ADDIS ABABA UNIVERSITY

COLlEGE OF BUSINESS AND ECONOMICS

SCHOOL OF COMMERCE

DEPARTMENT OF PROJECT MANAGEMENT

ASSESSMENT ON PROJECT RISK MANAGEMENT, RISK IDENTIFICATION & MONITORING PROCESS IN ETHIOTELECOM.

BY

Sultan Jemal

Advisor

Ato Teklegiorgis Assefa. (Assistant professor)

A Project Work Submitted to the Department of Business Administration and Information System as a Partial Fulfillment of the Requirements for the Award of Master of Arts Degree in Project Management

July 2021
Addis Ababa

ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

DEPARTMENT OF BUSINESS ADMINSTRAION AND

INFORMATION SYSTEM (BAIS) GRADUATE PROGRAM UNIT

PROJECT MANAGEMENT PROGRAM

ASSESSMENT ON PROJECT RISK MANAGEMENT, RISK IDENTIFICATION & MONITORING PROCESS IN ETHIOTELECOM.

BY: -SULTAN JEMAL

APPROVAL SHEET

	SIGNATURE	***DATE***
Teklegiorgis Assefa (Ast. Prof.)	_____	_____
Advisor		
Dereje Teklemariam (Dr.)	_____	_____
External Examiner		
Fisseha Afework (Ato)	_____	_____
Internal Examiner		

DECLARATION

I sultan Jemal declared that this thesis titled as "*ASSESSMENT ON PROJECT RISK MANAGEMENT, RISK IDENTIFICATION & MONITORING PROCESS IN ETHIOTELECOM*." Is my own original work. It is not produced for any degree award or any higher learning institution for organization or academic purpose.

Name: -**Sultan Jemal** Signature----------  ---------- Date **July 5, 2021**

ENDORSEMENT

This thesis titled as "*ASSESSMENT ON PROJECT RISK MANAGEMENT PLANNING, RISK IDENTIFICATION & MONITORING PROCESS IN ETHIOTELECOM*." has been submitted to Addis Ababa University School of Commerce, Project management Department, with my advice and approval.

Advisor:

Teklegiorgis Assefa (Asst. Prof.) Signature ----------

Date ----------

ACKNOWLEDGEMENT

Here by I woud pay my gratitude for those who encuraged and supported me to accompish this work by sharing their precious time to review my paper and respond the questionnaire provided. I also forward special thank for my advisor for his prompet feedback and advice, Technical and Special audit director for his understanding as well as Abebe Mesfin for his unreserved technichal support. In addtition I would like to thank CIAD and all divison staffs for their encouragment and bearing my office burden and support.

ACRONYMS AND ABBREVIATION

IP&ED --- Infrastructure Power and Environment Division

OPMO --- Operation Project Management Office

ISD --- Information System Division

NOC --- Network Operation Center

BSRD --- Business System rollout Department

CSRD --- Corporate System rollout Department

ISDD --- Information System Design Department

IS2&P --- IT Service strategy & program

NGPO --- New Generation Program Office

PMO --- Project Management Office (Section level)

APM --- Association of project management

OECD --- Organization for Economic Cooperation and Development

SPSS ----Statistical package for social science

4GLTE --- Fourth generation Long-Term evolution

LIST OF TABLES

LIST OF FIGURES

Table of Contents

Abstract

The current business environment is characterized with complex versatile and dynamic nature that requires dynamic and flexible approach. This nature also requires critical thinking, informed decision making and structured, organized, and planned project risk management process. Therefore, adopting risk management is critical for the company to anticipate and manage project risks in every project endeavor consistently. The objective of this study is to assess the proper application of risk management knowledge area on the current project undertakings in ethiotelecom and support and attention given by the top management in creating conducive environment for project risk management and proper oversight as well as application of project risk management and best practices in existing projects in the company. Researcher used qualitative & quantitative research method and the samples are selected purposively those are highly involved in project, design, rollout, coordination, and performance reporting activity out of the target population, using convenient sampling technique. Fifty sample selected from performance monitoring, program management, power & environment, Network, and Information system divisions. To collect primary data Likert scaled, multiple choice open-ended questionnaires distributed to the sample respondents at their office using drop and pick method and forty completed responses are collected. Manually filtered response encoded into SPSS-20 tools and the data are analyzed using central tendency (mean value) and frequency distribution technique. The frequency distribution result figure shows 64% to 73% inadequate oversight and lack of clear project risk management policy, procedure and lack of clear authority and responsibility: Absence of well-established and organized risk management office as well as in adequate application of project risk planning, identification, analysis and response tools and techniques. And the mean value also falls between 2.0 to 3. Similarly, the multiple choice and open-ended question response also explained inconsistent application of project risk management tools and techniques and application of unorganized, traditional risk management practice. From this it is concluded that there is the absence of organized risk management structure and the lack of top management's sufficient attention as well as inconsistent and inappropriate application of risk management process. Therefore, based on the result researcher recommends corporate management to formulate clear and complete risk management policy and procedure, exert sufficient attention and undertake close follow up in project risk management and project teams to apply risk management tools and techniques consistently and

comprehensively. Researcher also recommends further research on the area covering more geographical area with involvement of more project stakeholders and teams.

Key words: *-project risk management, Risk Identification, Risk planning, Uncertainty & risk Governance & risk, Principles*

CHAPTER ONE

INTRODUCTION

1.1. Background of study

According to Borghesi A. and Gaudenzi. B, (2013, p.4), the concept of Risk management goes back to the early eighteenth century in history. Risk is linked to the unfavorable event. Literature claims that risk in the business were dealt for first time in the twentieth century for the purpose of identifying techniques and procedures in identifying, measuring and treatment of risks in business decision making process.

Borghesi.A and Gaudenzi. B., (2013, p.4), discuses that at the early twentieth century the first significant studies in business risk management were developed and treated risk as an independent topic of study and described as a measurable uncertainty.

Different writers defined risk in different way; for example, Rowe defined risk as ‘‘the realization potential for undesired and negative consequences of an event’’ and others defined it with dual character either loss or gain. However, today the concept of risk adopted the combination of the threat and opportunity. Therefore, ISO Guide 73: (2009), defined risk as the ‘‘effect of uncertainty on objectives’’. The Guide also states that an effect may be positive, negative, or a deviation from the expected, and that risk is often described by an event, a change in circumstances or a consequence.

Cleden D., (2009), discussed that “Risk is exposure to the consequences of uncertainty. In a project context, it is the chance of something happening that will have an impact upon objectives. It includes the possibility of loss or gain, or variation from a desired or planned outcome as a consequence of the uncertainty associated with following a particular course of action. Risk thus has two elements: the likelihood or probability of something happening, and the consequences or impacts if it does.”

Hence, Risk is uncertainty that matters, and life involves risk and projects are the part of life. Therefore, risks need to be proactively and properly anticipated and managed in every endeavor.

However, the researcher focusses here specifically on project risk management. According to Chapman C. & Ward S., (2003), zero-risk project is not worth pursuing; acceptance of some risk could yield a more desirable and appropriate level of benefit in return for the resources committed to the venture. Organizations that better understand the nature of the risks and can manage them more effectively cannot only avoid unforeseen disasters but can work with tighter margins and less contingency, freeing resources for other endeavors, and seizing opportunities for advantageous investment that might otherwise be rejected as 'too risky'.

Nowadays, integrating risk management practice with overall business control system and paying due attention is the crucial factor in sustaining strategic advantage of the organization enhancing stakeholders' value and building trust as well as brand reputation.

1.2. Background of the project

Ex ETC was relaunched as ethiotelecom in November 2010 with the vision of becoming world class telecom service provider. This company as a sole telecom service provider was given a mission by the government to serve as the backbone of nations economy in facilitating and expediting economic flow and serve societies information need equitably and reliably. To meet and exceed these needs, the company undertakes different telecommunications expansion projects under the telecom expansion program (TEP) with the total cost of 1.6B USD. With this and other series of IT and IS expansion projects the company achieved the 50.7 million subscriber, 85% geographic coverage and reached 95% of the population. The mix of subscribers are 48.9 million Mobile, 23.5 million data and Internet, 309400 fixed broadband and 981000 fixed service subscribers. In economic aspect among other things the company generated 80.2 million USD and paid government 16.2 billion tax at the middle of 2013 budget year (according to CEO's 2013 budget year media briefing).

Currently the company embarked to share its sole service provider status and enter competitive environment. To take strategic advantage over competitors, firm hold established market and attract more customers, company still striving to expand communication technology and bringing operational excellence with the aspiration of being preferred operator. With this assumption company is carrying out major IS and network infrastructure expansion projects. These projects

are organized based on the matrix approach. There are corporate system and business system projects under IS division, wireless and fixed access network expansion projects under fixed network and wireless network division. There are also branding, power and transport network expansion projects under different division.

