ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

DEPARTMENT OF PROJECT MANAGEMENT

ASSESSMENT OF THE EFFECTIVENESS OF RISK MANAGEMENT PRACTICE: THE CASE OF ETHIO TELECOM MSAG UPGRADE PROJECT

PREPARED BY: MUZIT AYALEW

JUNE, 2022

ADDIS ABABA, ETHIOPIA

ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

DEPARTMENT OF PROJECT MANAGEMENT

ASSESSMENT OF THE EFFECTIVENESS OF RISK MANAGEMENT PRACTICE: THE CASE OF ETHIO TELECOM MSAG UPGRADE PROJECT

BY

MUZIT AYALEW

A RESEARCH PROJECT WORK SUBMITTED TO ADDIS ABAB UNIVERSITY SCHOOL OF COMMERCE IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF A MASTER OF ARS DEGREE IN PROJECT MANAGEMENT

ADVISOR

DR. WUBSHET B.

JUNE, 2022

ADDIS ABABA, ETHIOPIA

ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

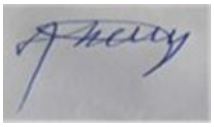
DEPARTMENT OF PROJECT MANAGEMENT

ASSESSMENT OF THE EFFECTIVENESS RISK MANAGEMENT PRACTICE: THE CASE OF ETHIO TELECOM MSAG UPGRADE PROJECT

BY

MUZIT AYALEW

Approved Board Committee:

_____	_____
Internal Examiner	Signature
Abdu Muhammed (PhD)	
_____	_____
External Examiner	Signature
_____	_____
Advisor	Signature

DECLARATION

I, the undersigned, declare that this research entitled **Assessment of the effectiveness of risk management practice: the case of Ethio telecom MSAG upgrade project,** is my original work, prepared under the guidance of Dr. Wubshet B. All resources and materials used herein have been properly acknowledged. I further confirm that the project work has never been presented either in part or in full to any other university for the purpose of earning any degree.

BY: Muzit Ayalew

Signature: _____

Date: _____

Approval

The thesis entitled **"Assessment of the effectiveness risk management practice: the case of Ethio telecom MSAG upgrade project."** Submitted by Muzit Ayalew in partial fulfilment of the requirements for the award of a Master's Degree in Project Management to the school of commerce department of Project Management; the University of Addis Ababa. The University has been carried out under my supervision. Therefore, I hereby approve and recommend that it has fulfilled the thesis requirements and can be submitted to the department for examination as the University advisor.

_____	_____	_____
Name of Advisor	Signature	Date

ACKNOWLEDGEMENTS

My heartfelt thanks to God for providing everything I needed to finish this research paper and the program in the first place. Throughout my research, He took care of everything that may have slowed me down and strengthened me even in my darkest moments.

Again, my deepest gratitude and love goes to all my beloved families and who always gives me their unconditional encouragement and support which made it possible for me to continue my educational journey.

I'd like to express my gratitude to my adviser, Dr. Wubshet B., for his thoughtful guidance, corrections, especially on how I should approach this study, and time spent reviewing this manuscript. Moreover, I extend my gratitude to all the questionnaire participants for their cooperation and support.

I remember with gratitude all the Ethio Telecom employees who worked in Addis Ababa head office PRO department, who have shown interest in filling my questionnaire, without which the research work could not have materialized.

Contents

List of Tables

List of Figure

Acronyms

ADSL: Asymmetric Digital Subscriber Line

ANOVA: Analysis of Variances

BRI: Basic Rate Interface

EMS: Elements Management System

GTP: Growth and Transformation Plan

IP: Internet Protocol

MAN: Metropolitan Area Network

MSAG: Multi-service Access Gateway

NGN: Next-generation Network

PRO: Project Roll Out

PLC: Project Life Cycle

PMI: Project Management Institute

RMP: Risk Management Process

SPSS: Statistical Package for the Social Sciences

VDSL: Very High-Speed Digital Subscriber Line

VOD: Video on Demand

VOIP: Voice over Internet Protocol

ZTE: Zhongxing Telecommunication Equipment

V2: Version two

V3: Version three

ABSTRACT

The main purpose of this study was to assess the effectiveness of risk management practice: the case of Ethio telecom MSAG upgrade project. This study used both explanatory and descriptive research designs. And was used mixed or both quantitative and qualitative approaches. The project risk management system has been evaluated in line with the five risk management processes, planning, identification, analysis, response, and monitoring. The questionnaire was distributed to 20 respondents based on each risk management process. The data from the questionnaire was quantified using SPSS software and the data collected from the survey was analysed quantitatively. The numerical information is presented using tables and figures. Based on the quantitative and qualitative data, the project focuses on risk management and includes risk management in the project plan. Different levels of risks are observed at each stage of the project. The shortage of project management professionals is common at all levels of risk management. In order to address the above challenges and develop better risk management, the researcher concludes: Stakeholder ownership and accountability need to play their part in the risk management process. In addition, intensive risk management training should be provided to all to enhance the risk management culture.

KEYWORDS: Risk, risk management.

CHAPTER ONE

INTRODUCTION

In this section the thesis outlines background of the study, background of the organization, statement of the problem, objectives of the study, significance of the study, scope of the study, limitations of the study, operational definitions of the key terms, and organization of the study.

1.1. Background of the Study

The Ethiopian government focuses on the growth of telecommunication services, allowing for key force to the development of Ethiopia. Ethio Telecom has played great role in fostering the growth and prosperity of the economy of Ethiopia by making communication faster than before. Even though it is crucial for development, it has got sorts of problems now a days (Umer 2019). A project is a collection of distinct, interconnected operations with a single aim or purpose that must be finished on time, on budget, and according to specifications. Projects are subjected to different kinds of risks (Gebretsadik 2018).

Risks are typically categorized in an exceedingly range of the means. A most popular means is to use one of four main classes, namely operational risk, monetary risk, environmental risk and reputational risk. Risk assessment is a vital step of the risk management. Risk assessment is concerned with determining those factors which are especially dangerous and determining the likelihood of unacceptable risk (Ossama Y. Abul-Haggag 2013). The assessment of the extent of risk may be a complex subject shrouded in uncertainty and vagueness. The goal of risk assessment or risk characterization is to determine risk context and acceptability, often by comparison to similar risk (Pokorádi 2002). There are many probability-based methods by which risk is assessed but new techniques based on possibility methods were developed since mathematical relations and parameters for risk assessment were very difficult to model (Lees 1996). Often the probability and severity can't be identified unequivocally.

Project management is the application of the foundations and scientific rules that mixed with a practical experience & supported with tools and techniques to achieve

the projects goals (Ebrahem 2017). Risk management is a proactive approach to control the level of risk and to mitigate its effects. It also prepares project managers to take risks when a time, cost, and/or technical advantage are possible. Successful management of project risks gives the project manager better control over the future events and can significantly improve chances of reaching project objectives on time, within budget, and meeting required technical/functional performance (Mekonnen 2019).

MSAG (Multi-service Access Gateway), a reliable device of medium capacity and carrier class rolled out by ZTE, mainly develops VOIP services and broadband data services over the IP MAN or backbone network, and is primarily based on the existing twisted-pair lines or BRI interfaces at accessing side. MSAG is capable of connecting the analog interface subscribers directly to the IP network, and performing voice/fax conversion between the subscriber side and the IP network side (Technologies 2004). This research will try to assess the risk management practice in the case of Ethio Telecom MSAG upgrade project.

1.2. Background of the Organization

According to the company website (https://www.ethiotelecom.et, 2021) explains, the 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 lots of important centres within the Empire were interconnected by landlines to facilitate long-distance communications with the assistance of intermediate operators acting as verbal human repeaters. As a continuation of the 2005/06-2009/10 five-year plan and after concentrating its efforts on education, health and agriculture, the Ethiopian government decided to concentrate on the advance of telecommunication services considering them as key lever within 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 has its current status since 29th November 2010 as a part of Ethiopia's 2005/06 – 2009/10 GTP following the federal government's decision to target in improving telecom services, taking them as key to national development. Consequently, the country's telecom infrastructure and services are transformed to world-class standards to facilitate the development of the country with a good paradigm shift within the improvement of the world.

1.3. Statement of Problem

Ethio Telecom had carried out different projects to improve its network and network elements in Ethiopia. Every project is risky, which means there is a chance that things will not go as planned. Project risks happen as a result of many things, including unpredictable risks, the project may be at risk due to project managers' lack of risk management skills. According to other previous studies, the practice of project risk management in Ethiopia and Ethio Telecom is weak. Although there is a risk management system in place, organizational culture, and team members' awareness of risk, and risk management will greatly hurt the project. So balancing the risk management process is one challenge. This study will help streamline project risk management.

This study is intended to identify and evaluate project risk management practices within the company, particularly in telecom MSAG upgrade projects. The focus of this study is to better understand what the process looks like and to plan, identify, analyse, respond and monitor each risk management process. Based on the findings, the researcher will try to outline the company's future risk management efforts to make the most of good risk management benefits.

This study directly identifies and lists all the shortcomings of disaster management in Ethiopia and suggests solutions. In addition, to that, there is no previous study about risk management practice in Ethio Telecom MSAG upgrade projects. Therefore, it provides useful advice for projects around the world and in Ethiopia, as well as for Ethio Telecom risk management practices.

1.4. Research Questions

Based on the gaps identified in the above, this study will be addressing the following research questions.

1. What are the current risk management practices of Ethio Telecom MSAG upgrade Projects?
2. How is risk management process in MSAG upgrade project of Ethio Telecom?
3. How is the effectiveness of risk management practices on the Ethio Telecom MSAG upgrade projects?

1.5. Objectives of the Study

1.5.1. General Objectives

The main objective of this study is to assess the effectiveness of risk management practice: the case of Ethio telecom MSAG upgrade project.

1.5.2. Specific Objectives

The specific objectives of this research are:

1. To assess the current risk management practices of Ethio Telecom MSAG upgrade projects.
2. To assess risk management process in MSAG upgrade project of Ethio Telecom.
3. To examine the effectiveness of risk management practices on the Ethio Telecom MSAG upgrade projects.

1.6. Significance of the Study

The study provided potential solutions for risk management by Ethio Telecom and could help the organization evaluate project management and policy. It is also used as a source document for researchers who want to do more research on the environment.

1.7. Scope of the Study

This study mainly focuses on the assessment of risk management practice in the case of Ethio Telecom MSAG upgrade project. This study is limited to only in Addis Ababa Ethio Telecom MSAG upgrade project performance risk.

1.8. Limitation of the Study

This study was constrained by the following key factor: the inability to meet all of the targeted respondents due to their busy schedules, as well as their need to travel outside of Ethiopia for training and yearly leave. However, I keep track of things by communicating with them via email and phone. Furthermore, due to time and resource constraints, documents that are critical to the research but are secret to the company are not permitted to be reviewed in depth. Respondents which are staff members of the company that have know-how starting from planning up to closing phase of the project are very few in number and difficult to reach.

1.9. Definition of Terms

Risk can be defined as the chance of obtaining a loss as result of known or unforeseen circumstances. An uncertain event or condition that, if it occurs, has a positive or negative effect on a project's objectives (Kebede 2018).

Risk assessment (RA) is a systematic process for identifying and evaluating potential risks and opportunities that could positively or negatively affect the achievement of an enterprise's objectives (Croitoru 2012).

Risk Management is the process of identifying, anticipating and acting to mitigate risk to be within the risk appetite of an organization (Tucci 2021)

Multi-service Access Gateway (MSAG): is an access device at the edge layer in the Soft Switch system (https://www.techtarget.com/searchnetworking/definition/edge-device).

1.10. Organization of the Study

This study contains five chapters. Chapter 1 deals with the introductory parts of the study. Chapter two reviews literature related to the study. Chapter 3 focuses on methods of data collection and data analysis, Chapter four deals with data analysis and Chapter 5 provides a conclusion and recommendation

CHAPTER TWO

LITERATURE REVIEW

This part focuses about relevant literature, the concept is defined by different authors and what the relevant variables functions, importance, advantage, and limitation related to the variables will be discussed.

2.1. Theoretical Concepts

2.1.1. The Concept of the Project

A project is a short-term endeavour performed to produce a one-of-a-kind product, project, or outcome. Projects' transient nature implies that it had a distinct beginning and end. When the project's objectives were completed, or when the project was ended because its objectives were not or could not be met, or when the necessity for the project was no longer present, the end was reached. A project can also be ended if the client (customer, sponsor, or champion) wants it to be ended. Temporary does not always imply that the project will be completed quickly. It refers to the duration of the project's involvement. A project is a one-of-a-kind process that consists of a series of coordinated and controlled operations with start and conclusion dates that are carried out to achieve a specific goal while adhering to specific restrictions, such as time, money, and resource limits.

According to (Kebede 2018) clarification projects due to a consequence of common shared features that characterizes these projects. These features include:

Temporary in nature: has a set start and end date and is limited by scope, cost, time, and quality.

Uniqueness - projects include elements that are novel and never been done previously. This suggests that such a project is bound to be fraught with risk and uncertainty.

