ADDIS ABABA UNIVERSITY

THE RELATIONSHIP BETWEEN TIME MANAGEMENT PRACTICES AND PROJECT SUCCESS: (A CASE STUDY ON TELECOM EXPANSION PROJECT, ETHIOTELECOM)

By: Abdrazak Dino
ID: GSE/2949/12

COLLEGE OF BUSINESS AND ECONOMICS
SCHOOL OF COMMERCE
GRADUATE PROGRAM IN PROJECT MANAGEMENT

June, 2022
Addis Ababa, Ethiopia

ADDIS ABABA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
SCHOOL OF COMMERCE

THE RELATIONSHIP BETWEEN TIME MANAGEMENT PRACTICES AND PROJECT SUCCESS: (A CASE STUDY ON TELECOM EXPANSION PROJECT, ETHIOTELECOM)

By: Abdrazak Dino
ID: GSE/2949/12

Advisor: Dr. Solomon Markos

A Project Submitted to College of Business and Economics School of Commerce Graduate Program in Project Management in Partial Fulfillment of the Requirements for the Degree of Master of Art in Project Management

June, 2022
Addis Ababa, Ethiopia

DECLARATION

I declare that this project work entitled, **The Relationship Between Time Management Practices and Project Success: A case study on Telecom Expansion Project** is my original work. This project work has not been presented for any other university and is not concurrently submitted in candidature of any other degree, and that all sources of material used for the thesis have been duly acknowledged.

Name: Abdrazak Dino Mohammed

Signature: _____

Place: Addis Ababa University, School of Graduate Studies School of Commerce

Date: June, 2022, G.C.

Address– Phone. No +251912618868

–Abdrazakdino@10yahoo.com

STATEMENT OF CERTIFICATION

This is to certify that ABDRZAK DINO MOHAMMED has carried out this research project on the topic entitled "**The Relationship Between Time Management Practices and Project Success: A case study on Telecom Expansion Project** "under my supervision. This work is original in nature and it is sufficient for submission for the partial fulfilment for the award of Degree of Masters of Art in Project Management.

Name-Solomon M.....(PHD)

Signature_____

Date_____

Addis Ababa, Ethiopia

ADDIS ABABA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
SCHOOL OF COMMERCE
GRADUATE PROGRAM IN PROJECT MANAGEMENT

THE RELATIONSHIP BETWEEN TIME MANAGEMENT PRACTICES AND PROJECT SUCCESS: (A CASE STUDY ON TELECOM EXPANSION PROJECT, ETHIOTELECOM)

By: Abdrazak Dino

APPROVED BY BOARD OF EXAMINERS:

.....	.....	.....
ADVISOR	SIGNATURE	DATE
.....	.....	.....
INTERNALEXAMINER	SIGNATURE	DATE
.....	.....	.....
EXTERNALEXAMINER	SIGNATURE	DATE

Table of Contents

LIST OF FIGURES

LIST OF TABLES

ACKNOWLEDGEMENTS

First of all, I would like to thank the Almighty God, for his help throughout my life and enabled me to further my academic carrier.

I would also like to express my sincere gratitude and appreciation to my advisor Dr. Solomon Markos for his invaluable, constructive and constant insightful feedback and patience to guide me through the course of preparation of this thesis. I am also grateful to all ethiotelecom family specially my immediate supervisor Henock Tsehaye for his cooperation and for his support to simplify the data collection process through distributing questionnaires to the respondents.

Lastly, I would be negligent in not mentioning my family, especially my parents. Their inspiration and appreciation have kept my moods and motivation high throughout this process.

LIST OF ACORONYMS AND ABBREVIATIONS

TEP - Telecom Expansion Project

IBET - Imperial Board of Telecommunications

ETA - Ethiopian Telecommunication Agency

ETC - Ethiopian Telecommunications Corporation

GTP - Growth and Transformation Plan

CSF - Critical Success Factors

MOAs - Memoranda of Agreements

SLAs - Service Level Agreements

WBS - Work Breakdown Structure

PERT - Project Evaluation and Review Technique

SPSS - Statistical Packages for Social Science

ZTE - Zhong Xing Telecom Corporation

PMI - Project Management Institute

ROI - Return on Investment

ABSTRACT

The aim of this study was to assess the relationship between project time management practices with project success, a case study in Telecom expansion project that has been launched by ethiotelecom. The research adopted quantitative approach and descriptive as well as explanatory research design. explanatory research design used to assess the relation between project time management with project success. Primary data were collected using structure questionnaire from participants of telecom expansion project in ethiotelecom and the techniques that used to determine the sample size and for the selection of the participants were Kothari's sample determination technique and convenience sampling techniques respectively. Based on this total 120 participants were selected from the total population number of 175.The collected data were analyzed using SPSS Version 20 by computing mean, standard deviation, frequency, percentage and correlation analysis. For the purpose of this research the study identified six-time management practices to answer the research questions and based on the review of several related literatures the researcher identified five common factors which used to measure project performance which are time, cost, quality, stakeholder's expectation and meeting project objectives. Based on the study the major findings are plan schedule management, defining activities, sequencing activities, developing and controlling schedule were practiced moderately in case of telecom expansion project. Whereas, estimating activity duration relatively poorly practiced. The other findings of this study are the respondents agreed on the availability of required tools and techniques that used to perform sound time management practices and the respondents were disagreed on that the activities of the project were prioritized based on their values to the project. Regarding the prerequisite for effective time management practice except preparation for change request and motivation as well as competency of man power all other prerequisites are flourished. Finally, the study indicates that there is statistically strong relationship between time management practices and project success.

Key Words: Project Time Management, Telecom Expansion Project, Critical Success Criteria and Project Success

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Projects are becoming more and more common in companies, and the expectations are higher and higher in terms of performance (time, cost, specification) (Petersen, 2017). Time refers to the project schedule for completion, including the deadlines for each phase of the project, as well as the date for rollout of the final deliverables. It is a key constraint because of a temporary nature of project. According to PMI (2017) time is finite; control of time is a competitive advantage.

It is highly integrated with other constraints of the project. When the project manager failed to manage the project schedule effectively it results for project cost overrun because when the project schedule is extended the required resources and the labor cost for project team also increase simultaneously. In project activities time schedule and cost have a very close relationship. One parameter has direct effect on other (Hyati, 2015). On the other hand, when the project failed to manage the scope effectively it will have significant effect on the project schedule because the time management practice will be developed based on the defined scope of the project. It has also significant effect on the quality of project deliverables through rushing to complete the project and creating stress on project team.

Not only with the constraints but it has also strong relationship other factors of the project such as project human resource management, stakeholder management and communication management. Furthermore, time management very important throughout the phases of the project life cycle because it is a base for deciding when to initiate, implement and closing the project. And also, it serves as a base for performance reporting during the phase of project evaluation and monitoring practice.

Project Time management is one of the components of basic knowledge area of project management. According to (PMI, 2017)Project Schedule Management includes the processes required to manage the timely completion of the project. It is the process of organizing and planning how to divide your time between different activities. It aids to manage time spent and

progress towards the project tasks and activities. It involves the ability of project team to plan and finish project at the right time. Every project needs a schedule and to manage their own time and the team's time to ensure the schedule is met.

Excellent time management requires the planning, scheduling, monitoring and controlling of all project activities. The role of time management is that great as it helps to progress the ability of organizing, planning, decision making, prioritizing and ensure better performance. It allows one to assign time space to the works or activities as per priority or importance. It also helps to focus on the target by ensuring smooth and sharp performance (MindTools, 2013).

In Project management one of the major factors to measure the performance of the project is the project success (Camilleri, 2011).There are factors that used to measure the success of the project. Since time is the component of triple project constraints, it is one of the critical variables that used to measure whether the project is successfully completed or not. According to Camilleri (2011) appropriate scheduling is identified as the critical project success factor.

Without time management practice the organization cannot able to manage the project because by nature project is a temporary activity with defined starting and ending time.so, it requires effective time management practice. For the purpose of effective management of project schedule, the project manager should have deep understanding of what factors can affect the time management practice and what is the impact of time management practice on other components and processes of project manager.

1.2 STATEMENT OF THE PROBLEM

Delay in project is a common problem to the project managers. According to Standish group (2003) the majority of projects (67% in 2002) run out budget and time significantly. In the current dynamic business environment timely completion of project is a base for getting competitive advantage.so time management practices are vital for successful completion of project works. However, the attention towards time management practices is very low. Based on my observation in ethiotelecom there is a service level agreement between project management office and quality as well as finance department regarding the quality and cost of the project deliverables but there is no such type of practices in case of project schedule. Delay in projects affect not only the project performance but it has also significant impact on organization because project consumed significant resources of the company

Most of ethiotelcom projects are not completed within a given schedule, budget and quality. as per the data collected from project managers and document reviewed, several projects challenged by schedule variance because of complexity of the project, involvement of several stakeholders such as government, suppliers and multi-national contractors, very long bureaucracy of fund releasing process, lack of skilled man power and poor scope management.

Projects in ethiotelecom challenged by delayed decisions, capacity and skills in project development and management, lack of ongoing analysis of the cost benefits of various investment to correct failures, cultural and barrios with vendor and in managing integration issues raised in different projects (Adam, 2012).Particularly TEP project period was extended significantly beyond the planned period because additional time was required for adjustments in the project contents, the processing involved in consultant hiring, and decision on the standards for the transmission system and the switchboard equipment.

Project time management is the allocation of the necessary time for the completion of a project, planning the project accordingly and then controlling the project followed by taking corrective measures whenever the project is facing delays**.** First projects need to have realistic time allocated for their completions. After the time is allocated, the required planning of time need to be done. Then the project time should be controlled and monitored with all the necessary tools. However, this is not the case in most of ethiotelecom projects and considerable number of projects face time related problems**.**

Despite of its importunateness, many projects failed to manage the project schedule effectively. As a result of this time overrun is a common problem in many projects in Ethiopia. So, in this paper the researcher tried to study the relationship between time management practices and project success in TEP.

1.3RESEARCH QUESTIONS

The following are research questions for this research

1. How did the time management process were practiced in telecom expansion project?
2. What are the tools and techniques of estimating activity duration and developing schedule?
3. What are inputs for effective time management practices?

4. What is the relationship between time management practices and project success?

1.4 RESEARCH OBJECTIVE

1.4.1 General Objective

The general objective of this research is to assess the relationship between time management practice and project success in case of telecom expansion project.

1.4.2 Specific objective

- To assess the availability of required tools and techniques for project time management practices.
- To assess how project activities were defined and prioritized in TEP.
- To assess the availability appropriate inputs for effective time management practices.

1.5 SCOPE OF THE STUDY

There are various practices and knowledge areas of project management but this study primarily concerned on project time management practice. There are also several ongoing and completed projects in ethiotelecom however this project work focused in telecom expansion project (TEP). Moreover, ethiotelecom is one of the giant companies in Ethiopia that covers almost all part of the country to provide numerous telecom products and services.as a result of this it is difficult to address all over the country. So, this study limited only in Addis Ababa headquarters.

