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Assessment of Project Management Practice: The case of Ethio Telecom Security Projects

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Assessment of Project Management Practice: The case of Ethio Telecom Security Projects

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Project Work Approval Sheet

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DECLARATION

I Tenaye Fekadu, do hereby declare that this project work is my original work and that it has not been submitted partially; or in full, by any other person for an award of a degree in any other University/ institution.

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LETTER OF CERTIFICATION

This is to certify that Tenaye Fekadu has conducted this project work entitled “Assessment of project management practice: The case of Ethio telecom security projects” under my supervision. This project work is original and suitable for the submission in partial fulfillment of the requirement for the award of Master of Arts degree in Project Management complies at Addis Ababa University, School of Commerce.

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List of abbreviations and acronyms

ETC - Ethiopian Telecommunications Corporation

IBTE - The Imperial Board of Telecommunications

ICT- Information Communication Technology

PM - Project Management

PMBOOK - Project Management Body of Knowledge

PMP - Project Management Professional

PMTT - Project Management Tools and Techniques

SPSS - Software Package for Social Science

TEP - Telecom Expansion Projects

ABSTRACT

Despite a subscriber base of 77.4 million and significant financial transactions, Ethio telecom faces challenges in project management, specifically in security projects. The main objective of this research is to assess and evaluate project management practices within the organization's security projects to identify strengths and weaknesses and provide recommendations for improvement. While project management is crucial for telecommunications projects' success, there is limited understanding of the specific challenges faced by Ethio Telecom, particularly in managing security projects. This research seeks to fill this gap by examining project management practices within the organization. The study used a mixed-method approach, combining quantitative and qualitative data collection through structured questionnaires with 100 Information Security Division employees, out of which 78 questionnaires were completed and returned.. Data were analyzed using descriptive statistics. According to the result of the finding, Ethio Telecom shows strong project clarity (Mean: 3.97) and effective risk management (Mean: 4.33), but faces challenges in stakeholder requirement gathering (Mean: 3.55), resource allocation (Mean: 3.41), and monitoring systems (Mean: 3.38). Variability in documentation (Mean: 3.85) and the use of standardized methodologies (Mean: 3.44) also indicate areas for improvement. Ethio Telecom's project management practices show a generally positive perception, with strong clarity in objectives, well-defined scopes, and effective risk management. However, variability in responses highlights areas needing improvement, particularly in stakeholder engagement, resource allocation, standardized methodologies, and documentation. Challenges include inconsistent stakeholder requirement gathering, inadequate resource allocation, variable documentation practices, and weak monitoring systems. Mitigation strategies involve standardizing engagement processes, improving resource planning, enhancing documentation practices, strengthening monitoring systems, and providing training for project managers and teams. Addressing these will enhance consistency and effectiveness in project outcomes.

***Key Words**: Project Management, Best practices, Security Projects, Ethio Telecom.*

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CHAPTER ONE

1. INTRODUCTION

1.1. Background of the study

The telecommunication industry plays a crucial role in any country's economy by facilitating economic and social progress, improving access to essential services, and fostering connectivity while creating job opportunities (World Economic Forum, 2015).Telecommunication companies globally are consistently enhancing their network technologies to boost efficiency and expand capacity. However, they often face the task of effectively executing these projects to ensure their success(Maritim and Chelule, 2018).Recognized as a sector vulnerable to rapid technological advancements, telecom companies must continuously embark on various projects to ensure a consistent flow of product innovations, thereby maintaining their competitive edge. The exponential growth of mobile communication in recent years can be attributed to factors such as the widespread availability and affordability of smart mobile devices, as well as their enhanced computing and communication capabilities.

Africa, with its rich diversity and array of unique challenges, serves as an intriguing setting for Telecom Project Management endeavors, (Anwar and Graham, 2022). Within this dynamic landscape, numerous projects have tackled obstacles such as limited infrastructure, complex regulatory frameworks, and diverse cultural contexts. Case studies stemming from Africa offer valuable insights into resilience, adaptability, and the skill of turning challenges into opportunities.

Each African nation presents its own unique regulatory environment. The success of projects depends heavily on a thorough comprehension of local regulations, demanding flexibility in both project planning and execution. Lessons gleaned from navigating these regulatory complexities serve as a roadmap for cultivating regulatory resilience (Niaz and Nwagwu, 2023).In Africa, particularly Ethiopia, the demand for infrastructure projects, including Information and Communication Technology (ICT), has surged, contributing significantly to economic growth. However, the telecommunication sector faces challenges such as cost overruns and time delays, hindering infrastructure development. The ever-changing telecommunications industry, marked by swift technological progress, shifting consumer needs, and regulatory changes, demands a

flexible and sophisticated approach to project management. With telecommunications projects growing in complexity and interdependence, effective project management practices are crucial for achieving favorable results (Shaukat, et al., 2022).

Telecom service was introduced in Ethiopia by Emperor Menelik II in 1894 during the commencement of the telephone line installation from Harar to Addis Ababa. Then the inter-urban network was expanded in all other directions from the capital and many important centers in the Empire were interconnected by landlines to facilitate long-distance communications with the help of intermediate operators acting as verbal human repeaters. As a continuation of the 2005/06-2009/10 five-year plan, the Ethiopian government decided to focus on the improvement of telecommunication services considering them as key lever in the development of Ethiopia. Ethio telecom was born on 29 November 2010, from this ambition of supporting the steady growth of our country. Ethio Telecom, a key player in Ethiopia's telecommunications and financial sectors, is driven by a vision to become a leading digital solution provider. Its mission focuses on delivering reliable communication and digital financial services to simplify life and accelerate digital transformation of Ethiopia.

Ethio telecom operates with 25 distinct divisions, which encompass CEO Office, Chief Technology Office, Communication, Customer Experience and Quality Management, Customer Services, Facility and Fleet, Finance, Fixed Network, Human Resources, Information Security, Information System, Internal Audit, legal division, Marketing, Mobile Money Business, Network Infrastructure, Physical Security, Sales, Service Operation Center, Strategic Planning and Program Management, Supply Chain, Telecom Excellence Academy, TEP Office, Wireless Network, & Zone and Regional Coordination The company’s organizational structure features various divisions, each with specific missions, departments, and sections. Each of these divisions is headed by its respective Director.

Project management (PM) is crucial in ensuring the successful implementation of telecommunication projects. It involves strategic planning, resource allocation, and adherence to constraints like cost and time. However, the telecommunications sector often overlooks the complexities involved in service-oriented projects, especially in Ethiopia.

Project management serves as a vital tool for organizations seeking to achieve various objectives. It enables them to reduce the time it takes to bring products to market, make efficient use of limited resources, tackle technological challenges, meet stakeholder expectations, and enhance competitiveness in the global market(Ekanayake and Weligamage, 2020). Risk management is integral to project success, yet it remains underexplored within the telecommunications sector, particularly in Ethiopia. Ethio telecom, as the primary provider, must navigate complex security challenges to safeguard its networks, which are vital for national security and societal functioning.

The company offers diverse services, including mobile and fixed voice, mobile and fixed broadband, and financial services like tele birr. According to the nine months performance report of 2023/24, Ethio Telecom boasts 77.4 million subscribers, with 44.52 million tele birr customers achieving a transaction value of 2 trillion. Furthermore, the telecom density of Ethio Telecom has ascended to 70.6%. Despite its long history, Ethio telecom sector remains facing challenges in project execution and management. A critical area of research within the organization is Information Security, where project management practices are thoroughly evaluated. The insights gained from these evaluations aim to improve the application of project management techniques in future security projects by improving the weakness which are gained from the finding.

1.2. Statement of the Problem

Telecommunication operators aim for successful project management when implementing various modernization projects. Over the past two decades, researchers have shown considerable interest in the success or failure of Information Communication Technology (ICT) projects The high failure rates of these projects have been linked to factors such as exceeding budgets, delays in completion, and failure to meet specified requirements(Maritim and Chelule, 2018).

Despite the critical role of project management in the success of telecommunications projects, including security initiatives, however, the unique characteristics of each region, from socio-economic factors to regulatory frameworks, introduce distinct challenges and opportunities that significantly impact project dynamics (Leiren et al., 2020). There exists a notable gap in understanding the specific challenges faced by organizations like Ethio telecom.

Though many studies focus on managing projects in general, very few explore the details of handling information security projects in the Ethio telecom setting.

The telecommunications sector in Ethiopia shares similarities with that of many other developing countries in terms of its structure and operations. Consequently, it also encounters a range of issues and challenges commonly faced by developing nations, which could ultimately hinder its economic development. The environment in which the Ethio telecommunications sector operates directly influences the successful implementation of project management practices. As mentioned earlier, various factors may impede the effective adoption of project management practices, preventing telecommunications organizations in the country from fully realizing the benefits of project management.

Ethio telecom operates in a dynamic environment characterized by rapid technological advancements and evolving security threats. However, there is a shortage of thorough research that investigates how projects related to security are managed at Ethio telecom. This gap hinders the development of effective strategies for mitigating risks, reducing delays, and optimizing resource allocation.

Therefore, this research aims to address this gap by conducting a detailed examination of project management practices within Ethio Telecom's security projects. By exploring the processes, challenges, and strategies employed, this study seeks to contribute valuable insights to the field of project management, particularly in the telecommunications and security domains.

1.3. Research Questions

To address the research gap and achieve the objectives of this study, the following research questions will guide the assessment:

1. What methodologies and frameworks are currently utilized in project management within Ethio telecom's security projects, and how do they align with project management best practices?

2 How effective are the project management tools and techniques employed by Ethio telecom in ensuring the successful completion of security projects?

3. What are the key challenges faced in managing security projects at Ethio telecom, and what strategies have been implemented to mitigate these challenges?

1.4. Objective of the Study

1.4.1. General Objective

The main objective of this research is to assess and evaluate the project management practices within Ethio telecom's security projects.