Complexity - due to the scale and resources required, the complexity of various projects, including technical, commercial, interfaces, and/or relational, varies. Projects are at risk because of these complex difficulties.

People – basically project is about people and it's a group of people who undertake project. This group of people includes project team, project manager, clients, customers, suppliers, contractors and subcontractors are unpredictable and may end up introducing risks and uncertainty into projects.

Stakeholders – projects involve some dominant group of people who impose requirements, expectations and objectives on the project. By providing conflicting and/or overlapping requirements, these stakeholders may generate risks throughout project execution and acceptance.

Change – all projects involves movement from the present known to the future unknown as they create changes. This movement from present to the future involves risks which is likely to affect the project outcomes.

Assumptions and constraints – when defining project scope, it is always absolutely necessary to take guess as people make assumptions and design for the future under constraints. These assumptions and limits could be deceptive, resulting in project risks and uncertainty.

2.1.2. The Concept of Project Management

Project management is the use of processes, methods, skills, knowledge, and experience to meet particular project objectives within agreed-upon parameters while adhering to project acceptance criteria. Final deliverables are bound by a finite timeframe and budget in project management. Project management is the process of planning and organizing a company's resources in order to complete a specified work, event, or duty. Personnel, funds, technology, and intellectual property are among the resources managed, and it might be a one-time effort or an on-going activity. It is an approach to manage projects and is an international, interdisciplinary concerned with the whole life cycle of a project, from inception to completion (Roberts and Wallace, 2004).

According to (Tayntor, 2010), the major difference between project management and fundamental management is that added up skill required from project manager is called the ability to manage change. Unlike project managers, the general manager of the operations management requires for maintaining status quo to make thing stable. While the project manager changes it. Project management involves five process

groups as namely project initiation, project planning, project execution, project monitoring and controlling and project closure.

1. Project Initiating processes: Defining and authorizing a project or project phase are examples of project initiation processes. To start a project, or even just the concept phase of one, someone must describe the project's business requirement, sponsor it, and take on the job of project manager. During each step of a project, initiating processes take place.

2. Project planning processes: include designing and maintaining a functional scheme to ensure that the project meets the needs of the company. In most cases, there is no single "project plan." There are various plans that define each knowledge area as it applies to the project at the time, such as the scope management plan, schedule management plan, cost management plan, procurement management plan, risk management plan, and so on.

3. Project execution processes: involve arranging people and other resources to perform numerous plans and generate the projects or phase's products, services, or outcomes.

4. Processes for project monitoring and control: The project manager and personnel track and measure achievement against the plans and corrective action is taken as needed.

5. Project closing processes: comprise establishing approval of the project or project phase and efficiently completing it.

2.1.3. The Concept of Project Risk

Risk can be defined as the event that negatively affects the project objectives such as time and schedule, cost, quality of work. (Gary R. Heerkens, 2002) defined uncertainty as an absence of information, knowledge or understanding regarding the outcome of an action, decision or event and risk as the measure of the uncertainty that exists. According to (Richardson, 2015), “one view of risk is that it involves the full spectrum of uncertainties in the project. These uncertainties can be related to schedule, cost, and quality variability of the end deliverable”. (Ana D, 2012) defined risk as an “uncertain but potential element that always appears in the technical, human, social and political events, reflecting changes in the distribution of possible

outcomes and subjective probability values and objectives, with possible damaging and irreversible effects”

A project risk is an unanticipated occurrence that may or may not occur throughout the course of the project. Unlike our common understanding of the term "risk," a project risk might have a significant effect on the project's progress toward its goals. An event that interrupts a project's execution and diminishes it’s chances of fulfilling its quality, cost, or schedule targets. Uncertainty causes project risk. This ambiguity stems from attempts to forecast the future using estimations, assumptions, and inadequate data. Despite the negative aspects of project risk, such as unforeseen difficulties or threats, project risk management must also consider favourable events or opportunities. As a result, it's critical that project stakeholders understand what those events are and how they could affect the project's goals (PMI, 2008).

2.1.3.1. Most Common Project Risks

According to (https://project-management.com/types-of-risk-in-project-management/#project 2022) In today’s business landscape, it’s necessary for companies to take risks to reach their goal. Among the risks that arise in every project, some are more common than others.

2.1.3.1.1. Cost Risk

Cost risk is an escalation of project costs. There's a chance that the project will exceed the budgeted amount. Cost risk arises from bad budgeting, imprecise cost estimating, and scope creep, and is perhaps the most common project risk. When clients expect too much from a project with limited resources, the risk is increased. Other project risks, such time and performance risk might be exacerbated by cost risk.

2.1.3.1.2. Schedule Risk

Poor planning usually results in schedule risk, which is the chance that, activities will take longer than intended. Because schedule slippages often increase costs and postpone the project's end, including benefits, it's directly tied to cost risk. Delays lead to missed deadlines and the potential for a competitive edge to be lost. Schedule risk leads to cost risk because longer projects cost more. It can also lead to performance risk, missing the timeline to perform its intended mission.

2.1.3.1.3. Performance Risk

The risk that the project will fail to generate results that are consistent with the project specifications is known as performance risk. This is a prevalent hazard that is difficult to pin down to a single source. Even if a project team completes the project on time and on budget, the results and advantages are not achieved. On the other hand, performance risk can lead to cost risk and schedule risk when the performance of a team or technology results in an increase in cost and duration of the project. In sum, the company lost money and time on a project that failed to deliver.

2.1.3.1.4. Governance Risk

Governance risk is concerned with the performance of the board and management in terms of ethics, community responsibility, and company reputation. It is directly related to the behaviour of the executives who are project sponsors and stakeholders. This risk is easier to mitigate and manage with proper stakeholder engagement.

2.1.3.1.5. Strategic Risk

Strategic risks are types of performance risks. It results from errors in strategy, such as choosing a technology that does not work as expected. A good example would be choosing a project management software that does not help the project team in their responsibilities but instead takes more of their time to work on the software than on the actual project.

2.1.3.1.6. Operational Risk

Poor implementation and process issues, such as procurement, production, and distribution, are examples of operational risks. It is also a sort of performance risk because the ideal outcome was not achieved due to inadequate execution. Operational risk is defined as a risk that could result in losses as a result of human mistake, insufficient or incorrect internal processes, system breakdowns, or external occurrences. External events and human mistake are two prominent sources of such risk. Fraud, security failures, legal breaches, physical (e.g. infrastructure failure) and environmental risks are all examples of operational risks. Client happiness, an organization's reputation and relationships with stakeholders, and shareholder value are all affected by operational risks. It makes operational costs and earnings more volatile. Operational risks, unlike credit and market risks, are rarely voluntary or revenue-driven, and are notoriously difficult to nail down, define, or assess reliably.

There are six steps to conducting an operation risk assessment - identify, assess, analyse, make decisions, implement, and review.

2.1.3.1.7. Market Risk

Market risks include competition, foreign exchange, commodity markets, and interest rate risk, as well as liquidity and credit risks. Planning for market risks is difficult and requires expertise because these types of risks are unpredictable. But sound business and financial strategies can help protect the business.

2.1.3.1.8. Legal Risk

Legal risk arises from legal and regulatory obligations. They can come from contract risks and litigation brought against the organization. Internal legal problems create legal risks as well. These are unpredictable and can result from state legislation, company competitors, or employees.

2.1.3.1.9. External Hazard Risks

Risks associated with external hazards can include risks from storms, floods, and earthquakes. They can also result from vandalism, sabotage, and terrorism. Other sources are labour strikes and civil unrest. All serious incidents can have severe impact on cost and schedule.

2.1.3.1.10. Project Deferral Risk

Project deferral risk is a significant concern. The hazards of failing to complete a project are known as project deferral risk. Like project risk, this risk can arise from any of the risk sources. It can also occur if there is only a limited window of opportunity for conducting a project. Failure to conduct the project now creates a risk that makes it impossible to effectively conduct a project later.

Internal risks connected with successfully completing each step of the project, as well as hazards beyond the project team's control, are all included in project risks. In all cases, the seriousness of the risk depends on the nature and magnitude of the possible end consequences and their probabilities.

2.1.4 Project Risk Management

The practice of detecting and responding to potential risks is known as risk management. Project risk management, according to (Forsberg, Mooz, and

Cotterman, 2005), is "the art and science of finding, assessing, and responding to risk occurrences throughout the life of a project." Risk management is a project management feature that comprises identifying hazards and devising strategies to minimize or mitigate them (Gudda, 2011). The goal of risk management, according to Richardson (2015), is to increase the chance and impact of good events while decreasing the probability and impact of negative events. It is motivated by the desire to avoid failing or falling short of the project's objectives.

(Kerzner, 2009) describes that proper risk management is proactive rather than reactive. It is not a distinct project office job designated to a risk management department, but rather a component of good project management. Risk management should be closely linked to essential project procedures that must take place throughout the project life cycle. Risk management is on-going and evolves as the project evolves (Forsberg et.al, 2005). Moving forward on a project without a proactive focus on risk management is likely to lead to more problems arising from unmanaged threats. To be successful, an organization should be committed to address risk management proactively and consistently throughout the project (PMI, 2013). The purpose of risk management is to identify potential problems before they occur so that risk handling activities may be planned and invoked as needed across the life of the product or project to mitigate adverse impacts on achieving objectives (Ana, 2012). (Crouhy et al. 2006) state that risks must not only be measured, but also effectively communicated and managed within the organization. To measure risk, the risk analyst first seeks to identify the key factors that seem likely to cause volatility in the returns from the position or portfolio under consideration.

By identifying and managing potential risks before a project begins, risk management concepts assist quality improvement and improve cost estimation. Risk management establishes procedures to guarantee that management receives organized risk information in a timely manner, allowing for realistic schedule and cost estimates and ensuring project completion (Tinnirello, 2000). Risk management principles increase team involvement by providing a mechanism for the reporting of potential problems and increasing the team’s stake in the overall success of the project. (Elkington & Smallman, 2002) have identified that there is a strong link between the amount of risk management undertaken in a project and the level of success of the project - more successful projects use more risk management. To summarize, researchers discovered

that project risk management planning, identification, analysis, reaction planning, monitoring and control, as well as project organization types (projectize, functional, and matrix) had an impact on project success. Their proper implementation and application can help projects achieve their goals.

2.1.5 The Risk Management Process

According to (Pokorádi 2002) the risk management process is a continuous one designed to detect, assess, and control risk while enhancing performance and maximizing the capabilities. It consists of processes, techniques, and methods that assist the project team in reducing the likelihood and implications of negative occurrences while increasing the likelihood and consequences of positive events. (Cooper et al., 2005) define risk management as the systematic application of management policies, processes, and procedures to the tasks of establishing the context, identifying, analysing, assessing, treating, monitoring, and communicating risks, and project risk management is most effective when started early in the project's life cycle and continued throughout the project. Risk management process (RMP) is the basic principle of understanding and managing risks in a project (Smith, Merna & Jobbling, 2006). (Richardson, 2015) divides the process in to four basic steps as plan risk management, identify risk, plan risk response and monitor and control risk phases. Putting all the different literatures in to summary, the risk management processes are classified in to five components namely risk management plan, risk identification, risk assessment, risk response and risk monitor and control. Each of the components are explained in in the below sections and each of the phase was assessed using a questionnaire.

2.1.5.1 Plan Risk Management

Plan risk management is the process of creating and documenting an organized, complete, and interactive risk management strategy, as well as determining the ways to implement the strategy and allocating sufficient resources. The process of outlining how to carry out risk management activities for a project is known as planning risk management (PMI, 2013). Developing a risk management policy and methods is part of creating a risk plan. The risk management plan, according to (PMI, 2008), specifies how the risk management plan will be designed and implemented throughout the project life cycle. It also covers methodology, roles and duties, budgets, timeliness, risk categories, risk uncertainty and impact definitions, reporting formats, and risk

tracking. Risk planning is iterative and includes describing and scheduling the activities and process to assess, handle, monitor and document the risk associated with a program (Hamann and Bijl, 2002).

2.1.5.2 Risk Identification

Risk identification is the process of examining the program areas and each critical technical process to identify and document the associated risk (Kerzner, 2009). The process of assessing which risks may harm the project and recording their characteristics is known as risk identification. Identification of risk events is the act of determining and describing events that could impact the program (Hamann and Bijl, 2002). Risk management involves not just anticipating and fixing problems, but also anticipating and anticipating potential problems that may arise unexpectedly. Handling potential threats is not only a technique to reduce project losses, but also a way to turn risks into opportunities, which can lead to increased economic profitability, environmental benefits, and other benefits (Winch, 2002).