1.3. Problem statement

It is known that communication technology is changing at alarming rate. If the company cannot foresee the trend of the technology and cannot adopt the change as fast as possible, it becomes obsolete and find itself out of the net or the business. This implies that the current business environment requires highly organized, continuous and consistent risk management practice. Literature explains the factors that justify continuous risk management are "the length of time the project takes, Amount of resource it requires, The complexity & interdependency and the organizational maturity". In this regard the company qualifies all these factors. As he is providing communication service and communication service is technology dependent he came across with serious of changes and upgrades with the technology change and invested large number of resources. In addition, these technologies are highly complex, interdependent and susceptible for various threat and opportunity. From previous a few studies conducted in ethiotelecom researcher observed the contradictory findings that according to Daniel K., (2018, p.66), "Risk management process found to be encouraging", whereas Heron A., (2018, p.34) "There is poor monitoring and control, inadequate sponsor attention and integrator".

On the other hand, since ethiotelecom is Internet service provider (ISP) organization and the communication technologies are highly dynamic, it is must to undertake different projects. The projects are broadly categorized into Network infrastructure and Information System (IS) expansion projects. Previous history indicates that the company carried out IS related projects like Fraud Management System (FMS), Equipment Identity Register (EIR), Short Message System (SMS). Out of these and other projects (EIR) system failed due to lack of proper risk management and phase out. Similarly, Network project comprises fixed access network wireless network and Transport network. In these areas company also experienced schedule, scope slippage and quality failure in some of activities for example internal document indicates that NGPO project phase II base station construction project was planned to be completed within

three months but have taken more than four years to undertake final handover and there was scope change, cost and quality issues.

Currently ethiotelecom to become up to date and more competent, besides optimization of existing 3G technology and IS system, the company is undertaking expansion and new installation projects for 4GLTE and Advanced 4GLTE respectively which calls robust risk management, flexibility, and fast implementation. In addition, as the economy grows people's connectivity needs, quality and type of communication requirement grows. As we have seen above, company achieved only 50.7 million subscribers out of the total population which indicates that there are untapped business opportunities which should be addressed by properly aligned and well managed projects. Since technology and demand for connectivity growing, there will be continuous demand for different communication infrastructure projects. To accomplish projects successfully that changes lifestyle of the society and to secure sustenance of the business, the projects risk management need to have proper oversight of top management; be well planned; risks need to be well identified using appropriate tools and technics and appropriately mitigated. Therefore, it is important to study how ethiotelecom is organizational matured in application of project risk management process and to identify improvement areas. These and other factors derived the researcher to conduct assessment on current project risk management practices in the company to show an improvement area. Therefore, this study tries to assess the proper and consistent application of risk management process and attention given by the ethiotelecom corporate management.

1.4. Research Questions

Pursuant to above discussion, this study aims at how the risk management is positioned, planned, and resourced; how risk identification and monitoring is carried out. To address these issues this, study broadly tries to answer the following questions.

I. How the project risk management policy, procedure, Authority, and responsibility defined by the ethiotelecom corporate management?

II. What is the top management overall oversight and commitment in setting risk management plan, to define risk appetite, review escalated reports and providing directions necessary?
III. How the project risk management office empowered, resourced, and positioned in the organization to accesses corporate management?
IV. What is the risk management planning, risk identification, analysis and mitigation/responce process in ethiotelecom?

V. How the risk monitoring and control activity carryout in ethiotelecom?

1.5. The objective of the study

1.5.1. The general objective of this study is: -

to assess the proper application of risk management knowledge area on the project's undertakings in the company currently and necessary support and attention given by the top management.

1.5.2. Specific objectives are: -

1) To assess whether risk management office is structured at the highest management level, equipped with sufficient and competent personnel and tools.
2) To assess how the risk management planning activity is carried out that reflects flexibility required for the dynamic nature of technology, economy, and society.
3) To assess how risks are identified & prioritized and communicated.
4) To assess how risks are controlled.

1.6. Scope of the study

From the assessment researcher learned that projects are initiated and executed by each functional unit. That means under the IS there are different system expansions handled by ISD; Network division carries out wire line fixed, wireless, and transport network expansion project; IP&ED power and tower installation; NOC, different control, and data repository system and other projectized activities are carried out. For all these projects the designing is performed by engineering department; Monitoring and control is handled by Operation project management

office (OPMO). This office also compiles and report to program office the project progress/performance and issues encountered to be escalated top management.

Therefore, due to its complexity, time, and resource constraint it would be better to focus purposively on the areas that may have immense knowledge and access to the project and project risk management activity. And hence, this study focuses purposefully on projects under ISD and network division (ND). Samples are selected purposefully based on respondent's proximity to the risk and project management activity, motivation/willingness, and accessibility of respondent as well as the relevance they have to the study.

1.7. Significance of the study

Different literature explains that most of the project failures related to poor governance, that is lack of proper top management oversight, poor positioning of the risk management organization and poor resourcing, lack of appropriate tools, no or poorly defined risk appetite. In addition, previous study indicates that lack of expertise in executive level, lack of practical experience and knowledge in risk management and lack of awareness of stakeholders towards risk were challenges of risk management.

Unlike the previous study, here researcher tried to combine governance aspect with practical aspect of risk management that helps to see the whole picture of risk management system; identify appropriateness of organization and support of top management, proper application of knowledges and tools that could help projects to be on right track, bring stakeholders value, the company could cop the coming strategic rival and can build trust.

Therefore, this study tries to signify the contribution of top management commitment, risk management organization as well as practical application of risk management knowledge areas in order to indicate some improvements that helps the company to take advantage of established system and resource over the coming rival as well as achieving efficiently and effectively its aspiration being preferred telecom operator. In addition, this study may lead to further study in the future.

1.8. Organization of the research

This research paper is organized in five chapters as follow: -
Chapter one discusses about Introduction part which includes background, objective, scope, and significance of the study. Chapter Two is about related literature review & empirical study and

Chapter Three will contain methodology, validity, and ethical issues. In chapter four analysis, tabulation, interpretation and finding will be discussed. Chapter five deals about summary, conclusion, and recommendation.

1.9. Limitation

This research is conducted based on non-probabilistic convenient sampling technique and samples are selected purposively that are involved in project management related activity specifically in corporate offices and in selected offices.

whereas the research is made for the academic purpose within short period of time there is scope limitation to be around corporate office with limited sample respondents. As discussed in the introductory part of the paper company undertakes highly integrated, complex, and large projects using matrix project management approach in different locations under different division throughout the country. Therefore, to grasp deep understanding of company's project risk management practice and to collect wide perspective of project risk management related issue it would be better to further undertake research in a comprehensive and inclusive manner.

CHAPTER TWO

2. RELATED LITERATURE REVIEW

2.1. Project and Uncertainty.

According to Wysocki R. K., (2014, p.4), projects arise out of unmet needs that is either to find a solution to existing business critical problem or to take advantage of an untapped business opportunity. This indicates that business organization undertakes the projects to create customer value, to take strategic advantage over the rivals, enhance operational excellence and secure sustainability of the business.

Formally different litterateurs define the project in different way as follows.

"A project is a sequence of unique, complex, and connected activities that have one goal or purpose and that must be completed by a specific time, within budget, and according to specification Wysocki R.K., (2014).''

Similarly, Turner (1992) defines the project as "*an endeavor in which human, material and financial resources are organized in a novel way, to undertake a unique scope of work of given specification, within constraints of cost and time, so as to achieve unitary, beneficial change, through the delivery of quantified and qualitative objectives.*"

Project management Institute, (2004 p.5) also defines a project as temporary endeavor undertaken to create a unique product, service, or result.

When we closely observe these and other related definitions of projects it talks about creating new values or expanding existing solution for the customer, organized in innovative way within specified budget, time and quality parameters. This implies that project bring about change in efficiency, effectiveness, business success and customer satisfaction. In addition, each definition indicates future change event to be created in a novel way, planned resources to date, to be organized and consumed in the future which definitely involves inherent uncertainty that requires attention.

Chapman C. and Ward S., (2003, p.22), project risk management, explains that managing uncertainty is inherent in most projects that require formal project management (PM). They further emphasized that good project management practice can be thought of effective uncertainty management such that to manage uncertainty directly on good practice in planning, coordination, setting milestones and change control procedure areas. However, they claimed that most project management failed to consider how coordinated approach to proactive and reactive uncertainty management to be integrated with project management.

2.2. Uncertainty and Risk

As it is discussed above project environment could not be fully known; there may be miss understanding of facts and unforeseen events or situations that might affect the project success. These uncertainties could prevail throughout the project life cycle (PLC) from the inception to closing phases; there may be error or unforeseen conditions on selection and prioritization of projects, base estimates, recruitment, execution as well as monitoring and control activities. Here let us discusses uncertainty and risk in the context of project activity.

