ADDIS ABABA UNIVERSITY COLLEGE OF BUSINESS AND ECONOMICS

SCHOOL OF COMMERCE GRADUTE PROGRAM IN PROJECT MANAGEMENT

Assessing the Communication and Integration practice in the implementation of Telecom expansion project (TEP) in Addis Ababa.

BY

MIHRET H/KIROS GSE/5417/10

ADVISOR

DR. WORKU M.

A THESIS SUBMITTED TO ADDIS ABABA UNIVRSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER'S IN PROJECT MANAGEMENT

June 2022

Addis Ababa, Ethiopia

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APPROVED BY BOARD OF EXAMINERS

_____	_____
Advisor	Signature
_____	_____
Internal examiner	Signature
_____	_____
External examiner	Signature

DECLARATION

I, Mihret H/kiros, thus declare that the project work entitled "Assessing the Communication and Integration Practice in the Implementation of the Telecom Expansion Project (TEP) in Addis Ababa" has been completed. Submitted as part of ADDIS ABABA UNIVERSITY's requirements. THE MASTER'S DEGREE IN PROJECT MANAGEMENT is my original work, and to the best of my knowledge, the dissertation has not been used to confer any degree, associateship, fellowship, or other similar designation.

The thesis is original and has not been submitted for the award of any degree or diploma to any university or institution.

Mihret H/kiros	_____	**June 2022**
Name	Signature	Date

CERTIFICATE

This is to confirm that Mihret H/kiros worked under my supervision on the project "Assessing the project communication and integration procedures in the case of the Ethiopian Telecom Expansion Project." This work is the candidate's original work and may be submitted as partial fulfilment for a master's degree in project management.

Advisor's Name	Date	Signature
_____	_____	_____

APPROVAL

The undersigned certify that they have read and hereby recommend to the Addis Ababa University project management program to accept the Thesis submitted by **Mihret H/kiros** and entitled "**Assessing the Communication and Integration Practice in the Implementation of the Telecom Expansion Project (TEP) in Addis Ababa"** in the partial fulfillment of the requirement for the award of a Master's Degree in project management.

Name of the supervisor _____Signature _____ Date_____

Name of Internal Examiner _____Signature _____ Date_____

Name of External Examiner _____Signature _____ Date_____

Name of Head of Department _____Signature_____ Date_____

DEDICATION

This work is the result of numerous, difficult sacrifices. This work is sincerely and proudly dedicated to the people who serve as an inspiration thanks to the researcher's efforts. From parents and guardians to classmates and circle of friends who offered assistance when facing difficulties while performing this project. To the staff of Ethio Telecom, in particular my RAN teams in the South West of Addis Ababa. Above all, I give thanks to God Almighty, who has blessed me abundantly in every aspect of my lives, especially for giving me the bravery, strength, wisdom, time, and guidance to complete this project.

The Researcher

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I DO THANK YOU ALL!!!

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Acronyms

Abbreviations	Explanation
GRF	Goods of Return Form
CEO	Chief executive officer NGN
TEP	Telecom expansion project
WBS	Work breakdown structure
PMBOK	Project management body of knowledge
PMO	Project management office
PMI	Project management institute
IPM	Integrated Project Management
R&D	Research and development
ROI	Return on investment
PIP	Per Implementation plan

ABSTRACT

The goal of this study is to assess project communication and integration techniques in telecom expansion projects in Ethiopia, as well as their impact on project performance. To address the study's unique aims and obtain a precise result, an explanatory research design was used. Primary data was acquired by distributing 224 structured questionnaires, all of which were completed and returned. TEP performed well in the Initiation, Planning, Execution, Monitoring & Control, and Closing phases, according to the results of descriptive analysis.

Project communication, and integration management issues were identified as highly impactful on project success. According to the findings of the correlation analysis, there is a substantial positive correlation between all project phase practices and project performance, as well as a significant negative correlation between challenges and project performance. Apart from planning, the results of multiple linear regression reveal that all other project phase practices and problems strongly explain project success.

Finally, the communication and in integration practices of TEP was met its Schedule and budget and also most of the project phases starting from initiation to closing in TEP the communication and integration practices were good . TEP project was successful in each project life cycle and also after completion of the project network coverage increased, customer satisfaction well improved and network infrastructures improved dramatically especially in Addis Ababa cause of that Ethio telecom didn't start another expansion projects for long period of time. The value of this paper to contribute to communication and integration management practice amongst the Telecom -industry stakeholders, such as the professional team, Project managers and clients for successful project delivery.

• **Key words: Project Communication and Integration practices, Project Communication and Integration challenges and Project Success.**

CHAPTER ONE

1 INTRODUCTION

This chapter of the study focuses on the background of the study and organization, statement of the problem, the main and specific objectives, scope and limitation of the study, and the organization of the study.

1.1 Background of the study

Human existence and survival, as well as the survival of an organization, are dependent on communication. It is a method of generating and disseminating ideas, information, points of view, facts, and feelings among people in order to establish a shared understanding. The directing function of management relies heavily on communication.

Integration management has several objectives for project success, and establishing best integration management practices among all stakeholders plays a significant role in resolving stakeholder conflicts, achieving better resource allocation, improving mutual management effectiveness, and developing new managerial perspectives. Furthermore, according to PMBOK Seventh Edition, a standard published by the Project Management Institute (PMI), good communication management practices play an important role in project success and process improvement. And for a project to succeed, clear information processing, identifying the source of information, and integrating stakeholders are critical.

Project communication management is a set of procedures for ensuring that the appropriate communications are transmitted, received, and understood by the appropriate individuals. One of the core knowledge areas in the PMBOK is project communication management (Global Standard, 2017).

Project procedures, according to project management institution PMI, (2013), are necessary to identify, associate, and coordinate many project activities, as well as manage interdependencies, in order to ensure that many project parts are correctly coordinated. Developing project charter, project plan formulation, project plan execution, and overall change control are the primary procedures under project integration management. The first step allows the project manager to formally approve the project and allocate organizational

resources to it. Project planning entails organizing the activities of the project life cycle and arranging them into a dependable, easy-to-understand document. Project plan execution aids in the execution of the project plan by carrying out the tasks outlined in it and putting in place approved process improvement plans and adjustments. Finally, overall change control aids in the coordination of changes across the project.

"The absence of adequate communication within the firm is the fundamental cause of a situation in which everyone builds his or her own knowledge about project management," argues(Musioł & Sorychta, 2018). Communication has an impact on project success and also communication is critical throughout the project life cycle and has a significant impact on project success (El-Saboni et al., 2009). Project communications management describes critical processes for assuring proper and timely production, collecting, transmission, and distribution of project information (Ruwanpura, and Senaratne, 2016). Integrated Project Management (IPM) entails coordinating all of the project's varied resources and stakeholders to ensure that each department is functioning in unison. IPM mandates that each business unit exchange all necessary data.

Communication is critical throughout the project life cycle and has a significant impact on project success (El-Saboni et al., 2009). Project communications management describes critical processes for assuring proper and timely production, collecting, transmission, and distribution of project information (Senaratne and Ruwanpura, 2016). And Integrated Project Management (IPM) entails coordinating all of the project's varied resources and stakeholders to ensure that each department is functioning in unison. Integrated Project Management (IPM), in particular, mandates that each business unit communicate all pertinent information about the project's objectives.

Project communications management will become increasingly vital as the project team and its stakeholders grow in size. Project managers employ a variety of tactics to foster effective communication and integration among all stakeholders; nevertheless, this diversity of tools has an impact on the accurate and timely dissemination of project information. According to several studies, substantial sums of money are imposed on enterprises as a result of employee and stakeholder communication errors, reducing project team members' efficiency.

Project communication management is critical for project-based businesses that need a strong communication management strategy to steer their operations. As a result, research on project success have shown that communications management is at the top of the list. As various

scholars defined on the precise measurement of the communication process and its aspects (Dziekoński, 2017; Muszyńska, 2018)), one of the basic and first tasks for project managers is to prepare communication planning. Furthermore, as Dziekoski suggests in his study, evaluating the influence of the communication process and best communication methods is critical for future projects. The goal of this research is assess communication and integration methods in the TEP project implementation in Ethio telecom and to find a powerful method for sharing ideas for improving work processes, operations, quality, safety, and cost effectiveness. It also plays a significant role in improving company communication and integration practices, as well as worker performance, throughout each project phase. And to provide some more information to the previous studies by evaluating the communication and integration practices used in the company's Telecom Expansion Project (TEP).

1.2 Background of the organization

The project of study is implemented by Ethio telecom its partners .Ethio telecom, previously known as the Ethiopian Telecommunications Corporation (ETC), is an Ethiopian telecommunication company serving as the major internet and telephone service provider. In 2010, Ethiopian telecommunication signed an agreement with France Telecom Company to restructure its internal organization and changed its name to Ethio telecom. Ethio telecom is fully owned by the Ethiopian government and maintains a monopoly over all telecommunication services in Ethiopia. The company has marked huge strides for the last two decades in improving the quality of services and meeting customer satisfaction. This has been addressed through implementing various expansion projects. The current active projects implemented by Ethio telecom comprise the following: Long term Evolution (LTE) expansion project, L800 expansion project and 3G advanced expansion project. The project under study is the so called Telecom Expansion Project (TEP) has been successfully implemented from 2014 year to 2015 year. However the government has recently shown interest to sell portion of the service component to potential international telecom providers. After full operation of this telecom providers it is expected that customer satisfaction will be maximized or busted through competitive telecom market.

1.3 Statement of the problem

According to a recent study, (Sakala & Phiri, 2020). Communication skills of the sender or receiver, technology or channel used to communicate, and feedback in the communication process all had significant influence on the effectiveness of internal communication, according to an assessment of the challenges of internal communication and its relationship to successful product implementation in a commercial bank.

According to (Medhen H, 2019) On each project life cycle, the communication and integration strategies of this project were not covered. However, the author suggests that the TEP project's project communication and integration management methods should evaluated, and he mentions a lack of proper coordination with stakeholders, as well as project communication and integration challenges as very demanding aspects of project success.
The case of Addis Ababa chamber of commerce and sectorial association (AACCSA, 2019) the research demonstrated that assessing internal project stakeholder communication practice is important. Assessing project communication is recommended in order to preserve or improve a company's present project communication practice, and it is critical to identify the cause of project failure. Although the project's project communication management is performing well, this does not imply that all project management areas are performing well. Communication is one of the most important components in project success, according to the study (Vitalijus A, 2019).