The time management practices for this research purpose are limited to the six dimensions of time management practices. Which are schedule management plan, activity definition, activity sequencing, activity duration estimation, activity resource estimation, schedule development and schedule control. The study primarily concerned with assessing the relationship between of time management practice and project success.

1.6 SIGNIFICANCE OF STUDY

According to Frimpong &Crawford (2016) time is one of the biggest challenges faced by project managers and it has the least amount of flexibility. Project time management directly affects the quality, scope and cost of the project therefore it is the most important project management knowledge areas.

Despite of its importunateness in our country many projects failed to practice time management effectively as a result of this many projects face a time overrun problem so this project work helps to understand how the time management practices affect the overall project success by identifying the relationship between time management practice and project success. It would also serve as an input for the Ethiotelecom to distinguish the time management practices on the previous projects and to identify the gap on time management practice for better implementation for future projects that will be done by the company.

1.7 LIMITATION OF THE STUDY

There are several factors identified as a limitation of this study. Which were, there was shortage of time as a result of this, the study focused only in Addis Ababa not included samples from the whole project, The other limitation is, since the project is already completed project, the respondents attempted to respond for this study in a retrospective way and the project team have been released and get backed to their functional duties it will make difficult to collect relevant data about the project.

1.8 DEFINITION OF TERMS

- **Project time Management**: is the process of organizing and planning how to divide your time between different activities. Usually includes a planned start and finish date, duration, and resources assigned to each activity.
- **Time Management practices:** This is a components of project management that includes the processes required to ensure timely completion of the project. It contains of activity definition, activity sequencing, activity duration estimating, schedule development, and schedule control.
- **Project success:** Project success is the satisfaction of stakeholder needs and is measured by the success criteria as identified and agreed at the start of the project
- **Plan Schedule Management** is the process of establishing the policies, procedures, and documentation for planning, developing, managing, executing, and controlling the project schedule
- **Activity Sequencing**: Activities are arranged in a logical sequence showing the order in which these activities must be performed.

- **Activity Definition:** Identifying the specific activities which must be performed in order to produce the various project deliverables
- **Activity Duration Estimating:** Estimating the number of work periods that will be needed to complete individual activities.
- **Schedule Development:** It is the process of analyzing schedule activity sequences, schedule activity durations, resource requirements, and schedule constraints to create the project schedule.
- **Schedule Control:** It is the process of controlling changes to the project schedule.
- **Inputs:** the financial, human, material, technological and information resources used for the development intervention.

Source: project management glossary of terms (PM4DEV, 2015)

1.9 ORGANIZATION OF THE PAPER

This paper encompasses a total of five chapters. Chapter one deals with the introductory parts of the paper. Chapter two reviews literatures related to time management practices. Chapter three focuses on methods of data collection and data analysis, chapter four deals with data analysis and interpretation. Finally, Chapter five provides conclusion and recommendation based on the results of analysis.

.

.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

INTRODUCTION

This chapter will systematically identify, locate, and analyze empirical and theoretical information relating to the effect of project time management on the success of projects. This chapter reviews related literature with respect to the research objectives and also discusses the conceptual framework and the gaps in knowledge in the study

2.1 THEORETICAL LITERATURES

2.1.1 WHAT IS PROJECT AND PROJECT MANAGEMENT?

Generally, Activities in the organization can be classified in to operation and project. The uniqueness of outputs differentiates projects from continuing operations, which often have different goals. Unlike project operation is ongoing and routine activities which results the same output and multiple goals. According to PMI (2017) project is a temporary endeavor undertaken to create a unique product, service, or result. The temporary nature of projects specifies that a project has a certain starting and ending. The end is reached when the project's objectives have been accomplished or when the project is terminated as a result of failure to achieve the project objective or when the need for the project no longer exists. A Temporary does not necessarily mean the duration of the project is short. It refers that it has a defined beginning and ending time, and therefore defined scope and resources.

Kerzner (2009) considers a project to be any series of activities and tasks that have a specific objective to be completed within certain specifications, have defined start and end dates, had funding limits and further consumed resources. Based on the above definition, project has several characteristics which included project is unique, temporary in nature because it has a defined beginning and ending date, it is completed when project goals achieved and it characterized by high level of uncertainty. As a result of this it required different managerial skill and organizational structure.so, project management is vital for the successful completion of the project.

Project management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements.

Project management is accomplished through the appropriate application and integration of the project management processes identified for the project. Project management enables organizations to execute projects effectively and efficiently (PMI, 2000).It is everything you need to make a project happen on time and within budget to deliver the needed scope and quality. It also a dynamic process that utilizes the appropriate resources of the organization in a controlled and structured manner, to achieve some clearly defined objectives identified as needs. It has also defined phases between the project kickoff and project closeout. The phases of project management showed on the following figure.

Figure 1: project management phases

2.1.2 PROJECT CONSTRAINTS

project constraints as the general limitations that bound the project portfolio management in a particular area. For example, a cost restriction in your project means that you are limited by the budget or resources you have to implement it. Project constraints are usually interconnected so if you change one constraint, it will have an impact on the other. Project constraints can be considered as internal or external restrictions which may affect the achievable scope of the project (Burke, 1999).

Managing these constraints is the main responsibility of the project manager. Each constraint has a specific goal and a project is deemed successful when it achieves all three. Failure in any of the three has an impact in the other two, a delay in a project has an impact on its cost, and an increase

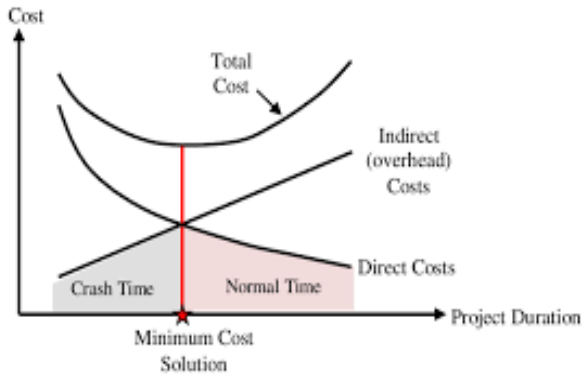
in scope has an impact in both time and budget (PM4DEV, 2011). The Three Project Constraints are: -

- **Scope:** What work will be done? It defines the boundaries of the project. It tells not only what will be done but also what will not be done.
- **Time:** How long should it take to complete? Actual progress has to match or beat planned progress. All significant stages of the project must take place no later than their specified dates, to result in total completion on or before the planned finish date.
- **Cost:** the total funds needed to completed the project or work that consists of direct and indirect cost.it includes any expenditure made or estimated to be made, or monetary obligation incurred to completed the project which are listed in a project baseline.

Figure 2:Project constraints

The three triple constraints served as the major parameters that used to evaluate the project performance. There is usually a direct and very important relationship between time and money. If the planned timescale is exceeded, the original cost estimates are almost certain to be overspent (Lock, 2007).when the project run out of schedule, both direct cost (includes variable costs such as labor and material cost) and indirect costs (overhead costs of management, administration, accommodation, services and general facilities) exceed the planned budget of the project.

Figure 3:Time and cost relationship



Since time management is measured by checking the missed deadlines and unfinished deliverables, it has also direct relation with the scopes of the project. If the project scope reduces, the project duration will also reduce and if the project running out of the scope, the project duration will also increase simultaneously.

2.1.3 THE PROJECT MANAGEMENT KNOWLEDGE AREAS

According to PMI (2017) there are ten knowledge areas of project management that used to standardize best process and practices guidelines around project management.

2.1.3.1 PROJECT INTEGRATION MANAGEMENT

Project integration management is the umbrella that covers all other project management knowledge areas. It 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.

2.1.3.2 PROJECT SCOPE MANAGEMENT

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. Managing the project scope is primarily concerned with defining and controlling what is and is not included in the project. These processes will ensure you stay on task and that everyone, including the project requester, understands what tasks will be included in the project to prevent frustrating changes and unmet expectations (PM4DEV, 2016).

2.1.3.3 PROJECT SCHEDULE MANAGEMENT

Project Schedule Management includes the processes required to manage the timely completion of the project. Nearly all projects rely on several different timelines and the schedules of multiple people. Some team members may overestimate how much time it will take to complete a project in order to leave a cushion and not feel harried. Others may underestimate their time. And, of course, unexpected problems will throw off your timeline as well. But these variables are exactly why effective time management is so critical. Your plans will determine which tasks can be adjusted and how the team's resources will be allocated and managed throughout the project.

2.1.3.4 PROJECT COST MANAGEMENT

Project Cost Management includes the processes involved in planning, estimating, budgeting, financing, funding, managing, and controlling costs so that the project can be completed within the approved budget. With or without a budget, your project will cost money. Keeping costs low, or at least at an expected or reasonable level, is a fundamental part of showing ROI on a project.it is a continuous process with four components which are resources planning, estimation, budgeting and controlling. (actiTIME, 2021)

2.1.3.5 PROJECT QUALITY MANAGEMENT

Project Quality Management includes the processes for incorporating the organization's quality policy regarding planning, managing, and controlling project and product quality requirements in order to meet stakeholders' objectives. Project Quality Management also supports continuous process improvement activities as undertaken on behalf of the performing organization. In project management, quality isn't the same as perfection. It's not practical to spend the time and resources to take a project to perfection; and in many cases, that's not even attainable. The goal of project quality management is to achieve consistency across your projects (Flett, 2001).

2.1.3.6 PROJECT RESOURCE MANAGEMENT

Project Resource Management includes the processes to identify, acquire, and manage the resources needed for the successful completion of the project. These processes help ensure that the right resources will be available to the project manager and project team at the right time and place. Effective resource management requires you to know and work with the bandwidth of your team, identify their individual strengths and weaknesses, and their synergy with other team members. And, back to that part about helping team members grow. You should also identify knowledge gaps and opportunities for continued training for individual team members and the entire team based on current and upcoming projects.

2.1.3.7 PROJECT COMMUNICATIONS MANAGEMENT

Project Communications Management includes the processes necessary to ensure that the information needs of the project and its stakeholders are met through development of artifacts and implementation of activities designed to achieve effective information exchange. Project Communications Management consists of two parts. The first part is developing a strategy to ensure communication is effective for stakeholders. The second part is carrying out the activities necessary to implement the communication strategy.

2.1.3.8 PROJECT RISK MANAGEMENT

Project risk management is a process of conducting risk management planning, identification, analysis, response planning, response implementation, and monitoring risk on a project. It includes risk assessment and a mitigation strategy for those risks. Risk assessment includes both the identification of potential risk and the evaluation of the potential impact of the risk. A risk mitigation plan is designed to eliminate or minimize the impact of the risk events occurrences that have a negative impact on the project (Petersen, 2017).

2.1.3.9 PROJECT PROCUREMENT MANAGEMENT

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

service level agreements (SLAs). The personnel authorized to procure the goods and/or services required for the project may be members of the project team, management, or part of the organization's purchasing department if applicable (Wiley, 2011).