Chapman C. and Ward S., (2003, p.7) presented five aspects of uncertainty that may arise throughout the PLC as follow:

1. variability associated with estimates.
2. uncertainty about the basis of estimates.
3. uncertainty about design and logistics.
4. uncertainty about objectives and priorities.
5. uncertainty about fundamental relationships between project parties.

Cleden D., (2009), discussed that “Risk is exposure to the consequences of uncertainty. In a project context, it is the chance of something happening that will have an impact upon objectives. It includes the possibility of loss or gain, or variation from a desired or planned outcome, as a consequence of the uncertainty associated with following a particular course of action. Risk thus has two elements: the likelihood or probability of something happening, and the consequences or impacts if it does.”

ISO Guide 73: (2009), defines risk as “the effect of uncertainty on objectives”. The guide further explained that the effect could be negative (Hazard risk) or positive (opportunity risk) or deviation of expectation (uncertainty) that can be described by an event, change in circumstance or consequence. Hence uncertainty implies “lack of information about future situation or state of the system.” Borghesi A. & Gaudenzi B., (2013, p.6)

Philosophically Risk has been interpreted as (Risk = hazard × exposure)

where Hazard is defined as the way in which a thing or situation can cause harm and exposure as the extent to which the likely recipient of the harm can be influenced by the hazard Chicken JC, Posner T. The Philosophy of Risk, (1998)

According to Borghesi A., (2013), hazard is the conditions that may create or increase the likelihood of the occurrence of unfavorable event. And the major classes of hazards are Physical hazards: like the presence of flammable materials in a warehouse, Moral hazards: dishonesty or character flaws of an individual, Morale hazard: a situation of carelessness, negligence of duty, indifference faced with danger.

Generally, risk in project environment is the uncertain situation or event that its occurrence affects the project objective unfavorably or favorably which requires proactive identification, planning, and close follow up to minimize or avoid threat and tap an opportunity.

Different authors define risk formally as follow. According to Kerzner H., (2017) “Risk is a measure of the probability and consequence of not achieving a defined project goal.”

Similarly, Srinivas K., (2019, p.1) states, Risk is an uncertain condition or event that if it occurs has positive or negative effect on project objectives. Risk also defined as “an uncertain event or set of circumstances that, should it occur, will influence the achievement of the project’s objectives—APM (1997, p. 16)

Project management body of knowledge (PMBK) more elaborated that “Project Risk is an uncertain event or condition, that, if it occurs, has a positive/negative effect on project objectives. A risk has a cause and if it occurs, a consequence.”

“Risk is the probability that a particular adverse event occurs during a stated period of time, or results from a particular challenge.” (Adams)”

All definition explains that risk involves the probable/uncertain condition; if not managed properly it affects achievement of project objective. Therefore, as it is shown in Kerzner H., (2017, P.602)

Conceptually Risk =*f* (probability, consequence); as the probability or consequence increases Risk also increases

In other ways some thing or lack of something induces risky situation which is called hazard that is the root cause of the risk and hence,

Risk= *f* (hazard, safeguard)

It is imperative to conclude that increase of source and severity of danger (hazard) increases the risk and establishment and implementation of control mechanism (safeguard) reduces risk to the acceptable level.

These all by implies that risk management need to be properly adapted or adopted, and hence the risk management process should be organized in such a way to identify potential risks, plan activities formally, analyze risk (estimate the probability and predict the impact on the project) set risk response strategy, and monitor and control the progress to ensure effectiveness and efficiency of the system in reducing the risks to the acceptable level.

Risk has two components: -

I. A probability of occurrence of that event and
II. Impact/consequence of event occurring (amount at stake) (Kerzner H., 2017, p.601)

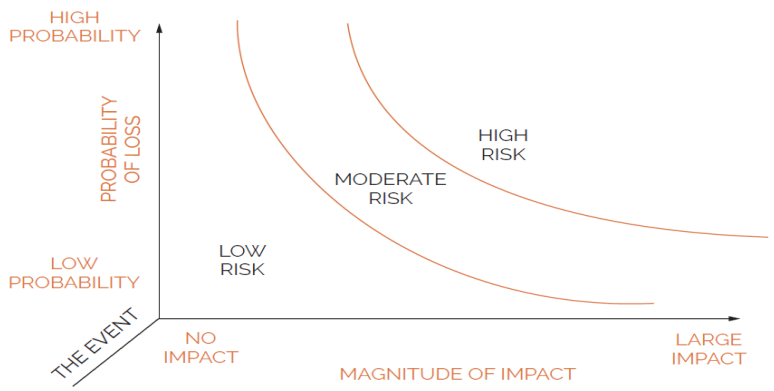

Figure 2-1: - Component of risks

Overall risk is the function of its component.

Source: - Kerzner H., (2017), P. 601 Figure 17-1

According to Kendrick T., (2003, P.3), Risk is the product of these two factors: the expected consequences of the event and the probability that the event might occur.

All risks have these two related, but distinctly different, components. Employing this concept, risk may be characterized in the aggregate for a large population of events (‘‘macro-risk’’), or it may be considered on an event-by-event basis (‘‘micro-risk’’).

2.3. Types or risk

Risk is inherent in life; we live with it. But its level varies from significant to insignificant. It is impossible to manage or eliminate all risks. Therefore, categorization and prioritization are very important. One of the categorizations of the risk is based on the project constraints i.e., Cost, schedule and quality which are interdependent of each other; The change on one aspect entails the change on one or both. However, prioritization of risk based on the constraint is country or industry specific to standardize. Prioritization of risk work well if they have on interdependence and it is good starting point in project risk management. *Kerzner H., (2017, p.624,)*

Risk can be categorized in different forms. According to *Borghesi A. & Gaudenzi B., (2013).* Risk can be classified as business risk and project risk. It can be also categorized as strategic & governance risk, Business risk and financial risk. Some literature also categorize risk as

marketing, Financial, Technical and production, *Kerzner H., (2017, p.627).* According to free management eBook "project Skill", (2017, p.13) Risks are categorized as depicted bellow. This categorization provides some level of breakdown and helps to identify area of responsibility. Risk to a project can arise from one of the following four categories.

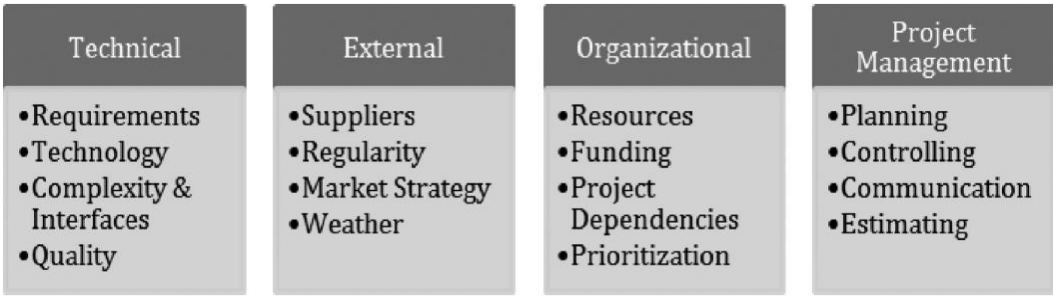

Figure 2- 2: - Risk categories

Source: -*Yom Institute of Economic Development (YIED)*

As we have discussed, risk categorization is industry dependent, the governing issue here is to understand broad perspective of risk and adopt appropriate risk breakdown to identify risks that require proper attention and mitigation plan. In broader sense risk my seen from Four Risk Observation and Management Perspectives. These are: -

1. **Strategic perspectives,** *which allow to observe if and how the risks lined to evolution scenarios and internal process may hinder achievement of strategic objective.*
2. **Corporate Governance perspective** *helps to see over all riskiness of the business; if it is the tolerable and within risk appetite; in agreement with corporate plan, within authority of Top management as well (Compliance).*
3. **Financial perspective** *helps to see risk system impact on liquidity of the business* in *short and long term.*
4. **Operational perspective** *helps to observe if and how risk system affects effectiveness and efficiency of the objective achieving in managing the process Borghesi A. & Gaudenzi B., (2013, p.23)*

In general, these multi dimension observation helps to adopt appropriate risk management tools and techniques that fits the situation at hand and identify area of responsibility.

2.4. Governance and Risk management

2.4.1. Governance

Many literatures report risk management failure in financial sector as well as in many business endeavors. These failures often materialized due to corporate governance failure i.e., deficient risk management system.

After financial crisis, many companies pay more attention to risk management. However, most company still consider that risk management as the main responsibility of line manager. Due to public and/or stakeholder pressure boards with widely held companies revised their incentive structure to discourage excessive risk taking. But many companies still focus on internal control and financial risk rather than identification and comprehensive management of risk. Corporate governance standard should emphasize on ex ante identification of risks should incorporate non-financial, strategic, and operational risks too. OECD (2014, p.9).