Organizations should adopt project communication management policies and strategies, According to the study (Yonatan E, 2017). According to the author, producing project communication management rules and principles manuals is a must, and the organization's communication flaws must be properly addressed.
To evaluate factors affecting project communications, a hybrid DEMATELISM technique wa s adopted (a case study in Iran). One of the most critical components of project success is co mmunication management and the accurate and timely provision of information to both intern al and external project stakeholders. In addition, common double communication and integration strategy facilitates the proper roll out of divergent project functions. Hence, documenting the lessons of this communication and integration management practices is believed to provide a paramount input for future project implementation.

The importance of communication in project management. Ume 2014 is a case study.(Hailemicheal w., 2012), author of European Capital of Culture, proposed any project's success hinges on its ability to communicate effectively. Communication abilities are the most important aspect for project success in any successful project where project management appears to be done. Furthermore, communication is critical in medium-complexity projects, maintenance projects, and the innovation process.

1.4 Research Questions

- How did the project communication and integration management practices in the implementation of TEP (PM Phases)?
- What facilitators of project integration management practice had use to favour the success of the TEP?
- What barriers have been faced to roll out the good project communication management practice during the implementation of the project (TEP)?

1.5 Research objectives

- **General objective**

The general objective of this study is to assess the communication and integration practice in the implementation of Telecom Expansion Project (TEP).

- **Specific objective**

Specifically, the study aims to:

- To identify or describe the communication and integration practices during the implementation TEP in Addis Ababa.
- To describe facilitators of communication and integration practice.
- To assess barriers that imped to adopt the good project communication and integration practice**.**

1.6 Significance of the study

This research is beneficial to the project since it demonstrates the value of efficient project management processes and methodologies in order to improve the practice of prospective projects in the company. It assists top management in being more aware of how key project communication and integration principles might affect a project's success. Furthermore, because there is a scarcity of literature on project communication and integration methods in telecom expansion projects, this study, which is unique in its scope, is likely to add to the existing body of knowledge on project communication and integration practices.

This study helpful to better understand the perspectives of the organization's managers and project managers on project communication and integration practices, as well as to discover variables that influence it and how they communicate effectively to complete projects successfully.

Studying project implementation practice promotes lesson learning, documentation and sharing for improved subsequent project performance. Similarly assessment of the communication and integration practice of TEP furnishes significant lesson for future project implementation. This study will also have significance in providing the practically confronted implementation facilitators and barriers.

1.7 Scope of the study

The study was limited to evaluating project communication and integration practices in the implementation of a telecom expansion project in Addis Ababa. The project was implemented in Addis Ababa and a few other Ethiopian locations, however this article focused solely on Addis Ababa. Furthermore, this research was restricted to assessing and reporting only the TEP project's communication and integration practices, with no evaluation of the project's success or failure, or associated causes.

1.8 Limitations of the study

The one and main limitation of this study is , This study undertaken in one telecom provider company (Ethio telecom) in Ethiopia the assessment is limited and I can't to compare the project communication and integration practices with other providers. Plus Given the little time allocated for the investigation, it was difficult for the researcher to access some records due to complicated bureaucracy and confidentiality.

1.9 Organization of the paper

This research shall contain five chapters. The first chapter shall have the introduction and background of the study, a background of the organization, statement of the problem, research objectives, research questions, significance of the study, the scope of the study, limitation of the study, and organization of the study. Chapter two will follow by reviewing related literature of both theoretical and empirical evidence. The third chapter shall briefly describe the research methodology that deals with descriptions of the study area, research approach, research approach and design, population and sample, data sources and types, data collection procedures, ethical consideration, and data analysis. Chapter four shall analyze and interpret the review and collected data. And also the results of the study shall be discussed. Finally, chapter five shall focus on the summary, conclusion, and recommendation part of the research using the information and findings mention from all the above chapters. A list of references and an appendix shall be placed at the end of the paper.

1.10 Terms and definition

Project Communications Plan: A project communication plan is an agreement between collaborators and stakeholders that outlines what, when, and how information will be shared at key intervals.

Project Integration management: is the coordination of all elements of a project. This includes coordinating tasks, resources, stakeholders, and any other project elements, in addition to managing conflicts between different aspects of a project, making trade-offs between competing requests, and evaluating resources.

Project communication management: is a collection of processes that help make sure the right messages are sent, received, and understood by the right people. Project communication management is one of the 10 key knowledge areas in the PMBOK (Project Management Book of Knowledge).

Communication tools: is a broad label given to apps, software, or online portals that allow dispersed and remote teams to collaborate and talk to each other—no matter where they are using different effective communication tools to develop productivity.

Project management: deals with the coordination of all initiating, planning, decision, execution, monitoring, control, and closing processes in the course of a project. In other words, it is the application of knowledge, skills, tools, and techniques to project tasks to meet all projects.

Project success: is defined by the level of efficiency the project meets its objectives under budget and under schedule with Effective Communication.

CHAPTER TWO

2 REVIEW OF RELATED LITERATURE

This chapter consists a review of related theoretical and empirical literatures about project communication, project communication management process (Phases) and Barriers of Communication and Integration practices.

2.1 Theoretical Literatures

2.1.1 Project communication

Project Communications Management encompasses all actions that aid in the generation, diss emination, receipt, validation, and comprehension of data (Ruwanpura, and Senaratne, 2016).

PMI (2017) has identified one of the project's primary fields of knowledge as scientific mana gement. Individual and organizational learning, as well as the development of trust and share d work values, can all be achieved through communications management (Senge,2006).

Cultural differences, trust, communication support tools, IT infrastructure, geographic distanc e, time interval, stakeholders, monitoring, measurement and analysis, planning, continuous i mprovement, models and policies, and curriculum are all factors that affect communications management (Muszyńska,2018). In a convergent project team, an efficient communications management plan fosters a collaborative atmosphere (Livesey, 2016). Differences in cultures, languages, and ethnicities might make communication between team members more difficult. As a result, effective cross-cultural communication is critical for team collaboration and performance (Onkhaw & Fedorova, 2019).

One of the main factors in the success of projects is communications management and proper and timely distribution of information among all internal and external project stakeholders (Ceric, 2014; Mahamid, 2016). One of the most common project dangers is a lack of communication (Ceric, 2012). The best project plan will not be successful without project communication, according to (Berzkalns, I., 2003). Planning and adapting information to the proper recipient of the information are required for effective, frequent project communication. Effective project communication guarantees that all stakeholders may contribute fully to the project in order to meet and surpass expectations. PMI defines Project

Integration Management as the processes and activities required to identify, define, combine, unify, and coordinate the multiple processes and project management activities, according to the PMBOK Guide (PMI 2013) with the Project Management Process Groups.

| November 27, 2019 | PMBOK by Jason Westland Communication management may be more significant than any other part of project management because it informs every aspect of the project. The requirement to plan communications management is a vital phase in any project because it informs both the team and the stakeholders.

2.1.2 Project Communication management Process (Phases)

The project manager and the project team have one common goal: to complete the project's work in order to satisfy the project's objectives. Every project has a start, a middle stage in which actions take the project closer to completion, and a finish (either successful or unsuccessful). Initiation, planning, implementation, monitoring and control and closing are phases of a normal project in every 10 knowledge areas (each with its own set of duties and challenges). This study focused on Project communication and integration management phases of Telecom expansion project. Thus, Initiating, planning, executing, monitoring and control and closing are all steps in the life cycle of a typical project. A project manager can appropriately manage the project if they have a thorough understanding of the project life cycle (DING , 2016).

The Project Communication Management Process, according to the PMBOK 4th Edition Han dbook, consists five main processes such as: 1. Identify Stakeholders, 2. Plan Communications, 3. Distribute Information, 4. Manage Stakeholder Expectations and 5. Report Performance.

According to PMI's breakdown of key activities by project phase, this study focused on project communication and integration management process in each project life cycles (phases) to address how did the communication process from Initiation up to closing phase.

2.1.2.1 Phase 1: Initiation phase

During the project's initiation phase, all stakeholders who might have an impact on the project are identified. Creating a project charter, identifying the project's aim, and providing a first draft of the integration of stakeholder management all include documenting the project

teams' level of interest, influence, and authority. Preparing high-level planning and timely dissemination of the project's objectives and goals to all project teams.

2.1.2.2 Phase 2: Planning phase

The Plan Communications process includes recording the communication requirements of the stakeholders who were identified in the Identify Stakeholders step. During the planning phase, the organization effectively communicated with all internal and external stakeholders of the Telecom Expansion program. Communication procedures included creating a Work Breakdown Structure (WBS), providing a network diagram for each activity's time estimate, and communicating the overall project plan that had been approved. Communication Technology, Communication Models, and Communication Methods were all used by the organization.

2.1.2.3 Phase 3: Execution phase

Implementing the Communications Management Plan successfully is a requirement of the Distribute Information procedure in the Project Communications Management PMBOK Project Management Knowledge Area. The most crucial methods and tools used in this process are those for disseminating information, and project managers convene the team to announce the start of the project. This phase also includes project execution metrics, quality assurance and scope verification, escalating challenges, and updates on the project's status to key stakeholders.

2.1.2.4 Phase 4: Monitoring and Control phase

The project manager's interpersonal and managerial skills, the appropriate tools used for project monitoring and control, the system in place to control overall changes, and the coordination of stakeholder meetings are all part of this process and are crucial to resolving issues and keeping the project's quality, schedule, and budget under control to implement the project successfully.

2.1.2.5 Phase 5: Closing phase

The Report Performance process entails updating designated stakeholders on performance, communicating the status of audits and contracts, preparing lessons learned, signing,

approving, and archiving documentation, performing product verification and acceptance tests, saving all project files, packing the remaining materials for the site properly, and sending the gathered materials to the company's warehouse. These steps are crucial to the project's success. Among the important outcomes of this approach are performance reports.

2.1.3 Barriers of project communication and integration management practice

Many Common Barriers to Effective Communication have been identified by various researchers, including job dissatisfaction, difficulty listening to others, a lack of trust and transparency, differences in communication styles, workplace conflicts, linguistic and cultural barriers, social distance, and improper coordination with stakeholders. Organizational structure, a lack of commitment from the project team, Project complexity, incompetent staff, a lack of communication over the distribution of resources, and communication skills. Information overload, poor communication routes, and lack of clarity, consistency, and frequency, among other things.