2.1.3.10 PROJECT STAKEHOLDER MANAGEMENT

Project Stakeholder Management includes the processes required to identify the people, groups, or organizations that could impact or be impacted by the project, to analyze stakeholder expectations and their impact on the project, and to develop appropriate management strategies for effectively engaging stakeholders in project decisions and execution. The processes support the work of the project team to analyze stakeholder expectations, assess the degree to which they impact or are impacted by the project, and develop strategies to effectively engage stakeholders in support of project decisions and the planning and execution of the work of the project (PMI, 2017).

Figure 4 :The project management knowledge areas

for the purpose of this study project time management discussed in detail. The time management practice discussed in detail.

2.1.4 PROJECT TIME MANAGEMENT

According to project management institute (PMI,2017) Project Schedule Management includes the processes required to manage the timely completion of the project. It is the process of organizing and planning how to divide your time between different activities. Usually includes a planned start and finish date, duration, and resources assigned to each activity. It is a critical

Components of successful project management. All successful time managers are good planners. They make lists and sub lists to accomplish each major and minor objective. Whenever a new project crosses their desk, they take the time to think through exactly what they want to accomplish, and then write out an orderly list, in sequence, of every step necessary for the completion of the project (Tracy, 2013). There are six major practices of time management which are:

1. Plan schedule management
2. Define Activities.
3. Sequence Activities.
4. Estimate Activity Durations.
5. Develop Schedule.
6. Control schedule

2.1.4.1 PLAN SCHEDULE MANAGEMENT

Plan Schedule Management is the process of establishing the policies, procedures, and documentation for planning, developing, managing, executing, and controlling the project schedule. The key benefit of this process is that it provides guidance and direction on how the project schedule will be managed throughout the project. This process is performed once or at predefined points in the project (PMI, 2000).

It uses inputs such as project management plan, project charter, enterprise environmental factors and organizational process assets. The final output is providing plan that describes the process that will be used to help ensure the timely completion of the project called schedule management plan.

2.1.4.2 DEFINE ACTIVITIES

Activity, in project management, is defined as the amount of work performed that convert input to appropriate output. Define activities is process of identifying the specific tasks needed to be done in order to produce the project's deliverables. This needs to be done in sufficient detail to estimate what resources and time will be required to complete them. The project managers use inputs and several tools and techniques in order to define projects activities effectively (Hussain, 2014).

The key inputs are the scope baseline consisting of the approved project scope statement, the work breakdown structure, and the WBS dictionary. And The main Tools and Techniques used in

defining activities process are decomposition, Rolling wave planning., Templates and Expert judgment.

WORK BREAKDOWN STRUCTURE (WBS):

Refers to the grouping of the work involved in a project oriented towards the deliverables that defines the total scope of the project. This scope of the project further breaks down the total work required for the project into separate tasks, and groups them in to a logical hierarchy (Burghate, 2018).Decomposition and expert judgment are major techniques used in developing work breakdown structure.

DECOMPOSITION:

According to PMI (2017) decomposition refers to a technique used for dividing and subdividing the project scope and project deliverables in to smaller and more manageable parts.it allows to work efficiently throughout your project from the initiation phase up to closure.

2.1.4.3 ACTIVITY SEQUENCING

Involves identifying and documenting interactivity logical relationships. Activities must be sequenced accurately to support latter development of realistic and achievable schedule. It can be performed with the aid of computer (e.g., By using project management software) or with manual techniques. The fundamental reason for the sequence activities process is finalizing the interrelationship activities to finish the project scope and achieve the task objectives.

When connecting activities in sequence, consider what precedes and succeeds the current activity? and what activities can be caried out the same time as the current activity? This process also involving determine the dependencies of the project activities. According to Jainendrakumar (2015) there are three types of dependency:

1. **Mandatory Dependency (hard logic).** Are those that are inherent Foundation in the nature of the work being done. Work has to be finished to construct the frame is an example for Hard logic.
2. **Discretionary dependency:** are those that are defined by the project management team. Preferred logic, preferential logic, or soft logic. Project team can decide what to do first or do something in parallel etc., is an example for soft logic.

3. **External dependencies:** are those that involves in relationship between project and non-project activities. After the quality control check, scope validation has to be done by the customer depending upon their convenience, that is an external dependency.

2.1.4.4 ESTIMATE ACTIVITY DURATION

The Activity Duration Estimating process takes the activities defined in the WBS and activity list and assesses the number of work periods needed to complete these activities. Work periods are usually expressed in hours or days. However, larger projects might express duration in weeks or months. The key benefit of this process is that it provides the amount of time each activity will take to complete. This process is performed throughout the project.

After the project team has created the WBS, each activity is reviewed and evaluated to determine the duration (how long it will take to accomplish from beginning to end) and what resources (time, materials, facilities, and equipment) are needed. An estimate is an educated guess based on knowledge, experience, and inference (Preston, 2012).the process used several tools and techniques to estimate the duration of the project activity that used as an input for developing schedule. Some of the tools and techniques are:

1. Expert judgment: Expert judgment, guided by historical information, can be used whenever possible. The individual project team members may also provide duration estimate information or recommended maximum activity durations from prior similar projects.

2. Analogous estimating: Analogous duration estimating means using the actual duration of a previous, similar schedule activity as the basis for estimating the duration of a future schedule activity.

3. Parametric estimating: Estimating the basis for activity durations can be quantitatively determined by multiplying the quantity of work to be performed by the productivity rate.

4. Three-Points estimating: The accuracy of the activity duration estimate can be improved by considering the amount of risk in the original estimate. An activity duration estimate can be constructed by using an average of the three estimated durations. Project Evaluation and Review Technique (PERT) is used to estimate the activity duration by applying a weighted average of optimistic, pessimistic, and most likely estimates, when there is uncertainty with the individual activity estimates (PMP, 2012).

5. Reserve analysis: Project teams can choose to incorporate additional time referred to as contingency reserves, time reserves or buffers, into the overall project schedule as recognition of schedule risk. The contingency reserve can be a percentage of the estimated activity duration, a fixed number of work periods, or developed by quantitative schedule risk analysis

2.1.4.5 DEVELOP SCHEDULE

Refers to the process of analyzing activity sequences, duration, resource requirement and schedule constraints to create project schedule model. No matter the size or scope of your project, the schedule is a key part of project management. The schedule tells you when each activity should be done, what has already been completed, and the sequence in which things need to be finished (Hussain, 2014). The major tools and techniques that are used to developing the schedule are (MindTools, 2013).

1. **Schedule Network Analysis:** This is a graphic representation of the project's activities, the time it takes to complete them, and the sequence in which they must be done. Project management software is typically used to create these analyses – Gantt charts and PERT Charts are common formats.
2. **Critical Path Analysis:** This is the process of looking at all of the activities that must be completed, and calculating the "best line" – or critical path – to take so that you will complete the project in the minimum amount of time.
3. **Schedule Compression:** This tool helps shorten the total duration of a project by decreasing the time allocated for certain activities.
4. **Resource Optimization**: is used to adjust the start and finish dates of activities to adjust planned resource use to be equal to or less than resource availability.

OUTPUTS OF DEVELOP SCHEDULE

- **A schedule baseline** is the approved version of a schedule model that can be changed only through formal change control procedures and is used as a basis for comparison to actual results. It is accepted and approved by the appropriate stakeholders as the schedule baseline with baseline start dates and baseline finish dates. During monitoring and controlling, the approved baseline dates are compared to the actual start and finish dates to determine if

variances have occurred. The schedule baseline is a component of the project management plan. According to PMI (2017) outputs of developing schedule practice included: -

- **The project schedule** is an output of a schedule model that presents linked activities with planned dates, durations, milestones, and resources. At a minimum, the project schedule includes a planned start date and planned finish date for each activity. If resource planning is done at an early stage, the project schedule remains preliminary until resource assignments have been confirmed and scheduled start and finish dates are established. This process usually occurs no later than the completion of the project management plan
- **The schedule data** for the project schedule model is the collection of information for describing and controlling the schedule. The schedule data includes, at a minimum, the schedule milestones, schedule activities, activity attributes, and documentation of all identified assumptions and constraints.
- **Project calendar** identifies working days and shifts that are available for scheduled activities. It distinguishes time periods in days or parts of days that are available to complete scheduled activities from time periods that are not available for work
- **Change requests** Modifications to the project scope or project schedule may result in change requests to the scope baseline, and/or other components of the project management plan. Change requests are processed for review and disposition through the Perform Integrated Change Control process. Preventive actions may include recommended changes to eliminate or reduce the probability of negative schedule variances.
- **Project management plan updates: Once** the project plan base lined, it may only be changed when change request generated and approved through the perform integrated change control process
- **Project documents updates:** is a generic word that uses to describe the fact that some process will require updates to various project documents. Many outputs are specified but sometimes it may be necessary to update other project documents.

2.1.4.6 CONTROL SCHEDULE

Control Schedule is the process of monitoring the status of the project to update the project schedule and managing changes to the schedule baseline. The key benefit of this process is that the schedule baseline is maintained throughout the project, to measure the actual progress and

compare it to planned progress on a timely and regular basis and to take corrective action immediately. This process is performed throughout the project. Control Schedule, as a component of the Perform Integrated Change Control process. The process of controlling schedule involves four steps.

1. Analyzing the schedule to determine which areas need corrective action
2. Deciding what specific corrective action to be taken
3. Revising the plan to incorporate the chosen corrective action.
4. Recalculating the schedule to evaluate the efforts of planned corrective actions

2.1.5 INPUTS FOR EFFECTIVE TIME MANAGEMENT PRACTICES

There are several inputs in planning schedule management, defining activities, sequencing activities, estimating activity durations, developing and controlling schedule. Some of the inputs will be discussed in the following discussion. Project plan is an important input for developing schedule. Project planning and scheduling are distinct and but inseparable aspects managing successful projects. Scheduling converts the project planned scope, time, budget and cost in to an operating time table (Moylan & William, 2002). The other input that used to devlop a project schedule is project scope statment which provides the basis for plannig and managing the project schedule (PM4DEV, 2016).

Another important inputs are availablity of resourcess and competancy and motivation of project team members.the project team should compiles a through listing of the resources that will be needded in completing the project based on acivity lists and attributes.resources are essential componets that you need to plan and allocate before the start of the project, otherwise the company will not be able to deliver the project on time and high quality results (actiTIME, 2021).

The effectivness of the project time management also affected by the project communication and the availability of effective communication tools and techniques. It plays an important role in project by providing written guidelines, by enabling complete transparency throughout the project and encouraging and sharing of feedback to avoid of making the same mistakes (Waida, 2022).furthermore, Enterprise environmental factors and organizational process assets are an essential input for project time management practices.