Therefore, Governance implies setting in place organization, processes, actions, culture and establishing authority, decision process as well as implementation. Risk governance applies the principles of good governance to the identification, assessment, management and communication of risks.

Kerzner H., (2017, p.19) states that all projects face trouble, and there may sponsor to support project manager when trouble prevails. But all problem may not be resolved by the sponsor easily and timely. Such problems can be resolved by effective governance. Further stated that Project governance is about setting decision framework which is related to defining expectation establishing accountability & responsibility, empowerment and verifying performance. Governance relates to consistent management, cohesive policies, and processes and decision-making rights for a given area of responsibility. Governance enables efficient and effective decision making to take place.

Governance is designed not to replace project decision making but to prevent undesirable decisions from being made. Therefore, corporate governance ensures commitment, compliance of procedure, transparent reporting, discharging obligation ethically and establishing authority and responsibility.

2.4.2. Risk management

When projects are undertaken in organizations that lack adequate project management processes, risks will be unknown, and probably unacceptably high. Without adequate analysis of projects, no one has much idea of what ‘‘going right’’ looks like, so it is not possible to identify and manage the risks—the things that may go wrong. Kendrick T., (2003, p.20**).** Therefore, one of the project management knowledge area that deals with uncertainty is risk management.

It is explained that “Risk management is a planned and a structured process aimed at helping the project team make the right decision at the right time to identify, classify, quantify the risks and then to manage and control them.” It is the continuous process to be implemented in any project life cycle (PLC). However early adoption (i.e., feasibility design and construction phase) provides great deal of advantage. *Srinivas K., (2019, p.4).*

Similarly, Kerzner H., (2017, p.604), states that Risk management is an activity of planning, identifying, and analyzing risks, developing response strategies, monitoring, and controlling risks. Further explained that risk management should be closely coupled with key project processes, overall project management, systems engineering, configuration management, cost, design/engineering, earned value, manufacturing, quality, schedule, scope, and test etc.

Proper risk management is proactive rather than reactive and positive rather than negative and seeks to increase the probability of project success.

Formally, different authors define risk a bit different way however the essences are similar. For example: -

According to ‘Risk Management’ (2020)**, citing** Douglas H., (2009, p.46), Risk management is defined as “the identification, evaluation, and prioritization of risks followed by coordinated and an economical application of resources to minimize, monitor, and control the probability or impact of unfortunate events or to maximize the realization of opportunities.” *Srinivas K., (2019) citing* Bahamid et al., (2017**),** stated that **“**Risk Management is an organized and comprehensive method tailored towards “organizing”, “identifying” and “responding” to risk factors in order to achieve project goals.”

Srinivas K., (2019, p.3) states that Risk management is a systematic method of identifying, analyzing, treating, and monitoring the risks that are all involved in any activity/ process and is a systematic method that minimizes the risks which may be an impediment to attainment of objectives.

As we can see all definition explains that risk management is about thought full, coordinated and systematic project risk management process to ensure effectiveness efficiencies and create stakeholders' value that meet stated time, cost & quality parameters as well as business objectives.

As Kerzener H., (2014, p.626), states "when companies become successful in managing the project, risk management evolves into a structured process that is performed continuously throughout the life cycle of the project. The four most common factors supporting the need for continuous risk management are how long the project lasts, how much money is at stake, the degree of developmental maturity, and the interdependencies between the different risks."

It is further indicated that Effective project risk management relies on both ideas mentioned above. looking backward, helps managers to avoid repeating past failures, and looking forward through project planning, they can eliminate or minimize many future potential problems.

Therefore, the overall purpose of risk management is to create value for customers effectively and efficiently, ensure strategic advantage of the organization, build brand and reputation and meeting its objective, ensuring sustainability too.

"The management of risk is not a linear process; rather it is the balancing of a number of interwoven elements which interact with each other, and which have to be in balance with each other if risk management is to be effective. Furthermore, specific risks cannot be addressed in isolation from each other; the management of one risk may have an impact on another, or management actions which are effective in controlling more than one risk simultaneously may be achievable." *The Orange book, (2004, p.13)*

As construction of telecom infrastructures are vast, complex and requires significant resources which is vulnerable for different risks it needs top management oversight, clear policy and

definition of risk appetite/tolerance as well as all stakeholder's proper attention, commitment, clear direction and organized risk management.

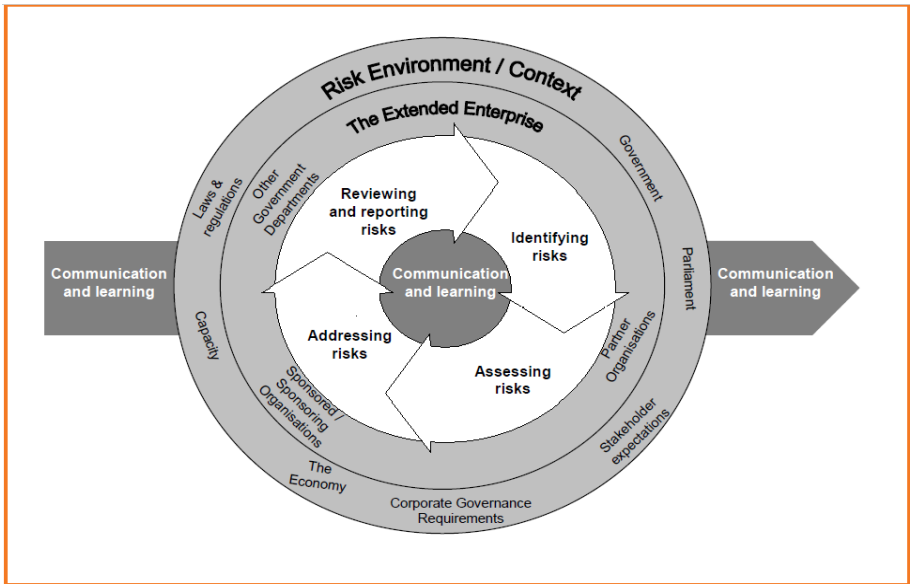

Figure 2-3: – Risk management model

Source: - **The orange book 'Management of risk -Principle & concepts', (2004, p.13)**

2.5. Principles of risk management

Kendrick T., (2003) states that Project risk management depends on thorough, sustained application of effective project management principles. As stated in Borghesi A. & Gaudenzi B., (2013, p.43), to effectively manage risk in the organization, top management commitment is essential in implementation of an integrated risk management process which aims to protect the enterprise from unfavorable events and to set out priorities, in light of which the priorities for risk treatment choices are set out; In addition, during process the risk management role is important; in depth knowledge of the operational activities and the processes being monitored facilitate implementation, Borghesi A. & Gaudenzi B., (2013, p.38),. And hence principles of risk management are depicted as follow.

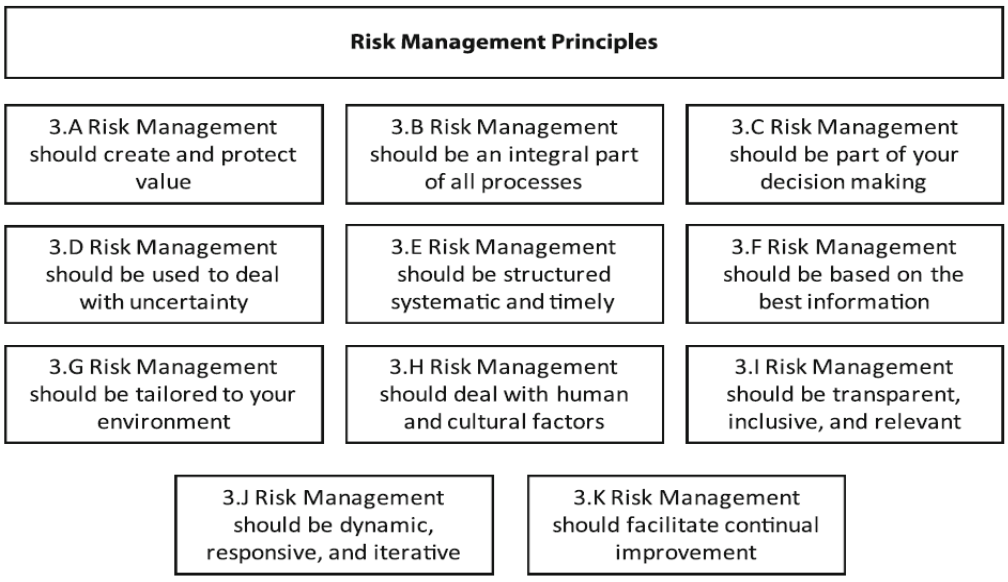

Figure 2-4 : -Risk management principles

Source: - Borghesi A. & Gaudenzi B., (2013, p.38),

2.6. Risk management process

Risk management process are the same in most literature researcher referred. According to Kerzener H., (2014), processes are explained as follow. Risk management includes several related actions, including risk: planning, identification, analysis, response (handling), and monitoring and control.