Risk management will be more effective if the causes of risks are identified and addressed before any problems arise (PMI, 2008). Risks and other threats can be hard to eliminate, but when they have been identified, it is easier to take actions and have control over them. According to (Kerzner, 2009), risk identification must continue through all project phases and is important that the identification process is concerned with the source of the risk rather than the event itself or the effect. The risk identification techniques are used to identify the predictable risks and the identified risks can be categorized in any of the risks types. And the important thing that was noticed while preparing this paper was that there are different techniques to classify and to identify project risks. Hence, when more existing books or new books related to project risk management are found, it is evitable to get with new methods and techniques of risk classification and identification. The purpose of identifying risks is to obtain a list with potential risks to be managed in a project (PMI, 2008). To find all potential risks which might impact a specific project, different techniques can be applied. It is important to use a method that the project team is most familiar with and the project will benefit from. The aim is to highlight the potential problems for the project team to be aware of them.

2.1.5.3 Risk analysis

Identify the risks by any of the above techniques and analyse them in the next step. The identification of all possible options and data relating to the various risks, as well as the analysis of the numerous outcomes of any action, are the foundations of risk analysis Roberts and Wallace (2004). Risk analysis includes specifying qualitative and quantitative rating values for the identified threat or opportunity in order to provide a quantitative measure of the risk events (Richardson, 2015). (Kerzner, 2009) defines risk analysis as a systematic process to estimate the level of risk for identified and approved risks.

The risk analysis methodologies consist of six steps according to (Roberts and Wallace, 2004). The first phase is to examine all of the possibilities because there could be a variety of elements that influence the risk, and all of them must be considered. Expertise or risk-identification techniques may be necessary during this phase to consider the potential hazards that may arise during the project. The second phase is to assess decision-makers' risk attitudes. Different people will react to risk in different ways, thus they will evaluate risks differently and make different judgments based on the same information. The third phase is to consider the risk's characteristics, which will vary depending on the identified hazards' features and implications on the project. Some risks can be managed, while others are uncontrollable (example internal vs. external risk). The fourth phase is to set up a measuring system to assess the risk's magnitude, either quantitatively or qualitatively, in order to determine its likelihood and impact on the project. The fifth phase is to evaluate the result, which entails predicting or interpreting the risk's consequence or effect. The final phase is to make a decision based on the risk metrics that have been assessed and interpreted.

2.1.5.4 Risk Response

Once the risk has been identified and analysed, the question of how to respond remains (Roberts and Wallace, 2004). This phase indicates what action should be taken towards the identified risks and threats. Risk identification and analysis provide us with an understanding of what can happen on the project, risk response planning furnishes us with actions we can take either to avoid a risk event or to dampen its impacts (Frame, 2002) and addresses the responses that will be made to individual risks (Callahan and Brooks, 2004). The main advantage of risk response is that it prioritizes risks, inserting activities and resources into the budget, timeframe, and

project plan as needed (PMI, 2013). Accept, avoid, transfer, and mitigate are the typical response techniques for threats or risks that may have a negative impact on project objectives if they occur. However, in this paper, response strategies are considered, which typically deal with threats or risks that may have a negative impact on project objectives if they occur.

Avoidance: this involves reducing the risk's impact or probability, shifting the risk's timeframe, or changing the risk's consequence. It also includes avoiding activities that can endanger projects. This is the process that eliminates risk through negotiations or deals (Roberts and Wallace, 2004).

Transfer: the process of passing the risk to another actor with greater capability or capacity to manage it. If the entire project risk is high but the organization is unable to address it effectively, a third party may be brought in to manage the risk on the organization's behalf. It must be recognized that the risk is not eliminated; it is only transferred to the party that is best able to manage it (PMI, 2008).

Mitigation: This is a way of minimizing the potential risks by mitigating their likelihood (Thomas, 2009). When the overall project risk is negative, the mitigation strategy is used, and when it is positive, the enhancement strategy is used. These strategies entail adjusting the overall project risk in order to maximize the chances of meeting the project's objectives. Taking early action to reduce the probability and/or impact of a risk occurring on the project is often more effective than trying to repair the damage after the risk has occurred (PMI, 2013).

Acceptance: Taking action early to reduce the likelihood and/or impact of a risk occurring on the project is often more effective than attempting to repair the damage after the risk has occurred (PMI, 2013). If no proactive risk action plan is available to address overall project risk, the organization may choose to proceed with the project as is, even if overall project risk exceeds the agreed-upon thresholds. (Richardson, 2015), states that some risks are so small and easily dealt with that it is not economical to spend time developing a response mitigation plan.

2.1.5.5 Risk Monitor and Control

The purpose of monitoring and controlling is to keep record of the status of risks and to take corrective actions as needed. Monitoring and controlling risks is the process of implementing risk response plans, tracking identified risks, monitoring residual risks,

identifying new risks, retiring risks and/or issues, contingency modification, and evaluating risk process effectiveness throughout a project, according to (Callahan and Brooks, 2004). Continual risk monitoring ensures that risks are identified and managed, as well as that risk treatment actions are implemented and effective. Risk monitoring will continue for the duration of the project. Risk control does not attempt to eliminate the source of the risk but seeks a manner that reduces the probability and/or consequence of its occurrence on the program (Kerzner, 2009) and is the process of using the information that has been learned on a project to assist in the later development of the project (Roberts and Wallace, 2004).

2.1.6 Overview of MSAG

(Woubshet 2017) says that development projects in telecommunications require combining good knowledge of the fundamentals of project management with clear understanding of the complexities arising from fast–changing technology, deregulations, standards, accountability, and supply chain management difficulties. This book addresses the much–needed integrative approach very well.

MSAG is an access device at the edge layer in the Soft Switch system. It performs conversion and processing of the access media stream. Based on Soft Switch standard adaptation layer protocol and transport layer protocol, MSAG enables service access such as analogue telephone set and broadband services. By virtue of powerful adaptation capability, complete functions and high reliability, MSAG is esteemed as a flagship NGN-oriented product of ZTE. MSAG (Multi-service Access Gateway), a reliable device of medium capacity and carrier class rolled out by ZTE, mainly develops VOIP services and broadband data services over the IP MAN or backbone network, and is primarily based on the existing twisted-pair lines or BRI interfaces at accessing side. MSAG is capable of connecting the analog interface subscribers directly to the IP network, and performing voice/fax conversion between the subscriber side and the IP network side. In addition, MSAG provides broadband access functions, supports access of ADSL users, and can be expanded to provide VDSL modes. Just by making use of the existing ordinary telephone copper twisted pair, the ADSL broadband access provides sufficient bi-directional broadband capacity. It supports both narrowband voice services and broadband data services such as VOD, videoconference, online browsing and e-commerce, thus substantially improving the utilization of traditional networks.

2.2 Empirical Studies

This section provided literature review on the topic under consideration. To ensure relevance to the overall research study, this section presented different researches assessed the practice of risk management processes on various projects both locally and internationally. Various researchers in Ethiopia and internationally have reviewed the risk management process. Most Ethiopians Project management practices are lacking in efficiency and effectiveness, which is why so many projects are performing less than intended.

(Severin 2010) define A risk is a combination of event probability occurrence and its' consequences upon project objectives accomplishment, including the product / results expected quality level. Risk is an unexpected event that can be positive or negative. In project management, the ability to predict a specific outcome is critical to project success. Even though risks are the most unpredictable aspect of the project, it appears crucial to be able to control them as much as possible and make them as predictable as possible. A pure risk or threat is a risk that has only a negative possibility as an outcome. The known risks are those that one can identify, and the unknown risks are those that cannot be anticipated at all. Project risk management should start through the project context drafting; that means active involvement of stakeholders, clear identification of objectives, expected results, management's limitations and threats for a certain project, identification of interfaces with other constrains or organizational / strategically projects.

(Kebede 2018) examined, Risk management Process, though a very vital component of project management process is not given a due attention. The extent of operational risk management practices of CBE. The study was made through the combination of theory and empirical work. The outcome of the study indicated that although some of its components are not always adhered to and need improvement, there is still a well-established framework to manage operational risks. The researcher suggested that the bank needs to allocate adequate resources, create awareness and build the capacity of concerned staff, strengthen the risk culture, employ appropriate mechanisms for measurement and reporting of operational risk in order to improve its risk management practices.''

(Chen et al., 2004) proposed different risk management strategies for the different risk clusters as a means of enhancing firm performance. To mitigate the risk of cost overruns, risk management strategies included agreeing on contract prices for materials at various stages of the project to hedge against price volatility. (Chen et al., 2004) also agreed that management factors could be controlled through use of qualified and experienced personnel at all stages of the project life cycle.

(Manyazewal, 2017) evaluated the risk management practices of real estate projects to determine whether the theoretical risk management process is being applied appropriately and effectively, to investigate whether project risk planning was integrated with the corporate strategic plan, and to investigate the level of awareness and perception of risk and its management within the projects. Although the project was very risky, the researcher discovered that risk management was being practiced very poorly, and there was a significant gap between what should be theoretically applied and what was being practiced in the projects.

All of the papers underline the importance values of risk management in success of the project. However, there is a gap between theoretical frameworks and practical application of the management system, so projects face significant losses due to unmanaged uncertainties during the project's life cycle. As a result, necessary actions should be taken to ensure that risk management is incorporated as an integral component of project management throughout the project's life cycle.

2.3 Conceptual Framework

Based on an overview of related literature and a description of the study problem, the following conceptual framework for conducting this particular study has been developed as follows.

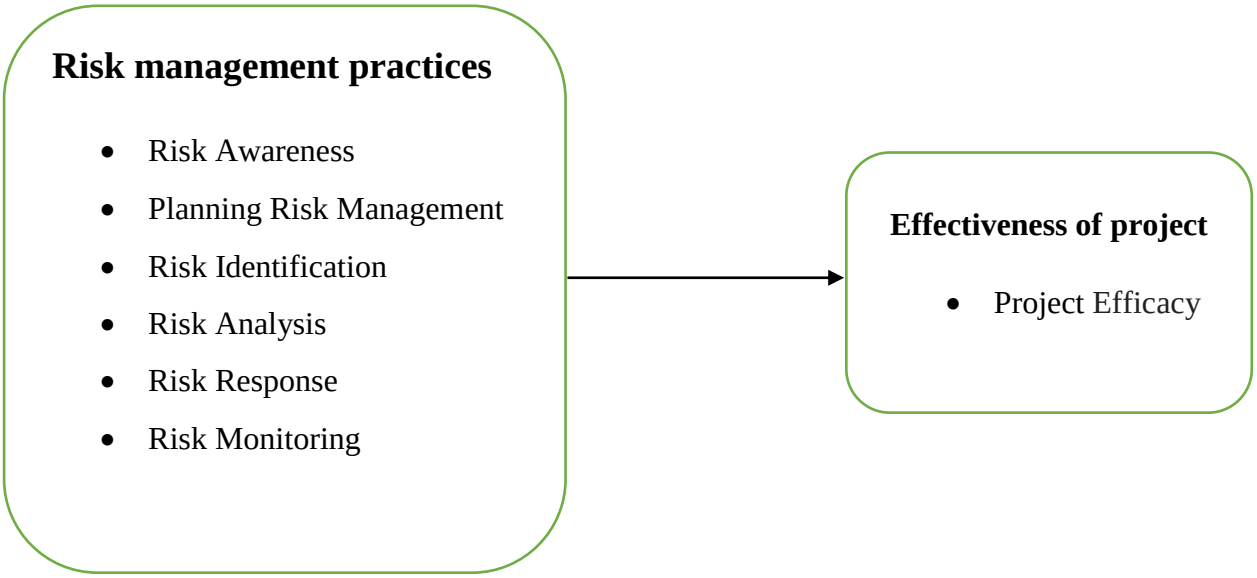


Figure 1 Conceptual Framework of the Study

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter highlights the overall methodological considerations of the project. Part of the procedure is divided into six subdivisions. The first section lists the overall research design and approach on which the study was based. The second part of the discussion follows the target area of the study, the sample method used and its causes, and the sample size for research. Part three includes a description of the data source and data collection method. The fourth section deals with data analysis method. Fifth section includes validity and reliability. And six part deals about ethical consideration.

3.1 Research Design and Approach

3.1.1 Research Design

This study used both explanatory and descriptive research design. Descriptive research used to that the data gathered from all possible sources were described to assess the projects phases or cycles and risk of Ethio Telecom to assess risk management practices on the MSAG upgrade project. Explanatory research used to that why something happens when limited information is available. It can help increase our understanding of a topic, find out how or why a particular event occurred, and predict future events. The data was collected and analysed in an organized manner to clarify risk management on the Ethio Telecom MSAG Upgrade project. This type of study is a systematic attempt to gather information from members of an identifiable population of the Ethio Telecom division of the MSAG Upgrade project.

3.1.2 Research Approaches

This study used mixed quantitative and qualitative approaches because there is no prior research conduct on assessment of risk management practice in the case of Ethio Telecom MSAG upgrade project as mention in the problem identification. Quantitative analysis helps to look at the data, and the actual numbers. Qualitative analysis is less tangible. It looks at personal characteristics and opinions - things that cannot be quantified It explicitly or implicitly explain the purpose of quality research, the role of the researcher, the standards of research and the method of data analysis.