2.1.6 DEFINING PROJECT SUCCESS

The issue of what defines project success (or failure) is complex and often elusive, and dependent on the perceptions of different stakeholders (Camilleri, 2011).In addition Pinto and Slevin (1998) state that untill we have a set of citeria that have some accepted basis for assesing project,we have the risk of misleading project as success and failure. As a result of this many scholars and researchers try to identify factors that contribute for the success and failure of the project.

Kerzner (2009) defined project success as the completion of an activity within the constraints of time, cost, and performance. A project is considered to be successful when it satisfies project objectives (the time, cost, quality, performance) and also the satisfaction of the parties involved. By most accounts, if the client, end-user, project manager, project team and developer all feel that their expectations were met or exceeded; the project must be considered successful (Nicholas, 2004).

On the other hand, some researchers claim that instead of analyzing individual factors affecting the outcome of the project, these factors should be grouped as the combined effects which would eventually lead to either the success or failure of the project. The success of the contractor and the project manager will usually be judged according to how well they achieve the three primary objectives of cost, performance and time. Many things need to be in place and many actions taken during the project execution period to help ensure success (Lock, 2007).

Abdullah and Ramly (2009) described the concept of project success comprises in the two dimensions of 'What to achieve' and 'How to achieve. In their study they try to categorized the success factors (how to achieve) in to four principals namely Human management, Process, Organization and an additional category of Contractual and Technical based on the implementation of project. Further they categorized the success criteria (what to achieve) in to Stakeholders' appreciation, completes within time, meets the required quality and completes within cost.

For all project the stakeholders need to be clearly identified and their need must be acknowledged. Then measurable success criteria should be established for stakeholders. Without analyzing stakeholders, it is impossible to measure the success of the project because their interest can positively and negatively affect the result of project execution. Therefore, stakeholder's perception

also considered as a success criterion for measuring project performance. Success criteria refers to the measures by which success or failure of a project or business will be evaluated; whereas success factors are those inputs to the management system that lead directly or indirectly to the success of the project or business (Camilleri, 2011).

From the above literature the researcher identified five Major criteria to measure the project success.

1. Stakeholders' appreciation
2. Completes within Time
3. Meets the required Quality or performance
4. Meets the required objectives
5. Completes within Cost

2.1.7 PROJECT TIME MANAGEMENT AND SUCCESS OF PROJECTS.

Project time management directly impacts the quality, scope and cost of project, making it one of the most important project management knowledge areas. It helps to secure completion time and budget. And upper managers and stakeholders will judge a project's success not only the achievement of goals but by whether these goals were achieved within the deadlines to retain the company's competitive edge (Tremel, 2021).

According to D.Suresh (2019) efficient time management is regarded as the most imortant factor which impacts management of project excution.it is measured by checking the missed deadlines and unfinished deliverables.ineffective time management leads to increase in stress as well as frustration in project manager as well as his team members. Delays in project results late completion of the project, increased cost, disruption of work, Loss of productivity, third party claims, Disputes and termination of contract.

2.2 EMPIRICAL STUDIES

Henry, Jackson and Bengt (2007) identified several factors that can challenge project schedule which are lack of material, incompetent supervisor, lack of tools and techniques, absenteeism, poor communication, employee turnover and rework found to be the most significant factors. More over Mahfouz (2019) identified poor coordinatiion or communication, ineffective planning,scheduling, monitoring and controling practice, shortage of admindtrative,technical or intepersonal skill, delay

inpeereparation of change orders, change in scope,slow decition making,lack of support from stakholders and unrealisyic contract duration identified as a major causes for inefective time management practice.

Kostalova and Tetrevova (2014) conducted a survey on Project Management and Its tools in Practice in the Czech Republic, the survey outcomes indicate that the most frequent issue in project implementation in the Czech Republic the failure to comply with the project schedule, which occurred in 83% of the monitored projects. However, the failure to meet the planned budget is also a frequent problem (it occurred in about 70% of the projects).

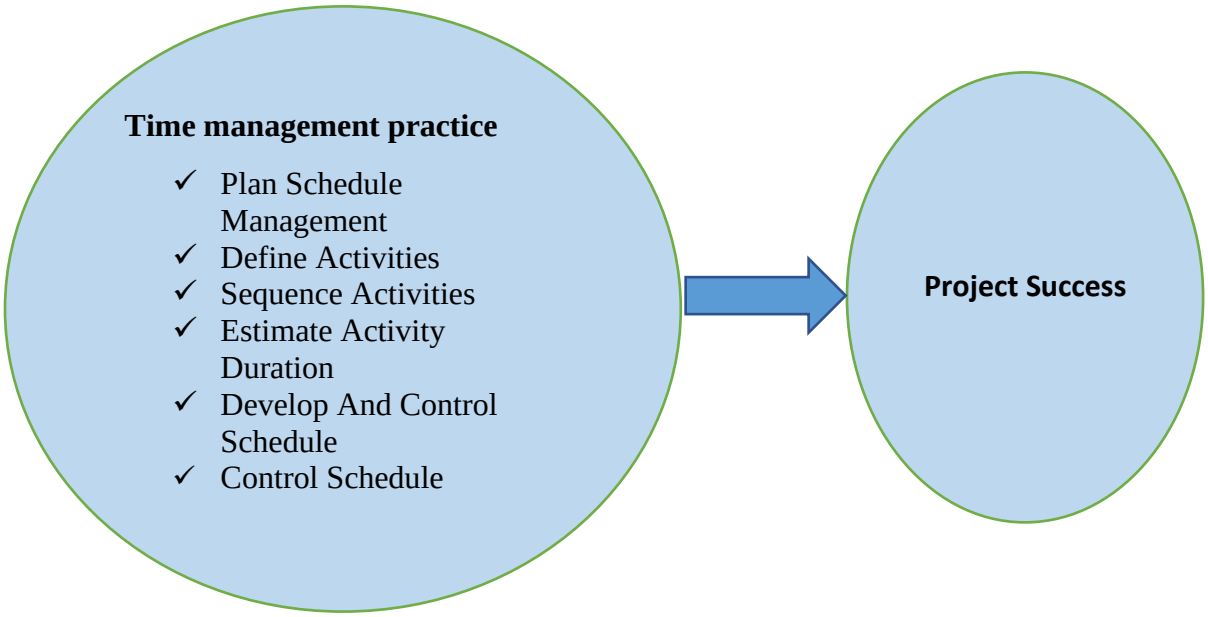
Nabeel et al., (2013) Conducted the study on Significance of project Scope in Project Success. Based on their study considered cost, time, quality and stakeholders' satisfaction as the main factors which may affect project success. And they concluded that time were the most important factor. Cost was another success element of the rare project success criteria which were found to be a very important in overall project success. Success could be measured by determining was the project completed to specifications or whether the project demonstrated for the purpose only. Stakeholder's satisfaction is another crucial factor in project success. moreover, they have generalized that most of the project do not achieve much success because of lack of a clear definition for project and product scope as well as improper control of them.

WU and Eisner (2018) on their investigation regarding on the relationship between Stakeholders' Perceptions of Project Success and Project Planning concluded that the perception of the stakeholder on the success of the project is indeed having a positive relationship and statistically significant with the planning of that project which would therefore lead to a high level of performance for the project.

Concerning the prevention of project time overrun, the PMBOK Guide commits one of ten Knowledge areas to the Management of Project Time, which includes the processes required to accomplish timely completion of the project (PMI, 2017). This knowledge area includes processes such as Activity Definition, Activity Sequencing, Activity Resource Estimating, Activity Duration Estimating, Schedule Development, and Schedule Control. The appropriateness of project time management can be seen as a relevant indicator that could be used to assess project manager effectiveness and capability to succeed on the completion of a project, as well as to evaluate project manager performance.

CONCEPTUAL FRAMEWORK

Based on different literatures and studies the below will be used as a frame work for this study, by identifying the major Time management practices in projects.



Source: Developed by the researcher based on Literature reviews, 2022

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. DESCRIPTION OF THE STUDY AREA AND POPULATION

The focus area of this study Telecom expansion project (TEP) that has been launched by ethiotelecom. the total 1051 peoples from Network and information system, sourcing and facility division, Finance division, human resource division, quality and process division and legal were participated in this project. Out of the total participants 175 employees were from headquarter and this will be the population of our study. Population is the aggregate or collection of elements or objects in a certain region or particular point in time and is often a subject of study (Arnab, 2017)

3.2 RESEARCH DESIGN

In this study the researcher used only quantitative approach. Quantitative is related to object that can be expressed in terms of quantity or something that can be counted and it involves systematic experiential analysis of observable phenomenon via statistical, mathematical, computational techniques in numerical form such as statistics, percentage etc. (Alok, 2011)

The researcher used both descriptive and explanatory research design for the purpose this study. Descriptive analyses help describe, show or summarize data in a constructive way such that patterns might emerge that fulfill every condition of the data that will make them easy to understand and interpret. Accordingly, the descriptive research design will use to analyze demographic, accurate profile of the respondents.

Explanatory research design used to assess the associations between the project time management practices and project success. According to Dudovskiy (2022) explanatory research is also known as causal research it is to determine the relationship between cause and effect.

3.3 SOURCES OF DATA

The study used primary data that have been collected by the researcher directly from the participants of the telecom expansion project in ethiotelecom headquarter through using structured questionaries. Primary data refers to the first-hand data gathered by the researcher him/her self, surveys, interviews, experiments, specially designed for understanding and solving the research problem at hand (Ajayi, 2017)

3.4 SAMPLE SIZE AND SAMPLING TECHNIQUES

For the purpose of this study the researcher was used convenience sampling techniques because the sample were selected based on the availability of the team members. Convenience sampling is a non-probability sampling method that relies on data collection from population member who are conveniently available to participate in the study (Dudovskiy, 2022). The researcher attempted to improve the convenience sampling by diversity approach through differentiate the ways of distributing questionnaire (by distributing the physical questionnaires to the participants and through using company's outlook to reach the participants) and by distributing questionnaires at various date and time for the purpose of getting better generalization. in addition, it also improved by using standardized sample size determination technique to determine optimal sample size.

Kothari (2004) described sample size as the number of items to be selected from the universe to constitute a sample. In order to determine the sample size, the researcher used Kothari's sample size determination technique (Kothari, 2004) .

$$n= \frac{z^2 * p * q * N}{e^2(N-1)+Z^2 * P * Q}$$

Where, p = proportion of response rate (p= 0.5)

q= non response rate (q= 0.5)

z= the score level of confidence of the estimates (95%=1.96)

e= marginal error, 5%

N= Population of the sample (N=175)

$$n= \frac{(1.96)^2 * 0.5 * 0.5 * 175}{(0.05)^2(175-1)+(1.96)^2 * 0.5 * 0.5}=120$$

3.5. DATA COLLECTION METHOD

In conducting this research, the following methods were used to collect an appropriate information or data. The study was depended on quantitative data type in order to get at reliable conclusions for the research questions. Concerning sources of data, both primary and secondary sources were used for generating valuable and relevant data. Primary data were collected through questionnaire from targeted TEP project staffs found in TEP offices, residential marketing and sales as well as customer service department and the questionaries were distributed through

using company outlook. Whereas secondary data were collected from publications of books, journals, reports, and bulletins, work governances, company background information and unpublished reports etc. With a combination of these two data sources, the researcher able to find the required information that is important to reach sound conclusion about the study and to answer the research questions.