1.4.2. Specific Objectives

The study has the following specific objectives to:

1. To analyze the methodologies and frameworks used in project management within Ethio telecom's security projects and compare their alignment with project management best practices.

2. To evaluate the effectiveness of project management tools and techniques in ensuring the successful completion of Ethio telecom's security projects.

3. To identify the key challenges in managing security projects at Ethio telecom and assess the strategies implemented to mitigate these challenges.

1.5. Significance of the Study

Effective project management serves as the foundation for successful execution, ensuring that security projects are delivered on time, within budget, and with the expected level of quality. By systematically planning, executing, and monitoring projects, Ethio telecom can mitigate risks, optimize resource utilization, and enhance stakeholder satisfaction. On the other hand, infrastructure projects are expected to support the national economic growth, to increase the prosperity of the people and to make the quality of the local environment better. In this context, the proposed research aiming to assess and evaluates the effectiveness in the use of Project Management and techniques in the telecommunication sector of Ethio telecom, which is a national need providing key inputs to government policymakers.

1.6. Scope of the study

The scope of this research focuses on Ethio telecom, and data are collected from a sample of its employees in the Information security division through structured questionnaire. The study primarily investigated Project Initiation and Planning, Resource Management, Risk Management, Evaluation of risk assessment and mitigation strategies, Project Execution and

Monitoring, Stakeholder Communication and finally Project Closure and Evaluation with respect to project management Performance.

1.7. Organization of the Paper

The paper of this study is organized to five chapters: The first chapter: deals with background of the study, statement of the problem, objectives of the study, significance of the study, limitations of the study, delimitations (scope) of the study and organization of the study. Second chapter: focuses on relevant theoretical concepts discussed. Here literatures are the sources of the concepts. The third chapter emphasized about the research design and the methodologies used in the research. The tools used to gather the data; the method of the data analysis and other procedural issues was raises. The fourth chapter: the data collected, analysed, and interpreted in relation to the theoretical concepts. Following this, the findings of the research clearly forwarded. Finally, in the fifth chapter the researcher's recommendations followed by the conclusions presented.

CHAPTER TWO

2. REVIEW OF THE RELATED LITERATURES

This chapter reviews and discusses about the theoretical literature related to this research, empirical findings, and theoretical framework of Factors Affecting Telecom Projects Success.

2.1. Theoretical Review

2.1.1. Overview of Project

According to Marle and Vidal, (2016), Operations refer to repetitive, on-going tasks such as production, whereas projects are unique, one-time tasks that are temporary, with a defined start and end. Projects often start with a project charter, an official document that outlines the project's costs and expenses. Projects conclude when their goals are achieved or if those goals become impractical. Activities within projects can include developing new products, creating organizations, improving processes, and conducting research and development.

Projects are distinct from programs. Although project managers often use similar management methodologies for both, adjustments are made for the size and scope of different projects. There is a hierarchical structure for different types of endeavours, from strategic plans down to subprojects. Most projects develop progressively, with their scope becoming clearer and more detailed as they advance. Programs, on the other hand, involve coordinating multiple projects to achieve benefits that are not possible when managing the projects separately. According to Guide to the PMBOOK expression, Programs typically have an on-going status and are often composed of subprojects or may serve as subprojects within larger projects. The distinction between a project and a program can sometimes be blurred, and in some instances, programs can be seen as subprojects of other projects.

Cagle, (2003) define Managing projects and programs involves both technical and artistic skills. Additionally, projects are usually conducted for internal customers, whereas programs are conducted for external customers and may involve legal considerations. Study done by Newell, (2005) explain Portfolio management entails grouping multiple projects to achieve strategic business goals, ensuring that each project justifies its existence and supports the organization’s strategic objectives.

2.1.2. Concepts of Project Management

Project management is a dynamic process that strategically uses an organization's resources in a structured and controlled manner to achieve clearly defined objectives within a set of constraints. According to the PMBOK® Guide, project management involves applying knowledge, skills, tools, and techniques to project activities to meet project requirements. This is achieved through the integration of 42 project management processes grouped into five main stages: initiating, planning, executing, monitoring, and controlling, and closing (PMBOK® Guide, Project Management Institute, 2008, p. 6). Project requirements often include targets related to performance, cost, time, and scope (PCTS). Project management is relevant to individuals, organizations, and nations alike. For example:

- An individual building a house or arranging a wedding.
- An organization setting up a new factory.
- A government constructing highways, dams, power plants, and airports.

The importance of project management lies in its ability to optimize resource utilization. Every person practice project management in daily activities. For instance, when choosing the shortest route to work, one goes through the stages of planning, scheduling, implementing, controlling, and monitoring. Planning involves selecting the route, scheduling the start time, controlling involves managing vehicle speed, and monitoring ensures timely arrival. This approach minimizes fuel usage and travel time. For larger projects, such as a government constructing an express highway, the complexity increases significantly. These larger projects require more sophisticated planning, scheduling, implementing, controlling, and monitoring techniques to manage effectively.

2.1.3. Professional Perspective of project management

Kerezner, (2009) describes project management as the process of planning, organizing, directing, and controlling company resources to achieve specific short-term goals and objectives. It utilizes a systems approach by coordinating functional personnel (the vertical hierarchy) to work on specific projects (the horizontal hierarchy). Project management is a well-established discipline aimed at delivering consistent and predictable results. It employs analytical methods and automated tools, particularly for large projects. Project management involves a broad set of skills, including understanding the interconnections between people, technologies, budgets, and expectations. It focuses on planning to enhance productivity, motivating team members, analysing outcomes, and adjusting plans in response to real-time challenges during project execution (Howes, 2001).

According to Alam and Gruhl (2016), project management encompasses all managerial functions, organizational structures, techniques, and tools required to initiate, define, plan, control, and close projects. It involves coordinating people and managing resources optimally to achieve the project's objectives. The Project Management Institute (PMI) defines project management as applying knowledge, skills, tools, and techniques to project activities to meet or exceed stakeholder needs and expectations. This includes planning, organizing, monitoring, controlling, managing, leading, and motivating to achieve project objectives within agreed parameters of time, cost, quality, safety, and performance (PMI, 2000).

In summary, project management involves using structured methods and strategies to achieve defined goals efficiently, whether in everyday tasks or large-scale national projects.

2.1.4. Project Management Perspective

Project management involves the structured planning, organization, motivation, and control of resources to achieve specific objectives. A project is a temporary venture with a defined start and end, aimed at creating a unique product, service, or outcome, often constrained by time, funding, and deliverables. The primary challenge in project management is to achieve all project goals while adhering to constraints related to scope, time, quality, and cost. Effective project management ensures that the objectives are met within these constraints, focusing on the project's expected time, cost, and quality outcomes. The project's scope encompasses all outputs, outcomes, benefits, and the necessary work to achieve them, which may evolve over time. The

project manager's role is to ensure the project continues to deliver its intended benefits despite any changes.

According to the Project Management Institute (PMI), project management involves the application of knowledge, skills, tools, and techniques to meet project requirements. To understand what is needed to manage a project successfully, we can examine project management from three perspectives:

1. **Organizational Fit**: This perspective looks at how the project and the individuals involved fit within the organization. It includes defining responsibilities and understanding how team members will interact.

2. **Project Evolution**: This perspective considers the project life cycle, which is the chronological sequence of activities required to complete the project. Despite their differences, all projects share a similar life cycle with a beginning, middle, and end.

3. **Required Skills**: This perspective focuses on the skills needed to manage a project successfully, often referred to as 'project functional areas.' These areas can be considered independently but are interconnected and essential for the project's success.

2.2. Project Life Cycle

The project lifecycle encompasses several critical factors that significantly impact project management and success. Here are some key points, explained differently:

- **Unique Deliverables and Temporary Activities:** Projects are distinct because they create unique products, services, or results and involve temporary activities. This requires the collaboration of stakeholders from various enterprises, each with their own organizational structures and cultures.

- **Higher Risk Levels:** Compared to routine operations, projects inherently involve higher risks. This is due to the novelty of activities, the temporary nature of project teams, and the diverse backgrounds, goals, and expertise of the stakeholders involved.

- **Defined Start and End Dates:** Every project has a specific start and finish. Resources and efforts build up over time. Identifying and addressing issues early on is crucial to avoid significant losses later.

- **Risk Management and Lifecycle Control:** Managing project risks effectively means controlling the entire project lifecycle. According to Ding (2016), this is essential for project success.

- **Avoiding Premature Phase Transitions:** It's important not to rush from one project phase to the next without completing the previous one properly. Failure to do so can result in rework, cost overruns, and delays. This highlights the importance of managing risks throughout the project lifecycle.

- **Stakeholder Interdependence:** The interdependence of stakeholders within a project's social system makes it challenging to set clear boundaries based on predefined functions. Effective collaboration between stakeholders is crucial for project success, especially in innovation-driven projects.

- **System Thinking by Senior Executives:** For large projects, senior executives need to adopt a system thinking approach. Projects are typically divided into phases, each requiring specific methodologies and disciplines.

- **Distinct Project Phases:** Each phase of a project has a clear beginning and end, involving various process groups and dependencies. Depending on the industry and contract arrangements, there might be some overlap between phases, as noted by Brandon (2006).In essence, the success of a project relies on careful planning, risk management, and the collaborative efforts of all stakeholders involved. Each phase of the project lifecycle must be managed with precision to ensure overall success.

2.2.1. Purposes of Project Life Cycle Process Models

The purpose of designing and documenting the overall project life cycle process for any project or project category (Archibald, 2007) is to:

1. **Facilitate Understanding**: Ensure that everyone involved in creating, planning, and executing projects comprehends the processes to be followed throughout the project's life.

2. **Capture Best Practices**: Document the best experiences within the organization to continually improve processes within each project phase and apply these improvements to future projects.

3. **Integrate Roles and Methods**: Align all project roles, responsibilities, planning, estimating, scheduling, monitoring, and control methods and tools with the overall project life cycle management process. This includes assigning qualified individuals to key roles, such as Project Executive Sponsor and Project Manager, at the appropriate phases.