3.2 Research Population

3.2.1 Target Population

In the case of this study, the target population of this study was be all of the MSAG Upgrade project department staffs' of Ethio Telecom were involved. However, the setting for the study is Ethio Telecom found in Addis Ababa head office PRO Department, and Ethio Telecom has a large number of external contractors (ZTE) that are directly or indirectly involved in MSAG site related projects.

PRO Department (16) Staff and ZTE (4) Staff, survey was conducted at 20 respondents. This data was only collected until May 2022, as the number of staff fluctuated from time to time.

3.3 Data Collection

The ability to obtain both primary and secondary data was dependent on gaining access to an appropriate source, or sources where there is a choice. The main data were collected through survey and observations on physical project and remotely by elements management system (EMS) and secondary data, from a company website on the subject of the study. Surveys were conducted to twenty (16) Ethio Telecom employees and four (4) ZTE Staff, Ethio Telecom MSAG upgrade project staff. Surveys, which are also called questionnaires, are one of the key ways to gather qualitative data for analysis in which each person is requested to respond to the same set of questions in a predetermined order and once the threats are identified, appropriate the MSAG Upgrade project. Secondary data including both raw data and published summaries possibility of reanalysing data that was collect for some other purpose.

3.3.1 Methods and Tools of Data Collection

The researcher uses both the survey questionnaires and observation method of data collection to gather primary data from the project managers to core project staff to collect original data from its source. The researcher conduct observes project sites, and distributes the surveys to the MSAG upgrade project staff, and administrators PRO department office. This study used printed and online surveys, and direct observations, used as tools to gather information.

3.3.2 Procedures of Data Collection

The following processes were used to collect data; the Surveys were distributed to the MSAG upgrade project implementers. The Surveys were delivered using hardcopy or online to the respondents. The surveys were collected from the respondents after a week to give them sufficient time. A reminder is ready for the non-responding the MSAG upgrade project implementers. The remaining surveys were collected, coded, and analysed for usability. Also, observe selected area project sites two times up to finalize this research. Finally, the final study is written.

3.4 Data Analysis

Data analysis consists of several closely related operations editing, classification, and tabulation. The raw data obtained from the field was prepared for analysis by transforming all of the data entering in to spread sheet packages. The analysis was based on the quantitative and qualitative information from survey and observation. As part of the research, strategy qualitative data generated from primary sources of data was being used as an input for the finding of this research. Primary data was being obtained through a survey from the selected participants and, observe from the selected project site after getting permission from the concerned authority in Ethio Telecom.

3.4.1 Data Analysis Techniques

According to ((Soiferman 2010) Collecting and analysing data using quantitative strategies requires an understanding of the relationships among variables using descriptive statistics. And then it was analysed with the help of SPSS version 20. Descriptive statistics were used to draw inferences about populations and to estimate the parameters of those populations. However, in the qualitative research approach, the data which was collected using observation were analysed by combining and summarizing the results.

This study also used explanatory statistics. Explanatory statistics are used to predict or explain response variables. However, in the qualitative research approach, the researcher begins with specific observations and survey and then moves to detect themes and patterns in the data.

Accordingly, the summarized data was being interpreted through the theoretical framework of the study to arrive at a meaningful conclusion. Finally, the data was being interpreted and conclude to forward valid recommendations.

3.5 Validity and Reliability of the Instrument

Validity and reliability measurements are required for research data to be valuable and useful. Both are fundamental pillars of scientific research methodology. A study must be both reliable and valid in order to be considered reliable.

3.5.1 Validity

Validity is about determining whether the data collected is relevant to the problem under investigation. The validity of the research was checked by benchmarking the related literature review and questionnaires in order to generate a valid response while developing close-ended questionnaires and observation. Before conducting data collection, the validity of the data collection instrument is checked by asking others who have conducted research in the same area and those with knowledge of the studied area for feedback and seeking approval from my advisor.

3.5.2 Reliability

Reliability means absence of differences in research findings if the study is repeated. The research has been supported by using reliable sources of information such as related journals, articles, books, websites, and work papers and studies related to the studied area in order to confirm whether the applied researcher approach is consistent or not. The Likert scale questionnaire items reliability was assessed using the SPSS software for internal consistency computations.

As shown in Table 1 below, Cronbach's alpha reliability coefficient normally ranges between 0 and 1. However, there is no lower limit to the coefficient. The closer Cronbach's alpha coefficient is to 1.0 the greater the internal consistency of the items in the scale. Based upon the formula _ = RK / [1 + (k-1) r] where k is the number of items considered and r is the mean of the inter-item correlations the size of alpha is determined by both the number of items in the scale and the mean inter-item correlations. (George and Mallery 2003) provide the following rules (Joseph A. Gliem, 2003).

Table 1 Cronbach's Alpha Reliability Coefficient

Cronbach's alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

Source: Own survey, 2022

One of the most common methods to test reliability in SPSS is using Cronbach's Alpha, in which if the reliability coefficients are >0.8 or good, it is considered "acceptable" in most research situations.

Table 2 Reliability Test

S. No	**Variables**	**Cronbach's Alpha**	**Number of Questions**
1	Risk Awareness	0.906	4
2	Planning Risk Management	0.917	4
3	Risk Identification	0.898	4
4	Risk Analysis	0.921	4
5	Risk Response	0.906	3
6	Risk Monitoring	0.827	4
7	Project Efficacy	0.899	8

According to the Cronbach's Alpha values presented in Table 2, the value of individual variables ranges from minimum value 0.827 to maximum value of 0.921. So the researcher concludes that it has internal consistency and is reliable for further analysis.

3.6 Ethical Consideration

(Woubshet 2017) States that the researcher keeps respondents‟ privacy, anonymity (i.e. protecting the identity of a specific individual from being known), and confidentiality (i.e. keeps the information in secret). Based on this research ethic, it looks at how we treat our participants and how we process information after we have

collected it. In this regard, the survey questionnaire has a clear introduction and instruction section regarding the purpose of the study, and respondents are not enforced to answer the survey questionnaire.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the presentation, analysis and interpretation of sample data that is collected from the respondents. The data was analysed using quantitative descriptive statistics with the help of SPSS Statistics version 20 statistical computer software. Questionnaire and observation were used to collect data from project managers and specialists for assessing the practice of the effective risk management in the case of Ethio Telecom.

4.1. The Response Rate of Respondents

In this study, the target population of this study was all of the MSAG Upgrade project department staffs' of Ethio Telecom were involved. The questionnaire consists of 31 close ended questions, designed in a Likert scale.

Table 3 Response Rate of Respondents

Survey Distributed	Survey Returned	Percentage
20	20	100%

Source: Own survey, 2022

As shown in Table 3 above, about the response rate, 20 survey questionnaires were distributed to respondents, and 20 were appropriately filled and returned with the rate of 100%. Based on this sample size (100%) the next analysis was carried out.

4.2. Demographic Data Summary of the Respondents

This section presents the finding of the respondents' profiles in terms of their Organization, gender, age, education level, and work experience. Out of those 20 questionnaires that were properly completed and returned, 17 of them are Male respondents representing 85% of the total sample. Only 3 of the respondents are Female representing 15% of the respondents. This may imply that the gender proportion of the participant in the project is not balanced.

Table 4 Demographic Factors of Respondents

Demographic Factors		Frequency	Percent
Organization of respondents	Ethio Telecom	14	70%
	ZTE	6	30%
	Total	20	100%
Gender of respondents	Female	3	15%
	Male	17	85%
	Total	20	100%
Age of respondents	15-25 years	2	10%
	26-35 years	12	60%
	36-45 years	5	25%
	>46 years	1	5%
	Total	20	100%
Educational level of respondents	Diploma	2	10%
	BA/BSc.	13	65%
	Masters	4	20%
	PhD	1	5%
	Total	20	100%
Work experience of the respondent	1-5 years	4	20%
	6-10 years	11	55%
	11-15 years	4	20%
	>15 years	1	5%
	Total	20	100%

Source: Own Survey, 2022

As it has been shown in the table 1 above most of the respondents were categorized under the age group between 26-35 years representing 60% of the respondent followed by the age group of respondents between 36-45 years representing 25%. The third followed age group of respondents 15-25 years representing 10%. Whereas, the remaining few respondents were categorized in the age group between >46 years, constituting 5% of the respondents. These we can conclude that the largest proportion of the sum of respondents of participant in MSAG upgrade projects are young people.

When we are looking to the educational background of the respondent's majority of the respondents have a BSc. 13 representing 65% of the respondents followed by Master's degree 4 representing 20%. The third followed educational background of respondents Diploma 2 representing 10%. And the remaining 5% of the respondents have Ph.D. This might imply that majority of our respondents are appropriate and capable of understanding the questionnaires and all about MSAG upgrade projects implementation.

Regarding overall work experience of the respondents, the lion share were taken by the respondents having work experience between 6 and 10 years taking 55%, whereas each both 1-5 years and 11-15 years respondents taking 20%, above 15 years and the rest of the respondents have a total work experience representing 5%. This indicates the majority of the respondents have 6-10 years of working experience this might positively contribute to the MSAG upgrade projects is better to understand, and implementation of the project performance. Because they are young workers, they are close and easily aware of new technologies.

4.3. Responses on Overall Risk Management Awareness

In this part of the questionnaire the respondents were asked questions that are directly related to the research's theme and objective. As the purpose of the study is to assess and describe the risk management implementation practice MSAG upgrade projects, the introductory questions were designed to provide general information and insight to the actual risk management implementation practices of program. Respondents were asked to indicate their choice of answer on a five point Likert scale type ranging from 1 to 5. (1=strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=strongly agree), and the analysis of the mean score is based on the below assumptions;

- If the mean statistical value is between 0 to 1.5 it implies the respondents strongly disagreed.
- If the mean statistical value is between 1.5 to 2.5 it implies the respondents disagreed.
- If the mean statistical value is between 2.5 to 3.5 it implies the respondents were undecided or neutral.
- If the mean statistical value is between 3.5 to 4.5 it implies the respondents were agreed.
- If the mean statistical value is above 4.5, it implies that the respondents were strongly agreed.

Based on the above assumptions the mean score has been computed for each component of the variables and analysis is presented for each variable. The average mean result together with their respective variables was separately presented analysed and interpreted below.

The standard deviation is a measure of the amount of variation or dispersion of a set of values. A low standard deviation indicates that the values tend to be close to the mean of the set, while a high standard deviation indicates that the values are spread out over a wider range (https://en.wikipedia.org/wiki/Standard_deviation).

Table 5 Overall Risk Management Awareness

Item NO.	Overall Risk Management Awareness	Mean	Std. Deviation
1	There is a risk management policy or manual available to all project members that guide how to manage unintended consequences.	3.35	0.875
2	The project has a well-defined risk management process that is clearly understood by all members of the program.	3.85	0.813
3	Risk Management Awareness creation or direction for project members will be done correctly.	3.8	0.768
4	Risk management is dealt with on an on-going basis.	4.2	0.834
	Total	3.8	

Source: Own Survey, 2022

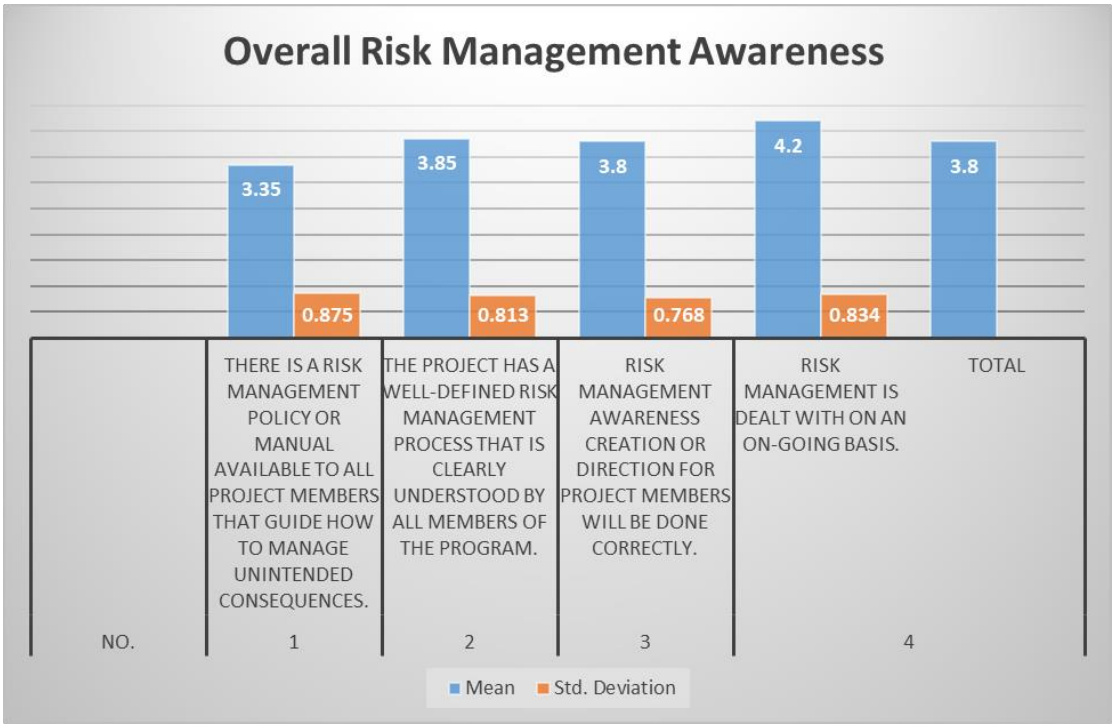


Figure 2 Overall Risk Management Awareness

The average mean value of the four risk management awareness factors were rated as good and individual mean of the factors range between 3.35 and 4.2. Individual

factors mean values are closer to each other indicating these factors have different level of significance. The above table indicates that the mean result (3.35) for the question asked to confirm the availability and accessibility of risk management policy or manual was responded with the respondents' uncertain. This also supplemented by the secondary data analysis, I have seen the manual of the company's risk management policy. The respondents mean response represent that the program has a standardized risk management process flow that clearly understood by members of the program (3.85) this mean value shows that majority of the respondents agree on the statement, on the meantime the document analysis confirmed this but regarding the knowledge of every team members I have a drought because it might not be known by everyone in the program except those in a higher positions of the program. Whereas for the questions which describe about the risk management awareness creation training and orientation the result has been counted the mean value of (3.8) which will show that majority of the respondents were certain about the risk management orientation and training and responded with agreement. The response obtained (4.2) for the question whether risk management conducted on a continual bases or not, indicates that most of the respondents agree with the statement. It was confirmed by the observation, although they have provided a brief overview of the risks involved in the MSAG upgrade project, they do not have an in depth knowledge of the risks. Not all hazards are clearly analysed and presented to staff.