According to Barriers for Better Integration Management: A Case of the Pakistani Construction Industry (August 2020), the research identified nine types of barriers that negatively impacted integration in construction projects, including: (1) Project managers experience and competence; (2) A high level of trust in PMT; (3) Top management support; (4) Project managers leadership style; (5) Clearly defined goals and objectives; (6) Comprehensive contract document, (7) Availability of resources, (8) Effective allocation of resources, (9) Community involvement.

The researcher took eight of the above-identified barriers into consideration in order to meet the expectations of this study's findings and to assess the barriers to communication and integration management practice, including: Communication plan, Lack of proper coordination with stakeholders, Organizational structure, Lack of project team commitment, Project complexity, Incompetent staff, Communication gap on resource allocation, Competence or communication abilities.

2.2 Empirical Literature

Cost, time, quality, scope, human resource, project integration, communications, and stakeholder, risk, financial, procurement, ecological, safety, and claim management are among the 14 overall areas defined by the Project Management Institute (PMI). The proposed domains of knowledge by PMI have been used in a variety of research studies. Several research focused on communication and integration practices management, communication management elements, and the impact of stakeholder communication on project outcomes. In

addition, there are a number of elements that influence project communications. (NM Mavuso and JN Agumba , 2016) discovered communication management characteristics that influence project success. They suggested using a conceptual improvement model to improve communication and management practices in order to produce effective projects.

Communication is crucial for project success, and while it is tough to perfect, it is necessary to make a concerted effort to do so. And communication is better to know how the project will be handled and how information will flow into and out of the project when selecting and assessing the relevant variables. (Skendrovi - Informatologia, Kulo, 2010). According to a study conducted in the IT industry in Islamabad, Pakistan, IT projects suffer from issues such as scope creep, cost and schedule overruns, and a lack of customer satisfaction with project outcomes due to ineffective stakeholder communication management.

Good Project Communications and Integration Management, according to (Pheng L.S., 2018), comprises the project manager's understanding and strategy expertise in communicating about the projects they lead. More experienced project managers, according to the study, have a more sophisticated knowledge of project communication as both technical and social in nature.

"Analysis of factors affecting project communications with a hybrid DEMATEL-ISM technique (A case study in Iran)," according to Hedieh Shakeria and Mohammad Khalilzadehb,c. The work addressed this flaw by identifying and defining the sequences and linkages that influence project communications and clustering. They claim that having an informed communication strategy allows managers to better organize and control information flow, as well as reduce the expenses associated with ineffective and timely communication. They also recognized communications management and accurate and timely sharing of information among all internal and external project stakeholders as key variables in project success.

The focus of this research is on assessing project communication and integration methods in the TEP project implementation in Addis Ababa. And to identify the obstacles that have been encountered in implementing good project communication practices during the project's implementation, as well as to provide guidance on how to manage and maintain the integration management process during the project's implementation in order to improve future projects. This research will also provide guidelines and templates to assist project managers in improving stakeholder communication skills and documentation.

2.3 Conceptual Framework

As stated in the study's objectives and issue description, the primary goal of this study is to evaluate project communication and integration methods across all project phases in TEP, as well as their problems and impact on project success. The right and effective practice of all project phases has a positive impact on project success, whereas the lack of sufficient practice and increasing the intensity of the challenges has a negative impact on project success.

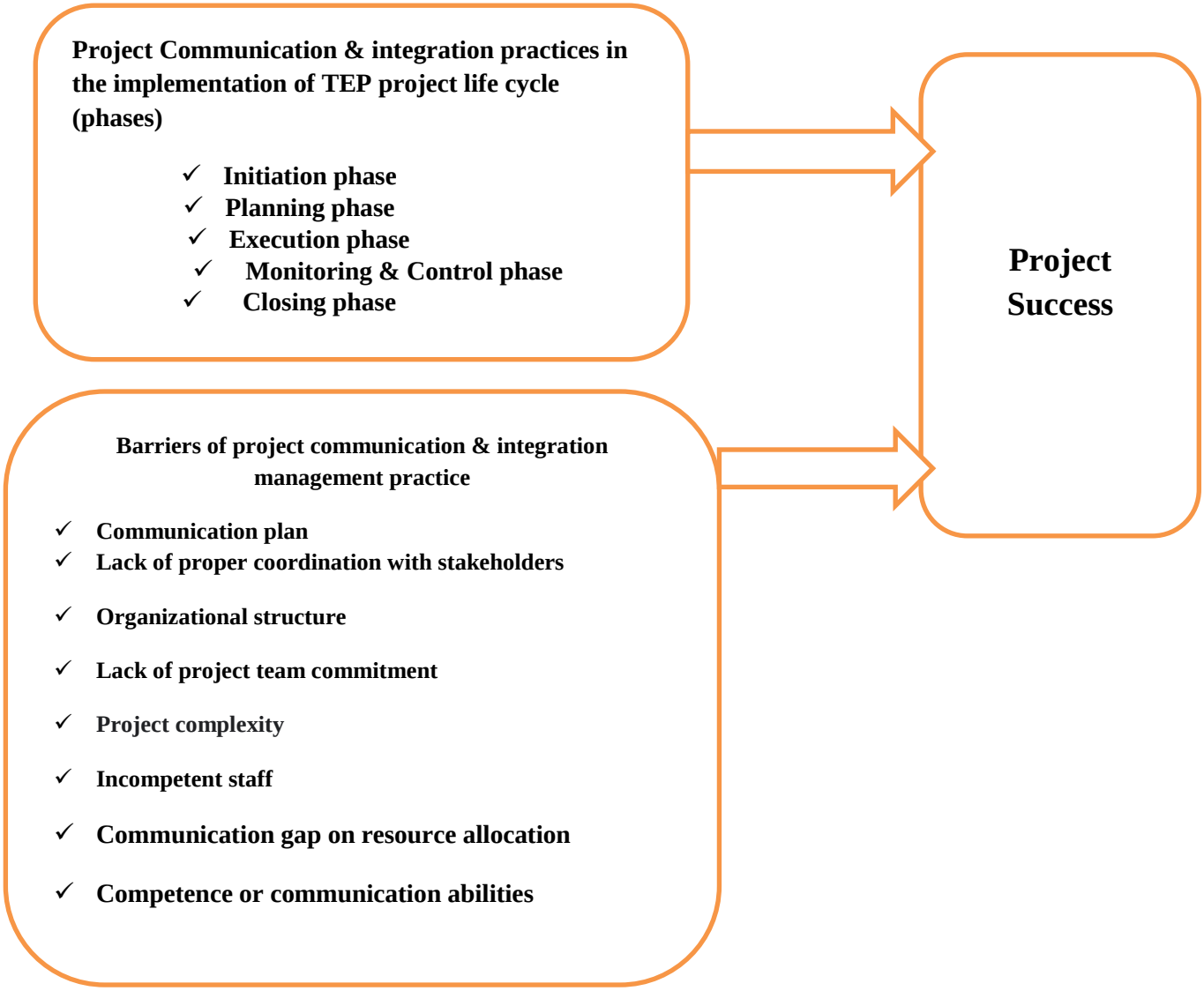

Figure 2-1: Shows the relationship between these project communication and integration strategies, obstacles, and project performance based on literature review.

CHAPTER THREE

3 RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research design and methodology that is used to carry out the study. To achieve the goal, it consists of a brief discussion of the research design used, study area, participants, sampling, method of data collection, analysis method, and ethical consideration.

3.2 The Area and Population of the Study

Ethio telecom, Ethiopia's only state-owned telecom service provider, is the subject of the research. The organization has numerous branches throughout Ethiopia, resulting in an excessive number of employees; however, the study's primary focus is on the Ethio telecom expansion project structure, which contains various levels of employees, ranging from project directors to staff members. The Telecom expansion project (TEP) primarily accountable for the project of Network and information system (IS) divisions are primarily accountable for the project, while sourcing and facility division (SFD), finance division, human resource division (HRD), quality and process division (Q&PD), and legal divisions are in charge of providing program support. The overall number of people who took part in the Addis Ababa enlargement project, which included several regional districts, was 1051. However, because the study is limited to Addis Ababa, with a total population of 951 staff members are excluded from data collection from the total participant due to the study's limitation to Addis Ababa, which will be the study's population, with a representative sample drawn from this entire population.

3.3 Research Design

In the social sciences, there are typically three types of research methodologies: 1, qualitative; 2, quantitative; and 3, mixed approaches (WangRui & Guhongfei, 2016). Only a quantitative method was used in this investigation. This study's research design was of the explanatory type. The process of converting raw data into a form that can be used to describe a group of variables in a situation and make them simple to comprehend and interpret is known as descriptive analysis. As a result, the descriptive research approach was utilized to assess some points on the structured questionnaires as well as the respondents' correct demographic profile. Correlations and multiple linear regressions were utilized in the explanatory section to analyze the linkages or associations between the project performance and the practices and barriers (independent variables) (dependent variable).

3.4 Source of data and data collection method

The primary and secondary forms of data collection are the most common ways to acquire research data. The primary data is gathered through the use of major real-time sources. Surveys, group discussions, interviews, and other real-time sources are among the real-time sources. The secondary way of research, on the other hand, takes into account a variety of secondary data sources are data that is already contained in articles, publications, reports and other documents.

In this case, only primary data were used to acquire data in this case. The researcher used questionnaires as the main source of data to ask the research questions, and TEP project workers in TEP offices and various other supporting divisions responded. Additionally, the researcher employed a variety of sources to expand her knowledge for the inquiry process, including online case studies, journals, publications, and newspaper reporting. Employees of the Ethio Telecom expansion team completed a survey to gather the primary data, which was supplied as a paper copy for them to complete and a Google form questioner. The sample questionnaire is included in Appendix I.

3.5 Sampling design

3.5.1 Targeted population

A research population is a well-defined collection of people or things (unit of analysis) with similar characteristics that the researcher is interested in studying. The unit of analysis is a person, an item, an organization, a country, or any other entity about which the researcher wishes to draw scientific conclusions (Mark, et al., 2007). Employees who took part in the TEP project in Ethiopian telecom made up the study's population. The overall number of participants that participated in the program is 1051, although they are not evenly divided among the Ethiopian telecom divisions.

