respondents said agree, 5% of respondents said strongly agree, 5% of respondents said disagree. Contractual Issues between client and consultant 85% of respondents said agree, 10% of respondents said neutral, 5% of respondents said disagree. Contractor selection 70% of respondents said agree, 30% of respondents said neutral. Project Monitoring 80% of respondents said agree 10% of respondents said strongly agree, 10% of respondents said neutral. And Project Evaluation 75% of respondents said agree, 15% of respondents said neutral, 5% of respondents said strongly agree, 5% of respondents said disagree. From the above discussion the researcher found out that maximum percent of respondents said **neutral and agree** with the Project has Other Project management Issues practice and their mean value is 3.6875. This shows that the project has good Other Project management Issues management practice.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

Introduction

This chapter presents the summary of the findings of the study. It has elaborated the summary and major findings from the analysis and has produced the presentation in detail. The researcher suggests the possible recommendations and conclusions that has summarized and concluded the research study.

5.1 Summary of major findings

The study aimed to assess project implementation practices and challenges in the case of the Lideta Sub City Office Building Construction project. The study utilized a descriptive case study design and collected data through interviews and questionnaires from project management team members, contractors, and consultants involved in the project.

To achieve these objectives, the study used both qualitative and quantitative data. Qualitative data's were collected from city Administration procedures and manuals published and unpublished literature reviews. Quantitative data were collected through self-administered survey questionnaire from owner, contractor, and consultant.

The study adopts a descriptive case study design and utilizes both qualitative and quantitative analysis methods and used statistical tools such as descriptive percentage, mean, and standard deviation to assess the implementation practices and challenges of the project. The analysis of knowledge areas showed a high level of mean value, indicating good management practices in those areas.

5.2 Conclusions

The main aim of the study was to asses' project implementation practice and challenges in the case of Lideta Sub city Office Building Project based on the findings of this study have led to the following conclusions. This project in general has very good implementing practice in terms of project implementation, including knowledge areas. So we can conclude that this project is successful as per the finding the project is undergoing within the allocated time period, within the budgeted cost**,** at the proper performance or specification level**,** with acceptance by the customer/user, with minimum or mutually agreed upon scope changes, without disturbing the main work flow of the organization, without changing the corporate culture.

5.3 Recommendations

Based on the assessment of project implementation practices and challenges, the following recommendations are commonly suggested:

Strengthen Project Planning: Emphasize comprehensive project planning, including clear objectives, scope definition, and realistic timelines and budgets. This will help mitigate risks and ensure effective project execution.

Enhance Communication and Collaboration: Improve communication channels and collaboration among project stakeholders, including project management team members, contractors, and consultants. Regular meetings, status updates, and effective information sharing can enhance coordination and address challenges promptly.

Develop Risk Management Strategies: Implement a proactive risk management approach by identifying, assessing, and mitigating project risks. Establish a risk management plan and regularly monitor and evaluate risks throughout the project lifecycle.

Invest in Project Management Training: Provide adequate training and professional development opportunities for project management team members to enhance their skills and knowledge in project management practices. This will contribute to better project implementation and outcomes.

Ensure Stakeholder Engagement: Engage key stakeholders throughout the project lifecycle, including the project owners, local authorities, and community members. Consider their perspectives, address their concerns, and maintain open lines of communication to foster a positive project environment.

Evaluate and Learn from Past Projects: Conduct thorough evaluations of completed projects, identify lessons learned, and incorporate them into future projects. This continuous improvement approach can help refine project implementation practices and overcome challenges.

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APPENDIXES

Appendix- A: Questionnaire

Questionnaire

Declaration:

Dear sir/Madam,

Dear respondent I am student of St. Mary's university. This questionnaire has been developed to collect data to study project management master's degree. Assessment of project implementation practices and challenges: The case of Lideta Sub City Office Building Construction project. Information obtained through this questionnaire will only be used for academic purpose. All response given by you will be strictly kept confidential. The study is to be submitted to the department of project management, St. Mary's university as part of my Partial Fulfillment for the Degree of Masters in Project Management.