4. **Utilize Project Management Software**: Effectively apply project management software integrated with corporate information systems.

In essence, a well-documented project life cycle model allows for systems thinking in creating, planning, scheduling, and managing the project through all its phases. It also enables evaluating both the project's success and the value of its results. This comprehensive approach benefits the project owner, key stakeholders, the ultimate user of the project's results, and the social beneficiaries of those results. This could apply to a new process plant, a highway, a new business process or system, or a new product. However, it may not be as relevant to a project manager or an organization responsible only for one phase or aspect of the project. Without a well-documented, integrated, and understandable project life cycle model, achieving the full benefits of modern, systematic project management would be challenging.

2.2.2. Life Cycle Phases and Decision Points

According to widely accepted understanding (PMI 2008 p 16), there are four broad, generic phases in a project life cycle:

1. **Starting the Project**: This phase includes concept development, authorization, initiation, identification, selection, project charter creation, business case formulation, planning, and scheduling.

2. **Organizing and Preparing**: This phase covers definition, feasibility confirmation, development, demonstration, design prototyping, and quantification.

3. **Carrying Out the Work**: This phase involves execution, implementation, realization, production and deployment, design/construction/commissioning, installation, and testing.

4. **Closing the Project**: This phase includes handing over the project results to the user, project termination, and sometimes post-completion evaluation.

Each of these phases includes critical decision points where it must be decided whether to proceed, cancel, or revise the scope, cost, schedule, or quality of the project.

Figure 1-Typical current standard top level project life cycle model. (PMIa 2008, p 16)

2.2.3. Proposed Comprehensive Project Life Cycle Model

Current project management standards do not fully acknowledge the initial stages of a project before the standard "project starting or concept phase" and also overlook the significance of evaluating the project's success after its completion. To address these gaps, it is proposed that a Comprehensive Project Life Cycle should include two additional phases:

1. **Project Incubation/Feasibility Phase**: This phase involves the early conceptualization and feasibility analysis of the project, ensuring that the project is viable and worth pursuing before it officially starts.

2. **Post-Project Evaluation Phase**: This phase focuses on assessing the success of the project and its outcomes after its completion, determining whether the project met its goals and delivered the expected benefits.

These additional phases ensure a more thorough and complete project life cycle, as illustrated in Figure 2.2. The next sections will provide detailed descriptions of these two proposed phases.

Figure 2 Proposed six-phase comprehensive top level project life cycle models.

2.2.4. Classification by Project Management Life Cycle

A. Traditional Project Management

- **Approach**: Follows a linear, waterfall model.

B. Incremental Planning Project Management

- **Approach**: Delivers the project in incremental stages.
- **Benefit**: Reduces the risk associated with delivering everything at once.

C. Iterative Planning Project Management

- **Approach**: Allows the project to evolve as understanding increases.
- **Benefit**: Helps clarify management and stakeholder expectations as well as operational challenges.

D. Adaptive Planning Project Management

- **Approach**: Allows the project's purpose and goals to evolve as the project progresses.
- **Method**: Plans the project in cycles, reviewing goals and requirements at each cycle.

E. Extreme Planning Project Management

- **Approach**: Involves constant input and review of requirements from users and/or clients.
- **Method**: Utilizes a small project team working closely together.

2.3. Project Development Cycle

Projects are ongoing processes that continuously begin, continue, end, and begin again, known as "The Project Development Cycle." This cycle consists of separate but complementary stages, each with its own characteristics, and each setting the groundwork for the next. The stages lead into each other, making the cycle circular. Various organizations may use different names and numbers of phases to describe the project development cycle, but the key stages include:

Key Stages of the Project Development Cycle:

1. Idea Conception and Project Identification
2. Project Write-up/Preparation/Design
3. Project Presentation, Appraisal, Selection, Negotiation, Approval
4. Project Implementation and Management
5. Project Monitoring and Supervision
6. Project Evaluation

Detailed Explanation of Each Stage:

A. Project Identification

- **Purpose**: This is the foundational phase where ideas or intentions to set up a project are conceived.
- **Activities**: Collecting, processing, and analyzing data on the problems or needs of the target area or organization.
- **Outcome**: Provides the basis for the next stage, identifying potential projects to address these needs.
- **Key Questions**: How do projects originate? Where do they come from? Why are they located where they are?

B. Project Preparation

- **Purpose**: Also known as Project Write-up, Design, or Formulation, this phase involves detailed analysis and documentation of information from the identification stage.
- **Activities**: Analyzing economic, financial, social, and ecological data to create comprehensive project documents.
- **Outcome**: Produces various project documents such as a project proposal, business plan, feasibility study, or pre-feasibility study.

C. Project Presentation

- **Purpose**: Forwarding the project document to a proposed financing agency.
- **Activities**: Accompanying the project document with an introductory letter from the implementing organization.

D. Project Appraisal

- **Purpose**: Assessment or in-depth analysis of all aspects of the project by the financing agency.
- **Activities**: Technical, financial, commercial, socio-economic, environmental impact assessments, and more.
- **Outcome**: An appraisal report that serves as a basis for negotiations with the financing agency.

E. Project Selection, Negotiation, and Approval

- **Purpose**: Reviewing the appraisal report and selecting the most appropriate project.
- **Activities**: Formal approval of credit arrangements, funding authorization, preparation of loan documents, and drawing up an implementation plan.
- **Outcome**: Project approval and commitment of funds and resources.

F. Project Implementation and Management

- **Purpose**: Transforming the project proposal into reality.
- **Activities**: Putting plans into practice according to the established timetable or work plan.
- **Outcome**: Realization of project outputs and immediate objectives.

G. Project Monitoring and Supervision

- **Purpose**: Continuous assessment during the implementation stage to ensure the project is on track.
- **Activities**: Reviewing progress through periodic reports, meetings, observations, field visits, and inspections.
- **Outcome**: Provides feedback to improve operational plans and take corrective action if needed.

H. Project Evaluation

- **Purpose**: Systematic and objective determination of the project's relevance, efficiency, effectiveness, and impact.
- **Key Question**: Has the project achieved its objectives?
- **Activities**: Comprehensive review, assessment, and critical analysis of project results and initial assumptions. By understanding and following these stages, project managers can ensure a thorough, well-structured approach to managing projects effectively from inception to completion and beyond.

2.4. Elements of project management

The Project Management Institute (PMI) membership of professional project managers identifies a body of knowledge, known as the Project Management Body of Knowledge (PMBOK). The following nine areas describe project management’s knowledge and practice (PMBOK, 2004):

2.4.1. Project Organization

Think of project management as the art of achieving the best results, both technologically and economically, in solving complex organizational problems. As projects become increasingly important for organizations, traditional management concepts may not always suffice. Project management offers a structured approach to tackling time-limited tasks, but integrating project teams within organizations can pose challenges. The setup of project organizations is critical for success, balancing the need for decision-making freedom with organizational requirements and personnel constraints.

2.4.2. Organization Structure

In project management, the structural organization serves two key functions: defining how the project team fits within the larger organization and structuring internal relationships within the project team itself. It's like setting up the framework within which the project operates, determining who does what and how they interact with each other.

2.4.3. Project Scope Management

Project scope management is about defining exactly what needs to be done to complete the project successfully and ensuring that only necessary work is undertaken. It's like drawing clear boundaries around the project's objectives, outputs, and deliverables to avoid scope creep and maintain focus.

2.4.4. Time Management

Project time management involves all the processes necessary to keep the project on schedule. It's like orchestrating a symphony where each process interacts with others and overlaps in practice. From sequencing activities to estimating durations and developing schedules, effective time management ensures timely project completion.

2.4.5. Cost Management

Cost management is a crucial aspect of project management, covering cost estimation, budgeting, and control. It's about keeping the project within budget while considering the impact of cost management decisions on project deliverables. For example, saving costs in one phase of the project may affect quality in another.

2.4.6. Human Resources Management

Human resources management (HRM) encompasses all tasks related to managing personnel within an organization. It's about fitting people to the organization and the organization to the people, ensuring an effective fit between individuals and the overall organizational goals. HRM includes both regulatory tasks, such as compliance, and developmental tasks, such as training and development.

2.4.7. Communication Management

Communication management involves planning, implementing, monitoring, and revising communication channels within and between organizations. It includes developing communication strategies, designing directives, and managing information flow, both internally and externally. It's about ensuring effective communication to support organizational goals and objectives.

2.4.8. Quality Management

Quality management is about ensuring that products and services meet certain standards. It's been around for a while, starting with civilizations that valued craftsmanship. Over time, mass production became popular, but so did the need for consistent quality. People like Eli Whitney and Henry Ford started using methods to ensure products were made the same way every time. Walter A. Shewhart and W. Edwards Deming brought statistical methods to quality control, especially in the U.S. During World War II, Deming helped improve quality in manufacturing. Japan took quality seriously after the war, with Deming's help, and eventually became known for high-quality products. This inspired Western companies to adopt similar methods.

2.4.9. Risk Management

Risk management is vital in project management because it helps prevent failure. But what exactly is risk? It's the uncertainty about future events, which could be positive or negative. Risk management aims to minimize potential financial losses by identifying possible sources of loss, measuring their impact, and using controls to minimize actual losses. By monitoring risks throughout a project, teams can increase the chances of success while reducing the likelihood of failure.

2.5. Role of Project Management in Telecom

Within the ever-changing realm of the telecommunications industry, characterized by constant innovation and connectivity advancements, project management emerges as a crucial yet often overlooked contributor. This paper delves into the pivotal role project management plays in seamlessly integrating new technologies, expanding networks, and delivering cutting-edge services. Vero, (2023) explores how project management navigates the intricate landscape of technological advancements, regulatory complexities, and the persistent demand for high-speed, reliable communication.

Study done by Voldsgaard and Rüdiger, (2022), telecommunications sector encompasses a diverse array of technologies, ranging from traditional landlines to state-of-the-art 5G networks. As technology evolves and consumer expectations shift, effective project management becomes increasingly essential. Project managers act as conductors, harmonizing resources, timelines, and stakeholder interests to ensure successful project outcomes.