3.5.2 Sample size

In this study, the researcher generates samples from the total population using the sample size formula which is presented by (Krejcie & Morgan, 1970) using the formula for sample size determination when the population size is known which is 1051. The sampling technique to determine the sample size of the study uses the table developed by

$$\boldsymbol{S = \frac{X^2\, NP(1-P)}{d^2\,(N-1) + X^2\, P(1-P)}}$$

Where:

S=Required Sample size

X = Z value (e.g. 1.96 for 95% confidence level)

N = Population Size

p= Population proportion (expressed as decimal) (assumed to be 0.5 (50%)

d= Degree of accuracy (5%), expressed as a proportion (.05); It is margin of error

In this investigation, the researcher used a 95 percent confidence interval with a 5% margin of error. The sample size for 951 will be 264, according to (Krejcie & Morgan, 1970) table (see appendix II). However, due to the current pandemic and other unknown circumstances, the researcher believes that some questionnaires will not be returned. The researcher added 5% additional elements to responses that were incomplete or missing. As a result, the sample size was determined at 278 respondents, and questionnaires would be distributed using the above-mentioned convenience sampling methods. "Technically, the sample size should be large enough to generate a confidence interval of the appropriate width," says (Kothari, 2004).

3.6 Sampling technique

The population was divided into subgroups using the sample frame. To ensure representation of the different employment role within the population in the study sample, a stratified random sampling technique was employed to choose random samples from the homogeneous subset of role based categories, as shown in the table below. A total of 278 personnel were studied, with 3 program managers, 18 project managers, 128 coordinators/specialists, and 129 technicians making up the sample size. A basic random selection method will be used to select responses from the subgroups.

Table 3-1: Sample Size

TEP Role	**Population of ET Head Count Status (N)**	**Sample Size (n)**
Director	1	0
Program Manager	14	3
Project Manager	67	18
Coordinator/Specialist	483	128
Technician	486	129
Total Universe	1051	278

3.7 Data reliability and validity

The amount to which a test measures what it claims to measure is known as validity. Cronbach's alpha coefficient was also used to assess the data's dependability. Test dependability is described by (Kothari, 2004)as the constancy and consistency with which a test assesses what it is designed to evaluate. Simply said, if a test is constant both inside and outside of time, it is dependable. The degree to which a test accurately analyzes what it promises to measure is referred to as test validity. Test validity refers to the relevance and utility of findings, judgments, and actions based on test scores.

According to (Gay, 1987), the degree to which a test consistently assesses whatever it is designed to measure is referred to as reliability. The extent to which results are consistent over time and provide an accurate picture of the total population under inquiry is referred to

as dependability, and a research instrument is considered trustworthy if the results of a study can be duplicated using comparable techniques. As indicated below, Cronbach's alpha coefficient was used to establish the data's reliability for all factors**.**

Table 3-2: Cronbach's alpha coefficient

No	Variables	Cronbac's Alpha
1	Initiation phase	0.864
2	Planning phase	0.966
3	Execution phase	0.96
4	Monitoring phase	0.985
5	Closing phase	0.979
6	Barriers of the project communication and integration	0.959
7	Project success	0.991

At various levels, reliability in the range of 0.7 to 0.94 is generally considered adequate. As can be seen in the table above, all of the factors have reliability coefficients that are higher than the needed 0.70. As a result, Cronbach's alpha shows that the scales utilized in the instrument are appropriate and suitable in this investigation.

3.8 Methods of Data Analysis

Data analysis begins with concept generation, which begins during data collection. A quantitative data analysis technique was applied in this study. Data acquired through closed ended questions will be examined using a quantitative technique to assess the implementation. Ethiopian telecom practices, difficulties, and performance, as well as the relationship between performance and practices and obstacles. After gathering data from primary and secondary sources, the researcher double-checked and changed it. The information was then manually coded and entered into the computer. Finally, using Spreadsheet Software Program (SPSS) software, the acquired data was processed and interpreted as descriptive and explanatory statistics. The data is arranged and presented in

such a way that it responds to the research questions and leads to appropriate recommendations.

3.9 Ethical Considerations

The research participants are human beings who should never be handled unethically. As a result, with the organization's approval and the respondents' informed consent and declared interest, the researcher begins collecting data. In terms of ethical considerations, the researcher made the study's aim clear to both the organization and each responder before the questionnaire was distributed, and they were not required to reveal their name or any other information that could be used to identify them. The researcher informed them that their comments would only be used for this research paper and that they would be kept completely anonymous. In addition, the researcher avoided using names in the questionnaire, which was only given to those who were interested. Furthermore, in the questionnaire, which were only given to willing participants, the researcher avoided making misleading or deceptive remarks.

CHAPTER FOUR

4 Data presentation, analysis, and Interpretation

4.1 Introduction

This chapter covers the analysis and interpretation of the various data collected through the use of questionnaires as per the objectives and question of the study. The crucial emphasis of the research was to study the project communication and integration practices in the implementation of Telecom expansion project (TEP) in Addis Ababa. Primary data was gathered through questionnaire, while secondary data was gathered by reviewing related books, articles, journals, and previous similar research.

The collected data were described and analysed using SPSS software.285 samples of participants were taken and the same amount of questionnaires plus a Google form prepared and distributed/send to potential respondents out of which 224 questionnaires were returned and no replay from the Google form which makes the response rate 79% from the total required participants. Despite several follow ups 21 % failed to respond. According to (Mugeda & Mugenda, 2003 cited by Meaza T, 2018) A response rate of 50% was deemed adequate for analysis and reporting, response rate of 60% was good and a response rate of 70% and over was considered very good. Thus, as per their study the returned achieved for this study is a very good response rate at 79 % and was considered adequate for analysis and reporting.

The questionnaires consist of five general information of the respondent's and seven sub-sections, which involve six to eight questions each, which help this study to address the question as well as the objective.

This chapter covers all the demographic features of respondents and descriptive analysis of the dependent and independent variables depending on the objective. In the demographic section age, gender, education level, occupational/job level and work of experience were all taken into consideration. During the analysis the major purpose of each question is described and the results are supported using by relevant charts and/or tables. In order to meet the goal of this study, some questions are grouped together in several sections to make the analysis of replies more logical and relevant. The data presentation, analysis, and interpretation are deliberated as follow;

4.2 Descriptive statistics

The study's quantitative data were evaluated in this part. The general information of the respondents, as well as the results of the independent and dependent variables are included in the quantitative data evaluated.

4.3 Demographic information

The demographic information of the respondents gathered for the study was age of the respondents, gender of the respondents, educational qualification, occupational/job level and their experience in TEP implementation. Such kind of response helps to know which focus areas are involve in the project.

Table 4-1: information of the respondent

Characteristics	Frequency	Percent (%)
Respondent gender		
Male	**128**	**57.10**
Female	**96**	**42.90**
Total	**224**	**100.00**
Job level in the organization		
Technicians	**129**	**57.6**
coordinator/specialist	**75**	**33.5**
Project manager	**17**	**7.6**
Program manager	**3**	**1.3**
Total	**224**	**100**
Work experience in the organization		
0-5 years	**23**	**10.27**
6-10 years	**97**	**43.3**

11-15 years	**74**	**33.04**
above 15 years	**30**	**13.39**
Total	**224**	**100**
Education level		
certificate	**3**	**1.34**
diploma	**7**	**3.13**
first degree	**149**	**66.52**
master's degree	**62**	**27.68**
post graduate	**3**	**1.33**
Total	**224**	**100**

⇒ Age of the respondents

For this study figuring out the age of the respondents was important but not crucial or do not directly impact the case company's success whichever age group dominate. Looking at the age group of respondents, the larger number of the respondents is between the ages of 26-35 which adds to 103 respondents representing 45.98% of the total respondents. The second larger age group which constitutes 66 (29.46%) of the respondents is 36-45 years of age. The third-largest age group is 20-25 which adds 33 covers 14.73%. And the least frequency age group is above 45 (22 or 9.82%).

From the above-presented data, one can observe that the majority of the employee that is 45.98% of them is in the age group of 26-35. Then, the age group36-45 has a great involvement than the others. These results generally imply that the majority of the employee which involve in the expansion project are young adults and seems that this range are suitable for the networking industry since the technology did not age that much, and this indicates that these generations are more active and familiar with networking, internet or other latest technologies.

⇒ Gender of the respondents

The study involved gender distribution of respondents to answer the questionnaires illustrated in figure 4.2. The following illustration depicts that respondents of female and male answered the questionnaires distributed. Out of 224 respondents, 96 (42.9%) were female while 128 (57.1%) of the respondents were male. This indicates that the majority of participant employees are male. The data is showing that the number of male respondents are higher but do not mean or this research cannot conclude the number of male employee is greater than female this point will be left open due to the irrelevance of the information for this study.

⇒ Educational level of respondents

On the level of education, 1.34% (3) & 3.13% (7) of the respondents hold a certificate & Diploma respectively, 66.52% (149) of them had BSc, 27.68% (62) had Master's Degree, while the remaining 1.34% (3) had above post graduate level. As shown in figure 4.3 below. The result indicates that almost all of the respondents are well educated which makes them capable and right for project they are assigned of plus it is advantageous for this study due to their level understanding to responses the question which asked.

⇒ Occupational level of respondents

According to the category of job position asked in the questionnaire the respondents answer as shown in the figure below and the majority of the respondents which is 57.6% (129) are Technicians, the second large categories are 33.5% (75) are coordinator/specialist in their current position and 7.6% (17) & 1.3% (3) of the respondents are project manager & program manager respectively. This implies that all the respondents are highly related to the study and the responses are filled by the right targeted population and the response is relevant since it is given by the responsible parties.

⇒ Work experience of Respondents

As shown in the figure below the majority of the respondents which is 33% of them are work for 6-10 years, and the second larger range is 11-15 years while 13.4% (30) & 10.3% (23) of them have experience of above 15 years & 0.5 years respectively. This really implies that almost all of the respondents have adequate experience and the question raised in this study will be addressed perfectly since the experience build understand level of the expansion project.