3.6 RELIABILITY TEST

Reliability refers to the degree to which the measure of the construct is consistent or dependable (Drost, 2011).It is concerned with the consistency or stability of the score obtained from a measure of assessment. One of the most common methods to test reliability in SPSS is using Cronbach's Alpha, in which if the reliability coefficients is 0.70 or higher, it is considered "acceptable" in most research situations, between 0.8 and 0.9 is good and greater than 0.90 is excellent.

Table 1: Cronbach Alpha value

S. No	Variables	Cronbach's Alpha Value	Number of Questions
1	Plan Schedule Management	.863	5
2	Defining Activity Practice	.890	5
3	Activity Sequencing Practice	.853	4
4	Estimating Activity Duration	.895	6
5	Developed Schedule Practice	.794	6
6	Control Schedule practice	.715	5
7	Inputs For Effective Time Management Practices	.751	7
8	Project Success	.798	5

Source: Survey Data (2022)

According to the Cronbach's Alpha values presented in table 2, the value of individual variables ranges from minimum 0.715 to maximum value of 0.895. therefore, the researcher conclude that it has internal consistency and is reliable for further analysis.

3.7 Method of Data Analysis

After the collection of required data, it was analyzed by using software called Statistical packages for social science (SPSS). With the help this application the researcher used various statistical techniques such as frequency, percentage mean, and standard deviation to analyze descriptive data and it provides an organized data for interpretation of data by converting row data in to tabular representation. And the researcher used correlation analysis to investigate the relationship between time management practice and project success.

3.8. Ethical Considerations

Obeying ethical rules is vital in conducting research. Hereafter, the following ethics will be considered while conducting this research. All the survey were conducted by the researcher, The purpose of the research, and duration were explained to the participants before conducting the survey. The researcher provided sufficient time for the participants to respond for each question to get as much information as possible, the participants informed that the data will be used only for the intended academic purpose and Respondents were requested for their collaboration in highly respected manner.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND DISCUSSION

INTRODUCTION

This Chapter discusses the data analysis, the research finding and the interpretation made to the analyzed data. It also includes the general characteristics of demographic profile in descriptive statistics and also the six major Time management practices discussed in descriptive way. Correlation analysis is used to indicate the relationship between dependent and independent variables and finally regression is used to determine the effect of independent variable on dependent variable.

4.1 RESPONSE RATE

A total of 120 Questionnaires were distributed to respondents who are participated in TEP project from ethiotelecom side and 109 questionnaires were filled completely and returned. More than 90 percent of the respondent filled the and returned the distributed questionnaire. And 3 questionnaires filled and returned after the analysis of the data has been conducted by the researcher. The remaining 8questionnaires which are 6.67% of the total respondents were accepted the questionnaire but not returned.

4.2 DEMOGRAPHIC DATA

The demographic information is used to analyze about the characteristics of the population working on TEP. Thus, the profiles of project implementers who are working in ethiotelecom summarized by the following tables.

Table 2: Demographic data

Variables	Category	Frequency	Percentage (%)	Valid Percent
Gender	Male	72	66.1	66.1
	Female	37	33.9	33.9
Age	Below 31	18	16.5	16.5
	32-42	88	80.7	80.7
	43-55	3	2.8	2.8
	Above 55	0	0	0
	Certificate	0	0	0

Level of education	Diploma	2	1.8	1.8
	First Degree	98	89.9	89.9
	MA/M.sc	9	8.3	8.3
	Above	0	0	0
Work Experience in the organization	0-5 years	0	0	0
	6-10 years	11	10.1	10.1
	11-15 years	92	84.4	84.4
	Above 15	6	5.5	5.5
Your Experience on TEP implementation	Less than 6 months	12	11	11
	6 month – 1 year	25	22.9	22.9
	1 year -2 years	46	42.2	42.2
	More than 2 years	26	23.9	23.9
Job level	Officers	11	10.1	10.1
	Specialist	13	11.9	11.9
	Supervisor	34	31.2	31.2
	Expert	30	27.5	27.5
	Coordinator	16	14.7	14.7
	Manager	5	4.6	4.6

Source: Survey Data (2022)

As shown in the above table 66.1% of the respondents are Male and the remaining 33.9% of the respondents are Female. Regarding their age 80.7% of the respondents' age is between 32 and 42 and 16.5% of the respondents is under 31 and the remaining 2.8.% of the respondents age is between43 and55.

Regarding their educational level of the respondents, 1.8% of the respondents are Diploma holder where as 89.9% of the respondents are Degree holder and the remaining 8.3% of the respondents are Masters holders. Concerning their experience level 10.1% of the respondents have between 6 years and 10 years of experience, 84.4% of the respondents have between 10 and 15 years of experience and the remaining 5.5% have more than 15 years of experience.

Regarding their experience specifically in TEP 11% the respondents is under six months,22.9% the respondents is between 6 months and 1 year,42.2% the respondents is between 1 year and 2 years and the remaining 23.9% is above 2 years. Concerning their position 10.1% of the respondents were officers,11.9% of the respondents were specialist,31.2% of the respondents were

supervisors,27.5% the respondents were expert, 14.7% the respondents were coordinator and 4.6% the respondents were manager.

4.5 ANALYSIS OF TIME MANAGEMENT PRACTICES

In this section respondents were asked to rate the six practices of time management on TEP on a five-point Likert scale type ranging from 1 to 5. The responses were rated from 1(strongly disagree) to 5 (strongly agree) to all questions regarding plan schedule management, define activities, sequencing activities, estimating activity duration, developing and controlling schedule.

4.5.1 ANALYSIS OF PLAN SCHEDULE MANAGEMENT PRACTICE

In this sub section, the respondent asked to rate their level of agreement on variables that are related with plan schedule management. Based on the data 51.4% of the respondents were agreed (43.1%) and strongly agreed (8.3%) that the company has prepared and organized policies, procedures, and documentation for planning, developing, managing, executing, and controlling the project schedule ,42.2% of respondents disagreed (29,4%) and strongly disagreed (12.8) on the above variable and the remaining 6.4% of the respondents were undecided. Regarding the identification of required resources to complete the project, the respondent agreed up on with 3.38 mean value. Moreover, 71.6% of the respondents agreed that the tools and techniques required for planning schedule management have been supplied by the company.

Concerning on defining how the schedule will be monitored and controlled and identifying units of measurement which used to monitoring and controlling the progress of the schedule, the respondents disagree with the mean value of 2.74 and 2.62respectively. the average standard deviation is 1.12 which implies the result is highly dispersed from the average mean. Therefore, based on this analysis of the data, it is possible to summarize there was moderate schedule management plan practice on the project. The detail results shown on table 4.

Table 3: Analysis of Plan Schedule Management Practice

Variables	1=SD	2=D	3=N	4=A	5=SA	Mean	Standard Deviation
	# (%)	# (%)	# (%)	# (%)	# (%)		
policies, procedures, and documentation for planning, developing, managing, executing, and controlling the project schedule were established	14 (12.8)	32 (29.4)	7 (6.4)	47 (43.1)	9 (8.3)	3.05	1.26
The resource required to complete the project properly identified	4 (3.7)	33 (30.3)	6 (5.5)	50 (45.8)	16 (14.7)	3.38	1.17
Appropriate tools and techniques for planning schedule management have been provided by the company	2 (1.8)	27 (24.8)	2 (1.8)	76 (69.8)	2 (1.8)	3.45	0.95
How the schedule will be monitored and controlled was properly defined	9 (8,3)	57 (52.3)	3 (2.8)	33 (30,2)	7 (6.4)	2.74	1.17
Unit of measurement which used to monitoring and controlling the progress of the schedule properly identified.	9 (8,3)	58 (53.2)	9 (8,3)	32 (29.3)	1 (0.9)	2.62	1.05
Average Mean Value						3.04	1.12

Source: Survey Data (2022)

4.5.2ANALYSIS OF DEFINING ACTIVITIES PRACTICE

In this sub section respondents were requested to express their level of agreement on 5 variables that are related with readiness of requirements for effective defining activities and how project activities defined were practiced in TEP.

Regarding the activities that have to be implemented during the entire courses of the project, majority of the respondents were agreed that the activities were properly identified and listed. Whereas large number respondents were disagreed on the identification of deliverables that were missed and needed to be clarified or corrected. Only 27.5% of the respondents were agreed on the identification of missed deliverables.

Concerning on availability of required Tools and techniques that used to define project activities, the respondents were agreed with the mean value of 3.39. likewise, almost half (50.4%) of the

respondents were agreed and strongly agreed on appropriate identification and estimation of resources that were required to complete the listed project activities. And also, the majority (70.6) of respondents were believed that the project activities were strongly interrelated with the predefined project goals and scope.

The overall mean value 3.21 implies that defining activities were moderately practiced on TEP. And the average standard deviation 1.19 indicates the dispersion of a dataset relative to its mean. The detail results of analysis illustrated on the following table 5.

Table 4: Analysis of Defining Activities Practice

Variables	1=SD	2=D	3=N	4=A	5=SA	Mean	Standard Deviation
	# (%)	# (%)	# (%)	# (%)	# (%)		
The activities need to be implemented to achieve project deliverables identified and listed properly	12 (11)	23 (21.1)	9 (8.3)	55 (50.5)	10 (9.1)	3.25	1.21
The company provided required Tools and techniques that used to define project activities.	8 (7.3)	19 (17.4)	16 (14.7)	54 (49.6)	12 (11)	3.39	1.12
The deliverables that were missed and needed to be clarified or corrected were identified	15 (13.8)	44 (40.4)	20 (18.3)	19 (17.4)	11 (10.1)	2.69	1.20
All the activities were strongly related with the predefined project goals and scope	12 (11)	9 (8.3)	11 (10.1)	58 (53.2)	19 (17.4)	3.56	1.20
The required resources that used to complete the activities were properly identified and estimated	9 (8.3)	31 (28.5)	14 (12.8)	42 (38.5)	13 (11.9)	3.17	1.21
Average Mean Value						3.21	1.19

Source: Survey Data (2022)

4.5.3 **ANALYSIS OF ACTIVITY SEQUENCING PRACTICE**

In this sub section respondents were requested to express their level of agreement on four questions that are associated with the practice of project activity sequencing in TEP.

Based on this the respondents were strongly agreed on the logical relationship between the project activities with mean value of 3.70. additionally, 52.3% of the respondents believed that the activities were prioritized based on their values, 33.9 %were not believed on this idea and the remaining 13.8% remain neutral or undecided.

Regarding the supply of required Tools and techniques that used to facilitate the activity sequencing activities the respondents were agreed with 3.47 mean value. And also, approximately half of (49.5%) of the respondents were believed that Project-Schedule-Network-Diagrams established based on the dependency between the activities.