N.B:

- ✓ There is no need to write your name.
- ✓ For open-ended questions, a space is provided, if the space is not sufficient, please use the back of the paper or separate paper which ever suits you.
- ✓ Close ended questions are answered by placing check mark of the blank space.

Please tick (☐) on the systems which are in use to handle the physical resource management in your company.

The rating is organized in five measure of weighting you ordered them as follows;

Rating Scale	Very High	High	Moderate	Low	Very Low
	5	4	3	2	1

Section I: personal Information

Please check which most accurately describes:

All information, including all results and personal information from participating individuals will be kept strictly confidential and be used only for research purposes.

1. **In what age group are you?**

19 and under ☐ 20-29 ☐ 30-39 ☐ 40-49 ☐ 50-59 ☐ 60 and above ☐

2. **Organization type**

Owner ☐ Contractor ☐ Consultant ☐

3. **Respondent Gender:**

Male ☐ Female ☐

4. **Educational Background**

TVET/ Diploma ☐ 1st Degree ☐ 2nd Degree ☐ PhD ☐

5. **Experience in Building construction work (in years)**

1-5 ☐ 6-10 ☐ 11-15 ☐ 16+ ☐

6. **Job Designation**

Project Manager ☐ Customer/client ☐ performing organization ☐

Sponsor ☐

Other, Specify_____

Section II: Research Questions to assess project implementation practices and challenges: The case of Lideta Sub City Office Building Construction project.

A Likert scale is used to scale responses in which to identify project implementation practices and challenges to the Building construction projects.

Rating Scale	Very High	High	Moderate	Low	Very Low
	5	4	3	2	1

Answer the following questions by circling the most appropriate answer

What is your level of perception with the following statements? "Project implementation practices on Lideta Sub City Office Building Construction project"? Circle using a scale of 1 to 5 where: - *1 = strongly disagree, 2= disagree, 3= moderately agree (Neutral), 4= agree, and 5 = strongly agree.*

No	Questions	Very High	High	Moderate	Low	Very Low
		5	4	3	2	1
1	Do you think **Integration management** were a significant challenge in the project?					
	If you do agree with, what could the project be improved to minimized the **Integration management challenge**?					
2	Do you think the project has **Project Plan Development** which is taking the results of other planning processes and putting them into a consistent, coherent document?					
	If you do not agree with, what could the project be improved to has **Project plan development**?					
3	Do you think the project has **Project Plan Execution** which is carrying out the project plan by performing the activities included therein?					
	If you do not agree with, what could the project be improved to has **Project plan execution**?					
4	Do you think the project has **Overall Change Control** which is coordinating changes across the entire project?					
	If you do not agree with, what could the project be improved to has **Overall Change Control**?					
5	Do you think **Scope** were a significant challenge in the project?					
	If you do agree with, what could the project be improved to minimized the **Unplanned Scope challenge**?					
6	Do you think the project has **Scope Planning** which is written scope statement as the basis for future project decisions?					
	If you do not agree with, what could the project be improved to has **scope planning**?					
7	Do you think the project has **Scope Definition** which is subdividing the major project deliverables into smaller,					