- Plan risk management is the process of developing and documenting an organized, comprehensive, and interactive strategy and methods for identifying and analyzing risks, developing risk response plans, and monitoring and controlling how risks have changed.
- Identify risks is the process of examining the program areas and each critical technical process to identify and document the associated risk.
- Perform risk analysis is the process of examining each identified risk to estimate the probability and the impact(s) on the project. It includes both qualitative risk analysis and quantitative risk analysis.
- Plan risk response is the process that identifies, evaluates, selects, and implements one or more strategies in order to reduce risk to an acceptable level given program constraints and objectives. This includes the specifics on what should be done, when it should be

accomplished, who is responsible, and associated cost and schedule. A risk or opportunity response strategy is composed of an option and implementation approach. Response options for risks include acceptance, avoidance, mitigation (also known as control), and transfer. Response options for opportunities include acceptance, enhance, exploit, and share. The most desirable response option is selected, and a specific implementation approach is then developed for this option. Finally, resources are allocated to the risk response plan (e.g., budget, personnel, equipment, facilities) and the response plan is implemented.

- Monitor and control risks is the process that systematically tracks and evaluates the performance of risk response actions against established metrics throughout the acquisition process and provides inputs to updating risk response strategies, as appropriate.

Risk management processes are depicted as shown below.

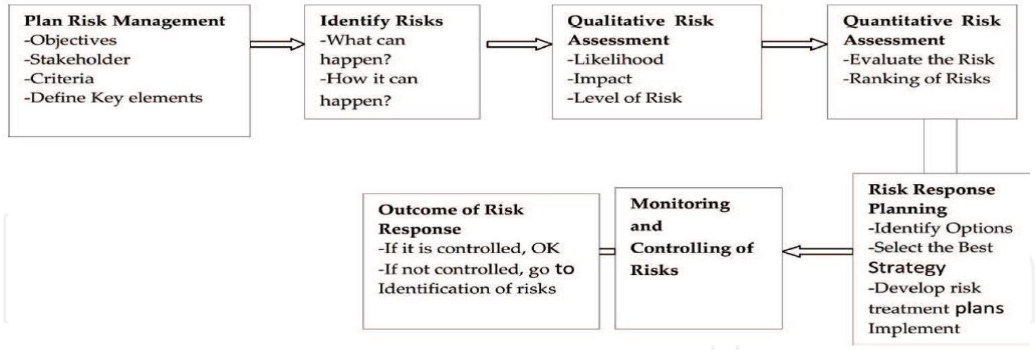

Figure 2-5: -Risk management process

Source: - Srinivas K., (2019, p.7)

A risk management plan includes information on stakeholders, planning processes, project tools, and metrics, and it states the standards and objectives for risk management on your project, Kendrick T., (2003).

Risk planning is iterative and includes the entire risk management process, and Important outputs of the risk planning process are the risk management plan (RMP) and risk management training. The RMP is the risk-related roadmap that tells the project team how to get from where the program is today to where the project manager wants it to be in the future, Kerzener H., (2014,

p.611). hence risk and project planning distinguish among and deal with “Decision termination, sufficient resourcing and adequate attention and risk planning”.

2.7. Tools and techniques in risk management

2.7.1. Risk planning

As we have discussed above risk planning is continuous and iterative process. To achieve sound plan, early should adopt the following tools and techniques: -

- *Establish the purpose and objective,*
- *assign responsibilities for specific areas,*
- *identify additional technical expertise needed,*
- *Set assessment process and areas to consider,*
- *define a risk rating approach,*
- *delineate procedures for consideration of response strategies,*
- *establish monitoring and control metrics (where possible),*
- *Define ground rules and assumptions.*
- *Define candidate risk categories.*
- *Methodologies for risk identification and analysis*
- *define the reporting, documentation, and communication needs.*
- *Provide risk management training*.

2.7.2. Risk Identification

Risk identification is the process of determining what, how and why things may happen. Borghesi A, and Gaudenzi B., (2013, p.43), discusses that Risk identification is a distinct activity part of the risk assessment process; risk assessment consists of risk identification, analysis, and evaluation of all areas across the entire organization. Possible methods of identifying risks are:

1. organizational charts.
2. flow charts.
3. vulnerability analysis, matrix of interdependencies.
4. Checklists.
5. event chain diagrams, decision trees.
6. intra- and inter-company data exchange: ***brainstorming, interview/focus group discussions; surveys, questionnaires.***
7. strengths, weaknesses, opportunities, and threats (SWOT) analysis.

2.7.3. Risk analysis

Risk analysis is the systematic use of available information to determine how often specified events may occur and the magnitude of their consequences. It may use any of a wide variety of mathematical and other models and techniques. According to Chapman C. & Ward S., (2003, p.64), Risk analysis can serve three separate roles.

1. diagnose possibly desirable changes in plans.
2. demonstrate the implications of such changes in plans.
3. facilitate, demonstrate, and encourage 'enlightened gambles.'

Borghesi A. & Gaudenzi B., (2013) discusses that Risk analysis supports managers in understanding the negative impacts of adverse events (in terms of costs or underperformance) and likelihood of negative consequences. Risk is characterized by two basic features:

- the severity of the possible adverse consequences.
- the likelihood (probability) of occurrence of each consequence.

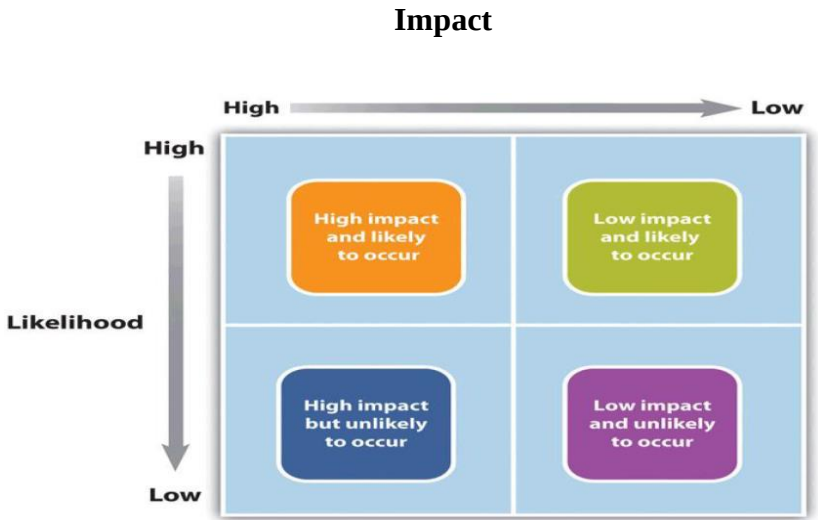

Figure 2- 6: – risk Likelihood & Impact

Source: - Watt A., (2014, p.190) 'project management'.

Different literature explains tools to be used in risk analysis as: -

- Qualitative & quantitative risk analysis method

- Basic statistical tools such as Discreet or contentious probability
- Aggregate/maximum loss, (Cause & effect analysis)
- Qualitative & semi qualitative analysis (Business impact, Event/fault tree analysis)

2.7.4. Risk monitoring & control

Continuous monitoring and review of risks ensures new risks are detected and managed, and that action plans are implemented and progressed effectively. Review processes are often implemented as part of the regular management meeting cycle, supplemented by major reviews at significant project phases and milestones.

Monitoring and review activities link risk management to other management processes. They also facilitate better risk management and continuous improvement.

The main input to this step is the risk watch list of the major risks that have been identified for risk treatment action. The outcomes are in the form of revisions to the risk register, and a list of new action items for risk treatment. Therefore, monitoring and control is about comparing plan against actual, effectiveness and efficiency of implementation and taking corrective action. Tools can be Graphical representation, Gant chart, real time observation, resource utilization analysis etc.

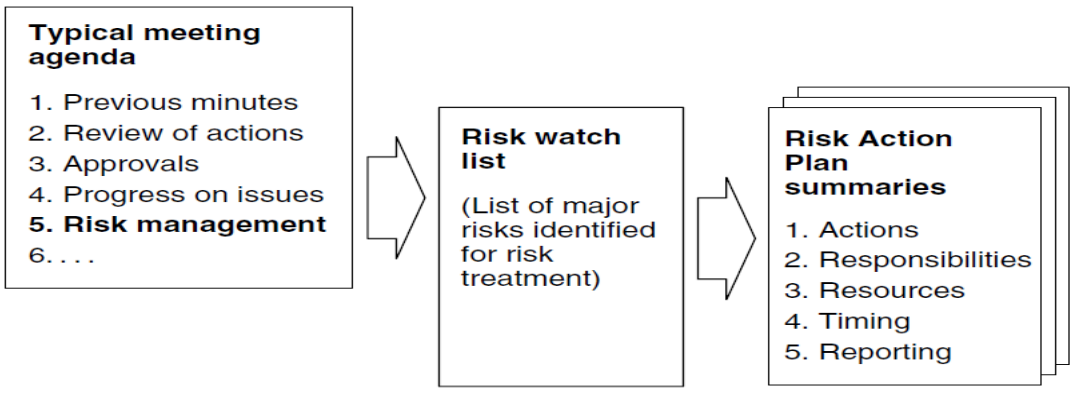

Figure 2-7: -regular risk monitoring

Source: Cooper D. F., (2005, p.107). 'Project risk management'.