4.4 Analyzed of project communication and integration management project life cycles

In order to analyze the success of the expansion project of Ethio telecom implementation, five phases were used namely; initiation phase, planning phase, execution phase, monitoring

and controlling phase and closing phase plus barriers of project communication and integration management practices were observed. Each variables was represented by specific statements and total numbers of 44questions including the independent variable project success were distributed to 278 respondents and got replay from 224 participants which is sufficient for this study. The responses were analyzed and obtained: to analyze success factors of the TEP implementation project descriptive statistics of mean and standard deviation were used. Descriptive statistics recommended for interval scales items include the mean for central tendency and standard deviations for variability. Data belonging to the same concepts were grouped and analyzed together. To support this (Cummins, 2018 quoted by Anthony G, 2018) said that in summing up Likert questions responses which makes the data interval, all questions must use the same scale (5-point scale) and there must be a defendable approximation to an interval scale (Anthony G, 2018). The mean value of the response indicates that to what extent the respondents agree in average whether negatively or positively with the different statements of question. Since the questioner have five options from strongly disagree to strongly agree, the higher the mean the more the respondents agree with the raised issue while the lower the mean the more the respondents disagree with the statements. To support the perception Mean values have been interpreted by adopting the criteria suggested by (Moidunny , 2009), which is 1 to 1.8 very low, 1.81 to 2.6 low, 2.61 to 3.2 medium, 3.21 to 4.20 high and 4.21 to 5 very high.

4.4.1 Initiation phase

Respondents were asked to express their level of agreement on how the supposed project starting activities in the Ethio Telecom expansion project were carried out in this subsection. To all questions about implementation practices and performance, respondents were given a score ranging from 1 (strongly disagree) to 5 (strongly agree). A total number of six questions were asked under the initiation phase and the analyzed result presented as shown in the table 4.2 below and each of the response mean is identified and discussed in this section.

Table 4-2: Initiation Phase

Descriptive Statistics			
Initiation Phase	N	Mean	Std. Deviation
In the organization there is well creating project charter.	224	3.04	1.178
In the organization project objective is well identified	224	3.26	1.078

properly.			
There was a first draft of the integration of stakeholder management.	224	2.71	.981
There was a kick-off meeting for the project.	224	3.69	1.148
Project managers were able to communicate the project's objectives and goals to all project teams on time.	224	3.00	.911
High-level planning were prepared	224	3.03	.786
Overall Mean	224	3.12	
Valid N (listwise)	224		

As shown in table 4.2 above, generally the mean score of initiation phase is 3.12 with a standard deviation of ranging 0.786-1.178, indicating that the respondents were agreeing on similar thoughts or that there were no substantial number of deviations that deviated from the mean because it demonstrates the distribution of ideas of the respondents.

In the initiation phase six different questions were asked starting from the very beginning which is if the organization has a well created project charter. And the respondents expressed their agreement with mean score of 3.04 and standard deviation of 1.178 which indicates that the employee of TEP agreeing in similar ideas or no significant variation that deviates from the mean and as per the range of mean mentioned it indicates that the response rate is at a medium level.

Many researches and (Medhen H, 2019a) agrees on that the first step for any project and any project manager experienced is to figure out what the objective of the project is. After making an entrance by the awareness of the organization's created project character a question regarding the objective were raised by confirming that whether the organization's project objective is well identified properly, with 3.26 mean value and standard deviation of 1.078, the participants shows their agreement with this sentence and the majority of staffs in TEP believes that the project objective was properly captures and the result indicates that the respondents rate is at high level.

The third question was, if there exists a first draft of the integration of stakeholder management tool was developed in the initiation phase. The response of the TEP staffs with mean value of 2.71 and standard deviation of .981 agrees on by the first draft of stakeholder's management tool was developed in the initiation phase. The result indicate that the

participant response of the issue is rated in the medium level which is good for the TEP success since the relationship with stakeholder is mesmerized in the initiation phase.

Based on the question raised whether if there was a kick-off meeting for the project in the initiation phase of the TEP project, the respondents were very much agrees on the idea with mean score of 3.69 and standard deviation of 1.148 which indicate the response rate in high level according to Moidunny research.

The respondents believe that the Project managers were able to communicate the project's objectives and goals to all project teams on time with mean score of 3.00 and standard deviation of .911 which shows that the rate of the agreement is in medium level. And lastly the respondents were asked whether High-level planning were prepared and they believes that it did by mean score value of 3.03 and standard deviation of .786 ranging in medium level which is good achievement in the initiation phase of the TEP project.

4.4.2 Planning phase

Respondents were asked to express their level of agreement on how the supposed project planning activities in the Ethio Telecom expansion project were carried out in this subsection. To all questions about implementation practices and performance, respondents were given a score ranging from 1 (strongly disagree) to 5 (strongly agree).

Table 4-3: planning phase

Descriptive Statistics			
Planning Phase	N	Mean	Std. Deviation
The organization used well communication procedures among all internal stakeholders of Telecom Expansion program during the planning stage	224	2.96	1.171
The organization used well communication procedures among all external stakeholders of Telecom Expansion program during the planning stage	224	2.92	.841
Communication plan planned about how you'll handle your entire activity.	224	2.75	.990
The company prepared a Work Breakdown Structure	224	3.03	.970

(WBS).			
The organization provided a network diagram for each activity's time estimate.	224	3.57	1.459
The approved overall project plan was communicated by the company.	224	3.45	1.502
Overall Mean		3.48	
Valid N (listwise)	224		

The mean score of the planning phase is 3.48, with a standard deviation of 0.841-1.502, indicating that the respondents were agreeing on similar thoughts or that there were no significant numbers of deviations from the mean because it demonstrates the distribution of the respondents' ideas, as shown in the table above. The general result of the response is in the rate of medium level. There are six different questions were asked in the planning phase of the TEP and discuss each of the mentioned in detail as follow. The organization used well communication procedures among all internal stakeholders of Telecom Expansion program during the planning stage was the first question and the respondents and their response was in a rate of medium level of score of mean value of 2.96 and standard deviation of 1.171. This indicated that the majority of the employee in the TEP believes that the organization uses well communication procedures for all internal stakeholders during the planning stage. Also similar question were raised except for the external stakeholders of Telecom Expansion program during the planning stage and the response was 2.92 mean score and .841standard deviation which is rated as medium range of agreement.

The third important question was how the Communication plan planned about how you'll handle your entire activity and most of employee of Ethio Telecom TEP teams with mean value of 2.75 and standard deviation of .990 agrees on the communication plan for the activities in the organization in the planning phase of the expansion project which is a wise move for a success of the project with some follow up.

The company prepared a Work Breakdown Structure (WBS) were asked and got response with mean score value of 3.03 and standard deviation of .970 which is in a range of medium agreement level. However, this much agreement is good in this phase since work break down structure prepared in this stage that mainly helps to estimate time and cost, staffing and

assignment of human resource, dependency and sequencing of activities and to conduct performance and risk analysis.

Additionally the respondents were asked whether the organization were provided a network diagram for each activity's time estimate and with 3.57 mean and 1.459 standard deviation values the respondents agrees to the idea with the rate of high level of range. Lastly the researcher would like to know whether the approved overall project plan was communicated by the company and the majority of the respondents with mean value of 3.45 and standard deviation of 1.502 agrees with communication part.

In general in the planning phase of the TEP project most of the respondents agreed with the idea and this may indicate that these basic components of any project plan are almost successfully practiced in TEP.

4.4.3 Execution phase

Respondents were asked to express their level of agreement on how the supposed project execution phase in the Ethio Telecom expansion project were carried out in this subsection. To all questions about implementation practices and performance, respondents were given a score ranging from 1 (strongly disagree) to 5 (strongly agree).

Table 4-4 : Execution phase

Descriptive Statistics			
Execution phase	N	Mean	Std. Deviation
Project managers call a meeting of the team to announce the project's launch.	224	3.02	1.160
Project status updates to key stakeholders early on.	224	3.42	.608
There is a set of project execution metrics in place.	224	3.16	1.038
The project managers well communicate about regular project schedule update.	224	3.51	1.461
Quality assurance and scope verification.	224	2.93	1.046
The ability of the team had an impact on the escalating challenges.	224	2.96	1.002
Overall Mean		3.43	

Valid N (listwise)	224		

The mean score of the execution phase is 3.43, with a standard deviation of 0.608-1.461, indicating that the respondents were agreeing on similar thoughts or that there was no significant number of deviations from the mean because it demonstrates the distribution of the respondents' ideas, as shown in the table above. Project managers call a meeting of the team to announce the project's launch. According to (Medhen H, 2019a), Team meetings in project execution are mandatory to receive feedbacks about project performance, challenges, opportunities, risks, daily, weekly, monthly as needed. To ensure whether this important project execution component is conducted in TEP, respondents were asked their level of agreement on Project managers call a meeting of the team to announce the project's launch with 3.02 mean values and standard deviation 1.160 were the level of participant agreement is received. The other point raise were Project status updates to key stakeholders early on and the response were in rate in in a range of high which is 3.42 mean score value with a standard deviation of 0.68.

In execution phase of the TEP project many important point were raised like; if there is a set of project execution metrics in place, whether the project managers well communicate about regular project schedule update, Quality assurance and scope verification & ability of the team had an impact on the escalating challenges and there mean score value was 3.16, 3.51, 3.93 & 2.96 respectively the mean result indicate that the employee of Ethio Telecom believes that project existence of metrics in place. Most importantly the update of schedule being communicated in such level is good for the project success. And also the fact that the team had an impact on the escalating challenge give the project to work as hard.

4.4.4 Monitoring and controlling phase

Respondents were asked to express their level of agreement on how the supposed project monitoring and controlling activities in the Ethio Telecom expansion project were carried out in this subsection. To all questions about implementation practices and performance, respondents were given a score ranging from 1 (strongly disagree) to 5 (strongly agree).

Table 4-5: Monitoring and Controlling phase

Descriptive Statistics			
Monitoring and Controlling phase	N	Mean	Std.

			Deviation
When it came to reporting on the project's deliverables, project managers were excellent communicators.	224	3.96	1.002
Appropriate tools used for project monitoring and control.	224	3.03	.970
There is a system in place to control overall changes.	224	2.54	.499
The project Quality was under control.	224	3.09	.998
The project schedule was under control.	224	3.09	.998
The project budget was under control.	224	3.03	.970
Overall Mean		3.12	
Valid N (listwise)	224		

The mean score of the monitoring and controlling phase is 3.12, with a standard deviation of 0.499-1.002, indicating that the respondents were agreeing on similar thoughts or that there were no significant number of deviations from the mean because it demonstrates the distribution of the respondents' ideas, as shown in the table above.