Generally, it is possible to summarize that the activity sequencing practice was moderately in case of TEP. The detail results of analysis illustrated on the next table 6.

Table 5:Analysis of Activity Sequencing Practice

Variables	1=SD	2=D	3=N	4=A	5=SA	Mean	Standard Deviation
	# (%)	# (%)	# (%)	# (%)	# (%)		
The logical relationship between the activities properly established	6 (5.5)	15 (13.8)	19 (17.4)	35 (32.1)	34 (31.2)	3.70	1.21
The activities of the project were appropriately prioritized based on their values	14 (12.8)	23 (21.1)	15 (13.8)	46 (42.2)	11 (10.1)	3.16	1.24
The tools and techniques used for sequencing the project activities were suitable.	14 (12.8)	8 (7.4)	23 (21.1)	41 (37.6)	23 (21.1)	3.47	1.26
Project-Schedule-Network-Diagrams established based on the dependency between the activities.	13 (11.9)	33 (30.3)	9 (8.3)	42 (38.5)	12 (11)	3.06	1.27
Average Mean Value						3.34	1.25

Source: Survey Data (2022)

4.5.4 ANALYSIS OFESTIMATING ACTIVITY DURATION PRACTICE

In this sub section respondents were requested to express their level of agreement by asking six questions that are related with the practice of estimating project activities duration in TEP.

Based on this 47.8% of the respondents were agreed on the activity duration practice was based up on previously defined and sequenced activities,33.9% of the respondents were disagreed and the remaining 17.4% of the respondents were undecided. Similar to previous project time management practice, majority of the respondents were agreed on the availability of required tools and techniques used to facilitate the activity estimating practice.

Regarding the identification of constraints and assumptions that could affect the project schedule majority of the respondents were disagreed only 34.8% of the respondents agreed on the proper identification of constraints and assumptions. And also 67.9% of the respondents were disagreed (13.8%) and strongly disagreed (54.1%) on the consideration of project risks during the estimation of activity duration as well as on the presence of contingency plan to overcome the unexpected events during the phases of project.

Concerning consideration of resources requirement of the activity and resources capabilities, respondents were disagreed with 2.55 mean value. And 67.8% were disagreed and strongly disagreed on that the estimated time was realistic to achieve.

The overall mean 2.86 indicate that the activity estimation was poorly practiced in TEP. The detail results of analysis shown on the subsequent table 7.

Table 6: Analysis of Estimating Activity Duration practice

Variables	1=SD	2=D	3=N	4=A	5=SA	6=M	Mean	Standard Deviation
	# (%)	# (%)	# (%)	# (%)	# (%)	# (%)		
The estimating process was based on defined actives and established sequence of activities.	12 (11)	26 (23.9)	19 (17.4)	35 (32.2)	17 (15.6)	0 (0)	3.17	1.27
The company provided appropriate tools and techniques used to estimating activity duration.	16 (14.7)	19 (17.4)	9 (8.3)	31 (28.4)	31 (28.4)	3 (2.8)	3.47	1.49
Constraints and assumptions of the project were properly identified and considered	11 (10.1)	56 (51.4)	4 (3.7)	20 (18.3)	18 (16.5)	0 (0)	2.80	1.32
During the estimation of durations project risks were considered and prepared contingency plan to overcome uncertainties.	15 (13.8)	59 (54.1)	11 (10.1)	9 (8.3)	11 (10.1)	4 (3.7)	2.58	1.32

The estimation process was considered resources requirement of the activity and resources capabilities	18 (16.5)	54 (49.6)	7 (6.4)	20 (18.3)	9 (8.3)	1 (0.9)	2.55	1.25
The estimated duration for each project activity was realistic to meet the deadline.	15 (13.7)	59 (54.1)	11 (10.1)	9 (8.3)	11 (10.1)	4 (3.7)	2.58	1.32
Average Mean Value							2.86	1.33

Source: Survey Data (2022)

4.5.5 ANALYSIS OFDEVELOPED SCHEDULE PRACTICE

In this sub section the respondents asked to express their level of agreement on variables that are related with schedule development practice in TEP.

Based on this 63.3% of the respondents not believed that the schedule was dynamic and flexible to adjust. Similar to prior time management practice, majority of the respondents agreed on supply of required tools and techniques that used to simplify the schedule development practice. And also, respondents were believed that the schedule incorporated planned start and finish date, duration and resources assigned to each activity with 3.61 mean value.

Concerning on the schedule captured the relationship between activities that shows how activities fit together and how things may change 62.3% of the respondents were agreed (45%) and strongly agreed (17.3%),29.4% of respondents were disagreed and strongly disagreed and the remaining 8.3% undecided or remain neutral.

Regarding schedule fitness with organizational structure and organizational culture 67.9% of the respondents were agreed (55%) and strongly agreed (12.9%) that the developed schedule was perfectly fit.26.6%of the respondents were disagreed on this variable and the remaining 5.5% were neutral. And majority of the respondents believed that the developed schedule considered enterprise environmental factors such as Government or industry standards, and Communication channels. The overall mean value indicates that the schedule development was poorly practiced on TEP. The detail analysis presented on the below table.

Table 7: Analysis of Developed Schedule Practice

Variables	1=SD	2=D	3=N	4=A	5=SA	Mean	Standard Deviation
	# (%)	# (%)	# (%)	# (%)	# (%)		
the schedule was dynamic and flexible to adjust when reality changed	27 (24.8)	42 (38.5)	4 (3.7)	30 (27.5)	6 (5.5)	2.50	1.28
The company provided appropriate tools and techniques used to estimating activity duration.	16 (14.8)	12 (11)	14 (12.8)	53 (48.6)	14 (12.8)	3.34	1.26
The planned start and finish date, duration and resources assigned to each activity included in the schedule.	12 (11)	10 (9.2)	4 (3.7)	65 (59.6)	18 (16.5)	3.61	1.19
The schedule captured the relationship between activities that shows how activities fit together and how things may change.	10 (9.2)	22 (20.2)	9 (8.3)	49 (45)	19 (17.3)	3.41	1.25
The developed schedule was perfectly fit with the organizational structure and organizational culture.	10 (9.2)	19 (17.4)	6 (5.5)	60 (55)	14 (12.9)	3.45	1.19
the schedule development process has considered enterprise environmental factors such as Government or industry standards, and Communication channels.	9 (8.3)	26 (23.9)	1 (0.9)	46 (42.2)	27 (24.7)	3.51	1.32
Average Mean Value						3.30	1.25

Source: Survey Data (2022)

4.5.6 ANALYSIS OF CONTROL SCHEDULEPRACTICE

In this sub section the respondents asked to express their level of agreement on five questions that are related on controlling schedule practice on TEP.

Based on this the respondents were agreed on that the performance report was made for every activity as per the schedule with 3.53 mean value. Regarding corrective actions for schedule variance 47.6% of the respondents were agreed that has been taken appropriately,36.7% of the respondents were disagreed and the remaining 15.6% were neutral.

Concerning on tracking the schedule performance the respondents were agreed that the progress was evaluated based on the predefined criteria with 3.52 mean value. Regarding the effects of schedule variance on the project performance 65.2% of the respondents agreed and strongly agreed that schedule variance could affect the project performance, whereas23.8% of the respondents disagreed and the remaining 11% were undecided. And majority of the respondents were disagreed that the lessons learned during the project work were properly registered.

From this analysis it is possible to conclude the control schedule was practiced moderately with 3.22 overall mean. The detail analysis summarized on the following table.

Table 8: Analysis of Control Schedule Practice in TEP

Variables	1=SD	2=D	3=N	4=A	5=SA	Mean	Standard Deviation
	# (%)	# (%)	# (%)	# (%)	# (%)		
Performance report was made for every activity as per the schedule	7 (6.4)	11 (10.1)	18 (16.5)	63 (57.8)	10 (9.2)	3.53	1.01
Appropriate corrective actions have been taken for every variance between actual and planned schedule.	1 (0.9)	39 (35.8)	17 (15.6)	41 (37.5)	11 (10.1)	3.20	1.07
The progress was measured based on the predefined criteria that has been identified during the planning stage.	0 (0)	23 (21.1)	15 (13.8)	62 (56.9)	9 (8.3)	3.52	0.91
Schedule variances can affect the overall performance of the project including cost and quality of the project.	1 (0.9)	25 (22.9)	12 (11)	68 (62.4)	3 (2.8)	3.43	0.91
the lessons learned during the project work were properly registered and documented.	12 (11)	59 (54.1)	21 (19.3)	16 (14.7)	1 (0.9)	2.40	0.90
Average Mean Value						3.22	0.96

Source: Survey Data (2022)

4.5.7 ANALYSIS OF INPUTS FOR EFFECTIVE TIME MANAGEMENT PRACTICES

In this section, respondents were asked to express their level of agreement on 7 variables which used as an input for the effective time management practice. The responses were rated from 1(strongly disagree) to 5 (strongly agree) to all questions regarding challenges for time management practice.

Based on this, with 3.43 mean value, the respondents expressed their agreement that the company selected appropriate project strategy and the project was properly planned and organized. Regarding the scope of the project majority of the respondents thought that it was defined properly with the mean value of 3.37. regarding required amount of resource and capital the respondents were agreed on that the company provided sufficiently with mean value 3.64 and 3.47respectively. However, regarding skill and motivations of the project team members 40% of the respondents strongly disagree and agree on skill and motivational level of project team members, the other14.3% of the respondents were neutral and only less than 50% respondent believe in skill and motivation of the team members.

Regarding the preparation for change request approval and on quick decision-making process respondents were disagreed with mean value 2.66. And also 68.8% of the respondents agree (58.7) and strongly (10.1) there was effective communication channels that used to communicate with the project teams. the overall mean value 3.47 indicates that factors considered as challenges for project time management practice had not significant effects on TEP. However, the average standard deviation 1.15 shows that the data highly spread out from the mean. The detail result illustrated on table 3.

Table 9:Analysis of Inputs for Effective Time Management Practices

Variables	1=SD	2=D	3=N	4=A	5=SA	Mean	Standard Deviation
	# (%)	# (%)	# (%)	# (%)	# (%)		
The company selected appropriate project strategy and the project was properly planned and organized.	5 (4.6)	31 (28.4)	4 (3.7)	50 (45.9)	19 (17.4)	3.43	1.20
The scope of the project was defined properly.	16 (14.7)	10 (9.2)	7 (6.4)	70 (64.2)	6 (5.5)	3.37	1.19

The organization allocated required number of resources for the execution of the project.	4 (3.7)	19 (17.4)	10 (9.2)	55 (50.4)	21 (19.3)	3.64	1.09
The Company assigned required amount of capital and qualified human resources	14 (12.8)	19 (17.4)	3 (2.8)	48 (44.1)	25 (22.9)	3.47	1.36
The project team members were motivated and technical rich	26 (23.9)	14 (12.8)	16 (14.7)	43 (39.4)	10 (9.2)	2.97	1.36
There was an effective communication channel within project team as well as with project stakeholders.	10 (9.2)	23 (21.1)	1 (0.9)	64 (58.7)	11 (10.1)	3.39	1.19
There was preparation for approval of change requests and quick decision-making process.	21 (19.3)	43 (39.4)	2 (1.8)	38 (34.9)	5 (4.6)	2.66	1.26
Average Mean Value						3.28	1.24

Source: Survey Data (2022)

4.6 PROJECT SUCCESS

In this section the respondents were asked to express their level of agreement on five questions regarding the success of TEP.