2.7.5. Communicate and consult.

Communication and consultation with project stakeholders may be a critical factor in undertaking good risk management and achieving project outcomes that are broadly accepted. They help owners, clients and end users understand the risks and trade-offs that must be made in a large project. This ensures all parties are fully informed, and thus avoids unpleasant surprises. Within the project management team, they help maintain the consistency and 'reasonableness' of risk assessments and their underlying assumptions.

2.8. Impact of risk handling measures

Kerzener H., (2014, p.628), explained that Most project management methodologies include risk management, which can be used to:

- Create an understanding of the potential risks and their effects.
- Provide an early warning system when the risk event is imminent.
- Provide clear guidance on how to manage and contain the risk event, if possible.
- Restore the system/process after the risk event occurs.
- Provide a means for escape and rescue should all attempts fail.

2.9. Empirical study

Almost all research papers reviewed by researcher discussed about risk management in a similar way and emphasized the importance of adopting/adapting risk management process. They have also discussed in a similar way risk identification, analysis, response and monitoring and control techniques. For example, Danel K., (2018, p.2). on his assessment of the challenges of risk management implementation discussed that unless project risk management integrated with project schedule, budget and cost it could not be possible to take proactive measure on uncertainties that matter project objective. He further discussed that risk management requires special attention in life cycle of the project. In his research on Telecom expansion project in ethiotelecom he forwarded findings like lack of expertise and absence risk response strategy.

Similarly, Ali M., (2018) in his research on Housing development project (40/60/scheme) discussed that risk management is preventive process designed to ensure that no surprises are come to surface and that negative consequences associated with undesirable events are minimized. He also emphasized citing PMI, (2013, p.5) that Project management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements which is accomplished through the appropriate application and integration of the logically grouped project management processes using five Process Groups such as project initiation, Planning, Executing, Monitoring and Controlling, and Closing.

From researchers 40 respondent he concluded as there is no organized policy and guideline, no standard of risk management process and risk identification was not comprehensive and inclusive.

Research conducted on DBE Project Risk Management Practices by Zelalem A., (2020) explained Risk management as the way toward distinguishing, evaluating and controlling threats to an organization's capital and income, the source could be resource allocation, compliance, and management failure. Author further stated citing Alashawal, A. M., Rahman, H. A. & Beksin, A. M., that managing risk has two major objectives: to keep away from the downside risks and to take advantage of opportunities. But several project managers have not yet realized the need to include project risk management as a key process. Here also research finding indicated the weak risk management planning, implementation, and documentation. In addition, there shown absence of risk management experts.

Journal on *Enterprise Risk management: Factors Associated with effective Implementation, Mensha G. K., & Gottwald W. D., (2016, p.5),* discussed that though risk can be viewed as the possibility of loss, a hazard, an uncertainty or opportunity, it is a multilayered concept indicating that there is a great deal at stake for organizations. Further discussed that Risk is commonly measured on two scales: severity and frequency. Severity refers to the intensity or magnitude of loss or damage, whereas frequency is the likelihood of loss, damage, or a missed opportunity citing (Hampton, 2009).

Steyn J., (2018, p.4), on his introduction to risk management journal discussed that effective risk management requires a conducive company culture, as well as the necessary risk management processes, structures and budget to identify, assess and address potential opportunities and adverse effects. Author further emphasized that at planning phase risk and opportunity categories need to be defined, the processes to be used for identifying risks are identified and risk assessment tools, such as a project specific risk matrix, are finalized. Responsible parties for driving the overall risk management process are identified and the timing and frequency for risk management activities must be scheduled too.

The author also noted that the risk management planning step should include management commitment, defined roles and responsibilities, clear risk statements, pre-determined risk categories, a custom risk matrix and a risk register. It should also allow for risk prevention and the reporting of residual risk.

Journal on project risk management depicted project risk management overview as shown below.

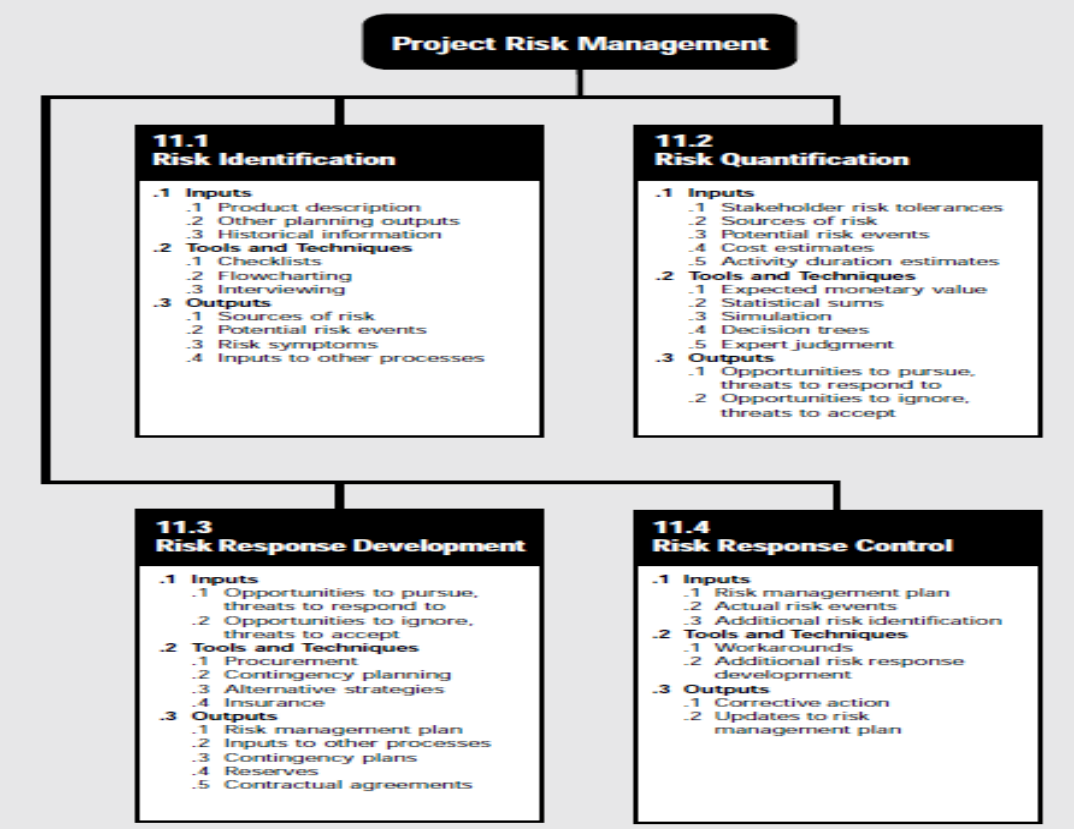

Figure 2-8: -project risk management overview

Source: -PMI ‘A guide to the project management body of knowledge’, (1996, p.2)

In general, these and other research related to project risk management indicates that risk and uncertainty is the inherent parts of project. And all emphasized that unless risks are managed based on the sufficient knowledge, due care and appropriate tools, the project failure could be high. And almost all research reviewed here indicated that risk management practice is not well developed in ethiopia, there is gap in experienced human resource lack of appropriate tools lack of proper attention. As Danel K., (2018, p.46) citing different authors explained that risk management in Ethiopia is very little and undeveloped and formal project risk management process is not practiced.

Therefore, since uncertainty is the natural part of the project risk management is justifiable to be incorporated in all project environment and since risk management practice is weak or not matured in our country it subject to serious of research to identify challenges and to look improvement area.