In the above table the monitoring and controlling phase were asked with a total of six questions to the employee of Ethio Telecom expansion team to express their level of agreement on each idea. Regarding to the project manager communication level on project's deliverables and response was high level of agreement with a mean score of 3.96. If the project manager report on the work performance it play a good role in the success of the project. The other issues raised were the tool appropriate used for project monitoring and control, the level of the system in place to control overall changes is a little bit low considering the other activities which is essential to create the system. And lastly the project quality, schedule and budget was under control which is good for the success of the project.

4.4.5 Closing phase

Respondents were asked to express their level of agreement on how the supposed project closing phase in the Ethio Telecom expansion project were carried out in this subsection. To all questions about implementation practices and performance, respondents were given a score ranging from 1 (strongly disagree) to 5 (strongly agree).

Table 4-6 : Closing phase

Descriptive Statistics			
Closing phase	**N**	**Mean**	**Std. Deviation**
When audits and contracts are procured, they are alerted.	224	3.45	.589
For Lessons Learned, all TEP documentation is signed off, approved, and archived.	224	3.41	1.470
During the closing phase, a product verification and acceptance test is performed.	224	3.34	1.471
All of the project's files have been saved.	224	3.33	1.485
The materials for the Site's remaining materials are properly packed.	224	3.40	1.488
After the Goods Return Form (GRF) is signed, the gathered materials are sent to the company's warehouse.	224	3.29	1.501
Overall mean		3.37	
Valid N (listwise)	224		

The mean score of the closing phase is 3.37, with a standard deviation of 0.589-1.488, indicating that the respondents were agreeing on similar thoughts or that there were no significant number of deviations from the mean because it demonstrates the distribution of the respondents' ideas, as shown in the table above.

Like the other practices the closing phase also involve six question to identify the current status of the Telecom expansion project. The issues stated in this phase are When audits and contracts are procured, they are alerted, For Lessons Learned, all TEP documentation is signed off, approved, and archived, During the closing phase, a product verification and acceptance test is performed, All of the project's files have been saved, The materials for the Site's remaining materials are properly packed, After the Goods Return Form (GRF) is signed, the gathered materials are sent to the company's warehouse and the responses were 3.45, 3.41, 3.34, 3.33, 3.40 & 3.29 mean score value respectively. This indicate that the closing phase activity is in a good movement. In any project if the mentioned step and producers follow it impact the project in a positive way.

4.5 Barriers of project communication and integration management practice

Respondents were asked to express their level of agreement on how the supposed project on the barriers of project communication and integration management practice in the Ethio Telecom expansion project were carried out in this subsection. To all questions about implementation practices and performance, respondents were given a score ranging from 1 (strongly disagree) to 5 (strongly agree).

Table 4-7: Barriers of project communication and integration management practice

Descriptive Statistics			
Barriers of project communication and integration management practice	N	Mean	Std. Deviation
The TEP project communication plan specifies what, when, and how information will be communicated.	224	3.54	1.460
All internal and external stakeholders were properly coordinated.	224	3.03	.970
The organizational structure of the company specifies how particular operations are directed in order to achieve the company's objectives.	224	3.54	.499
The project team showed a high level of commitment.	224	3.36	.779
The project teams proposed a solution to reduce project complexity at any time.	224	3.57	1.459
Incompetent employees have a negative impact on the project's success.	224	2.61	.604
There is a communication gap about resource distribution throughout the project's Materials On Site (MOS) delivery.	224	3.45	1.502
Among all internal stakeholders, communication skills or competency were insufficient.	224	3.03	.970
Overall mean		3.39	
Valid N (listwise)	224		

The mean score of the Barriers of project communication and integration management practice is 3.39, with a standard deviation of 0.499-1.502, indicating that the respondents

were agreeing on similar thoughts or that there were no significant number of deviations from the mean because it demonstrates the distribution of the respondents' ideas, as shown in the table above.

In this section the Barriers of project communication and integration management practice were held and it is very crucial area in order to get success one should be aware of the possible problems in order to solve them and get successful in that area. Unlike the other variables this section raise eight question which the researcher believes is important considering the objective which are; The TEP project communication plan specifies what, when, and how information will be communicated (mean score value of 3.54 and standard deviation of 1.460) which is a good thing that the employee agrees that this issue is not barriers seems that communication is a key to success therefore this particular targeted case study company did not face a major problem regarding communication of plan and information , All internal and external stakeholders were properly coordinated (mean score value of 3.03 and standard deviation of.970), The organizational structure of the company specifies how particular operations are directed in order to achieve the company's objectives (mean score value of 3.54 and standard deviation of .499), The project team showed a high level of commitment (mean score value of 3.36 and standard deviation of .779), The project teams proposed a solution to reduce project complexity at any time (mean score value of 3.57 and standard deviation of .1.459), Incompetent employees have a negative impact on the project's success (mean score value of 2.61 and standard deviation of .604), communication gap about resource distribution throughout the project's Materials On Site (MOS) delivery (mean score value of 3.45 and standard deviation of 1.502) & Among all internal stakeholders, communication skills or competency were insufficient (mean score value of 3.03 and standard deviation of .970) which in general show that the mentioned barriers points are not in low or risky point and also are not in perfect level also but the response of the TEP project team response lead the study that even if there are barriers but not affecting the project success as much.

4.6 Project communication management and project success

Respondents were asked to express their level of agreement on how the supposed project on the project communication management and project success in the Ethio Telecom expansion project were carried out in this subsection. To all questions about implementation practices

and performance, respondents were given a score ranging from 1(strongly disagree) to 5(strongly agree).

Table 4-8: Project communication management and project success

Descriptive Statistics			
Project communication management and project success	N	Mean	Std. Deviation
The quality of service improved as a result of the excellent communication management tactics employed to accomplish the project.	224	3.51	1.461
After the project was completed, the network coverage improved.	224	3.89	1.170
Now that the TEP project is finished, customer satisfaction has increased.	224	3.97	1.070
The efficiency of product or service production improves after the telecom expansion project (TEP) is completed.	224	4.03	.970
The ability of project managers to communicate influenced the project's completion on schedule.	224	3.75	1.320
The project's goals and objectives was directly aligned with the organization's bigger business goals and objectives.	224	3.57	1.459
Overall mean		3.78	
Valid N (listwise)	224		

The mean score of Project communication management and project success is 3.78, with a standard deviation of 0.970-1.461, indicating that the respondents were agreeing on similar thoughts or that there were no significant number of deviations from the mean because it demonstrates the distribution of the respondents' ideas, as shown in the table above.

The quality of service improved as a result of the excellent communication management tactics employed to accomplish the project rated mean score value of 3.51 with 1.461 standard deviation vale which imply that the improved quality service dose help to accomplish the desired outcome. Similarly the employee of the TEP project agrees with mean value of 3.89 to the fact that the network coverage was improved after the project was completed plus customer satisfaction also increased (mean value of 3.97). The efficiency of product or service production improves after the telecom expansion project (TEP) is

completed and ability of project managers to communicate influenced the project's completion on schedule is agreed with mean value of 4.03 & 3.75 respectively this indicate that the expansion project does affect to the success of the project as well as for the company success, The project's goals and objectives was directly aligned with the organization's bigger business goals and objectives like the other issues the majority of the respondents agreed that the intended TEP objectives were successfully achieved with mean score value of 3.57. In general all the practice engagements help to the improvement/increase of the project success.

4.7 Correlation analysis

A statistical method for determining the strength of a relationship between two quantitative variables is correlation analysis (Monica Franzese, Antonella Iuliano, 2019). The Pearson Product Moment Correlation Coefficient is a widely used statistical method for calculating an index of the relationship between two variables where the relationship is linear and the variables correlated are continuous. The Pearson Correlation Coefficient was utilized to check if there is a statistically significant correlation between TEP project success and the practices of project phase. To evaluate if there is a link between initiation phase, planning phase, execution phase, monitoring & control phase, closing phase and project success of TEP and also the barriers of the project.

According to (Mc Daniel and Gates, as cited by Adam Martin, 2007 & Naol A, 2019), Correlation Coefficient can range from -1.00 to +1.00. The value of -1.00 presents a perfect negative correlation. While a value of +1.00 presents a perfect positive correlation. A value of 0.00 correlations presents no relationship. The results Correlation Coefficient may be interpreted as follows:

Interpretation of Correlation Coefficient

Table 4-9: Correlation Coefficient

Correlation Coefficient	Interpretation
(-1.00 to -0.8)	High

(-0.8 to -06)	Substantial
(-0.6 to -0.4)	Medium/ Moderate
(-0.4 to -0.2)	Low
(-0.2 to 0.2)	Very Low
(0.2 to 0.4)	Low
(0.4 to 0.6)	Medium/ Moderate
(0.6 to 0.8)	Substantial
(0.8 to 1.00)	High

As it is shown in table above, the correlation coefficient indicates that there is a positive and negative relationship between the independent and dependent variables ranging from low to moderate

Table 4-10: Correlations

Correlations								
		IP	PP	EP	MCP	CP	BAR	PS
IP	Pearson Correlation	1	.363**	.384**	.319**	.324**	.335**	.334**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
	N	224	224	224	224	224	224	224
PP	Pearson Correlation	.363**	1	.975**	.970**	.869**	.989**	.984**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000
	N	224	224	224	224	224	224	224
EP	Pearson Correlation	.384**	.975**	1	.892**	.820**	.931**	.920**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000
	N	224	224	224	224	224	224	224
MCP	Pearson Correlation	.319**	.970**	.892**	1	.873**	.994**	.998**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000
	N	224	224	224	224	224	224	224
CP	Pearson Correlation	.324**	.869**	.820**	.873**	1	.883**	.877**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000
	N	224	224	224	224	224	224	224
BAR	Pearson Correlation	.335**	.989**	.931**	.994**	.883**	1	.999**

	Sig. (2-tailed)	**.000**	**.000**	**.000**	**.000**	**.000**		**.000**
	N	**224**	**224**	**224**	**224**	**224**	**224**	**224**
PS	**Pearson Correlation**	**.334****	**.984****	**.920****	**.998****	**.877****	**.999****	**1**
	Sig. (2-tailed)	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	
	N	**224**	**224**	**224**	**224**	**224**	**224**	**224**
**. Correlation is significant at the 0.01 level (2-tailed).								