At the core of every telecom project lies meticulous planning. Project managers are instrumental during the initiation and planning phases, setting project objectives, identifying key stakeholders, and outlining comprehensive roadmaps. This establishes a solid foundation for successful project execution by defining clear goals, timelines, and expectations.

Telecom projects often entail integrating cutting-edge technologies like 5G networks or IT solutions. Project managers play a critical role in defining project scope, striking a delicate balance between technological innovation and practical infrastructure requirements. They must adapt to emerging trends while considering the diverse needs of different geographical contexts.

In the dynamic telecom landscape, characterized by constant technological advancements, regulatory changes, and market fluctuations, effective risk management is paramount. Project managers anticipate potential challenges, devise mitigation strategies, and adjust to unforeseen circumstances, ensuring project success despite the ever-shifting environment (Sithambaram, 2021, Maduka et al., 2023).

2.6. Empirical Review

As noted by Cleland (1998) and referenced by Patanakul et al. (2010), empirical studies have consistently demonstrated that employing project management tools and techniques (PMTT) correctly is associated with project success. Conversely, failure to utilize PMTT appropriately

can result in project delays, exceeding budget constraints, and dissatisfaction among stakeholders. The following empirical studies are presented as follow,

Modupesamuel, (2022) was investigating project management best practices in Nigeria's telecommunication industry. Data was collected across 379 telecommunication firms and analysed using the descriptive method. The study found that telecommunication firms in Nigeria adopt the best project management practices. Best project management practices are widespread in the telecommunication industry in Nigeria. The project management practices adopted by telecommunication firms include holding initial meetings of all the project stakeholders, the development of project scope management, keeping all related parties updated throughout the project's lifecycle, the creating of resource plan, the creation of a response risk team, transparency in the implementation of projects, setting realistic project milestone and review of project performance(ModupeSamuel, 2022).

The Telecommunications sector in developing countries like Nigeria and other sub-Saharan African countries are increasingly embracing the Managed Services Model, a kind of outsourcing, primarily due the need to cut operational cost, for rapid expansion, to gain market share and to focus on core competence. However, despite the benefits associated with this model and its successful adoption the world over by many telecommunications companies, many sub-Saharan African countries are showing a deviation from this trend. The purpose of this research is to explore the motivations in favour or against the adoption of Managed Services Model in sub-Saharan Africa with emphasis on Nigeria. Interview was used as the main tool to gather the required information from some telecom operators and vendors in Nigeria and complemented using a questionnaire survey. The outcome of the analysis of the data gathered indicate that the reason behind the adoption of managed services is cost reduction, access to skilled workforce, better focus on core business, quality improvements, and competitive advantage. The study also establishes that increasing unemployment rate, diminished local competence and expertise, and security concern are among the top reasons for the call against the adoption of Managed Services Model(Esonwune, 2010).

Ekanayake and Weligamage, (2020) investigate the effectiveness of project management tools and techniques (PMTT) in Sri Lankan telecommunication sector. Also, this research will further elaborate how Project Management Tools and Techniques effect on success of projects. Sample has been derived as a representation by covering main telecommunication providers in Sri

Lanka. This sample consists of 78 employees who are responsible for projects in telecommunication sector. Linear regression and correlation analysis has been used to prove the model fitting. The finding suggests that project manager's competency, top management support and organisational commitment facilitate project success by active use of PMTT. Further Project manager's competency is the most crucial factor influencing the level of PMTT usage and thereby project success. Also, Top management support is the second most key factor determining the level of PMTT usage and project success. Further Organisational commitment influences the level of PMTT usage and project success. Finally, analysis proved there is no significant association between project complexity and PMTT usage or project success(Ekanayake and Weligamage, 2020).

The international community's development corresponds to the onset of the fourth industrial Revolution. This is a qualitatively new stage of development. Telecommunications industry is one of the dynamic industries in the world. Products and services in this industry are changed very quickly. As the business of the telecommunications company develops, internal processes and technologies are at the centre of attention. The company's success in a dynamically developing external environment is determined by the company's ability to adapt to rapidly changing market needs. Agile Project management as an approach allowing to form a business model that is the most effectively functioning in the modern telecommunications industry is analysed. Examples of the implementation of the agile project management are considered. State and prospects of Russian telecommunications industry development are determined. Agile Project management is offered as a promising methodology of project management in Russian telecom. The development of the telecommunications sector to the world level is one of the priorities of the national economy(Balashova and Gromova, 2017).

The broader use of project management knowledge and best practices, especially the Project Management Institute approach, requires investments and new competencies. Thus, many companies have invested significantly in project management practice development, but they are often frustrated with the tangible achieved results. Castro and Carvalho, (2007) discussed the main critical issues of project management implementation in Brazilian companies. The adopted methodological approach was multiple cases, conducted in three companies in the Brazilian telecommunications sector. These companies were selected due to the significant investment in project management and the practices they focused on improving. Moreover, the three

companies play distinct roles in one of the most dynamic sectors in the Brazilian market. The data collection was carried out by spontaneous interviews (YIN, 2005) based on a script, with an interlocutor who knows the project management concepts with access to top management. As a result, it could be highlighted that companies believe that their investments produce good results, although they will only be able to demonstrate this when they develop solid project management programs and align them with corporate strategies and when appropriate strategic performance measures are available(Castro and Carvalho, 2007).

The study by Ahmad and Salam, (2015), examines the Project Managers' (PMs') effectiveness through the lens of PMs' willingness and organization support in telecom industry of Pakistan. The impact of PMs' willingness and organization support on PMs' effectiveness is measured. The data was collected from telecom industry's employees through survey questionnaires. Total 410 questionnaires were distributed, however, 360 were returned and the response rate was 87 %. It is hypothesized that PMs' willingness and organization support are equally and strongly related to PMs' effectiveness which is theoretically associated with organizational performance. The study shows that there was a high correlation between PMs' willingness (0.754) with PMs' effectiveness. It is also concluded that the organizational support is a positive relationship with PMs' effectiveness. This study clearly identifies that PMs' willingness and organizational support also plays significant role to enhance the PMs' effectiveness for telecom projects in Pakistan(Ahmad and Salam, 2015).

Acording to Abdilahi et, (2020), attempts to review the overall picture of the applications of project scope management in the telecommunication industry with the aim of exploring the approaches, impacts, constraints, and practices of project scope management in telecommunication projects in Somaliland. The study is quite important to impending project managers that might want to practice in the telecommunication industry in Somaliland and elsewhere, as it provides new insights and novel strategies that are essential for the timely delivery of telecommunication projects. Moreover, this paper offers young academic researchers in project management field a better underlying understanding of the applications of project management knowledge areas, particularly, the use of project scope management in the telecommunication industry(Abdilahi et al., 2020).

Maritim and Chelule, (2018) studied to establish the influence of project risk management practices on performance of Telecommunication Network Modernization projects in Kenya. This

study adopted a case study research design. The target population for the study was Network Modernization projects undertaken by Safaricom Plc in the past three years. The unit of observation were the Project Managers and Technical Team leaders who are responsible for the management of the selected Network modernization projects. A total of sixty Network modernization projects were selected. Total number of 60 respondents was reached, representing the entire population. Census was used in the study. Primary data was collected using semi-structured questionnaire based on the objectives of the study. The data was edited, coded for processing using the Statistical Package for Social Sciences (SPSS v.24) and presented in tabular and graphical format. A master codebook designed to ensure that all the questionnaires are coded uniformly was used. Consequently, data was edited for completeness and consistency before analysis. The study used multiple regression analysis and Analysis of Variance (ANOVA) to analyse the degree of relationship between the variables in the study at 5% level of significance. The study found that all the four aspects of risk management were practiced to a high extent. Regression analysis yielded relationships between performance of network modernization projects against project risk identification, project risk monitoring and project risk response. Though these relationships were weak, they were found to be statistically significant at the 5% significance level. Project risk analysis was found to have no relationship with performance of network modernization projects. Unique contribution to Theory, Practice and Policy: The study recommended that telecommunication firms should pay great emphasis on the three aspects of risk management, namely project risk identification, project risk monitoring and project risk response. Further it was recommended that future studies should be done to establish other factors that influence performance of Telecomm Network Modernization projects.

CHAPTER THREE

3. RESEARCH DESIGN & METHODOLOGY

This chapter will present a description of the overall methodology will use in this research. It consists of brief discussion of the study area, research design, target population, techniques and methods of sampling, data collection, data processing and analysis methods, research design quality and ethical considerations the area in which the study is carried out.

3.1. Description of Study Area

According to (Bogale, 2005)Telecommunication in Ethiopia traces its origins back to 1894, marking the country's early adoption of this technology. The Ethio telecommunications Corporation holds the distinction of being Africa's oldest public telecommunications operator. During its inception, the implementation of a comprehensive open wire line system played a pivotal role in integrating Ethiopian society by connecting the capital with key administrative centers across the nation. Following the devastation of the telecommunication network during the war against Italy, Ethiopia undertook a restructuring of its Telephone, Telegraph, and Postal services in 1941. The Imperial Board of Telecommunications (IBTE) was established in 1952, endowed with complete financial and administrative autonomy to oversee the provision and expansion of telecommunications services within Ethiopia. Subsequently, the Imperial Board of Telecommunications evolved into the Ethio telecommunications Authority in 1981, assuming responsibility for both operational and regulatory aspects of telecommunication services amidst market reforms. In 1996, the Ethiopian government introduced the Ethio telecommunication Agency (ETA) as a distinct regulatory body through Proclamation 49/1996. Simultaneously, the Ethio telecommunications Corporation (ETC) was established by regulation 10/1996, under the oversight of the Council of Ministers.