Based on this 53,2% of the respondents were agreed (42.2%) and strongly agreed (11%) that the project completed with planned schedule whereas 30.3% of the respondents were disagreed and the remaining 16.5% of them neutral. Moreover, the respondents were agreed that the project completed by achieving expected objective, with planed budget and by meeting stakeholders' expectation with mean value 3.3,3.4 and 3.17 respectively.

Table 10:Project Success

Variables	1=SD	2=D	3=N	4=A	5=SA	Mean	Standard Deviation
	# (%)	# (%)	# (%)	# (%)	# (%)		
The Project was successfully completed within the expected time	12 (11)	21 (19.3)	18 (16.5)	46 (42.2)	12 (11)	3.23	1.21
The project successfully met the expected goals and objectives	8 (7.3)	23 (21.1)	12 (11)	60 (55)	6 (5.5)	3.30	1.09
The project successfully completed within the expected budget	5 (4.6)	12 (11)	35 (32.1)	44 (40.4)	13 (11.9)	3.44	0.99

The project successfully met stakeholders' expectation	13 (11.9)	21 (19.3)	18 (16.5)	49 (45)	8 (7.3)	3.17	1.18
The project successfully met required performance.	19 (17.4)	29 (26.6)	11 (10.1)	49 (45)	1 (0.9)	2.85	1.20
Average Mean Value						3.20	1.134

Source: Survey Data (2022)

The study finally wants to assess that if there is a relationship and between the Project Time Management practices and the project success.

4.6 RELATIONSHIP BETWEENPROJECT TIME MANAGEMENT PRACTICES AND PROJECT SUCCESS

in this study Pearson correlation were computed to determine if there were significant relationship between the dependent and independent variable. According to Mukaka (2012) Correlation is a statistical method used to assess a possible linear association between two continuous variable and how closely two variables co-vary; it can vary from -1 (perfect negative correlation through 0(no correlation to +1 (perfect positive correlation).'

Table 11: Guidelines of Correlation coefficient Interpretation

Value Of Correlation Coefficient	Relationship Interpretation
0.000-0.199	Very Weak
0.200-0.399	Weak
0.400-0.599	Moderate
0.600-0.799	Strong
0.800-1.000	Very Strong

Source: ResearchGate (2018)

The researcher tried to analyze the relationship between project time management practice with project success by using correlation analysis. Based on the correlation test it can be summarized that plan schedule management, defining activities, sequencing activities and estimating activity duration have statistically very strong linear relationship with project success with correlation coefficients of greater than or equal to 0.8. whereas, developing and controlling schedule have strong relationship with project success with correlation coefficient of 0.795. so, the study indicates that time management practices have strong relationship with project success. the details of the analysis presented on the following table

Table 12:correlation

		Plan Schedule Management	Define Activities	Sequencing Activities	Estimating Activity Duration	Developing And Controlling Schedule	Project Success
Plan Schedule Management	Pearson Correlation	1	.882**	.895**	.871**	.866**	.800**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
Define Activities	Pearson Correlation	.882**	1	.729**	.849**	.809**	.812**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
Sequencing Activities	Pearson Correlation	.895**	.729**	1	.700**	.888**	.802**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
Estimating Activity Duration	Pearson Correlation	.871**	.849**	.700**	1	.885**	.823**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
Developing And Controlling Schedule	Pearson Correlation	.866**	.809**	.888**	.885**	1	.795**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
Project Success	Pearson Correlation	.800**	.812**	.802**	.823**	.795**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000

**. Correlation is significant at the 0.01 level (2-tailed)
*Correlation is significant at the 0.05level (1 tailed).
Source: Survey Data (2022)

.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

The main objective of this research was to assess the project time management practices and its effect on project success in ethiotelecom particularly the case of telecom expansion projects. Based on this study the main summary, conclusions and recommendations given presented as follows

5.1 SUMMARY

The population of this study is the project manager, project team leads, and project team members of TEP; The age of the respondents falls under the age interval 32-42,43-55 and the rest falls under the age of below 31. From the total respondents 66.1% are male and the remaining 33.9% are females. Out of the total respondents 8.3 % have acquired M.A ,89,9% have acquired B.A degree while the remaining 1.8% have acquired diploma. This indicates that the team members of the project have sufficient educational qualification to run the project. Since the project has been planned and executed before 10 years majority of the respondents have 11-15 years of experience in the organization and out of the total respondents 66.1% have more than 1 year of experience on specific project. Furthermore, 78% of the respondents were supervisors and above supervisor position and the remaining 22% of the respondents were officers and specialist.

5.1.1 PLAN SCHEDULE MANAGEMENT

The study required to determine the influence of plan schedule management on project success. The study found out that the average mean obtained in the practice of planning schedule management is 3.04, this implies that the practice is moderate. The practice of considering, how the schedule will be monitored and controlled as well as determining the unit of measurements for evaluating and controlling the progress of the schedule are the least practiced of all the components that issued for preparing plan schedule management.

5.1.2 DEFINING ACTIVITIES

The study indicated that the practice of defining activities, which is one of the components of project time management, is moderate and scoring 3.21 out of five. Moreover, the practice of identifying the deliverables that were missed and needed to be clarified or corrected, which is

the variable in defining activity practice is very low as compared to other sub components that need a due attention while defining activities which are required to complete the project tasks.

5.1.3ACTIVITY SEQUENCING

The study further described that the average mean obtained in the practice of activity sequencing is 3.34, this implies that the practice is moderate. Among other sub practices in activity sequencing, prioritization of the activity based on their values was obtained relatively low mean score. Knowing how to prioritize tasks can help the organization to determine where they want to invest their time and gives clarity about which tasks should be assigned team member thereby freeing time to do more important work (Bhosale, 2017).

5.1.4 ESTIMATING ACTIVITY DURATION

The average mean obtained in the practice of estimating activity duration is 2.86, which is below the average that is rated by respondents. In addition, the practice of considering resources requirements of the project activities and resource capabilities as well as preparation of contingency plan to overcome uncertainties that could affect the estimated schedule were relatively low compared to other sub components of estimating activity duration. According to Scierski and Wyrozebski (2020) the most important obstacles to the reliable estimation of the duration of project tasks are too little time, a disregarding approach to planning and making estimates as expected, but not related to reality.

5.1.5 DEVELOP SCHEDULE

Based on the findings of the study, The average mean obtained in the practice of developing schedule is 3.30 which is below the average that is rated by respondents. In addition, the mean score on dynamism and flexibility of schedule was relatively very low as compared to variables under develop schedule. Developing accurate and realistic schedule, the project team will be able to complete the project without a hitch (Pandey,2022).

5.1.6 CONTROL SCHEDULE

The study further portrayed that the average mean obtained in the practice of control a schedule is 3.22, this implies that the practice was average. Among other sub practices in schedule control, the practice of registering and documenting lessons learned from the schedule management processes has relatively low mean score. Project learning can provide project

managers and teams with the information they need on specific staff skill set needs and profile of the customer and operating environment that can impact the ultimate success of project and project management (Vignos, 2014).

5.1.7 INPUTS FOR EFFECTIVE TIME MANAGEMENT PRACTICES

The study described that the average mean obtained from the variables that could affect the project time management practice is 3.28 this implies that the respondents moderately agreed those variables were not problem in ethiotelecom, however compared with other variables preparation for approval of change request and quick decision-making process and level of team members motivation as well as their skill level obtained low mean score.

5.1.8 THE RELATION BETWEEN TIME MANAGEMENT AND PROJECT SUCCESS

Based on the findings of the study, the respondents moderately agree that the project time management practices influence the completion of the project with in specified time, budget and quality as well as meeting stakeholder's expectations and project objectives with 3.2 average mean score. Compared to other criteria, the effect of time management practice effect on project quality or performance has obtained the least average mean score. Moreover, the correlation analysis indicates that there is strong linear relationship between time management practice and project success.

5.2 CONCLUSION

Under this study, first, the major Project Time or schedule management practices have been identified and thirty-six r questions were developed and addressed in this research and all the dimensions were rated in between 2.86 and 3.34. then another seven questions were developed to assess the preparation and availability of major inputs that can facilitate project time management practices and the respondents were moderately agreed with 3.28 average mean value.

Based on this study, majority of the respondents were agreed that tools and techniques that used to facilitate the time management practice have been provided by the company and except estimating activity duration, all the other time management practices have obtained an average mean score of more than 3.So, from this analysis the study concluded that the time management practice on telecom expansion project was practiced moderately and regarding its relationship with project success the study indicates that there is statistically significant relationship between time

management practice and project success. From this the study concluded that This study has found out that if project time management practices are well practiced, there is a very high possibility of having achievable project that will guarantee a comprehensive business success.

5.3 RECOMMENDATION

Based on the conclusion of the study it is recommended that ethiotelecom should consider the following.

- high determination should be applied in the use of project time management meanwhile the timing and successful implementation of projects can greatly improve an organization's competitive condition. As the finding of this study implies project time management has a significant positive relationship with project success. The organization should exploit this situation by making extra efforts to empower the project managers as well as their project.
- Since the project is attributed to risk and uncertainty, the company should consider uncertainties that could affect the project schedule and also, they should prepare corresponding contingency plan in order to deal with uncertainties become reality.in addition the schedule should be flexible because today's business environment is dynamic.
- The activities of the project work should be prioritized based on their values in order to use the time efficiently and also the company should confirm the availability of required resources before estimating their duration because the fleetness of the activity is highly depended on the supply of essential resources.
- Finally, the company should properly register the lessons learned during the courses of the project. For instance, if there was a schedule variance, they should be registered and documented the causes of the schedule variance and how this problem is solved because it provides a guide line for future project and it can also serve as a document for training and development of project teams.

5.4 FUTURE RESEARCHES

- This study focused only in six practices of project time management so Future research should analyze based on other dimensions of time management practice as well as other perspectives project success factors.

References

actiTIME. (2021, Februry). actiTIME. Retrieved from WWW.actiTIME.COM.

Adam, L. (2012). Understading what Happening in ICT in eEhiopia. ResearchICT Africa.

Ajayi, O. V. (2017). Distingush Between Primery Sources of Data and Secondary Sources Of Data. Makurdi: Benue State University.

Alok, S. B. (2011). Handbook of Research Methodology. Educreation Publishing.

Arnab, R. (2017). Survey Sampling Theory and Applications. London: Elsevier Ltd.

Athanasios, K. N. (2018). Project Management Methodology. Luxembourg: European Commission.