	more manageable components?					
	If you do not agree with, what could the project be improved to has **scope definition**?					
8	Do you think the project has **Scope Verification** which is formalizing acceptance of the project scope?					
	If you do not agree with, what could the project be improved to has **scope verification**?					
9	Do you think the project has **Scope Change Control** which is controlling changes to project scope?					
	If you do not agree with, what could the project be improved to has **scope change control**?					
10	Do you think **Delays** in the project timelines were a significant challenge?					
	If you do agree with, what could the project be improved to minimized the **delays challenge**?					
11	Do you think the project has **planned schedule** which include processes required to ensure timely completion of the project?					
	If you do not agree with, what could the project be improved to has **planned schedule**?					
12	Do you think the project has **Activity Definition** which is identifying the specific activities that must be performed to produce the various project deliverables?					
	If you do not agree with, what could the project be improved to has **activity definition**?					
13	Do you think the project has **Activity Sequencing** which is identifying and documenting interactivity dependencies?					
	If you do not agree with, what could the project be improved to has **activity sequencing**?					
14	Do you think the project has **Activity Duration Estimating** which is estimating the number of work periods which will be needed to complete individual activities?					
	If you do not agree with, what could the project be improved to has **activity duration estimating**?					
15	Do you think the project has **Schedule Development** which is analyzing activity sequences, activity durations, and resource requirements to create the project schedule?					
	If you do not agree with, what could the project be improved to has **schedule development**?					
16	Do you think the project has **Schedule Control** which is controlling changes to the project schedule?					
	If you do not agree with, what could the project be improved to has **schedule control**?					
17	Do you think **Cost overruns** were a major challenge in the project?					
	If you do agree with, what could the project be improved to minimalized the **cost overruns challenge?**					
18	Do you think the project has **planned budget** which include processes required to ensure the project completed within					

	the approved budget?					
	If you do not agree with, what could the project be improved to has **planned budget**?					
19	Do you think the project has **Resource Planning** which is determining what Resources (people, equipment, materials) and what quantities of each should be used to perform project activities?					
	If you do not agree with, what could the project be improved to has resource planning?					
20	Do you think the project has **Cost Estimating** which is developing an approximation (estimate) of the costs of the resources needed to complete project activities?					
	If you do not agree with, what could the project be improved to has **cost estimating**?					
21	Do you think the project has **Cost Budgeting** which is allocating the overall cost estimate to individual work items?					
	If you do not agree with, what could the project be improved to has **cost budgeting**?					
22	Do you think the project has **Cost Control** which is controlling changes to the project budget?					
	If you do not agree with, what could the project be improved to has **cost control**?					
23	Do you think the project **meet client requirements (quality)** which include the processes required to ensure that the project satisfy the needs of the project owner or client?					
	If you do agree with, what could the project be improved to has **meet client requirements?**					
24	Do you think the project has **Quality Planning** which is identifying which quality standards are relevant to the project and determining how to satisfy them?					
	If you do agree with, what could the project be improved to has **quality planning?**					
25	Do you think the project has **Quality Assurance** which is evaluating overall project performance on a regular basis to provide confidence that the project will satisfy the relevant quality standards?					
	If you do agree with, what could the project be improved to has **quality assurance?**					
26	Do you think the project has **Quality Control** which is monitoring specific project results to determine if they comply with relevant quality standards and identifying ways to eliminate causes of unsatisfactory performance?					
	If you do agree with, what could the project be improved to has **quality control?**					
27	Do you think the **project team necessary skill and expertise** were the major challenge for the project?					
	If you do not agree with, what could the project team be improved to minimalized the					

	Inexperienced and unskilled project teams?					
28	Do you think the project has **Organizational Planning** which is identifying, documenting, and assigning project roles, responsibilities, and reporting relationships?					
	If you do agree with, what could the project be improved to has **Organizational Planning?**					
29	Do you think the project has **Staff Acquisition** which is getting the human resources needed assigned to and working on the project?					
	If you do agree with, what could the project be improved to has **Staff Acquisition?**					
30	Do you think the project has **Team Development** which is developing individual and group skills to enhance project performance?					
	If you do agree with, what could the project be improved to has **Team Development?**					
31	Do you think **Communication channels** were a major challenge in the project?					
	If you do agree with, what could the project be improved to minimalized the **poor Communication channels challenge?**					
32	Do you think the project has **Communications Planning** which is determining the information and communications needs of the stakeholders: who needs what information, when will they need it, and how will it be given to them?					
	If you do agree with, what could the project be improved to has **Communications Planning?**					
33	Do you think the project has **Information Distribution** which is making needed information available to project stakeholders in a timely manner?					
	If you do agree with, what could the project be improved to has **Information Distribution?**					
34	Do you think the project has **Performance Reporting** which is collecting and disseminating performance information this includes status reporting, progress measurement, and forecasting?					
	If you do agree with, what could the project be improved to has **Performance Reporting?**					
35	Do you think the project has **Administrative Closure** which is generating, gathering, and disseminating information to formalize phase or project completion?					
	If you do agree with, what could the project be improved to has **Administrative Closure?**					
36	Do you think **risk** were a major challenge in the project?					
	If you do agree with, what could the project be improved to minimalized the **risk challenge?**					
37	Do you think the project has **Risk Identification** which is determining which risks are likely to affect the project and documenting the characteristics of each?					
	If you do agree with, what could the project be improved to					