4.4. Planning Risk Management Responses

Responses from the respondents regarding planning risk management practices were discussed under this section. Risks and their management should be planned for in advance to avoid surprises once the project is launched. It is important to plan and decide which way to follow and which approach to take in carrying out risk management activities. The project manager, project teams, key stakeholders and anyone in the project with the responsibility to manage the risk planning activities should hold planning meetings to develop risk management plan (PMI, 2000).

Table 6 Planning Risk Management Responses

Item. NO.	Planning Risk Management	Mean	Std. Deviation
5	Risk management planning is carried out in an orderly manner with proper attention and care.	4.10	.788
6	All stakeholders involved in the project participated in the risk management plan.	4.25	.786
7	The members of the project have received appropriate training on risk management and future instability.	3.85	.745
8	The risk management plan is included with the project management plan.	3.70	.733
	Total	3.975	

Source: Own Survey, 2022

Figure 3 Planning Risk Management

Looking into the practice of the program under the study, the mean value (4.10) for the question asked risk management planning is carried out in an orderly manner with proper attention and care; indicate that majority of the respondents agree on the statement. For the statement that declare all stakeholder involved in the project participated in the risk management, the mean value is (4.25), it means most respondents believe that every relevant stakeholders involved during planning risk management in the program. Whereas the mean response value (3.85) for the question in regard to appropriate training acquired by the members of the program on risk handling and future instability reveal that majority of the respondent agree on the statement, it means the program did consider it necessary and provide the appropriate training in connection to risk handling and future instability for the members. The response from the respondents confirmed that the inclusion of risk management in the programs plan rated the mean value of (3.70) which shows that most of the respondents agree on the statement. Also it's confirmed from my secondary data analysis I have witnessed the inclusion of risk management. The overall average mean value of the four questions related to planning risk management (3.97) shows that most of the risk planning factors confirmed with the agreement from the respondents. It means planning risk management was conducted properly in the program. From the observation I have observed that project planning documents are available to limited number of people, even if they are not available to all project staff.

4.5. Risk Identification Responses

Potential sources of risk, areas of impact and their causes and potential consequences should be identified at the outset in an effort to generate an exhaustive list of risks that might influence the achievement of its objectives. It is important to address potentially high-risk tasks, assign probability implicitly to the process, and develop optional contingencies. Regarding such risk identification activities, identification techniques used in the process, responses from respondents are analysed and presented as follows. Responses looking into the individual mean value (4.25) of the response in connection to the question develop and maintain sense of ownership among members by engaging in risk identification process shows that most of the respondents confirm that the program give attention on developing and maintaining the teams sense of ownership and responded with their agreement.

Table 7 Risk Identification Responses

Item. NO.	Risk Identification Responses	Mean	Std. Deviation
9	Develop and maintain a sense of ownership among members by engaging in risk identification.	4.25	.786
10	Uniform formats are used for risk descriptions to ensure that each accident is clearly and unambiguously understood.	2.25	.851
11	Risk identification is performed as a continuous and repetitive process throughout the project.	3.90	.788
12	A proper risk registration document has been developed and updated regularly.	3.70	.733
	Total	3.525	

Source: Own Survey, 2022

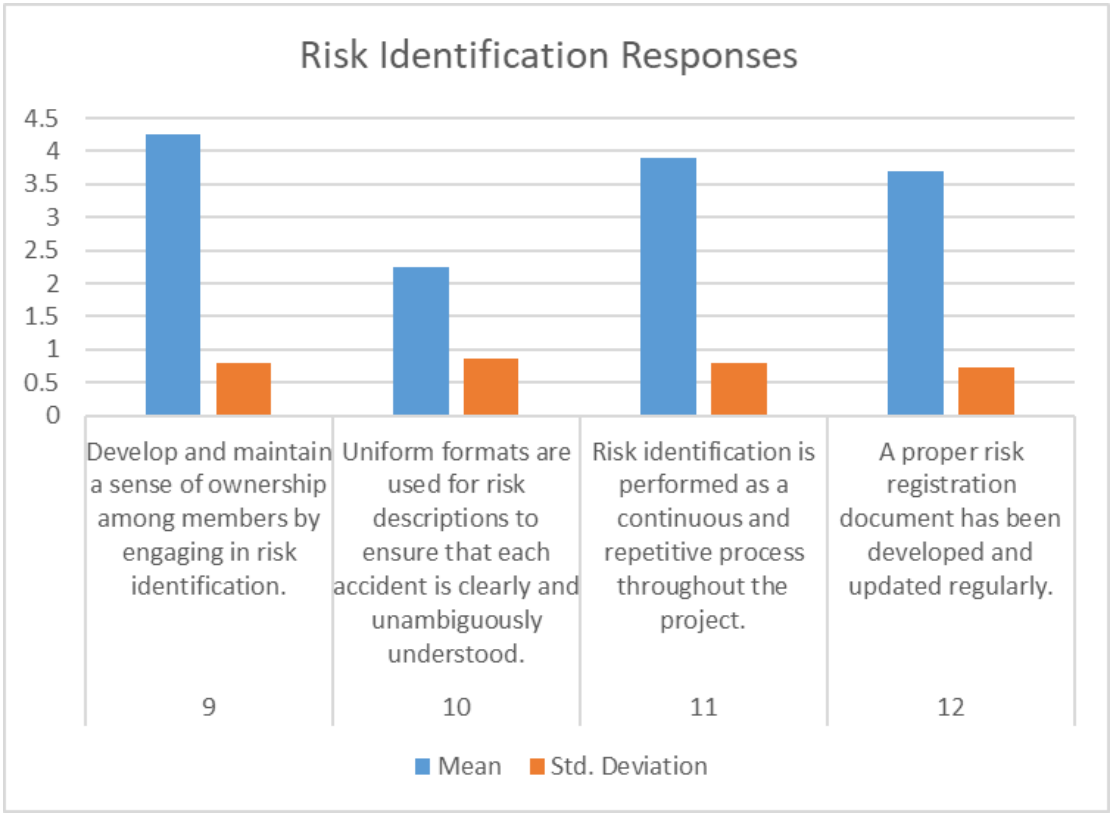


Figure 4 Risk Identification Responses

Most of the respondents disagree on the statement that declares about uniform formats used for the risk descriptions, we can understand these from the mean value of (2.25). They mostly responded with agreement for the statement which declared risk identification is performed as a continuous and repetitive throughout the program, the mean value of the response is (3.9). Responses with regard to the question proper risk registration document was developed and updated regularly have a mean value of (3.7) which shows most of the respondents agree on the statement. Overall average mean value of risk identification process (3.525) shows that the risk identification process has shown a shortfall in the overall process, implying that the risk identification process must improve in the future process as well.

4.6. Risk Analysis Responses

The goal of risk processing is to drill down on potentially high-risk tasks in order to get a more detailed picture of their consequences Upon identifying potential risks, the project team will evaluate each risk based on the likelihood of a risk event occurring and the potential loss related with it. Basically it might not be true to find all risks having equal chance of occurrence and impact on the project. Several events are likely to occur than some others, and the cost of a risk can vary considerably. Regarding the risk analysis process are discussed below.

The average mean value for risk analysis (3.9375) shows that most of the risk analysis factors have confirmed with respondents agreement on the factor rating statements, and also the individual risk factor statement rated between 3.85 and 4.25 it shows consistence of the results. When we look to the individual mean value (3.85) in the below table most of the respondents agree on the statement that declared consideration of characteristics of risks before analysing the risk identified in the prior steps with due attention. It has been confirmed with the respondents' agreement accurate and consistent measurement systems are used to analyse identified risk of the program, the resulting mean value (3.8) attested this. Whereas, mean value (3.85) in the table above shows most of the respondents agree on the statement of analysed risks are classified into different levels based on quantitative and qualitative analysis of their impact and probability of occurrence. The last but not least factor considered in risk analysis was to attest the necessary project document amendment will be carried out consistently after the risk has been analysed or not, the resulting mean

(4.25) shows that majority of the respondents attested the statement with their agreement.

Table 8 Risk Analysis Responses

Item. NO.	Risk Analysis Responses	Mean	Std. Deviation
13	Attention is given in to consideration of the characteristics of the risk before analysing the identified risk.	3.85	.813
14	Accurate and consistent measurement systems are used to analyse identified risks.	3.80	.768
15	Analysed risks are classified into different levels based on quantitative and qualitative analysis of their impact and probability of occurrence.	3.85	.745
16	The necessary project document amendment will be carried out consistently after the risk has been analysed.	4.25	.716
	Total	3.9375	

Source: Own Survey, 2022

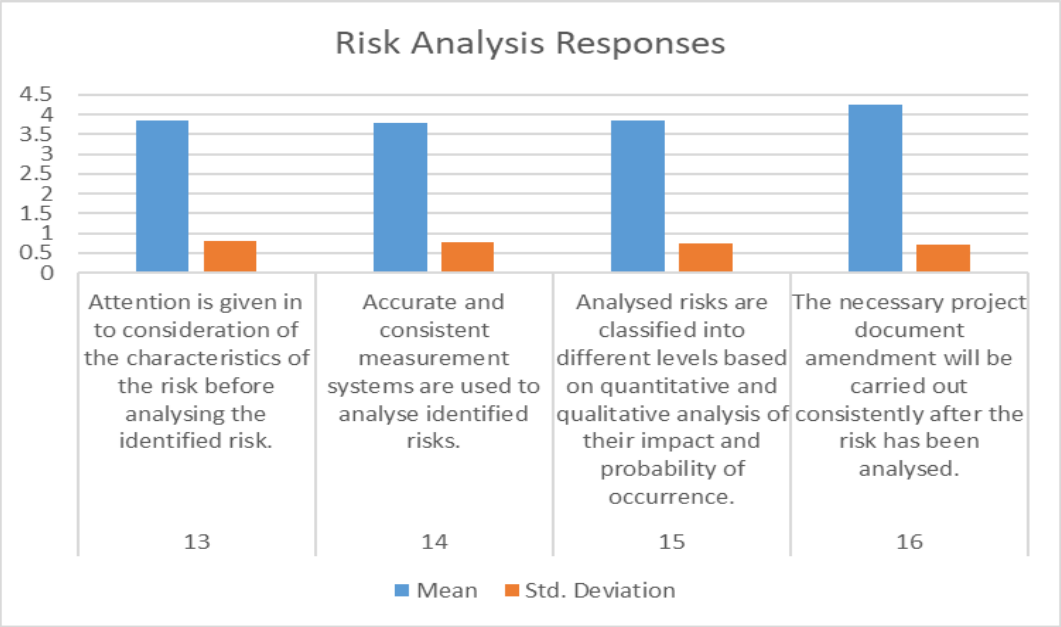


Figure 5 Risk Analysis Responses

4.7. Risk Response Responses

Risk response includes specific methods and techniques to deal with known risks and opportunities; it involves planning and execution with the objective of reducing risks to an acceptable level and exploiting potential opportunities. It must be compatible with the RMP and any additional guidance the program manager provides Harold (Kerzner, 2013). This section discussed about respondents' attitude towards the projects' risk response practice.