The association between the dependent variable, project success, and the independent variables, initiation phase, planning phase. Execution phase, monitoring and controlling phase, closing phase and the barriers, is shown in table above. With a significance level of 0.00 and a positive correlation with the dependent variable, all of the independent variables exhibit a positive correlation with the dependent variable. Initiation phase (IP) have a low range of correlation coefficient (0.334**). The rest of the correlation coefficient values are in the high range, with .998 being the very highest. The correlation coefficient value of (r=.334**, r=.984**, r=.920**, r=.998**, r=.9877** and r=.999, p< 0.01) namely initiation phase (IP), planning phase (PP), execution phase (EP**),** monitoring and controlling phase (MCP) & closing phase respectively which is statistically significant.

4.8 Test for multiple regression model assumptions

Several tests were conducted to prepare the data for analysis and guarantee that the research delivered accurate results. These tests were created to see if the multiple regression model assumptions are met when explanatory factors are regressed against dependent variables. As a result, the following assumption tests the multiple regression model assumption.

4.8.1 Assumption 1: Normality Test

The data in this investigation were compatible with the assumption of a normal distribution, as shown in figure of the histogram below.

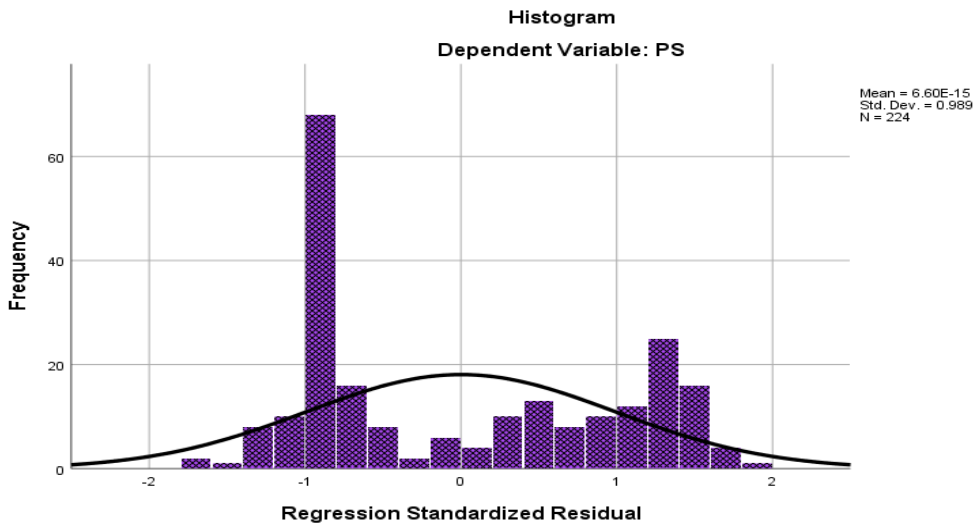

Figure 4-1: Normality Test

Figure shown above, reveals that the histogram used to evaluate the normality of the predictor and predicted, as well as both tests of variable normality, are normally distributed because the skewness indicates both positive and negative, skewed in both directions from zero.

4.8.2 Assumption 2: Linearity Test

According to the linearity assumption, the connection between the independent and dependent variables is linear in nature. The presence of linear relationships between the dependent variable and the independent variables can be determined by looking at the residual plots.

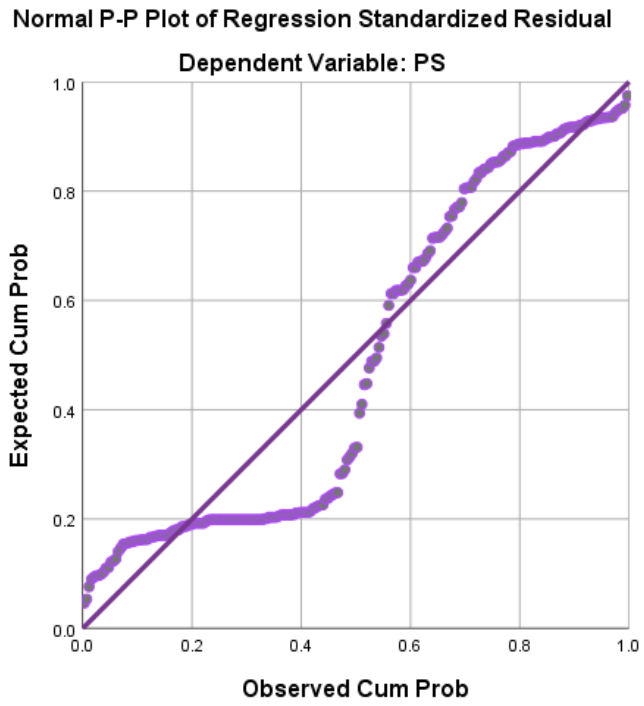

Figure 4-2: Linearity Test

As shown in Figure above, the plotted point depicts a straight line spanning diagonally, indicating that the linearity assumption has not been violated to a significant degree and that the variables in the model have a more or less linear connection.

4.8.3 Assumption 3: Multicollinearity Test

Multicollinearity is defined as a high level of inter-correlation or inter-associations between the independent variables. As a result, if it exists, it functions as a data disturbance, and statistical inferences drawn from the data may be suspect. When there are strong correlations between two or more predictor variables, Multicollinearity emerges. Another way to look at it is that one predictor variable can predict the other. As a result, information is duplicated (Kothari, 2004). Multicollinearity is an issue that arises when explanatory variables have high correlations and is incompatible with traditional list square regression analysis.

Table 4-11: Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF

1	(Constant)		
	Initiation Phase	.847	1.181
	Planning phase	.624	2.001
	Execution phase	.790	2.073
	Monitoring and controlling phase	.367	4.401
	Closing phase	.328	4.588
a. Dependent Variable: PS			

According to (Erik Mool, 2014), tolerance values can range from 0 to 1, but tolerance values of less than 0.1 signal a major problem, however other statisticians say tolerance values of less than 0.2 warrant worry. The degree to which the independent variables in a model are highly connected is referred to as Multicollinearity in regression analysis. As seen in the table above, the tolerance value is greater than 0.328 but not greater than 1, which is within the acceptable range.

Lower values of the variance-inflation factor (VIF) indicate that Multicollinearity is not a concern. All VIFs having a score of less than ten were acceptable in this investigation (Hair, 2010). The tolerance value and variation inflation factors (VIF) fall within the allowed range (t=0.1-1.0), as shown in the table above.

4.9 Regression analysis results

In order to better comprehend the link between the dependent and independent variables, this study employs multiple regression analysis. Plus regression analysis helps the researcher to see how one or more independent factors affect the typical value of the dependent variable while the other independent variables remain constant. The findings of a regression analysis are shown in the Model Summary table below:

Table 4-12: model summary

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson

1	.678[a]	.491	.469	1.05981	2.239
a. Predictors: (Constant), CP, PP, EP, MCP, IP					
b. Dependent Variable: PS					

Squared values in this study, on the other hand, are sufficient to show that the fitted regression line is quite close to all of the data points.

Furthermore, autocorrelation is based on the premise that errors are linearly independent of one another (uncorrelated with one another). Durbin-Watson statistics have a range of values from 0 to 4. If the Durbin-Watson statistic is around 2, the residuals are considered independent (not correlated), with a range of 1.50-2.50 acceptable (Babatunde, 2014). If the errors are associated with one another, they are said to be auto-correlated. The popular Durbin- Watson test was employed to see if there was any autocorrelation. As can be seen in the table above, the Durbin-Watson value is acceptable.

Table 4-13: Anova

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.449	5	3.290	2.929	.004[b]
	Residual	244.857	218	1.123		
	Total	261.306	223			
a. Dependent Variable: PS						
b. Predictors: (Constant), CP, PP, EP, MCP, IP						

The above table shows that the significance value is 0.04 which is less than 0.05 with F value of 2.929, thus the model shows that the independent factors initiation phase (IP), planning phase (PP), excursion phase (EP), monitoring and controlling phase (MCP), closing phase (CP) significantly explain the variation in the project success in the targeted company Ethio Telecom.

Table 4-14: Beta Coefficient

Coefficients[a]					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

1	**(Constant)**	**3.269**	**.330**		**9.893**	**.000**
	IP	**.930**	**.264**	**.677**	**3.516**	**.001**
	PP	**.298**	**.241**	**.218**	**1.237**	**.218**
	EP	**.370**	**.216**	**.268**	**1.711**	**.088**
	MCP	**.012**	**.212**	**.008**	**.055**	**.956**
	CP	**.152**	**.165**	**.098**	**.921**	**.358**
a. Dependent Variable: PS						

The standardized Beta Coefficient and unstandardized Beta Coefficient values are used to assess the relative importance of each independent variable and to generate the linear regression equation. The standardized beta coefficient value in the selected organization Ethio Telecom is significant predictors of project success, with values of 0.677, .218, .268, and.008 for the initiation phase (IP), planning phase (PP), excursion phase (EP), monitoring and controlling phase (MCP), and closing phase (CP), respectively.

CHAPTER FIVE

5 Summary, Conclusion, and recommendation

5.1 Conclusion and recommendations

This chapter wraps up the overall discussions from the previous chapters, focusing on project communication and integration practices in TEP project phases, best integration practices to help the TEP succeed, an overview of the project's performance, and the degree of association between communication and integration practices and project performance. Furthermore, the study made relevant recommendations based on the findings.

5.2 Conclusion

As stated in the introduction, the purpose of this study is to answer three fundamental issues by analyzing all of the necessary and acquired data. The study attempted to answer the following questions:

- ✓ How did the communication and integration practice in the implementation of TEP project phases?

To assess whether the five project phases were properly practiced, the study tried to raise some basic issues or activities that are recommended in Brandon(2006) that should be practiced to successfully implement projects. Based on this, most of the project phases starting from initiation to closing in TEP the communication and integration practices were good. TEP project were successful in each project life cycle and after completion of the project network coverage increased, customer satisfaction well improved and network infrastructures improved dramatically especially in Addis Ababa cause of that Ethio telecom didn't start another expansion project for long period of time.

- ✓ What barriers have been faced to roll out the good project communication practice during the implementation of TEP?