	has **Risk Identification?**					
38	Do you think the project has **Risk Quantification** which is evaluating risks and risk interactions to assess the range of possible project outcomes?					
	If you do agree with, what could the project be improved to has **Risk Quantification?**					
39	Do you think the project has **Risk Response Development** which is defining enhancement steps for opportunities and responses to threats?					
	If you do agree with, what could the project be improved to has **Risk Response Development?**					
40	Do you think the project has **Risk Response Control** which is responding to changes in risk over the course of the project?					
	If you do agree with, what could the project be improved to has Risk Response Control?					
41	Do you think **Procurement** were a major challenge in the project?					
	If you do agree with, what could the project be improved to minimalized the **Procurement challenge?**					
42	Do you think the project has **Procurement planning** which is determining what to procure and when?					
	If you do agree with, what could the project be improved to has Procurement Planning?					
43	Do you think the project has **Solicitation Planning** which is documenting product requirements and identifying potential sources?					
	If you do agree with, what could the project be improved to has Solicitation Planning?					
44	Do you think the project has **Solicitation** which is obtaining quotations, bids, offers, or proposals as appropriate?					
	If you do agree with, what could the project be improved to has Solicitation?					
45	Do you think the project has **Source Selection** which is choosing from among potential sellers?					
	If you do agree with, what could the project be improved to has Source Selection?					
46	Do you think the project has **Contract Administration** which is managing the relationship with the seller?					
	If you do agree with, what could the project be improved to has Contract Administration?					
47	Do you think the project has **Contract Close-out** which is completion and settlement of the contract, including resolution of any open items?					
	If you do agree with, what could the project be improved to has Contract Close-out?					
48	Do you think government **financial policy** has a positive impact for this project? Which is financial policy allocation of budget for public building projects?					
	If you do not agree with, what could the project be					

	improved to has a positive impact?					
49	Do you think government **legal issues** have a positive impact for this project? Which is legal issues allocation of budget for public building projects?					
	If you do not agree with, what could the project be improved to has a positive impact?					
50	Do you think **government regulations** have a positive impact for this project? Which is government regulations allocation of budget for public building projects?					
	If you do not agree with, what could the project be improved to has a positive impact?					
51	Do you think **contractual issues** addressed properly in the **contract document** between the **client and the contractor** in this project? Which are pointes listed in the contract document?					
	If you do not agree with, what could expect from the client and the contractor issues have to include in the contract document to improve the project.					
52	Do you think **contractual issues** addressed properly between **client and consultants?** Which are pointes listed in the contract document?					
	If you do not agree with, what could expect from the client and the consultant issues have to include in the contract document to improve the project.					
53	Do you think contractor **selection criteria** are properly addressed by the client? Which are points listed to select the contractor?					
	If you do not agree with, what could expect from the client (owner of the project) Criteria's have to include contractor selection criteria.					
54	Do you think the **project monitored** by the consultant and the client project management teams? Which is the project is monitored to attaining its planned outputs?					
	If you do not agree with, what could expect from the consultant and the client to Improve monitoring the project.					
55	Do you think the **project evaluated** by the consultant and the client project management teams? Whether the project was implemented successfully or not?					
	If you do not agree with, what could expect from the consultant and the client to Improve to implement the project Successful?					
Thank you						