Table 9 Risk Response Responses

Item NO.	Risk Response	Mean	Std. Deviation
17	There is a well-developed risk response strategy in the project.	3.85	.813
18	Important attention is paid to factors such as budget, timetable, and resources when responding to risks.	3.85	.745
19	Risk response selection strategy is highly tied with the goals and objectives of the project.	3.70	.733
	Total	3.8	

Source: Own Survey, 2022

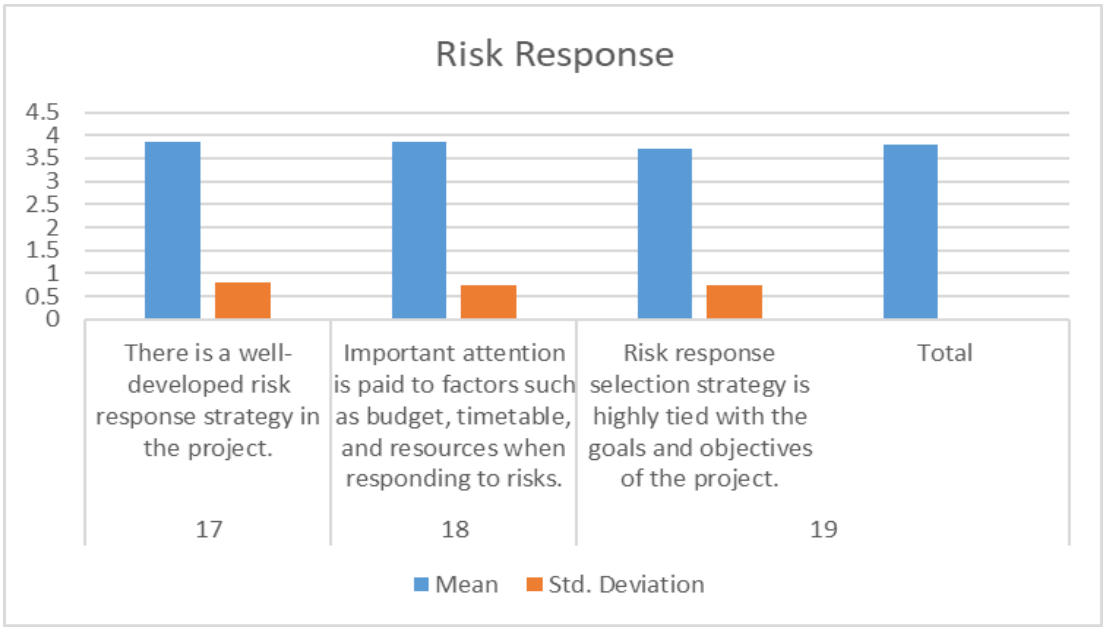


Figure 6 Risk Response

The mean value (3.85), in the above table for the question if there is a well-developed risk response strategy within the program to respond to risk, indicates that the program is using a well-developed strategy to respond to risks. Regarding the given important attention for consideration of budget, schedule and resources, while responding to risk the mean value is (3.85) which indicate agreement of the majority of the respondents on the consideration of budget, schedule and resources while responding to risk. For the question asking if risk response selection strategy is tied with the goals and objectives of the program, the mean response is (3.70) which imply majority of the respondents are agree with the statement. From the overall average mean value (3.8), there is a well-developed risk response strategy in the program and also give attention to consider factors related to budget, schedule and resource when responding to risks. There is a connection to the tied up between risk response selection strategy with goal and objectives of the overall program.

4.8. Risk Monitoring Responses

Once you've identified the risk, assessed the probability and impact of the risks, and planned what to do if the risk event occurs, you need to monitor and control the project risks. (PMI 2017) describe risk monitoring as the process of monitoring the implementation of agreed-upon risk response plans, tracking identified risks, identifying and analysing new risks, and evaluating risk process effectiveness throughout the project.

Responses with regard to risk monitoring practices of the program are discussed in this section. The average mean result of (4.0875) in the table above shows overall response of risk monitoring is good by the respondents for each individual question. Response (4.15) for the question asking the practices of compiling a risk list and posting it in a visible place for team members review attested by majority of the respondent through agreement to the statement. Regarding the response of (4.15) that asked respondents to confirm about risk management conducted on a regular base in a similar fashion abiding to the standard and the procedure of the risk management of the program in particularly and the organization as a whole, the result indicates that most of the respondents agree on the statement. Most likely responses of the respondents agree on the statement that declared current result of the program risks are monitored properly, the mean value (3.75) indicate their agreement. For the question that asked the respondents to rate the tied up between risk monitoring with

the goal and objectives of the program the mean value (4.30) indicate that most of the respondents are certain and agree with the statement.

Table 10 Risk Monitoring Responses

Item. NO.	Risk Monitoring Response	Mean	Std. Deviation
20	There is a practice of compiling a risk list that can be managed by posting it in a visible place for team members to review.	4.15	.813
21	The risk management process is monitored regularly to ensure that it is in line with standards and VI.	4.15	.745
22	Based on the current results, the risks of the project are properly controlled.	3.75	.716
23	Risk monitoring activities are closely linked to the goals and objectives of the project.	4.30	.733
	Total	4.0875	

Source: Own Survey, 2022

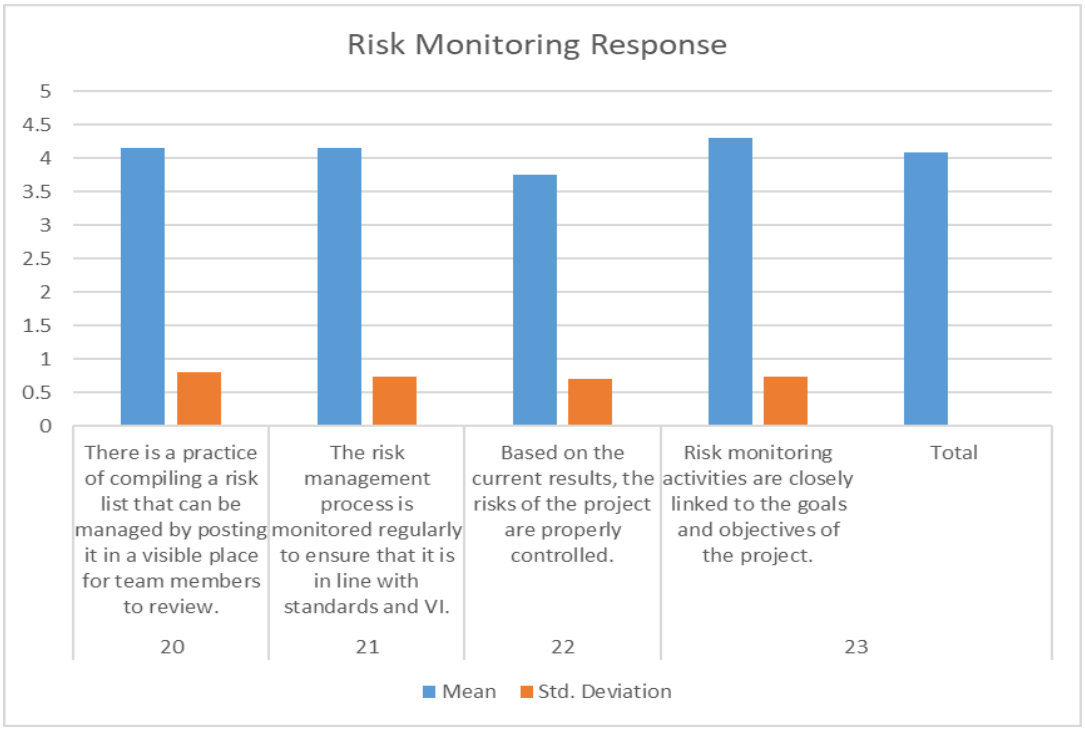


Figure 7 Risk Monitoring Response

4.9. Project Efficacy

As shown in Table 4.11 above, responses with regard to ‘project efficacy’ of the MSAG upgrade project are discussed in this section. As shown in the table above, the overall mean value of the project is (3.91), indicating that the intended effect is good and respondents were agreed. Response (3.75) for the question asking the scope of the project is affecting the project efficacy attested by majority of the respondent through agreement to the statement. Regarding the response of (4.00) that asked respondents to confirm about the scope of the project is narrow, and affecting the project efficacy, the result indicates that most of the respondents agree on the statement. Most likely responses of the respondents agree on the statement that declared the project was completed within the expected time, the mean value (4.00) indicate their agreement. For the question that asked the respondents to rate the expected time plan is affecting project efficacy, the mean value (3.80) indicate that most of the respondents are certain and agree with the statement. The mean value (3.95), in the above table for the question, the project was completed within the expected budget, which indicates agreement of the majority of the respondents. Regarding the project was completed at a lower cost than the allotted budget and this did not affect the efficacy of the project, while responding to project efficacy the mean value is (3.80) which indicate agreement of the majority of the respondents. For the question asking if the risk management practices affects project efficacy goals, the mean response is (4.10) which imply majority of the respondents are agree with the statement. The response obtained (3.90) for the question whether the project efficacy successfully met the expected goals and objectives, indicates that most of the respondents agree with the statement.

Table 11 Project Efficacy Responses

Item. NO.	Project Efficacy	Mean	Std. Deviation
24	The scope of the project is affecting the project efficacy.	3.75	.786
25	The scope of the project is narrow, and affecting the project efficacy.	4.00	.795
26	The project was completed within the expected time.	4.00	.725
27	The expected time plan is affecting project efficacy	3.80	.834
28	The project was completed within the expected budget.	3.95	.826
29	The project was completed at a lower cost than the allotted budget & this didn't affect the efficacy of the project.	3.80	.768
30	The risk management practices affects project efficacy goals.	4.10	.852
31	The project efficacy successfully met the expected goals and objectives	3.90	.788
	Total	3.91	0.80

Source: Own Survey, 2022

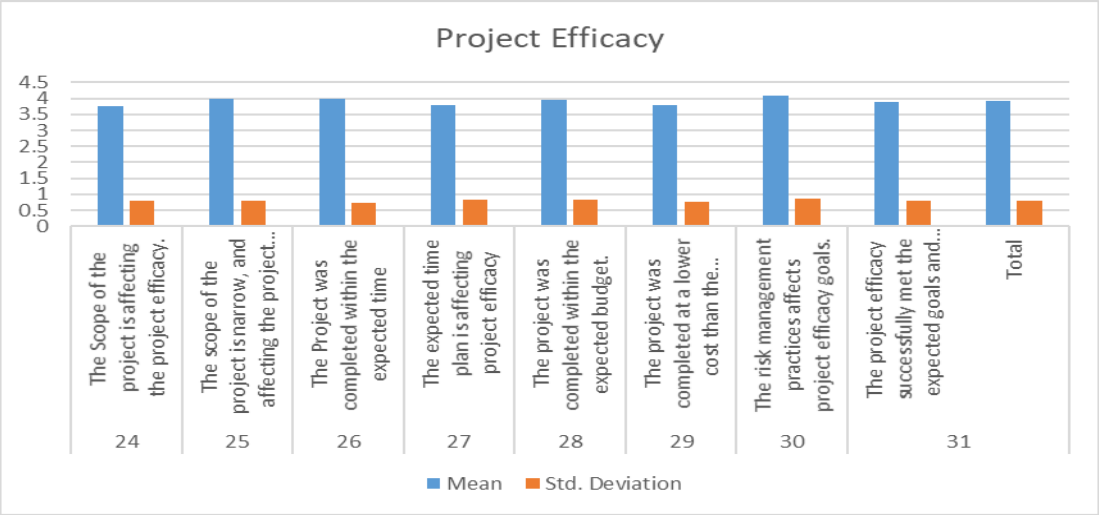


Figure 8 Project Efficacy

4.10. Correlations Test

Table 12 Correlations

Correlations		
		Project Efficacy
Risk Awareness	Pearson Correlation	.710*
	Sig. (2-tailed)	.022
	N	20
Planning Risk Management	Pearson Correlation	.816*
	Sig. (2-tailed)	.020
	N	20
Risk Identification	Pearson Correlation	.855*
	Sig. (2-tailed)	.011
	N	20
Risk Analysis	Pearson Correlation	.915*
	Sig. (2-tailed)	.020
	N	20
Risk Response	Pearson Correlation	.868**
	Sig. (2-tailed)	.009
	N	20
Risk Monitoring	Pearson Correlation	.820**
	Sig. (2-tailed)	.004
	N	20
*. Correlation is significant at the 0.05 level (2-tailed).		
**. Correlation is significant at the 0.01 level (2-tailed).		