Ethiopian Telecommunications Corporation (ETC) was restructured and rebranded as Ethio Telecom in 2010. The company's management is structured into multiple divisions, including Information Security, which oversees a variety of Information Security projects. In this research, the study involves 133 employees, with a representative sample of 100 individuals drawn from this total workforce. This study focuses on assessing and evaluating the project management

practices within Ethio telecom's security projects implemented under the Information Security division.

3.2. Research Approach

These approaches classified into two distinct categories: qualitative and quantitative. The first one relies on terms and observations to convey fact and attempts in natural settings to characterize individuals. The quantitative approach on the other hand an approach in which the investigator primarily uses post positive claims for developing knowledge, i.e., cause and effect relationship between known variables of interest or it employs strategies of inquiry such as experiments and surveys and collect data on predetermined instruments that yield statistical data (Creswell, 2012). The third method, called mixed method analysis, uses both methods sequentially and at the same time to create a research outcome that is better than either method individually (Malina, Nørreklit, & Selto, 2010). Thus, the study will be conducted by using mixed approach. The term "mixed methods" refers to an emerging research methodology that advances the systematic integration, or "mixing," of quantitative and qualitative data within a single research or on-going inquiry research program (Gunasekare, 2013).

3.3. Research Design

Research design is the set of methods and procedures used in collecting and analysing measures of the variables specified in the problem research. The design is divided into three broad categories as per their purpose; Exploratory, descriptive, and explanatory (Mark, Philip, & Adrian.2016). The research intentions clearly showed to assess and evaluate the project management practices within Ethio Telecom's security projects. To conduct this research, a descriptive study design incorporating mixed methods is employed to analyze the data gathered from participants.

A study conducted by Sekaran, (2003), descriptive studies presenting data in a meaningful form thus help to understand the characteristics of a group in a given situation, to think systemically about aspects in a given situation, to offer ideas for further testing and research, and/or to help make decisions for organizations. Thus, the reason behind using descriptive study design is that the researcher is interested in describing the existing situation under study. This study will be

used descriptive analysis that describes the assessment and evaluation of the project management practices within Ethio telecom's security projects.

3.4. Total population of the study

According to Kumar (2011), research population refers to units of individuals that are the focus of a research, in some cases belonging to the same geographical area and containing similar characteristics. Target Population is a group of objects or items from among which samples taken for measurement (Singh &Masuku, 2014). Despite the purpose of the study is to assess and evaluate the project management practices within Ethio telecom's security projects. In this study the total target population for this study will comprises all one hundred thirty three (133) who are members of Ethio telecom's Information security division.

3.5. Sample size determination.

Simple random sampling is used to determine the sample size of this research. Applying random sampling technique enables to get more representative samples (Creswell, 2012). To determine the sample size of the population the researcher used Yamane's formula (1967). This formula is reliable to 95% and less than 5% deviation factor. Despite the data available, the total target population for this study will comprises all one hundred thirty-three (133) security projects representatives in Ethio telecom, the sample size will be select below by Yamane's Sample Size Determination formula:

$$\mathbf{n = \frac{N}{1 + N\,(e)^2}}$$

Where: n = sample size

N = population of the study (Target population of the study)

e = % level of significance or margin of tolerable error

Therefore, the study sample size is calculated as follow:

$$n = \frac{133}{1 + 133\,(0.05)^2}$$

n = 100.377 approx. 100 respondents

Based on the above formula, the researcher will be gathered data through questionnaire from 100 respondents chosen through proportional those worked in security project management team.

3.6. Sampling techniques

Sampling techniques provide a range of methods that enable one to reduce the amount of data needed for a study by considering only data from a sub-group rather than all possible elements. There exist two types of sampling: probability where the chances of each case being selected from the population is known and is usually equal for all cases, and non-probability sampling, where the chances of each case selected from the total population is not known, making it impossible to answer research questions (Saunders et al., 2009).In this research work, the researcher employed simple random sampling technique to get representatives.

3.7. Sources of Data and Data Gathering Tools

3.7.1. Sources of Data

The methods used to conduct the research are, expert interviews for the primary data and desk Research along with documents for the secondary data. The Primary data is said to be first -hand information retrieved directly from project management team from security department from Ethio telecom, project manager and addition telecom projects consultant. The secondary data is gathered from scientific journals, course literature books, project management reports, technical reports, and web sites. The literature books and scientific journals were chosen based on the relevance to our research problem which focuses on improving project management performance.

3.7.2. Data Gathering Tools

In the study, questionnaires will be used as the primary research technique. The questionnaire contains both open and close-ended type of questions and most of them will be close-ended type of questions (pre-coded) that make it simple for the respondents and for easy analysis.

3.8. Data Gathering Procedures

According to Smith, J.& Johnson, A. (2021). Data gathering procedures are essential steps in the research process that involve systematically collecting information and evidence to address the research objectives and answer the research questions. These procedures outline the methods and techniques used to collect data from various sources, such as observations, and document analysis. By following a structured approach to data gathering, researchers can ensure the reliability and validity of the data collected, leading to robust and credible research findings. The

concept of data gathering procedures emphasizes the importance of selecting appropriate data collection methods, designing effective data collection tools, and analysing the data to draw meaningful conclusions that contribute to the advancement of knowledge in the research field.

However, the essential data for this research will be gathered through a questionnaire. A slightly modified standard questionnaire; A close-ended questionnaire will be utilized to extract responses that are within the scope of the study. The questionnaire will be designed on a Likert five-point rating scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree). The Likert scale is commonly used to measure attitudes by providing a range of responses to a given question or statement. A set of attitude statements will be presented, and subjects of the study will be asked to express their agreement or disagreement using a five-point scale. The degree of agreement will be given a numerical value ranging from one to five (Underwood, 2004).

Additionally, secondary data uses the existing related journal articles, books, monographs, annual reports etc. from Ethio telecom stake holders.

3.9. Method of Data Analysis

The study used both quantitative and qualitative data analysis techniques to analyse the collected data and arrive at desired conclusions. The data collected from various sources are processed and analysed using mixed approach such as descriptive statistics data analysis. To be completed and minimizing error the data that collected from the primary survey are edited, and coded. Finally, the data is processed using computer software Statistical Package for Social Sciences (SPSS).

The descriptive statistics includes frequencies, percentages, means and standard deviation.

3.10. Research Design Quality

3.10.1. Validation

Validity is the degree to which results obtained from the analysis of the data actually represent the phenomenon under study and therefore ensuring validity of the data collection instrument involved going through the questionnaire in relation to the set objectives and making sure that it contains all the information that can enable answer the objectives (Najanja & Naiagi, 2013).

To confirm the instrument's validity, content validity is utilized, and the questionnaire's validity is determined to be strong following piloting with respondents who provided positive feedback.

Simple changes made based on the feedback to improve clarity. The questionnaire was also reviewed by HR experts to enhance its face validity.

3.10.2. Reliability

After the test of validity of the research instrument, the next step is to cross check the constancy and reliability of the instruments. Reliability refers to the extent to which data collection techniques or analysis procedures yield consistent findings (Saunders, et al., 2009). Hence, Cronbach's alpha will be used in this study to assess the internal consistency of items on the research instrument, which is developed questionnaire. Cronbach's α (alpha) is a coefficient of reliability will be used to measure the internal consistency of a test or scale; it resulted as a number between 0 and 1. As the result approaches to one, the more is the internal consistency of the items, which means all the items measure the same variable. Scales will be considered reliable if their Cronbach alpha value reached at least 70 (Najanja and Naiagi, 2013).

3.11. Ethical Considerations

There are several reasons why it is important to adhere to ethical norms in research. First, norms promote the aims of research, such as knowledge, truth, and avoidance of error. For example, 40 prohibitions against fabricating, falsifying, or misrepresenting research data promote the truth and avoid error. Second, since research often involves a great deal of cooperation and coordination among many different people in different disciplines and institutions, ethical standards promote the values that are essential to collaborative work, such as trust, accountability, mutual respect, and fairness (Kaggwa, 2004). To promote ethics in the proposed study, respondent's names will be withheld to ensure anonymity and confidentiality in terms of any future prospects. To avoid bias, the researcher will use the data collected for the reason for which it is collected. According to Creswell, (2012) as the researchers anticipate data collectors, they need to respect the participants and sites for the research.

CHAPTER FOUR

4. DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1. Introduction

This section involves the presentation and interpretation of the research findings obtained from security project management team of Ethio telecom, such as - Managers, Experts and Specialists in the Information Security division. This chapter also presents the analysis of the findings based on the objectives of the study. Statistical procedures were utilized to analyze the data from the closed-ended section of the questionnaires, while qualitative analysis was conducted for the open-ended questions.

4.2. Response Rate

Primary data was collected through a survey comprising 25 Likert scale questions categorized into key areas: Project Initiation and Planning, Resource Management, Risk Management, Project Execution and Monitoring, Stakeholder Communication, Project Closure, and Evaluation. The survey also featured two open-ended questions.

The sample group for this survey consisted of various professionals within the Information Security Division, including: Cyber Security Operation Director, Information Security PMO Manager, Cyber Security Systems Management Manager, Risk Management Manager, Project Management Coordinator, Finance and Support Coordinator, Fraud Operation Specialists, Project and Performance Specialist, Security Architecture Specialist, Information Security Lead Expert, Information Security Strategy Supervisor, Security Policy and Strategist, Cyber Security Specialist, Information Architect, Fraud and Security Case Fulfilment Supervisor, Fraud Investigation Specialist, Cyber Security Analyst. These individuals were selected to provide a comprehensive understanding of project management practices within security projects.

Table 1- Response Rate Analysis

	Frequency	Valid Per cent	Cumulative per cent
Responded	78	78	78
Not - Responded	22	22	100
Total	100	100	100

From the table 1 above, the study targeted a population of 100 respondents as calculated in previous chapter. Seventy-eight (78) respondents filled and returned the questionnaires hence making the response rate to be 78 per cent (%) hence deemed sufficient for conducting the analysis. This view concurs with Sekaran, (2008) who stated that, if the return rate of the respondents exceeds 50%, it is sufficient for conducting analysis.