Bhosale, M. (2017, December 27). GreyCampus. Retrieved from www.greycampus.com.

Bogalo, W. (2005). A Backgound Paper on Telecom and Telecom Statstics in Ethiopia. Addis Ababa: Unpublished.

Burghate, D. M. (2018). Work Breakdown Structure :Simplifying Project Management. International Journal of Commerce and Management Studies, 3(2).

Burke, R. (1999). Project Management Planning and Control Techniques (3rd edition ed.). John Wiley & Sons Ltd.

Camilleri, E. (2011). Project Success Critical Factors and Behaviors. England: Gower Pubishing Limited.

D. Suresh, A. S. (2019). Impact of Schedule Management Plan on Project. International Journal of Engineering and Advanced Technology (IJEAT), 9(1), 3350-3355.

Drost, E. A. (2011). Validity and Reliability in Social Science Research. International Perspectives on Higher Education, 38(1), 105-124.

Dudovskiy, J. (2022). The Ultimate Guide to Writing Dissertation In Business Studies: A Step-By-Step Assistance (6th ed.). Pittsburgh: Research Methodology.net. Retrieved from WWW.Questionpro.com.

Eisner, T. W. (2018). Relationship Between Stakeholders' Perceptions of Project Success and Project Planning. International Review of Management and Business Research, 7(2), 587-599.

Francesco, L. F. (2010). Project Management in Teleco Industry. Millan: Project Managment Institute.

Hussain, H. H. (2014). Time Management Tools and Techniqiues for Project Management. Socio-economic Research Bulletin, 4(55), 60.

Hyati, T. S. (2015). Time-Cost Relationship Model on the Construction of Education Building in ACEH Province. Jornal of Asian Scientific Research.

Hyttinen, K. (2017). Project Management Handbook. Laurea University of Applied Sciences.

Jainendrakumar, T. (2015). Project Time Management in PMBOK for Better Project Scheduling and Control. PM World Journal, IV(V), 4-5.

Kerzner, H. (2009). Project Management, a systems approach to planning, scheduling and controling (10th ed.). Canada: John Wiley & Sons, Inc.

Kothari. (2004). Research Methodology, Methods and Techniques (2nd ed.). New Delhi: Mew Age International Limited Publisher.

Lock, D. (2007). Project Management. Burlington: Gower Publishing Limited.

Malaysia, W. M. (2009). Critical Factors in Project Success: Paper Presented at the Pacific Association of Quantity Surveyors (PAQS) Congress. Canada.

MindTools. (2013). Project Schedule Development -Planning the Timing and Sequence of Project. [Electronic source].

Muhammad Nabeel, Z. P. (2013). Significance of Scope in Project Success. Procedia Technology, 722 – 729.

Mukaka, M. (2012). A Guide to Approppriate Use of Correlation Coefficient in Medical Research. Malawi Medical Journal, 3(24), 69-71.

Nicholas, J. M. (2004). Project Mangement for Business and Engineering Principles and Practices. Sydney: Elsevier Butterworth Heinemann.

Petersen, C. (2017). The Practical Guide to Project Management (2nd ed.). Bookboon.

PM4DEV. (2011). The Project Constraints. Retrieved from http://www.PM4DEV.com

PM4DEV. (2015). Project Management Glossary of Terms. Retrieved from http://www.PM4DEV.com

PM4DEV. (2016). Project Scope Management. Retrieved from http://www.PM4DEV.com

PMI. (2000). A Guide to the Project Management Body of Knowladge. Project Management Institute.

PMI. (2017). A guide to the project management body of knowledge (PMBOK® Guide) (2nd ed.). Project Management Institute.

Preston, R. W. (2012). Beginning Project Management. Unnamed Publisher.

Scierski, P. W. (2020). An Investigation into The Problem of Estimating Activity Durations in Project. Research Papers of Wroclaw University of Economics and Business, 64(2), 182-198.

Slevin, J. K. (1988). Project Success:Definitions and Measurement Tecniques. Project Managment Journal, 67-71.

Tetrevovab, J. K. (2014). Project Management and Its Tools in Practice in the Czech Republic. Procedia - Social and Behavioral Sciences, 678 – 689.

Tracy, B. (2013). Time Management. Atlanta: American Management Asociation.

Tremel, A. (2021). Effective Time Management For Project Success . Project Management Articles .

Vignos, T. (2014). Implementing Lessons Learned Best Practices in project Management. Pitney Bowes,Inc.

William, M. &. (2002). Planning and Scheduling: The Yin and Yang of Managing a project. Project Management Institute Annual Seminars and Symposium. San Antonio: PMI.

Appendix 1
A Survey Questionnaire

On Assessment of Telecom Expansion Project Time management Practice

(To be filled by ethio telecom Staffs)

Dear Participants:

My name is Abdrazak Dino and I am conducting a thesis entitled "Assessment of Time management Practice and its effect on Project success, the case of Telecom Expansion Project (TEP)" for partial fulfillment of my M.A. in Project management at AAU. The main purpose of this questionnaire is to collect necessary data for the above-mentioned study from the staffs participated in telecom expansion project.

The information you provide will be used only for the academic purpose and will be kept strictly confidential. Appreciating your willingness, time and cooperation, you are kindly requested to fill the questionnaire carefully and responsibly based on your experience in telecom expansion project since the outcome of this study will highly depend upon your response.

Best Regards,

Abdrazak Dino; EMAIL: -Abdrazakdino10@yahoo.com

Abdrazak.Dino@ethiotelecom.et

Instructions

1. Please, answer all questions.

2. In all cases where answer options are available, tick (√) inside the given box.

Section A: Demographic Profile of Respondents

Please indicate your appropriate choice among the options provided by ticking (√) that best represents you.

1.Gender

□ Male □ Female

2.Age

□ Below 31 □ 43 – 55
□ 32 – 42 □ Above 55

3. Level of education

- □ Certificate
- □ First Degree
- □ Above
- □ Diploma
- □ M.Sc./MA

4. Work experience in the organization

- □ 0- 5 years
- □ 11-15 years
- □ 6-10 years
- □ Above 15 years

5. Your Experience on TEP implementation

- □ Less than 6 months‟
- □ 1 year to 2-year
- □ 6 months to 1 year
- □ more than 2 years

6. What is your job level?

- □ Staff
- □ Specialist
- □ Coordinator
- □ Supervisor
- □ Expert
- □ Manager

Section 1: Time management practices on TEP

kindly requested to indicate how much you agree or disagree with the following statements concerning time management practice in case of TEP in Ethiotelecom We Use the scale of (SD- Strongly Disagree D- Disagree N- Neutral A-Agree SA-Strongly Agree)

Number	Plan schedule management practice in TEP	SD	D	N	A	SA
1.1	policies, procedures, and documentation for planning, developing, managing, executing, and controlling the project schedule were established					
1.2	The resource required to complete the project properly identified					
1.3	Appropriate tools and techniques for planning schedule management have been provided by the company					
1.4	How the schedule will be monitored and controlled was properly defined					
1.5	Unit of measurement which used to monitoring and controlling the progress of the schedule properly identified.					

	Defining activities practice in TEP	**SD**	**D**	**N**	**A**	**SA**
1.6	The activities need to be implemented to achieve project deliverables identified and listed properly					
1.7	The company provided required Tools and techniques that used to define project activities.					
1.8	The deliverables that were missed and needed to be clarified or corrected were identified.					
1.9	All the activities were strongly related with the predefined project goals and scope.					
1.10	The required resources that used to complete the activities were properly identified and estimated					
	Activity sequencing practice in TEP	**SD**	**D**	**N**	**A**	**SA**
1.11	The logical relationship between the activities properly established					
1.12	The activities of the project were appropriately prioritized based on their values					
1.13	The tools and techniques used for sequencing the project activities were suitable.					
1.14	Project-Schedule-Network-Diagrams established based on the dependency between the activities.					
	Estimating Activity Duration practice in TEP	**SD**	**D**	**N**	**A**	**SA**
1.15	The estimating process was based on defined actives and established sequence of activities					

1.16	The company provided appropriate tools and techniques used to estimating activity duration.					
1.17	Constraints and assumptions of the project were properly identified and considered.					
1.18	During the estimation of durations project risks were considered and prepared contingency plan to overcome uncertainties.					
1.19	The estimation process was considered resources requirement of the activity and resources capabilities					
1.20	The estimated duration for each project activity was realistic to meet the deadline.					
	Developed Schedule practice in TEP	**SD**	**D**	**N**	**A**	**SA**
1.21	the schedule was dynamic and flexible to adjust when reality changed					
1.22	The company provided appropriate tools and techniques used to estimating activity duration.					
1.23	The planned start and finish date, duration and resources assigned to each activity included in the schedule.					
1.24	The schedule captured the relationship between activities that shows how activities fit together and how things may change.					
1.25	The developed schedule was perfectly fit with the organizational structure and organizational culture.					
1.26	The schedule development process has considered enterprise environmental factors such as Government or industry standards, and Communication channels.					
	Control Schedule Practice in TEP	**SD**	**D**	**N**	**A**	**SA**
1.27	Performance report was made for every activity as per the schedule					

1.28	Appropriate corrective actions have been taken for every variance between actual and planned schedule.					
1.29	The progress was measured based on the predefined criteria that has been identified during the planning stage.					
1.30	Schedule variances can affect the overall performance of the project including cost and quality of the project.					
1.31	the lessons learned during the project work were properly registered and documented.					

Section 2: Major inputs for effective time management practice.

Dear respondents, in table below assumed as the major inputs for effective project time management practice are listed and you are kindly requested to indicate how much you agree or disagree with the following statements concerning TEP in Ethiotelecom We Use the scale of (SD- Strongly Disagree D- Disagree N- Neutral A-Agree SA-Strongly Agree)

Number	**Major inputs for effective time management practices**	**SD**	**D**	**N**	**A**	**SA**
2.1	The company selected appropriate project strategy and the project was properly planned and organized.					
2.2	The scope of the project was defined properly.					
2.3	The organization allocated required number of resources for the execution of the project.					
2.4	The Company assigned required amount of capital and qualified human resources.					
2.5	The project team members were motivated and technical rich.					

2.6	There was an effective communication channel within project team as well as with project stakeholders.					
2.7	There was preparation for approval of change requests and quick decision-making process					

Section 3: time management practices on TEP in relation with critical project success criteria.

kindly requested to indicate how much you agree or disagree with the following statements concerning time management practice in relation with criteria that used to measure project success. We Use the scale of (SD-Strongly Disagree D- Disagree N- Neutral A-Agree SA-Strongly Agree).

	Major criteria that used to measure project success.	**SD**	**D**	**N**	**A**	**SA**
3.1	The Project was successfully completed within the expected time					
3.2	The project successfully met the expected goals and objectives					
3.3	The project successfully completed within the expected budget					
3.4	The project successfully met stakeholders' expectation					
3.5	The project successfully met required performance.					

Thank you for your time!