Appendix- B: Information of the Statistics

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Desc Sta	
	Count	Sub table N %	Count	Sub table N %	Count	Sub table N %	Count	Sub table N %	Count	Sub table N %	Mean	Standard Deviation
Integration management	0	0.0%	0	0.0%	8	40.0%	12	60.0%	0	0.0%	3.60	.50
Project Plan Development	0	0.0%	0	0.0%	6	30.0%	13	65.0%	1	5.0%	3.75	.55
Project Plan Execution	0	0.0%	0	0.0%	0	0.0%	19	95.0%	1	5.0%	4.05	.22
Overall Change Control	0	0.0%	3	15.0%	8	40.0%	9	45.0%	0	0.0%	3.30	.73
Scop challenge	0	0.0%	4	20.0%	7	35.0%	7	35.0%	2	10.0%	3.35	.93
Scope Planning	0	0.0%	3	15.0%	1	5.0%	15	75.0%	1	5.0%	3.70	.80
Scope Definition	0	0.0%	0	0.0%	6	30.0%	14	70.0%	0	0.0%	3.70	.47
Scope Verification	0	0.0%	0	0.0%	5	25.0%	15	75.0%	0	0.0%	3.75	.44
Scope Change Control	0	0.0%	1	5.0%	6	30.0%	13	65.0%	0	0.0%	3.60	.60
Delays challenge	0	0.0%	0	0.0%	9	45.0%	9	45.0%	2	10.0%	3.65	.67
Planned schedule	0	0.0%	0	0.0%	0	0.0%	13	65.0%	7	35.0%	4.35	.49
Activity Definition	0	0.0%	0	0.0%	1	5.0%	18	90.0%	1	5.0%	4.00	.32
Activity Sequencing	0	0.0%	0	0.0%	1	5.0%	18	90.0%	1	5.0%	4.00	.32
Activity Duration Estimating	0	0.0%	1	5.0%	2	10.0%	8	40.0%	9	45.0%	4.25	.85
Schedule Development	0	0.0%	0	0.0%	0	0.0%	15	75.0%	5	25.0%	4.25	.44
Schedule Control	0	0.0%	1	5.0%	0	0.0%	16	80.0%	3	15.0%	4.05	.60
Cost overruns challenge	0	0.0%	0	0.0%	7	35.0%	8	40.0%	5	25.0%	3.90	.79
planned budget	0	0.0%	2	10.0%	9	45.0%	8	40.0%	1	5.0%	3.40	.75
Resource Planning	0	0.0%	0	0.0%	1	5.0%	18	90.0%	1	5.0%	4.00	.32

Cost Estimating	0	0.0%	0	0.0%	1	5.0%	18	90.0%	1	5.0%	4.00	.32
Cost Budgeting	0	0.0%	0	0.0%	4	20.0%	15	75.0%	1	5.0%	3.85	.49
Cost Control	0	0.0%	1	5.0%	0	0.0%	17	85.0%	2	10.0%	4.00	.56
Meet client requirements	0	0.0%	0	0.0%	4	20.0%	7	35.0%	9	45.0%	4.25	.79
Quality Planning	0	0.0%	0	0.0%	5	25.0%	14	70.0%	1	5.0%	3.80	.52
Quality Assurance	0	0.0%	0	0.0%	8	40.0%	4	20.0%	8	40.0%	4.00	.92
Quality Control	1	5.0%	0	0.0%	8	40.0%	10	50.0%	1	5.0%	3.50	.83
Project team necessary skill and expertise	1	5.0%	0	0.0%	1	5.0%	17	85.0%	1	5.0%	3.85	.75
Organizational Planning	0	0.0%	0	0.0%	5	25.0%	10	50.0%	5	25.0%	4.00	.73
Staff Acquisition	0	0.0%	7	35.0%	5	25.0%	7	35.0%	1	5.0%	3.10	.97
Team Development	0	0.0%	3	15.0%	7	35.0%	9	45.0%	1	5.0%	3.40	.82
Communication channels challenge	0	0.0%	4	20.0%	2	10.0%	7	35.0%	7	35.0%	3.85	1.14
Communications Planning	0	0.0%	4	20.0%	7	35.0%	8	40.0%	0	0.0%	4.70	6.71
Information Distribution	0	0.0%	3	15.0%	3	15.0%	14	70.0%	0	0.0%	3.55	.76
Performance Reporting	0	0.0%	3	15.0%	7	35.0%	6	30.0%	4	20.0%	3.55	1.00
Administrative Closure	0	0.0%	0	0.0%	10	50.0%	9	45.0%	1	5.0%	3.55	.60
Risk challenge	1	5.0%	4	20.0%	9	45.0%	5	25.0%	1	5.0%	3.05	.94
Risk Identification	0	0.0%	5	25.0%	11	55.0%	4	20.0%	0	0.0%	2.95	.69
Risk Quantification	0	0.0%	11	55.0%	4	20.0%	5	25.0%	0	0.0%	2.70	.86
Risk Response Development	0	0.0%	2	10.0%	7	35.0%	10	50.0%	1	5.0%	3.50	.76
Risk Response Control	0	0.0%	5	25.0%	8	40.0%	7	35.0%	0	0.0%	3.10	.79
Procurement challenge	0	0.0%	5	25.0%	1	5.0%	14	70.0%	0	0.0%	3.45	.89