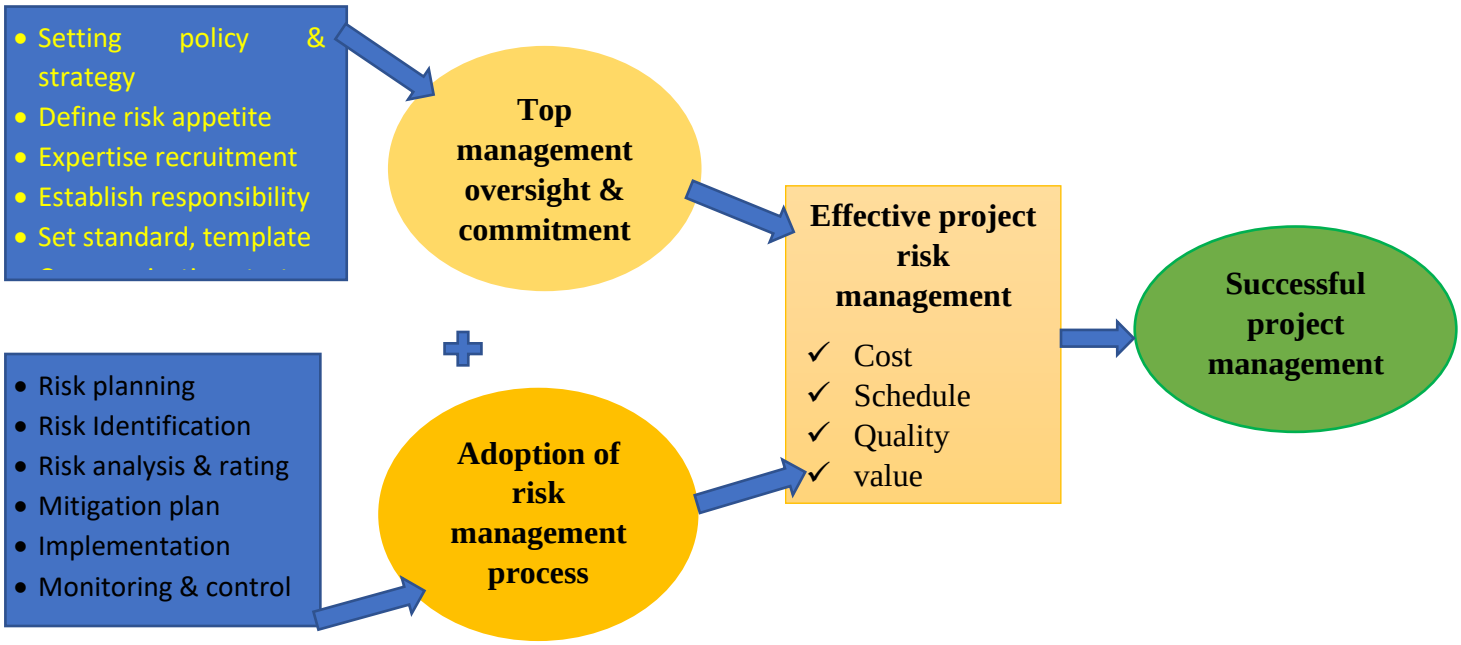

Figure 2-9: -conceptual framework

Source: extracted from empirical and literatures

CHAPTER THREE

3. RESEARCH METHODOLOGY

This research primarily reviews oversight level of top management and practical application of risk management knowledge area/processes, tools and technique in the company. Here the researcher explains how he has approached this study to identify areas and select sample that are used for analysis and recommendation.

3.1 Research Approach

This research is the primary research that is data are collected using questionnaire from selected samples and approached based on qualitative research method. Qualitative research method helps to collect immense knowledge, experience and insight of individuals related to specific issues at stack. Qualitative research helps researcher to acquire knowledge about phenomenon, identify problems and develop new theory Leedy and Ormrod (2010: 136-137). In this research qualitative approach is best and effective method to collect data related to risk management practices; to collect project team knowledge experience and the related concept by applying combination of ordinal (Likert scale) measurement, multiple choice and open-ended questionnaire method. To make information clearer and more understandable, the data need to be explained in quantitative terms. Therefore, quantitative method also applied. To get relevant, reliable and measurable variables as a benchmark against their application and to grasp understanding on risk management, extended exploration of related literature also has been carried out. The results are presented using descriptive research method.

3.2 Research Design

Research design is the framework or road map of overall research that indicates the process towards research end goal. According to Grener S., (2008, p.38) research design is a grand plan of approach to research topic.

To attain research objective, here the researcher followed descriptive research approach to assess project risk management practice in ethiotelecom. According to Walliman N., (2011) descriptive

test helps to revel the structure of data, how values of variable are distributed. Similarly, Grener S., (2008) states that descriptive result attempts to describe systematically a situation problem and phenomenon and provides information about the issue at hand. And different authors advise to adopt this method when there is resource and time limitation.

In addition, this paper tried to address top management level of oversight on risk management i.e., governance; and the application of risk management knowledge area in planning identifying, and monitoring activity. And questionnaires have been administered in combined form classified by heading.

3.3 Population and Sampling design

3.3.1 Sampling design

This study employed nonprobability sampling method. This method is useful for quick survey or where it is difficult to get access to the whole population. Walliman N., (2011, p.96) Therefore based on nonprobability sampling method the researcher has adopted purposive/convenient sampling technique.

3.3.2 Study area

Since most of the projects are expansion of communication infrastructure, execution of these projects carried out in different geographical areas. However, the company follows centralized approach to manage projects. Therefore**,** taking into consideration the available resource and time as well as accessibility of data research has been conducted under IS office, in IT service program management, System rollout, in OPMO Infrastructure and power management, FAN planning & designed section, corporate program management office as well as performance and monitoring departments. In addition, the company structured project office in matrix base and each functional unit has project offices under each division which is monitored and controlled by separate division. There is also program office who undertakes the coordination and follow-up activity. This indicates the complexity of organization to cover all area. Therefore, based on the convenience and the availability of sufficient information research focused on IS project office, OPMO department, FAN section, performance monitoring and Program offices.

3.3.3 Target population

Here target population is to mean that total number of populations who have direct involvement in the project and risk management activity under specified work units. There are project works under each fleet & Facility, Information system, wireline network, Fixed wireless network, Mobile network Divisions. As these divisions incorporate project and operational work together, it is inconvenient and time consuming to collect sample from all these staffs with respect to assessment work schedule. From the review of internal document and interview with selected unit's researcher adopted purposive sampling technique to identify target population that have close relation with project activities. Based on that the program office (PO), IP&ED, Operation project management (OPMO) office, IS program management office, IS Design & Engineering office, Wireline network Design & rollout teams are identified having highly involved in project management, coordination designing and rollout activity. And hence the target population comprises 10 Directors, about 30 section heads, 120 supervisors and more than 300 staffs in and around corporate office which is totaled to 460 staff. From these target population the sample of Director, managers, supervisors and staffs are selected for the study in this paper based on location convenience and purposively based on their relative exposer to the area of study at stack.

3.3.4 Sample Size

Though census sampling is appropriate to acquire full knowledge of phenomenon, but it is not effective and efficient in all aspects and environment. Therefore, it is important to select appropriate sampling method that fits the situation and the population size. Sample size should be representative enough to make appropriate conclusion and recommendation about population. Accordingly, by using convenient sampling method this research has constituted 4 Directors, 9 section heads, 12 supervisors and 25 specialists, experts, analysts and other supporting staffs; total of 50 samples to meet research objective.

3.3.5 Data source and collection instruments

The data sources are staffs involved in project planning, designing, execution, monitoring & control and risk management activities. The data has been collected using primary data collection

method by distributing questionnaires to the selected sample of Directors, managers and staffs. The questionnaire has consisted total of 69 closed ended Likert scaled, 13 multiple choices with multiple response and one open-ended questions. Even though close ended questions are not flexible they are easier for respondent to respond and simple to organize, analyze and draw result. Whereas open ended questions are a bit difficult to respond sort and analyze but it enables to collect respondent's insight, experience and feeling.

To collect information the close ended questions has been designed based on Likert scale five-point method as (1) Strongly Disagree, (2) Disagree, (3) Neutral, (4) Agree (5) Strongly Agree. In addition, multiple choice questionnaires are designed to explain establishment of shared view, consistent application of risk management tools, techniques & best practices as well as existence of proper communication among project staffs. And the open-ended question designed to incorporate general feeling and understanding of respondents to ward risk management practice in the project environment that suffixes Likert scale.

3.3.6 Data Analysis

Likert scaled analysis provides positive or negative feedback on different degree ranging from strongly disagree to strongly agree. These data have to be summarized into proper category that provides sensible and understandable information for the reader. For this purpose, Likert scale information has been categorized in to "***Adiquqte*** and ***Inadequate oversight & commitment***" for the governance related question and "***adequate*** and ***Inadequate application of tools, techniques and methods***" for application of risk management knowledge area, tools, and techniques. Therefore, to produce clear information Statistical Package for Social Science (SPSS) has been used to analyze data. To describe data cross tabulation technique and means and frequency table is used. Using this software statistical information frequency of each response, mean value and related tabulations have been generated. Based on the above categorization agreement responses are aggregated to adequate category and Disagreement including Neutral responses are aggregated to Inadequate category. Neutral responses are categorized into inadequate category because it implies non establishment of shared view, nonproper communication non inclusiveness which are the part of risk management best practice. Based on the mean value less than or equal to 3 represents ***inadequate*** support and application and greater than 3 has been

considered as ***adequate*** attention of management and proper application of risk management tools and techniques. All Likert scale questions are analyzed whereas to avoid redundant expression and explain inclusiveness consistence and open communication of risk management activity researcher selected six multiple choices with multiple response questionnaires which deemed sufficient i.e., question # 3, 4, 5, 11,12, & 13. In addition, open ended question responses are summarized separately.