Source: Own Survey, 2022

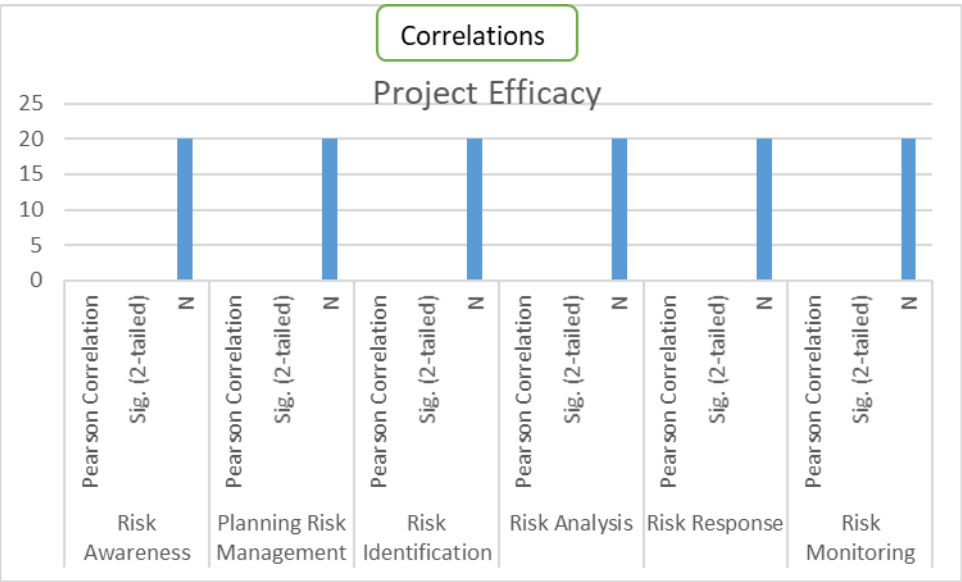


Figure 9 Correlations

The classification of the correlation coefficient (r) is as follows: 0.1 – 0.29 is weak; 0.3 – 0.49 is moderate; and > 0.5 is strong (Woubshet 2017). As shown in Table 4.12 above, summarizes the results of correlation among the dependent variable project efficacy and the predictor independent variables (Risk Awareness, Planning Risk Management, Risk Identification, Risk Analysis, Risk Response and Risk Monitoring). The overall average correlation coefficient of risk management practice and project efficacy variables is 0.710 – 0.915 it shows an almost positive relationship correlation. This means that the results of this study are very important for Ethio Telecom the MSAG upgrade project and other projects currently underway in Ethiopia. Moreover, its role in projects around the world is not easy.

4.11. The Effectiveness of Risk Management Practices on the Ethio Telecom MSAG Upgrade Projects.

4.11.1. Regression Analysis

Regression is a statistical tool used to predict the value of a dependent variable using one or more independent variables. Multiple linear regressions, the regression employed in this study, is a statistical technique that analyses the linear relationships between a dependent variable and multiple independent variables by estimating coefficients for the equation for a straight line. (Shiferaw 2020)

Regression analysis is used to describe the statistical relationship between one or more predictor variables and the response variable. It is used to determine whether

the null hypothesis should be rejected or retained. The widespread use of 'statistical significance' (generally interpreted as '$p \leq 0.05$') as a license for claiming a scientific finding (or implied truth) leads to considerable distortion of the scientific process (https://en.wikipedia.org/wiki/Statistical_significance).

4.11.2. Regression Analysis Assumption Tests

Table 13 Regression Analysis Model Summary

Model Summary			
Model	R	R Square	Adjusted R Square
1	.890a	.881	.872
a. Predictors: (Constant), Risk Monitoring, Planning Risk Management, Risk Identification, Risk Response, Risk Analysis, Risk Awareness			

Source: Own Survey, 2022

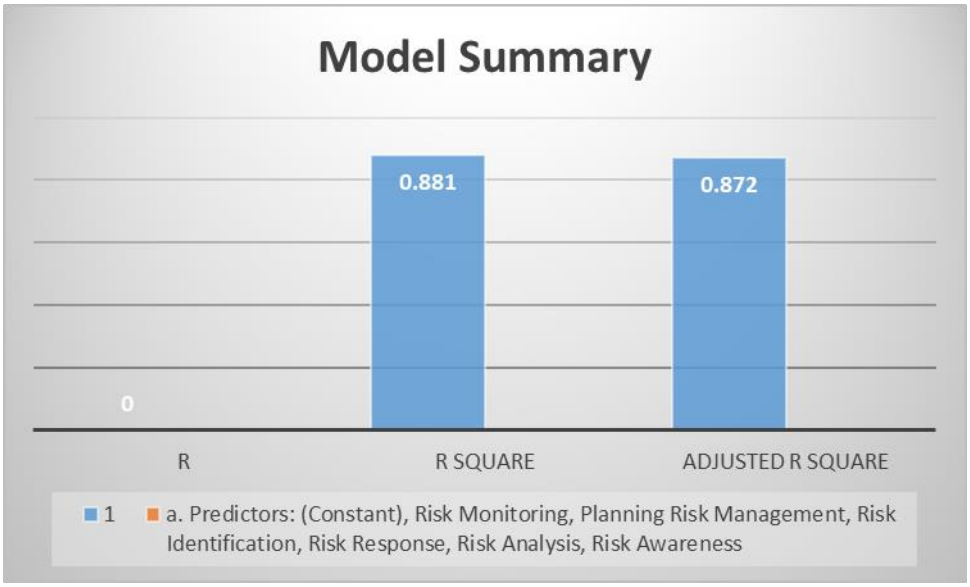


Figure 10 Model Summary

According to (KVALSETH 1983) linear model, the coefficient of determination (R^2) is perhaps the single most extensively used measure of goodness of fit for regression models. This proportion varies between 0 and 1 and is represented by R^2 (R Square). As shown in Table 13 above, the value of our R^2 is 0.881, which means that 88.1% of the total difference in the length of the study is 'explained'. 88.1% means that project

efficacy variable was fully explained or relatively strong by the activities in the independent variables.

4.11.3. Analysis of Variance /ANOVA/

ANOVA tests indicate that whether the model is significantly better at predicting the outcome than using the mean as a „best guess". ANOVA model is more likely to be significant, indicating that at least one group mean is different from another group mean. ANOVA is the appropriate statistical technique to examine the effect of a less-than-interval independent variable on an at-least interval dependent variable. If the F test result is not significant, the model should be dismissed. (Woubshet 2017)

Table 14 ANOVA Table for Delivery Reliability

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.347	6	0.825	110.536	.001b
	Residual	.203	13	.016		
	Total	10.550	19			
a. Dependent Variable: Project Efficacy						
b. Predictors: (Constant), Risk Monitoring, Planning Risk Management, Risk Identification, Risk Response, Risk Analysis, Risk Awareness						

Source: Own Survey, 2022

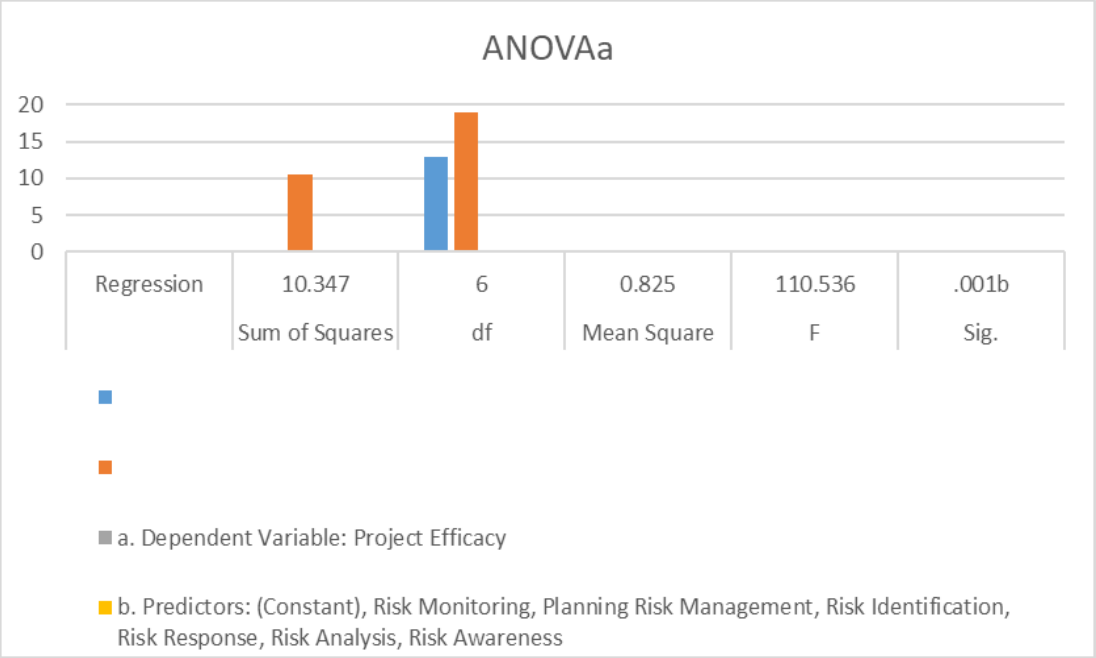


Figure 11 ANOVA[a]

As shown in Table 14 above, the multiple linear regression part in this study is mainly intended to assess whether the presumed explanatory variables are significantly affecting the dependent variable or (Risk Monitoring, Planning Risk Management, Risk Identification, Risk Response, Risk Analysis, Risk Awareness) have a significant effect on project efficacy. The acceptability of the model from a statistical perspective was checked from the ANOVA table and the model reached a statistical significance (Sig = .000, this means $p < .0005$) which attests the predictors collectively account for a statistically significant proportion of the variance in the criterion variable this study regression statistical significance value score is 0.00. This means that they have a scientific finding (or implied truth) that leads to considerable distortion of the scientific process according to the above description.

4.11.4. Standardized Coefficients

Table 15 Standardized Coefficients Regression Analysis

Coefficients a			
Model		Standardized Coefficients	
		Beta	Sig.
1	(Constant)		.0002
	Risk Awareness	0.906	.0003
	Planning Risk Management	0.977	.0000
	Risk Identification	0.875	.0004
	Risk Analysis	0.863	.0002
	Risk Response	0.759	.0005
	Risk Monitoring	0.771	.00029
a. Dependent Variable: Project Efficacy			

Source: Own Survey, 2022

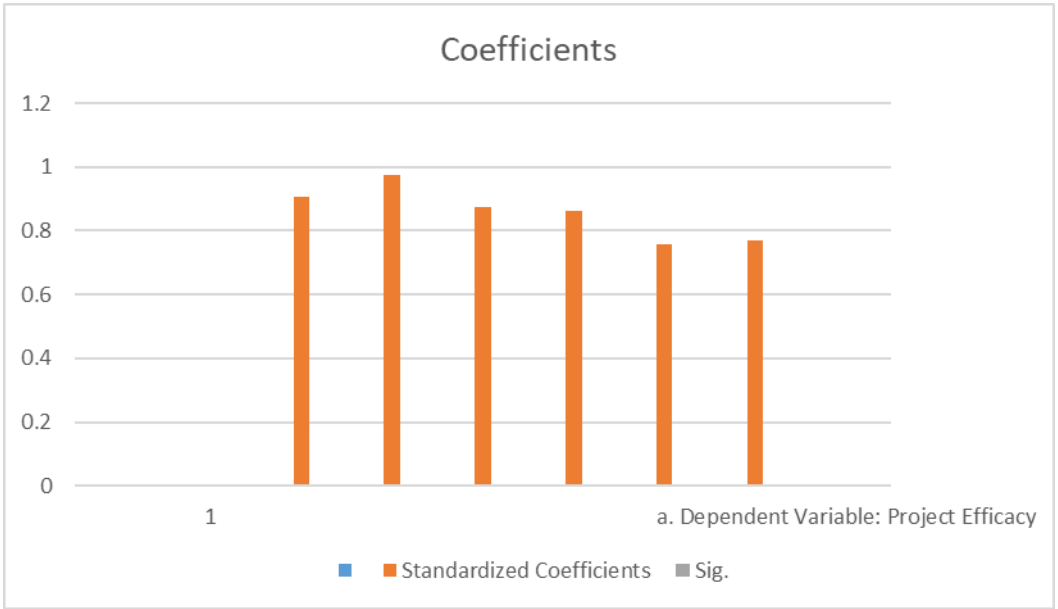


Figure 12 Coefficients

When running your regression, you are trying to discover whether the coefficients on your independent variables are different from 0 (so the independent variables are having a genuine effect on your dependent variable) or if alternatively, any apparent differences from 0 are just due to random chance. The null (default) hypothesis is always that each independent variable is having absolutely no effect (has a coefficient of 0) and you are looking for a reason to reject this theory (https://dss.princeton.edu/online_help/analysis/interpreting_regression.htm).

The regression statistical coefficients value shows in Table 15 above; the score was from 0.759 to 0.977. This means that the risk management practice (Risk Monitoring, Planning Risk Management, Risk Identification, Risk Response, Risk Analysis, and Risk Awareness) variables are having a genuine effect on the project efficacy variable according to the above description. To investigate the significance of each independent variable beta value (β) and the significance value of the variable was checked. The statistically significant beta coefficient is for risk management practice variables between 0.759 to 0.977 (sig .0000 to sig.0005) A beta value of 0.9 means (Risk Monitoring, Planning Risk Management, Risk Identification, Risk Response, Risk Analysis, and Risk Awareness) is more related than the overall project efficacy.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter will cover a summary of the main findings of the study, conclusions derived from data analysis, and recommendations made by the researcher based on the results to improve the effective implementation of risk management in the company's future endeavours.