Procurement planning	0	0.0%	0	0.0%	9	45.0%	11	55.0%	0	0.0%	3.55	.51
Solicitation Planning	0	0.0%	5	25.0%	3	15.0%	12	60.0%	0	0.0%	3.35	.88
Solicitation	0	0.0%	3	15.0%	8	40.0%	9	45.0%	0	0.0%	3.30	.73
Source Selection	0	0.0%	4	20.0%	3	15.0%	13	65.0%	0	0.0%	3.45	.83
Contract Administration	0	0.0%	6	30.0%	4	20.0%	9	45.0%	1	5.0%	3.25	.97
Contract Close-out	0	0.0%	6	30.0%	9	45.0%	2	10.0%	3	15.0%	3.10	1.02
Government financial policy	0	0.0%	2	10.0%	2	10.0%	15	75.0%	1	5.0%	3.75	.72
Government legal issues	0	0.0%	2	10.0%	11	55.0%	6	30.0%	1	5.0%	3.30	.73
Government regulations	0	0.0%	0	0.0%	7	35.0%	12	60.0%	1	5.0%	3.70	.57
Contractual issues Client with Contractor	0	0.0%	1	5.0%	10	50.0%	8	40.0%	1	5.0%	3.45	.69
Contractual issues Client with Consultant	0	0.0%	1	5.0%	2	10.0%	17	85.0%	0	0.0%	3.80	.52
contractor selection criteria	0	0.0%	0	0.0%	6	30.0%	14	70.0%	0	0.0%	3.70	.47
Monitoring by consultant and the client project management teams	0	0.0%	0	0.0%	2	10.0%	16	80.0%	2	10.0%	4.00	.46
Evaluation by consultant and the client project management teams	0	0.0%	1	5.0%	3	15.0%	15	75.0%	1	5.0%	3.80	.62