4.3. Demographic Characteristics

This study presented finding out the respondent demographics in terms of gender of the respondents, age distribution, and year of experience in the organizations, work position of the respondent and the level of education. This was to help in understanding the characteristics of the responding population.

Table 2- Demographic Characteristics of respondents

Characteristics	Frequency	Percent (%)
Gender		
Male	57	73.1
Female	21	26.9
Total	**78**	**100**
Age		
Below 23	0	0
24-40	46	59
41-50	25	32
Above 50	7	9
Total	**78**	**100**
Work Experience		
1-5	23	29.48
6-10	46	58.97
11-15	2	2.56
Above 16	7	8.97
Total	**78**	**100**
Work Position		

Managerial position	6	7.7
Expert	31	39.74
Specialist	26	33.33
Supervisor	6	7.69
Analyst	6	7.69
Coordinator	3	3.85
Total	**78**	**100**
Academic Qualification		
Diploma	0	0
Degree	27	34.6
Masters	51	65.4
PhD	0	0
Total	**78**	**100**

4.3.1 Gender of the respondents

In Table 2 above, majority of the respondents were male while (26.9%) were female. This implied that, majority of the employees in Ethio telecom security team are male.

4.3.2 Age of the respondents

The respondents were also asked to indicate their age regarding the age brackets shown in table 2 above. The findings showed that most of the respondents were aged between 24 years and 40 years and represented 59%. Those aged between 41 years and 50 years followed accounting to 32%, while those aged above 50 years were 9%. Lastly, those aged below 23 years were 0%. This explains most of the respondents were medium aged and thus in their peak in the career.

4.3.3 Work Experience

This study additionally looked to finding out the number of years the respondents have worked in their organization as shown in Table 2 above to see the credibility of the data. As seen in the table, 58.97% of the employees have worked for between 6-10 year, 29.48 % have worked between 1 and 5 years, 8.97% have worked for more than 16 years and 2.56% have worked between 11 and 15 years. From these findings the highest percentage is from employees who have worked between 6 and 10years and could therefore give credible responses.

4.3.4. Respondents Work Position

This study looked to a comprehensive view of the distribution of job positions within the organization, highlighting the dominance of non-managerial roles, especially those requiring specialized expertise. Most positions (92.3%) are non-managerial. Among non-managerial roles, the most common are Experts (39.74) and Specialists (33.33).Managerial roles are a small portion of the overall positions at 7.7%.The specific non-managerial roles (Expert, Specialist, Supervisor, Analyst, Coordinator) add up to more than 72, suggesting that some roles might be counted in multiple sub-categories or there are overlaps.

4.3.5. Academic Qualification

As shown in table 2 above, out of seventy-eight respondents who filled and returned their questionnaires, none of them had diploma, 34.6 % had first degree, 65.4 % had Masters degree, and none of them had Doctor of Philosophy. Therefore, the outcomes implied that most of the respondents had acquired degree level of education and were adequately knowledgeable.

4.4. Descriptive Statistics

In descriptive statistics, we consider the mean value of all variables and standard deviation. Mean value means the average value of all respondents regarding each variable, which tells us that weather the respondents are agrees, or not to our statements or hypothesis. In addition, Standard deviation value tells us about the reliability of mean value, if the standard deviation value is low, then mean is reliable. The mean, standard deviation, and percentage of responses for every Likert scale choice in each statement are calculated.

4.4.1. Rating of project initiation and planning indicator

The study used six indicators of project initiation and planning which were in the form of statement. The respondents were asked to rate the level of their agreement on a 5-point Likert scale where 1 was strongly disagree and 5 was strongly agree as seen below.

Table 3 -Levels of agreement with project initiation and planning indicators

No	**Project Initiation Statements**	**Average /mean/**	**St. Deviation**	**Strongly Disagree, 1**	**Disagree, 2**	**Neutral, 3**	**Agree, 4**	**Strongly Agree,5**
1	Our security projects have clear objectives and goals.	3.97	0.72	0%	1.28%	23.08 %	52.5 6%	23.08%
2	Stakeholder requirements are effectively gathered before project planning.	3.55	0.83	0%	12.82 %	28.21 %	50.0 0%	8.97%

3	Ethio Telecom's security projects have a well-defined scope.	3.9	0.8	0%	5.13%	21.79 %	51.2 8%	21.79%
4	Project plans are documented comprehensively.	3.85	1.1	0%	16.67 %	19.28 %	50.0 0%	14.18%
5	Project timelines and milestones are clearly defined.	3.92	0.99	0%	7.69%	25.79 %	53.8 7%	12.8%
6	Ethio Telecom employs standardized methodologies for project planning.	3.44	1.18	0%	24.39 %	26.92 %	43.5 8%	5.13%
	Mean Value	3.77	0.93	0%	11.33 %	24.17 %	50.2 1%	14.32%

According to table 3 above the analysis of the provided data focuses on six key statements related to the initiation phase of Ethio telecom's security projects. Each statement has been evaluated for agreement levels among respondents, with corresponding average (mean) values and standard deviations. The summary below offers insights into the effectiveness and consistency of project initiation practices at Ethio Telecom.

The analysis of project initiation practices within Ethio telecom's security projects reveals a generally positive perception with an average mean value of 3.77 and a standard deviation of 0.93, indicating moderate variability in responses. Specifically, respondents largely agree that security projects have clear objectives and goals (mean = 3.97, SD = 0.72) and well-defined project scope (mean = 3.9, SD = 0.8). However, the gathering of stakeholder requirements (mean = 3.55, SD = 0.83) and the documentation of project plans (mean = 3.85, SD = 1.1) show more mixed responses, suggesting areas for improvement. While most respondents believe project timelines and milestones are clearly defined (mean = 3.92, SD = 0.99), the use of standardized methodologies for project planning received the lowest mean score (3.44) and the highest standard deviation (1.18), highlighting significant disparities in opinions and identifying it as a critical area for development. Overall, while there is a strong foundation in place, enhancing the consistency of stakeholder requirement gathering, documentation, and standardized methodologies could further improve project management practices in Ethio telecom's security projects.

4.4.2. Rating of Resource Management

The study used four indicators of resource management which were in the form of statement. The respondents were asked to rate the level of their agreement on a 5-point Likert scale where 1 was strongly disagree and 5 was strongly agree as seen below.

Table 4 -Levels of agreement with resource management indicators

No	**Resource Management Statements**	**Average /mean/**	**St. Deviation**	**Strongly Disagree, 1**	**Disagree, 2**	**Neutral, 3**	**Agree, 4**	**Strongly Agree,5**
1	Resources (human, financial, technological) are adequately allocated for security projects.	3.41	1.36	10.25 %	10.25 %	23.07 %	50.03%	6.4%
2	Ethio Telecom effectively utilizes available resources in security projects.	3.73	1.11	7.69%	2.56%	24.35 %	53.87%	11.53 %
3	There is a system in place to monitor resource utilization throughout security projects.	3.38	1.18	6.4%	24.35 %	20.51 %	43.6 %	5.13%
4	Ethio Telecom ensures efficient use of resources through regular monitoring.	3.24	1.25	15.3%	14.1%	32.05 %	34.71%	3.84%
	Mean Value	3.44	1.23	9.91%	12.81 %	25%	45.55%	6.73%

According to table 4 above indicates that the analysis of the provided data focuses on four key statements related to resource management in Ethio telecom's security projects. Each statement has been evaluated for agreement levels among respondents, with corresponding average (mean) values and standard deviations. The summary below offers insights into the effectiveness and consistency of resource management practices at Ethio Telecom.

The analysis of resource management practices in Ethio telecom's security projects reveals a moderately positive perception with an average mean value of 3.44 and a standard deviation of 1.23, indicating substantial variability in responses. Specifically, the adequacy of resource allocation received a mean of 3.41 and a high standard deviation of 1.36, reflecting mixed perceptions with notable concerns about resource allocation adequacy. Effective utilization of available resources had a higher mean of 3.73 and a standard deviation of 1.11, indicating a generally positive perception, as most respondents agreed or strongly agreed that resources are

effectively utilized. However, the presence of a system for monitoring resource utilization had a mean of 3.38 and a standard deviation of 1.18, with a significant percentage of disagreement indicating room for improvement in establishing robust monitoring systems. The efficient use of resources through regular monitoring had the lowest mean value of 3.24 and a high standard deviation of 1.25, reflecting significant disagreement and neutrality, suggesting that regular monitoring for efficient resource use is a critical area needing attention. Overall, while there are strengths in resource utilization, addressing the discrepancies in resource allocation and monitoring practices can lead to more effective and consistent resource management in Ethio telecom's security projects.

4.4.3. Rating of Risk management

The study used five indicators of risk management which were in the form of statement. The respondents were asked to rate the level of their agreement on a 5-point Likert scale where 1 was strongly disagree and 5 was strongly agree as seen below.

Table 5 -Levels of agreement with risk management indicators

No	**Risk Management Statements**	**Average /mean/**	**St. Deviation**	**Strongly Disagree, 1**	**Disagree, 2**	**Neutral, 3**	**Agree, 4**	**Strongly Agree,5**
1	Risks are identified and documented at the beginning of security projects.	4.33	0.95	5.13%	19.27 %	14.1 %	57.6 6%	3.84%
2	Ethio Telecom has a systematic approach to identifying potential risks in security projects.	4.12	1.01	5.13%	6.4%	25.64 %	56.4 3%	6.41%
3	Effective measures are in place to mitigate identified risks in security projects.	4.10	0.98	5.13%	6.41%	20.51 %	62.8 2%	5.13%
4	Ethio Telecom regularly reviews and updates risk mitigation strategies during security projects.	4.00	0.96	5.13%	10.26 %	33.33 %	47.4 4%	3.84%
5	Mitigation strategies during security projects.	3.94	0.99	5.13%	7.69%	21.8 %	61.5 4%	3.84%
	Mean Value	4.00	1.00	5.13%	10.0%	23.0 %	57.1 7%	4.6%

Depend on above table 5 the analysis of the provided data focuses on five key statements related to risk management in Ethio telecom's security projects. Each statement has been evaluated for

agreement levels among respondents, with corresponding average (mean) values and standard deviations. The summary below offers insights into the effectiveness and consistency of risk management practices at Ethio telecom.