In this study, eight issues were identified as important communication and integration barriers for successfully implementing the project. Only three of these problems were rated as extremely difficult by the majority of responders. These issues include a lack of proper fleet management in the project, concerns with government policy, and resource allocation issues. The other issues were deemed to be minor and insignificant throughout the Ethio telecom project's implementation. With the exception of the three issues mentioned above,

we can conclude that the majority of the assumed problems in implementing the project stages in TEP were not significant.

- ✓ What best integration practice have implement to favour the success of the TEP?

Six major parameters were identified to measure project success (quality of service improvement, network coverage improvement, customer satisfaction increases, product or service production efficiency improvement, project managers' ability to communicate project goals and business goals and objectives). Respondents were asked to rate the project on these factors, and they were asked to give it a score. Accordingly, TEP program office of all departments had great integration process and better communication used according the TEP governance requirement to completed the project., it was successful in accomplishing its goals, objectives, and delivering the promised level of services, as well as increasing network coverage after implementation.

Regression analysis was used to determine the impact of each project practice and challenge on project performance, and the results suggest that all project phase practices, all phases had a significant beneficial impact on project performance. Challenges have a large negative impact on project performance, planning has meaningful impact on the project success but, the result shown it was best practice and had positive impact on project success.

Generally, TEP project used great communication and integration practices to complete the project in specific time and budget. Some expansion project in Sodo city around welayita started by Ericson company but, the company not meet the per implementation plan target (PIP) and Ethio telecom terminated the agreement from Ericson and shift the project to another vendor Huawei. So, Huawei handover the project and they completed the project as Addis Ababa's best practice in short period of time with the estimated budget and meet the Sodo city's PIP requirement.

5.3 Recommendations

As per the study, communication-management traits that promote communication efficacy impact project success. According to the study, proper technology and systems, communication skills or competence, teamwork and collaboration, clear organizational structures, an understanding of stakeholders' frames of reference, project briefing, and understanding the context of the environment are all contributing factors to communication management's effectiveness for successful project delivery. Ethio telecom should develop a culture of developing appropriate risk plans and risk response controls to avoid unexpected risks and failures, as well as a strong culture of lessons learned documentation at every project undertaken by the organization, and develop effective and efficient project communication and integration management systems for the next successful project delivery, according to the study.

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APPENDIX

Appendix I: Questionnaire (English version)

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

Questionnaire

Dear respondents,

I appreciate your time and willingness to provide your thoughts to a study title "Assessing the Project Communication and Integration Practices in the implementation of Telecom Expansion Project (TEP) in Addis Ababa." The main goal of this questionnaire is to gather information regarding project communication and integration methods in the implementation of telecom expansion project as part of the Master of Art in project management requirements. The information collected through this questionnaire will not be released to any parties and all information will be kept confidential. You will not be asked to mention your name. You are free to decide to answer all of the questions. Please be aware that all information you provide us is valued and very important. Therefore please answer all questions.

Thank you again for your cooperation!

Mihret Hailekiros

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Phone no. +251911515262

PART 1: Demographic Information – **Please put (√) in the box**

No.	Question	Answer
1.1	What is your age?	□ 20 – 25 years □ 26 – 35 years □ 36 - 45 years □ Above 45 years
1.2	What is your gender?	□ Male □ Female
1.3	What is your Educational Qualification?	□ Certificate □ Diploma □ Bachelor's degree □ Post graduate degree □ Above post graduate level
1.4	What is your main occupation/job level?	□ Technician □ Specialist/ Coordinator □Project manager □ Program Manager □ Director
1.5	How much is your Work of Experience in Ethio Telecom?	□ 0-5 Years □ 6-10 Years

		□ 11-15 Years □ Above 15 Years

PART 2: Assessment on Project Communication & integration management during project life cycle

How much do you agree/disagree about the following statements: Please circle one for each statement 2.1 Initiation phase		1= Strongly Disagree 2=Disagree 3= Neither agree nor disagree 4=Agree 5= Strongly Agree
2.1.1	In the organization there is well create project charter.	1 2 3 4 5
2.1.2	In the organization project objective is well identified properly.	1 2 3 4 5
2.1.3	There was a first draft of the integration of stakeholder management.	1 2 3 4 5
2.1.4	There was a kick-off meeting for the project.	1 2 3 4 5
2.1.5	Project managers were able to communicate the project's objectives and goals to all project teams on time.	1 2 3 4 5
2.1.6	High-level planning were prepared	1 2 3 4 5
How much do you agree/disagree about the following statements: Please circle one for each statement 2.2 Planning phase		1= Strongly Disagree 2=Disagree 3= Neither agree nor disagree 4=Agree 5= Strongly Agree
2.2.1	The organization used well communication procedures among all internal stakeholders of Telecom Expansion program during the planning stage	1 2 3 4 5
2.2.2	The organization used well communication procedures among all external stakeholders of Telecom Expansion program during the planning stage	1 2 3 4 5

1.2.3	Communication plan planned about how you'll handle your entire activity.	1	2	3	4	5
2.2.4	The company prepared a Work Breakdown Structure (WBS).	1	2	3	4	5
2.2.5	The organization provided a network diagram for each activity's time estimate.	1	2	3	4	5
2.2.6	The approved overall project plan was communicated by the company.	1	2	3	4	5
How much do you agree/disagree about the following statements: Please circle one for each statement 2.3 Execution phase		1= Strongly Disagree 2=Disagree 3= Neither agree nor disagree 4=Agree 5= Strongly Agree				
2.3.1	Project managers call a meeting of the team to announce the project's launch.	1	2	3	4	5
2.3.2	Project status updates to key stakeholders early on.	1	2	3	4	5
2.3.3	There is a set of project execution metrics in place.	1	2	3	4	5
2.3.4	The project managers well communicate about regular project schedule update.	1	2	3	4	5
2.3.5	Quality assurance and scope verification.	1	2	3	4	5
2.3.6	The ability of the team had an impact on the escalating challenges.	1	2	3	4	5
How much do you agree/disagree about the following statements: Please circle one for each statement 2.4 Monitoring and controlling phase		1= Strongly Disagree 2=Disagree 3= Neither agree nor disagree 4=Agree 5= Strongly Agree				
2.4.1	When it came to reporting on the project's deliverables, p roject managers were excellent communicators.	1	2	3	4	5
2.4.2	Appropriate tools used for project monitoring and	1	2	3	4	5

	control.	
2.4.3	There is a system in place to control overall changes.	1 2 3 4 5
2.4.4	The project Quality were under control.	1 2 3 4 5
2.4.5	The project schedule were under control.	1 2 3 4 5
2.4.6	The project budget were under control.	1 2 3 4 5
How much do you agree/disagree about the following statements: Please circle one for each statement 2.5 Closing Phase		1= Strongly Disagree 2=Disagree 3= Neither agree nor disagree 4=Agree 5= Strongly Agree
2.5.1	When audits and contracts are procured, they are alerted.	1 2 3 4 5
2.5.2	For Lessons Learned, all TEP documentation is signed off, approved, and archived.	1 2 3 4 5
2.5.3	During the closing phase, a product verification and acceptance test is performed.	1 2 3 4 5
2.5.4	All of the project's files have been saved.	1 2 3 4 5
2.5.5	The materials for the Site's remaining materials are properly packed.	1 2 3 4 5
2.5.6	After the Goods Return Form (GRF) is signed, the gathered materials are sent to the company's warehouse.	1 2 3 4 5

PART 3: Assessment on Barriers of project communication & integration management practice

How much do you agree/disagree about the following statements: Please circle one for each statement	1= Strongly Disagree 2=Disagree 3= Neither agree nor disagree 4=Agree 5= Strongly Agree

3.1	The TEP project communication plan specifies what, when, and how information will be communicated.	1 2 3 4 5
3.2	All internal and external stakeholders were properly coordinated.	1 2 3 4 5
3.3	The organizational structure of the company specifies how particular operations are directed in order to achieve the company's objectives.	1 2 3 4 5
3.4	The project team showed a high level of commitment.	1 2 3 4 5
3.5	The project teams proposed a solution to reduce project complexity at any time.	1 2 3 4 5
3.6	Incompetent employees have a negative impact on the project's success.	1 2 3 4 5
3.7	There is a communication gap about resource distribution throughout the project's Materials On Site (MOS) delivery.	1 2 3 4 5
3.8	Among all internal stakeholders, communication skills or competency were insufficient.	1 2 3 4 5

PART 4: The current status of project communication management and project success?

How much do you agree/disagree about the following statements: Please circle one for each statement		1= Strongly Disagree 2=Disagree 3= Neither agree nor disagree 4=Agree 5= Strongly Agree
4.1	The quality of service improved as a result of the excellent communication management tactics employed to accomplish the project.	1 2 3 4 5
4.2	After the project was completed, the network coverage improved.	1 2 3 4 5

4.3	Now that the TEP project is finished, customer satisfaction has increased.	1	2	3	4	5
4.4	The efficiency of product or service production improves afte r the telecom expansion project (TEP) is completed.	1	2	3	4	5
4.5	The ability of project managers to communicate influenced the project's completion on schedule.	1	2	3	4	5
4.6	The project's goals and objectives was directly aligned with th e organization's bigger business goals and objectives.	1	2	3	4	5

Thank you for your response and for taking the time to complete the assessment question!

Appendix II: Table for determining sample size for finite population

To simplify the process of determining the sample size for a finite population, Krejcie & Morgan (1970), came up with a table using the sample size formula for a finite population.

Table 3.1

Table for Determining Sample Size of a Known Population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	1000000	384

Note: N is Population Size; S is Sample Size *Source: Krejcie & Morgan, 1970*

Note: There is no need of using a sample size determination formula for a 'known' population since the table has all the provisions one requires to arrive at the required sample size. For 951 populations the required sample size is 264.

Appendix III: Cost Budget

The cost budget reveals the cost which has been incurred for the conduction of various duties. For example, the following table represents the data.

Activity	Description	Amount (in ETB)
Data collection	Stationery cost for questionnaire printing and transportation for questionnaire distribution and collection.	1,050
Communication cost	Internet cost for research and phone calls with the owner of MissTCal The monthly bill is 200*3 months	600
Traveling Costs those are incurred	Based on need, if researcher will need to come back from abroad for research purposes transportation cost will be incurred	25,000
Stationery	Printing and binding of final paper	1,000
Contingency		1,000
Total cost		**28,650**

Thus, the total cost which has been incurred due to the conduction of research, for the various works which have been listed above is Twenty-Eight Thousand Six Hundred Fifty Birr.