Source: own survey, 2024

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cornbrash's Alpha if Item Deleted
Integration management	198.2500	428.092	.319	.848
Project Plan Development	198.1000	437.147	-.108	.851
Project Plan Execution	197.8000	435.642	-.077	.850
Overall Change Control	198.5500	449.839	-.495	.857
Scope challenge	198.5000	408.789	.671	.841
Scope Planning	198.1500	437.187	-.085	.852
Scope Definition	198.1500	439.713	-.251	.852
Scope Verification	198.1000	435.674	-.048	.851
Scope Change Control	198.2500	435.882	-.051	.851
Delays challenge	198.2000	415.853	.683	.843
Planned schedule	197.5000	424.474	.509	.846
Activity Definition	197.8500	430.134	.352	.848
Activity Sequencing	197.8500	429.924	.368	.848
Activity Duration Estimating	197.6000	420.147	.404	.846
Schedule Development	197.6000	424.884	.540	.846
Schedule Control	197.8000	425.747	.355	.847
Cost overruns challenge	197.9500	418.997	.476	.845
planned budget	198.4500	434.787	-.012	.851
Resource Planning	197.8500	429.924	.368	.848
Cost Estimating	197.8500	429.924	.368	.848
Cost Budgeting	198.0000	429.895	.239	.848
Cost Control	197.8500	432.450	.095	.850
Meet client requirements	197.6000	409.200	.791	.841
Quality Planning	198.0500	420.787	.648	.845
Quality Assurance	197.8500	414.555	.524	.844
Quality Control	198.3500	419.397	.440	.845
Project team necessary skill and expertise	198.0000	427.368	.229	.848
Organizational Planning	197.8500	413.713	.703	.843
Staff Acquisition	198.7500	416.618	.441	.845
Team Development	198.4500	412.892	.642	.843
Communication channels challenge	198.0000	397.579	.796	.837
Communications Planning	197.1500	358.766	.123	.942

Information Distribution	198.3000	412.011	.726	.842
Performance Reporting	198.3000	405.379	.711	.840
Administrative Closure	198.3000	416.853	.719	.843
Risk challenge	198.8000	411.747	.583	.843
Risk Identification	198.9000	419.042	.550	.845
Risk Quantification	199.1500	413.397	.593	.843
Risk Response Development	198.3500	417.503	.543	.844
Risk Response Control	198.7500	411.882	.703	.842
Procurement challenge	198.4000	407.095	.757	.840
Procurement planning	198.3000	426.432	.393	.847
Solicitation Planning	198.5000	407.316	.761	.840
Solicitation	198.5500	412.471	.738	.842
Source Selection	198.4000	408.147	.784	.841
Contract Administration	198.6000	406.358	.710	.840
Contract Close-out	198.7500	401.039	.805	.838
Government financial policy	198.1000	413.989	.702	.843
Government legal issues	198.5500	417.945	.551	.844
Government regulations	198.1500	418.976	.670	.844
Contractual issues Client with Contractor	198.4000	422.568	.423	.846
Contractual issues Client with Consultant	198.0500	431.945	.127	.849
contractor selection criteria	198.1500	435.187	-.022	.851
Monitoring by consultant and the client project management teams	197.8500	430.871	.204	.849
Evaluation by consultant and the client project management teams	198.0500	431.734	.112	.850

Source: own survey, 2024

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Des Sta
	Subtable N %	Subtable N %	Subtable N %	Subtable N %	Subtable N %	Subtable N %
Integration management	0.0%	0.0%	40.0%	60.0%	0.0%	100.00%
Project Plan Development	0.0%	0.0%	30.0%	65.0%	5.0%	100.00%
Project Plan Execution	0.0%	0.0%	0.0%	95.0%	5.0%	100.00%
Overall Change Control	0.0%	15.0%	40.0%	45.0%	0.0%	100.00%
Scop challenge	0.0%	20.0%	35.0%	35.0%	10.0%	100.00%
Scope Planning	0.0%	15.0%	5.0%	75.0%	5.0%	100.00%
Scope Definition	0.0%	0.0%	30.0%	70.0%	0.0%	100.00%
Scope Verification	0.0%	0.0%	25.0%	75.0%	0.0%	100.00%
Scope Change Control	0.0%	5.0%	30.0%	65.0%	0.0%	100.00%
Delays challenge	0.0%	0.0%	45.0%	45.0%	10.0%	100.00%
Planned schedule	0.0%	0.0%	0.0%	65.0%	35.0%	100.00%
Activity Definition	0.0%	0.0%	5.0%	90.0%	5.0%	100.00%
Activity Sequencing	0.0%	0.0%	5.0%	90.0%	5.0%	100.00%
Activity Duration Estimating	0.0%	5.0%	10.0%	40.0%	45.0%	100.00%
Schedule Development	0.0%	0.0%	0.0%	75.0%	25.0%	100.00%
Schedule Control	0.0%	5.0%	0.0%	80.0%	15.0%	100.00%
Cost overruns challenge	0.0%	0.0%	35.0%	40.0%	25.0%	100.00%
planned budget	0.0%	10.0%	45.0%	40.0%	5.0%	100.00%
Resource Planning	0.0%	0.0%	5.0%	90.0%	5.0%	100.00%
Cost Estimating	0.0%	0.0%	5.0%	90.0%	5.0%	100.00%
Cost Budgeting	0.0%	0.0%	20.0%	75.0%	5.0%	100.00%
Cost Control	0.0%	5.0%	0.0%	85.0%	10.0%	100.00%
Meet client requirements	0.0%	0.0%	20.0%	35.0%	45.0%	100.00%
Quality Planning	0.0%	0.0%	25.0%	70.0%	5.0%	100.00%
Quality Assurance	0.0%	0.0%	40.0%	20.0%	40.0%	100.00%
Quality Control	5.0%	0.0%	40.0%	50.0%	5.0%	100.00%
Project team necessary skill and expertise	5.0%	0.0%	5.0%	85.0%	5.0%	100.00%