The analysis of risk management practices in Ethio telecom's security projects reveals a positive perception with an average mean value of 4.00 and a standard deviation of 1.00, indicating some variability in responses. Specifically, the identification and documentation of risks received a high mean value of 4.33 with a relatively low standard deviation of 0.95, suggesting strong agreement that risks are effectively identified and documented at the beginning of projects. The systematic approach to identifying potential risks also received a high mean of 4.12, though the standard deviation of 1.01 and a significant percentage of neutral responses (25.64%) indicate some variability in perception. Measures to mitigate identified risks were agreed upon, with a mean of 4.10 and a standard deviation of 0.98, reflecting confidence in the risk mitigation measures in place. Regular review and updating of risk mitigation strategies had a mean of 4.00 and a standard deviation of 0.96, but the high percentage of neutral responses (33.33%) suggests this practice could be more consistently applied. Lastly, the effectiveness of mitigation strategies received a mean value of 3.94 and a standard deviation of 0.99, with notable neutrality (21.8%) and disagreement (12.82%) indicating room for improvement. Overall, while there are strengths in the identification, documentation, and systematic approach to risk management, addressing the variability in the regular review and update of mitigation strategies and ensuring their effectiveness can further enhance the robustness of risk management practices in Ethio telecom's security projects.

4.4.4. Rating of Project Execution and Monitoring

The study used four indicators of Project Execution and Monitoring which were in the form of statement. The respondents were asked to rate the level of their agreement on a 5-point Likert scale where 1 was strongly disagree and 5 was strongly agree as seen below.

Table 6 - Levels of agreement with Project Execution and Monitoring indicators

No	**Project Execution and Monitoring Statements**	**Average /mean/**	**St. Deviation**	**Strongly Disagree, 1**	**Disagree, 2**	**Neutral, 3**	**Agree, 4**	**Strongly Agree,5**
1	Security projects are executed according to the defined project plans.	3.63	1.05	6.41%	23.08 %	25.64 %	39.74%	5.13 %

2	Ethio Telecom has mechanisms in place to address deviations from project plans during execution.	3.71	1.07	5.13%	14.1%	30.77 %	44.8 7%	5.13 %
3	There is regular monitoring of project progress against set timelines.	3.77	1.15	1.28%	19.23 %	26.92 %	43.6 %	8.97 %
4	Ethio Telecom uses effective tools for project monitoring in security projects.	3.68	1.12	2.56%	11.54 %	50.0 %	33.3 4%	2.56 %
	Mean Value	3.70	1.1	3.85%	17%	33.3 %	40.4 %	5.45 %

The analysis on the above table 6 shows mixed perceptions among respondents. The analysis of the provided data reveals a positive perception of project execution and monitoring in Ethio Telecom's security projects, with an overall mean value of 3.70 indicating a tendency towards agreement across the statements. The average responses suggest that most respondents believe security projects are executed according to defined plans (mean 3.63), mechanisms exist to address deviations (mean 3.71), regular monitoring against timelines is practiced (mean 3.77), and effective tools are used for project monitoring (mean 3.68). However, the standard deviations, ranging from 1.05 to 1.15, indicate moderate variability in opinions, reflecting some inconsistency or differing experiences among respondents. Specifically, while 40.4% agree with the statements overall, a significant 33.3% remain neutral, suggesting areas where improvements or clearer communication could enhance perceptions. The data shows relatively low percentages of strong disagreement (3.85%) and strong agreement (5.45%), underscoring that while there is a consensus on the adequacy of current practices, there is also room for enhancements to achieve more robust and uniform positive perceptions across all respondents.

4.4.5. Rating of Stakeholder Communication

The study used two indicators of Stakeholder Communication which were in the form of statement. The respondents were asked to rate the level of their agreement on a 5-point Likert scale where 1 was strongly disagree and 5 was strongly agree as seen below.

Table 7 - Levels of agreement with Stakeholder Communication indicators

No	**Stakeholder Communication Statements**	**Average /mean/**	**St. Deviation**	**Strongly Disagree, 1**	**Disagree, 2**	**Neutral, 3**	**Agree, 4**	**Strongly Agree,5**
1	Stakeholders are effectively engaged throughout the lifecycle of security projects.	3.78	0.97	1.28%	17.95 %	17.95 %	47.43%	15.38 %
2	Ethio Telecom ensures transparent communication with stakeholders regarding project progress.	3.65	1.03	1.28%	15.38 %	33.33 %	38.48%	11.53 %
	Mean Value	3.71	1.00	1.28%	16.66 %	25.64 %	42.95%	13.45 %

The analysis of stakeholder communication in the above table 7, for Ethio Telecom's security projects reveals positive perceptions with an overall mean value of 3.71, suggesting that stakeholders are fairly well engaged, and communication is relatively transparent. The statement that stakeholders are effectively engaged throughout the project lifecycle has a mean of 3.78 and a standard deviation of 0.97, indicating a strong agreement with moderate variability in responses. Specifically, 47.43% of respondents agree and 15.38% strongly agree, signifying a robust engagement, though 17.95% remain neutral and another 17.95% disagree, pointing to some inconsistencies in stakeholder engagement. The statement on transparent communication with stakeholders regarding project progress has a mean of 3.65 and a standard deviation of 1.03, showing a general agreement but with slightly higher variability. Here, 38.48% agree and 11.53% strongly agree, while a significant 33.33% are neutral, and 15.38% disagree, suggesting that while communication is generally transparent, there are areas for improvement. Overall, with a combined mean of 3.71 and a standard deviation of 1.00, the data indicates that most respondents perceive stakeholder engagement and communication positively, but the presence of neutral and disagreeing respondents highlights opportunities for Ethio Telecom to enhance and standardize its communication practices to ensure more consistent stakeholder satisfaction.

4.4.5. Rating of Project Closure and Evaluation

The study used four indicators of Project Closure and Evaluation which were in the form of statement. The respondents were asked to rate the level of their agreement on a 5-point Likert scale where 1 was strongly disagree and 5 was strongly agree as seen below.

Table 8 - Levels of agreement with Project Closure and Evaluation indicators

No	**Project Closure and Evaluation Statements**	**Average /mean/**	**St. Deviation**	**Strongly Disagree, 1**	**Disagree, 2**	**Neutral, 3**	**Agree, 4**	**Strongly Agree,5**
1	Ethio Telecom has clear procedures for closing out security projects.	3.77	0.97	0%	16.67 %	11.54 %	61.53%	10.26 %
2	Project closure includes a comprehensive review of project outcomes and lessons learned.	3.81	1.06	1.28%	3.85%	30.77 %	52.56%	11.54 %
3	Lessons learned from security projects are documented and shared within the organization.	3.10	1.20	2.56%	20.51 %	39.74 %	32.06%	5.13 %
4	Ethio Telecom incorporates feedback from project evaluations into future project planning.	3.36	1.17	1.28%	28.2%	43.6 %	24.36%	2.56 %
	Mean Value	3.51	1.1	1.28%	17.3%	31.41 %	42.62%	7.37 %

The analysis on the above table 8 indicates mixed perceptions with clear strengths and notable areas for improvement. The analysis of the project closure and evaluation data for Ethio Telecom's security projects indicates a positive but somewhat varied perception of the processes involved. The overall mean value of 3.51 suggests a moderate level of agreement with the statements, with a standard deviation of 1.1 reflecting a moderate spread in responses. For the statement "Ethio Telecom has clear procedures for closing out security projects," the mean score is 3.77, indicating general agreement, with 61.53% of respondents agreeing and 10.26% strongly agreeing. The standard deviation of 0.97 shows less variability, and no respondents strongly disagreed, which suggests that the procedures are generally well-regarded, although 16.67% disagreed and 11.54% were neutral. The statement "Project closure includes a comprehensive review of project outcomes and lessons learned" has a mean of 3.81, the highest among the four statements, indicating strong agreement. With a standard deviation of 1.06, the responses are somewhat variable. A significant 52.56% agree and 11.54% strongly agree, suggesting that comprehensive reviews are commonly conducted, though 30.77% are neutral, and a small percentage disagree (3.85%). For "Lessons learned from security projects are documented and shared within the organization," the mean drops to 3.10, showing a less favourable view. The standard deviation of 1.20 indicates higher variability in responses. While 32.06% agree and

5.13% strongly agree, a notable 39.74% are neutral, and 23.07% (combining disagree and strongly disagree) feel that lessons learned are not effectively documented and shared. The statement "Ethio Telecom incorporates feedback from project evaluations into future project planning" has a mean of 3.36, suggesting moderate agreement. The standard deviation of 1.17 indicates considerable variability. Here, 24.36% agree and only 2.56% strongly agree, while a significant 43.6% are neutral, and 29.48% (combining disagree and strongly disagree) do not believe feedback is adequately incorporated into future planning.

Overall, the combined mean of 3.51 and standard deviation of 1.1 suggest that while there is a general agreement on the effectiveness of project closure and evaluation processes, there are notable areas for improvement, particularly in documenting and sharing lessons learned and incorporating feedback into future planning. The data shows that procedures for project closure and comprehensive reviews are relatively well-regarded, but consistency and thoroughness in documentation and feedback integration need enhancement to ensure more uniform positive perceptions among all respondents.

CHAPTER FIVE

5. SUMMARY OF FINDING, CONCLUSION AND RECOMMENDATION

5.1 Major Finding of the study

The Major finding of project management practices at Ethio Telecom reveals both strengths and weaknesses across different domains, including project initiation, resource management, risk management, project execution and monitoring, stakeholder communication, and project closure and evaluation as follow.