5.1 Summary of Findings

This study attempted to examine the risk management practices of Ethio Telecom, in MSAG upgrade project in line with the five major risk management processes. Based on the data analysed in the previous chapter the following findings are summarized:

- The reliability of the variables was checked using Cronbach's alpha, and the alpha values for all constructs in the study were greater than the acceptable limit of ›0.8. It is reliable for further analysis. The variables was checked using Cronbach's alpha, and the alpha values for all constructs in the study were greater than the acceptable limit of ›0.710. And each independent and each dependent variable's Pearson correlation indicate that positive correlation.

- According to the respondents' response, the general questions on risk management awareness of the program members, it is found that there is a good practice in terms of developing a policy or a guideline, however, it is not well known and understood by all project team members. The finding result also showed that risk management is performed on continual bases.
- The finding ravel that planning risk management was performed systematically and involve expert and other stakeholders. Where Inclusion of risk management in the program plan was attested and planning risk management was conducted properly in the program.
- Overall the result shows that risk identification is performed as a continuous and repetitive throughout the program, but the risk identification process has shown a shortfall in the overall process, implying that the risk identification process must improve in the future process as well.

- The finding result reveals that risks that reached in the analysis stage is more attentively seen by all concerned section or department. The finding of the analysis about method of risk analysis ravelled that risk is analysed in terms of its impact and probability of occurrence through assigning numerical value and segregated into different levels.
- The result regarding risk response reveal that, there is a well-developed risk response strategy in the program and also give attention to consider factors related to budget, schedule and resource when responding to risks. There is a connection to the tied up between risk response selection strategy with goal and objectives of the overall program.
- The findings on risk monitoring imply that the program are doing fairly good in terms of keeping track of identified risks, monitoring residual risks and ensuring execution of risk plans to evaluate their effectiveness.
- According to the observation conducted, project planning documents are available to limited number of people, even if they are not available to all project staff. Although they have provided a brief overview of the risks involved in the MSAG upgrade project, I have confirmed that they do not have an in depth knowledge of the risks. Not all hazards are clearly analysed and presented to staff. There are few concerns about financial losses because there is no clear auditing system. In the MSAG upgrade project, there is financial compliance with internal and external laws and regulations. Project staffs are given some understanding of risk management. Documents are provided to show how to manage risks, even if they are not complete.
- Findings on project efficacy show that project efficacy is good in terms of scope, budget, time, and goals. But this does not mean that the risk management practice is fully safe. There are all the problems mentioned above.
- Explanatory research design and the KVALSETH model summary, ANOVA model, Standardized coefficients regression analysis were respondents to identify any causal relationship between the dependent variables (project efficacy) and the independent variables (Risk Monitoring, Planning Risk Management, Risk Identification, Risk Response, Risk Analysis, and Risk Awareness).The results shows that project efficacy are fully explained or

relatively strong by the activities in the independent variables. And the management control (Risk Monitoring, Planning Risk Management, Risk Identification, Risk Response, Risk Analysis, and Risk Awareness) variables are having a genuine effect on the efficacy of MSAG upgrade project of Ethio telecom.

5.2 Conclusions

The company's effort through developing risk management policy and manuals to guide staffs and section in handling of unexpected future uncertainties is found to be encouraging. When the program develops their risk management plan are systematized and allows the involvement of relevant stakeholders when performing risk management planning. Assigning the responsibility to concerned department or section in risk identification process can be taken as a good practice but it is highly tied with their capacity and experience. Once risk identification performed poorly it may also affect the analysis and the response strategies to be design, so the company is expected to make the right decision in relation to risk identification. The result shows that the risk identification is performed as a continuous and repetitive throughout the program but steps taken in the prior stages of risk identification highly affect the steps consistency. Risk analyses were performed well in the program and is analysed in terms of its impact and probability of occurrence through assigning numerical value and segregated into different levels. The potential risk is expected to provide list of risks along with the response plan, hence it will lack consideration for availability of resource, schedule and budget. In the meantime there is a connection of tiding risk response strategies with the goal and objectives of the program. Monitoring is done in a continual base in terms of keeping track of identified risks, monitoring residual risks and ensuring execution of risk plans. There is a well-developed risk response strategy in the program and also give the appropriate attention to consider factors related to budget, schedule and resource when responding to risks. In general, the company is showing progress in managing risks by their own way. The overall progress and performance of the program's risk management implementation effort is found on an encouraging status.

5.3 Recommendations

Based on the above findings and the research objectives of the study, the following recommendations are provided by the researcher;

- In order to see and benefit from different issues, they must always involve the relevant stakeholders in the preparation of the risk management plan to create a sense of ownership among them.
- It is not enough just to present all the risk identification responsibilities to the relevant department. Because people are afraid of being held accountable for their actions, they may try to cover it up. Therefore, the company must change this risk identification method. Risk monitoring should be supported by all concerned professionals.
- Assigning inputs and directing people to train in risk management will help employees achieve self-confidence and skills in action. Therefore, the company should allocate the necessary budget to the risk management personnel in the training, seminar and risk management sectors.
- Keeping the good practice of recording lesson learning document have to be continue in more systematized way; hence it will serve as a stepping stone in the future risk management endeavor.

5.4 Suggestion for Further Study

This study was focused on limited points due to time, resources, and methodological constraints. Thus, I recommend that further study to assess the risk management practice of large national projects and other factors affect project risk management. Hence researchers may expand the scope and further investigate including other parameters.

REFERENCE

Ana D. (2012). Modern Methods of Risk Identification in Risk Management. Junior PhD. University of Targoviste, Romania.

Callahan, K.R., Brooks, L.M. (2004). Essentials to Strategic Project Management. John Wiley & Sons, Inc.

Chen, H., Hao, G., Poon, S.W. and Ng, F.F. (2004). Cost Risk Management in West Rail Project of Hong Kong, 2004 AACE International Transactions.

Crouhy, M., Galai, D., & Mark, D. (2006). The essentials of risk management. The McGraw-Hill Companies,Inc.

Croitoru, E. V. a. I. (2012). "Integrated Risk Management System – Key Factor of the Management System of the Organization."

Ebrahem, M. (2017). "Project Management Planning and Control skills and techniques BY Marco Ebrahem."

Gebretsadik, T. (2018). "Assessment of the practice of project risk management system in ethio-telecom."

https://dss.princeton.edu/online_help/analysis/interpreting_regression.htm "Interpreting Regression Output."

https://en.wikipedia.org/wiki/Standard_deviation "Standard deviation."

https://en.wikipedia.org/wiki/Statistical_significance "Statistical Significance."

https://project-management.com/types-of-risk-in-project-management/#project (2022). "Common Types of Risk in Project Management 2022."

https://www.techtarget.com/searchnetworking/definition/edge-device.

Kebede, D. (2018). "Assessment of the Challenges of Risk Management Implementation in ethio telecom, Telecom Expansion Program (TEP)."

KVALSETH, T. O. (1983). "Note on the R^2 measure of goodness of fit for nonlinear models."

Lees, F. P. (1996). "Loss prevention in the process industries: Hazard identification, assessment and control."

Mekonnen, F. (2019). "An assessment of risk management practices: In the case of ethiotelecom tower construction project."

Ossama Y. Abul-Haggag, W. B. (2013). "Application of Fuzzy Logic for Risk Assessment using."

Pokorádi, L. (2002). "Fuzzy logic-based risk assessment."

Severin, r. (2010). "Risk assessment in project management: a practical tool."

Shiferaw, M. (2020). "Factors affecting customer satisfaction on mobile telecom service: the case of Debre Berhan city."

Soiferman, L. K. (2010). "Compare and Contrast Inductive and Deductive."

Technologies, Z. (2004). "MSAG Accessing Solution."

Tucci, L. (2021). "What is risk management and why is it important?".

Umer, F. (2019). "Assessing after sales services quality: the case of ethio telecom back office."

Woubshet, M. (2017). "Assessment of Logistics Practice in Project Context: The case of Ethio Telecom Expansion Project (TEP)."

Woubshet, M. (2017). "Assessment of logistics practice in project context: The case of ethio telecom expansion project (tep). ."

Appendices

Questionnaire

Addis Ababa University School of Commerce

Master of Project Management

Dear respondent,

The purpose of this questionnaire is to collect data about "Assessment of risk management practice in the case of Ethio Telecom MSAG upgrade project'' for the partial fulfilment of an MA degree in Project Management. The information you provide was be used only for academic purposes and kept confidential. Therefore, I humbly ask you to provide me with reliable information for the quality of the research.

Thank you in advance for your cooperation

(Name of the researcher: - Muzit Ayalew)

General Direction

- *No need to write your name*
- *Read each question and put (√) on the given space/ box.*

Part One: The profile of respondents

Please put a tick mark (√) on the appropriate response category:

1. Sex/ Gender: ☐ Male ☐ Female
2. Age: ☐ (15-25 years) ☐ (26-35 years) ☐ (36-45 year) ☐ >46 year
3. Educational level ☐ Diploma, ☐ BA/BSc, ☐ Masters ☐ PhD
4. Work experience: ☐ 1-5 years ☐ 6-10 years ☐ 11-15 years ☐ >15 years

Part Two: Questionnaires about Project Risk Management

Please put tick (√) in the table provided for each of the given statement using the following scales

1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree

s/n	Declarations about Risk Awareness	Scales				
		5	4	3	2	1
1	There is a risk management policy or manual available to all project members that guides how to manage unintended consequences.					
2	The project has a well-defined risk management process that is clearly understood by all members of the program.					
3	Risk Management Awareness creation or direction for project members will be done correctly.					
4	Risk management is dealt with on an ongoing basis.					
s/n	Planning Risk Management					
5	Risk management planning is carried out in an orderly manner with proper attention and care.					
6	All stakeholders involved in the project participated in the disaster management plan.					
7	The members of the project have received appropriate training on risk management and future instability.					
8	The risk management plan is included with the project management plan.					
s/n	Risk Identification					

9	Develop and maintain a sense of ownership among members by engaging in risk identification.					
10	Uniform formats are used for risk descriptions to ensure that each accident is clearly and unambiguously understood.					
11	Risk identification is performed as a continuous and repetitive process throughout the project.					
12	A proper accident registration document has been developed and updated regularly.					
s/n	Risk Analysis					
13	Due attention is given to consideration of the characteristics of the risk before analysing the identified risk.					
14	Accurate and consistent measurement systems are used to analyse identified hazards.					
15	Analysed risks are classified into different levels based on quantitative and qualitative analysis of their impact and probability of occurrence.					
16	The necessary project document amendment will be carried out consistently after the risk has been analysed.					
s/n	Risk Response					
17	There is a well-developed risk response strategy in the project.					
18	Important attention is paid to factors such as budget, timetable, and resources when responding to risks.					
19	Risk response selection strategy is highly tied with the goals and objectives of the project.					
s/n	Risk Monitoring					
20	There is a practice of compiling a risk list that can be					

	managed by posting it in a visible place for team members to review.					
21	The risk management process is monitored regularly to ensure that it is in line with standards and VI.					
22	Based on the current results, the risks of the project are properly controlled.					
23	Risk monitoring activities are closely linked to the goals and objectives of the project.					

Part Three: Project efficacy

No	Project efficacy	Scales				
		5	4	3	2	1
24	The Scope of the project is affecting the project efficacy.					
25	The scope of the project is narrow, and affecting the project efficacy.					
26	The Project was completed within the expected time					
27	The expected time plan is affecting project efficacy					
28	The project was completed within the expected budget.					
29	The project was completed at a lower cost than the allotted budget and this did not affect the efficacy of the project.					
30	The risk management practices affects project efficacy goals.					
31	The project efficacy successfully met the expected goals and objectives					

Thank you for your time!

Observation Checklist

Addis Ababa University School of Commerce

Master of Project Management

Name of the research project: - Assessment of risk management practice in the case of Ethio telecom MSAG upgrade project.

General Objective: - The main objective of this study is to assess the risk management practice in the case of Ethio Telecom MSAG upgrade project.

Researcher Name: - Muzit Ayalew **level: -** Master of Art in Project Management

Schedule: - 21/09/2014 – 25/09/2014 in Ethiopian colander

Advisor Name: - DR. Wubshet

Observation date: - _____

Answer the following questions by placing a √ in the appropriate column to the right.		**Yes**	**No**	**Not Applicable**	**Remark**
O.1	Were project planning documents available to all project personnel involved?				
O.2	The MSAG upgrade project has made all staff aware of potential hazards.				
O.3	Have all risks been successfully analyzed?				
O.4	There were concerns about the financial loss and negative social operation of the MSAG upgrade project due to human capital and manpower shortages.				
O.5	There is a risk of financial risk and physical social performance related to project processes.				
O.6	There was a risk of financial loss and negative social performance associated with				

	internal systems of MSAG upgrade project				
O.7	There are concerns about money laundering and negative social activities related to MASG upgrade Project control events.				
O.8	Financial compliance and risks in compliance with internal and external laws and regulations were observed in the MSAG upgrade project.				