Organizational Planning	0.0%	0.0%	25.0%	50.0%	25.0%	100.00%
Staff Acquisition	0.0%	35.0%	25.0%	35.0%	5.0%	100.00%
Team Development	0.0%	15.0%	35.0%	45.0%	5.0%	100.00%
Communication channels challenge	0.0%	20.0%	10.0%	35.0%	35.0%	100.00%
Communications Planning	0.0%	20.0%	35.0%	40.0%	0.0%	100.00%
Information Distribution	0.0%	15.0%	15.0%	70.0%	0.0%	100.00%
Performance Reporting	0.0%	15.0%	35.0%	30.0%	20.0%	100.00%
Administrative Closure	0.0%	0.0%	50.0%	45.0%	5.0%	100.00%
Risk challenge	5.0%	20.0%	45.0%	25.0%	5.0%	100.00%
Risk Identification	0.0%	25.0%	55.0%	20.0%	0.0%	100.00%
Risk Quantification	0.0%	55.0%	20.0%	25.0%	0.0%	100.00%
Risk Response Development	0.0%	10.0%	35.0%	50.0%	5.0%	100.00%
Risk Response Control	0.0%	25.0%	40.0%	35.0%	0.0%	100.00%
Procurement challenge	0.0%	25.0%	5.0%	70.0%	0.0%	100.00%
Procurement planning	0.0%	0.0%	45.0%	55.0%	0.0%	100.00%
Solicitation Planning	0.0%	25.0%	15.0%	60.0%	0.0%	100.00%
Solicitation	0.0%	15.0%	40.0%	45.0%	0.0%	100.00%
Source Selection	0.0%	20.0%	15.0%	65.0%	0.0%	100.00%
Contract Administration	0.0%	30.0%	20.0%	45.0%	5.0%	100.00%
Contract Close-out	0.0%	30.0%	45.0%	10.0%	15.0%	100.00%
Government financial policy	0.0%	10.0%	10.0%	75.0%	5.0%	100.00%

Government legal issues	0.0%	10.0%	55.0%	30.0%	5.0%	100.00%
Government regulations	0.0%	0.0%	35.0%	60.0%	5.0%	100.00%
Contractual issues Client with Contractor	0.0%	5.0%	50.0%	40.0%	5.0%	100.00%
Contractual issues Client with Consultant	0.0%	5.0%	10.0%	85.0%	0.0%	100.00%
contractor selection criteria	0.0%	0.0%	30.0%	70.0%	0.0%	100.00%
Monitoring by consultant and the client project management teams	0.0%	0.0%	10.0%	80.0%	10.0%	100.00%
Evaluation by consultant and the client project management teams	0.0%	5.0%	15.0%	75.0%	5.0%	100.00%

Source: own survey, 2024