Project Initiation Practices

- Clear Objectives and Goals: High agreement (Mean: 3.97, SD: 0.72), indicating strong clarity and alignment in initial project phases.
- Effective Stakeholder Requirements Gathering: Moderate agreement (Mean: 3.55, SD: 0.83), with notable room for improvement.
- Well-Defined Project Scope: Generally positive (Mean: 3.9, SD: 0.8), but some inconsistency exists.
- Comprehensive Documentation of Project Plans: Mixed responses (Mean: 3.85, SD: 1.1), suggesting variability in documentation practices.
- Clear Definition of Timelines and Milestones: Strong agreement (Mean: 3.92, SD: 0.99), but a significant neutral/disagree percentage.
- Standardized Methodologies for Project Planning: Lowest agreement (Mean: 3.44, SD: 1.18), indicating significant variability and need for improvement.

Resource Management Practices

- Adequate Allocation of Resources: Mixed perceptions (Mean: 3.41, SD: 1.36), with notable concerns.
- Effective Utilization of Available Resources: Positive perception (Mean: 3.73, SD: 1.11).
- Monitoring Resource Utilization: Moderate variability (Mean: 3.38, SD: 1.18), indicating room for better monitoring systems.
- Efficient Use of Resources through Regular Monitoring: Lowest mean (Mean: 3.24, SD: 1.25), reflecting significant disagreement and neutrality.

Risk Management Practices

- Identification and Documentation of Risks: Strong agreement (Mean: 4.33, SD: 0.95).
- Systematic Approach to Identifying Potential Risks: Generally positive (Mean: 4.12, SD: 1.01), with some neutral responses.
- Measures to Mitigate Identified Risks: High confidence (Mean: 4.10, SD: 0.98).
- Regular Review and Update of Risk Mitigation Strategies: Positive but needs consistency (Mean: 4.00, SD: 0.96).
- Effectiveness of Mitigation Strategies: Generally agreed upon (Mean: 3.94, SD: 0.99), with room for improvement.

Project Execution and Monitoring

- Execution According to Defined Plans: Moderate agreement (Mean: 3.63, SD: 1.05).
- Mechanisms to Address Deviations: Positive but variable (Mean: 3.71, SD: 1.07).
- Regular Monitoring of Progress: Positive with variability (Mean: 3.77, SD: 1.15).
- Effective Tools for Monitoring: Mixed responses (Mean: 3.68, SD: 1.12), with many neutral responses.

Stakeholder Communication

- Effective Stakeholder Engagement: Positive with some variability (Mean: 3.78, SD: 0.97).
- Transparent Communication: General agreement but high neutrality (Mean: 3.65, SD: 1.03).

Project Closure and Evaluation

- Clear Procedures for Closing Projects: Strong agreement (Mean: 3.77, SD: 0.97).
- Comprehensive Review of Outcomes and Lessons Learned: Positive but needs more consistency (Mean: 3.81, SD: 1.06).
- Documentation and Sharing of Lessons Learned: Mixed and needs improvement (Mean: 3.10, SD: 1.20).
- Incorporation of Feedback into Future Planning: Moderate agreement with variability (Mean: 3.36, SD: 1.17).

5.2. Conclusion

Overall, Ethio Telecom's project initiation, resource management, risk management, project execution and monitoring, stakeholder communication, and project closure and evaluation practices show a generally positive perception among respondents. Ethio Telecom demonstrates strong practices in setting clear project objectives, well-defined scopes, and effective risk identification and mitigation. However, variability in responses indicates areas needing improvement, particularly in there are significant opportunities to enhance stakeholder engagement, resource allocation, the use of standardized methodologies, comprehensive documentation, and the regular review and update of risk strategies. The variability in responses suggests a need for more consistent application of best practices across projects.

5.3. Recommendations

1. **Enhance Stakeholder Requirement Gathering**

- ❖ Develop standardized procedures for gathering and documenting stakeholder requirements.
- ❖ Conduct regular training for project teams on effective stakeholder engagement techniques.

2. **Improve Resource Monitoring and Utilization**:

- ❖ Implement robust systems for real-time monitoring of resource utilization.
- ❖ Conduct periodic audits to ensure resources are being used efficiently and address any discrepancies.

3. **Strengthen Risk Management Practices**:

- ❖ Increase training on risk identification and mitigation for project teams.
- ❖ Regularly review and update risk management strategies based on project feedback and industry best practices.

4. **Optimize Project Monitoring Tools and Practices**:

- ❖ Invest in advanced project management tools that provide better insights and tracking capabilities.
- ❖ Ensure regular and transparent communication of project progress to all stakeholders.

5. **Enhance Stakeholder Communication**:

- ❖ Develop a comprehensive communication plan that includes regular updates, feedback loops, and engagement activities.
- ❖ Foster a culture of transparency and openness in project communications.

6. **Improve Documentation and Utilization of Lessons Learned**:

- ❖ Establish a centralized repository for documenting and sharing lessons learned from all projects.
- ❖ Incorporate lessons learned into the planning phase of new projects to avoid past mistakes and replicate successes.

By addressing these challenges through the outlined strategies, Ethio Telecom can further strengthen its project management practices and achieve more consistent and effective outcomes with better stakeholder satisfaction in its security projects.

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ANNEX

Questionnaire

ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

SCHOOL OF COMMERCE

Assessment of project management practice (The case of Ethio telecom security projects).

Dear Respondent,

I am a graduate student at Addis Ababa University, School of Commerce. Currently I am conducting research on "ASSESSMENT OF PROJECT MANAGEMENT PRACTICE (THE CASE OF ETHIO TELECOM SECURITY PROJECTS)".

The purpose of this questionnaire is to assess the current practices of projects, which will provide insight into the effectiveness and efficiency of Project Management Practices.

Moreover, the research is undertaken as academic requirements of partial fulfillment of the requirements for the Degree of Master of Arts in Project Management. Please extend your effort in providing the correct and complete information to present a representative finding.

Finally, I confirm that your response will be kept confidential and used for academic purpose only. Thank you in advance for your kind cooperation and dedicating your time. If you have any inquiry, please feel free to contact me at tenayefekadu@gmail.com.

It might take you 10-15 minutes and I appreciate your commitment to spare your precious time for the success of the research by responding to this survey in time.

Yours sincerely,

Tenaye Fekadu

Email: tenayefekadu@gmail.com; tenaye.fikadu@ethiotelecom.et Tel: +251911237966

Section 1: General Information

- Gender
  - ☐ Male
  - ☐ Female
- Age
  - ☐ Less than 23
  - ☐ 24-40
  - ☐ 41-56
  - ☐ >56
- Academic qualification
  - ☐ Diploma
  - ☐ Degree
  - ☐ Master
  - ☐ PHD
  - ☐ Others_____
- What is your title in the organization and your role in the security project management of the organization?_____
- Years of Experience in Project Management:_____

Section 2: Project Initiation and Planning

No	**Project Initiation Statements**	**Strongly Disagree, 1**	**Disagree, 2**	**Neutral,3**	**Agree,4**	**Strongly Agree,5**
1	Our security projects have clear objectives and goals.					
2	Stakeholder requirements are effectively gathered before project planning.					
3	Ethio Telecom's security projects have a well-defined scope.					
4	Project plans are documented comprehensively.					

5	Project timelines and milestones are clearly defined.					
6	Ethio Telecom employs standardized methodologies for project planning.					

Section 3: Resource Management

No	**Resource Management Statements**	**Strongly Disagree, 1**	**Disagree, 2**	**Neutral,3**	**Agree,4**	**Strongly Agree,5**
1	Resources (human, financial, technological) are adequately allocated for security projects.					
2	Ethio Telecom effectively utilizes available resources in security projects.					
3	There is a system in place to monitor resource utilization throughout security projects.					
4	Ethio Telecom ensures efficient use of resources through regular monitoring.					

Section 4: Risk Management

No	**Risk Management Statements**	**Strongly Disagree, 1**	**Disagree, 2**	**Neutral,3**	**Agree,4**	**Strongly Agree,5**
1	Risks are identified and documented at the beginning of security projects.					
2	Ethio Telecom has a systematic approach to identifying potential risks in security projects.					
3	Effective measures are in place to mitigate identified risks in security projects.					
4	Ethio Telecom regularly reviews and updates risk mitigation strategies during security projects.					
5	Mitigation strategies during security projects.					

Section 5: Project Execution and Monitoring

No	**Project Execution and Monitoring Statements**	**Strongly Disagree, 1**	**Disagree, 2**	**Neutral,3**	**Agree,4**	**Strongly Agree,5**
1	Security projects are executed according to the defined project plans.					
2	Ethio Telecom has mechanisms in place to address deviations from project plans during execution.					
3	There is regular monitoring of project progress against set timelines.					
4	Ethio Telecom uses effective tools for project monitoring in security projects.					

Section 6: Stakeholder Communication

No	**Stakeholder Communication Statements**	**Strongly Disagree, 1**	**Disagree, 2**	**Neutral,3**	**Agree,4**	**Strongly Agree,5**
1	Stakeholders are effectively engaged throughout the lifecycle of security projects.					
2	Ethio Telecom ensures transparent communication with stakeholders regarding project progress.					

Section 7: Project Closure and Evaluation

No	**Project Closure and Evaluation Statements**	**Strongly Disagree, 1**	**Disagree, 2**	**Neutral,3**	**Agree,4**	**Strongly Agree,5**
1	Ethio Telecom has clear procedures for closing out security projects.					
2	Project closure includes a comprehensive review of project outcomes and lessons learned.					
3	Lessons learned from security projects are documented and shared within the organization.					
4	Ethio Telecom incorporates feedback from project evaluations into future project planning.					

Section 8: Additional Comments

1. Is there any additional information or insights you would like to share about project management practices within security projects at Ethio Telecom?
2. What recommendation/suggestion would you give that could improve Ethio telecom project management practice in terms of Quality, time and scope?

Thank you for completing this questionnaire. Your responses will provide valuable data for the assessment of project management practices within Ethio Telecom's security projects.