3.3.7 Validity and Reliability

Another term for reliability is consistence or repeatability over time. Research must be designed in a way it could be auditable that is transparent and clear; method should be clear enough to instill confidence of reader, Greener S., (2008, P.37). Similarly, validity is about measurement accuracy (the extent to which the data measures accurately what intended to measure). Greener S., (2008, P.37) states that validity characterized in three ways.

1. Face validity: - persuasion of non-researchers that deployed method makes sense to use.
2. Construct validity: - is about methods must measure what is to be measured. This concept particularly important in questionnaires that are not managed face to face to clarify ambiguity of respondent.
3. Internal validity: - relates to causal effect, i.e., does factor X cause Y? Therefore, reliability and validity will be tested for accuracy and to measure stability of variables.

To test construct validity of questionnaires researcher conducted Cronbach's alpha test and the overall result falls on 0.83 which is higher than minimum requirement of 0.70. This indicates that the measurements fairly measure what intended to measure. Cronbach's alpha test detail results of the risk management process shown below.

Table 3-1: -Cronbach's result

Process	Cronbach's Alpha	Based on Standardized Items	N of Items
Governance	.730	.726	13
Planning process	.874	.878	14
Identification	.851	.854	9
Analysis	.901	.905	14
Response	.787	.786	9
Monitoring & control	.846	.849	10
Overall	**0.83**	**0.83**	**69**

Source: -Self extracted from SPSS

3.4. Ethical issue

Here the researcher declare that ethical issues have been considered while approaching sampled individuals. All participants have been treated with respect and courtesy. The researcher has tried to receive their consent while distributing questionnaires and assured confidentiality and anonymity of individuals; a copy of report result will be provided to ethiotelecom as well.

CHAPTER FOUR

4. DATA ANALYSIS AND INTERPRETATIONS

4.1. Response Rate

This study targeted population that are involved in project management activity i.e. program office personnel, project managers, Designing and performance monitoring staffs, project rollout staffs etc., in corporate level. To collect primary data 69 Likert scaled questionnaires categorized in Risk Governance, Planning, Identification, analysis, Response, and Monitoring & Control, 13 multiple choices with multiple response questionnaires and one open-ended question was administered. The sample incorporated 4 Directors, 9 managers, 12 supervisors, and 25 other support and rollout personnel. Overall, 50 questionnaires were distributed, and 40 responses are collected completed, 6 were incomplete response and 4 questionnaires are not returned. which implies 80% completed response rate that are used for analysis.

4.2. Respondents' profile

The respondents personal profile shows different educational, Gender, experience, Title and Role mix. Education mix shows 60%-degree holder and 40% postgraduate; similarly, respondents gender mix is 25% female and 75% male. Company experience and project related activity experience in category less than 20 and less than 10 indicates 80% and 75% respectively. In other way current position mixes are 23% managerial position and 77% supervisory and other supporting rollout staffs. Table 4-1 & 4-2 bellow explains the overall mix of respondent details extracted from the SPSS tool.

Table 4-1: - Frequency of respondent company and project experience

Variable	Description	Frequency	Percent	Valid Percent
Company experience	One to 10	19	47.5	47.5
	11 to 20	13	32.5	32.5
	21 to 35	1	2.5	2.5
	36 to 45	7	17.5	17.5
Project experience	One to 3	22	55.0	55.0
	4 to 6	8	20.0	20.0
	7 to 10	7	17.5	17.5
	More than 11	3	7.5	7.5

SOURCE: Self extracted from SPSS

Table 4-2: - Frequency of respondent education level, gender & position

Variable	Description	Frequency	Percent	Valid Percent
Education level	Degree	24	60.0	60.0
	postgraduate	16	40.0	40.0
Gender	Female	10	25.0	25.0
	Male	30	75.0	75.0
Current position	Director	3	7.5	7.5
	Manager	6	15.0	15.0
	Supervisor	4	10.0	10.0
	Specialist	18	45.0	45.0
	Expert	1	2.5	2.5
	Administrator	4	10.0	10.0
	Analyst	4	10.0	10.0
Total in each category		***40***	***100.0***	

SOURCE: Self extracted from SPSS

4.3. Overall application of project Risk management methods tools and techniques

The table 4-3 detail bellow shows cumulative response collected from the questionnaire under each project governance and application of risk management knowledge areas. The summary of project risk management governance (i.e., definition of clear and complete risk management

policy and top management oversight) questionnaires figured out 67% (i.e., 26 out of 40) of the respondents responded to be Inadequate attention of corporate management and absence of clear definition of risk management policy, lack of establishment of authority and responsibility. In a similar manner 73% of respondents responded inadequate application of project risk management planning and 64% responded inadequate application of mitigation process. The 68% of responses also show inadequate application of project risk Identification process and, 69% for inadequate application of qualitative and quantitative analysis process. In general, 69% of respondent responded in consistent and inadequate application of risk planning, identification, analysis and mitigation tools and methods. Similarly, 65% of the respondents expressed inconsistent and in appropriate application of monitoring and control process. Structuring, organizing and empowering project risk management office related response indicates that 69% of respondent expressed as there is no well-structured, resourced and empowered project risk management office. Governance related analysis in category indicates equal proportion of about each 68% of managerial staffs and non-managerial experts, supervisors and others expressed inadequacy of risk governance.

Table 4-3: -Summary of responses for each risk management area

Variables	Strongly Agree	Agree	Disagree	Neutral	Strongly Disagree	No response	Overall position		% disagree
							Agreement	Dis-agreement	
Risk Governance process	1.75	11.33	11.58	13.17	1.58	0.50	13.08	26.33	0.67
positioning & resourcing project risk management office	1.00	11.00	13.00	13.00	1.00	1.00	12.00	27.00	0.69
Risk management process	1.69	10.41	9.34	14.47	3.60	0.49	12.11	27.41	0.69
Risks monitoring and control process	1.40	12.90	8.60	13.30	3.40	0.40	14.30	25.30	0.65
Overall risk management process	**1.46**	**11.41**	**10.63**	**13.49**	**2.40**	**0.60**	**12.87**	**26.51**	**0.67**

SOURCE: Self extracted from SPSS

4.4. MEAN VALUE RESPONSES ON RISK GOVERNANCE QUESTIONS

Descriptive statistics result shows that over all governance related response mean fall on 2.43 which implies that the attention given for the project risk management is inadequate. The detail mean value for each related question responses also fall in the range of 2.0 to 2.8 except for the transparency and responsiveness questions which registered some inconsistence with mean value 3.85.

Table 4-4: -Partial detail of Governance related response

Variables	Mean	Std. Deviation
Top management established project charter, segregation of duty, risk management policy that defines risk, risk tolerances/appetite, corporate governance and oversight, responsibilities, and accountabilities.	2.30	1.137
Top management defined Risk-management discipline, methods/process for identifying risks, evaluating, and prioritizing risks, mitigating, and controlling risks, monitoring, and reporting.	2.41	1.229
Top management set the risk organization structure including experts and leaders, oversight committees, how risk-management functions are integrated, and executive sponsorship and commitment.	2.28	1.132
Top management set Methods on how to monitor and report risk, evaluate risk, control activities, and related assurance activities.	2.10	1.081
Top management committed resource to build capabilities including information tools, risk-event databases, risk analysis and modeling, training of management, and management change capabilities.	2.03	.974
Top management-built consensuses, allocate appropriate financial budget to mitigate uncertainties effectively and efficiently	2.40	.982
Overall	**2.43**	

SOURCE: Self extracted from SPSS

4.5. MEAN RESPONSE ON RISK MANAGEMENT PLANNING

In a similar manner over all mean response of risk management planning indicates 2.68 which is consistent with previous figure. This is also to mean that project risk management planning

process does not follow scientific methodology, tools, and techniques. Mean response of each response of planning ranges from 2.0 to 3.2.

Table 4-5: -Risk management planning response partial statistics

Variables	Mean	Std. Deviation
There has been a well formulated risk management plan for the project	2.83	1.17
Required resources and costs for the risk management process are estimated and included in the project budget.	2.30	1.32
Risk management activities were clearly defined and included in the schedule of the project.	2.60	1.30
There is documented risk register system/database	2.90	1.41
The project team has staffed with experienced risk management experts	3.25	1.51
Planning meetings were held with participation of key stakeholders to develop the risk management plan and get endorsement of members.	2.58	1.28
In risk planning predefined templates, metrics and historical data used	2.73	1.32
There were established risk management tools, techniques, and data sources to accomplish risk management process	2.60	1.28
Overall	**2.68**	

Source: Self extracted from SPSS

4.6. Response on Risk Identification, Analysis, Response and Monitoring & control

The overall mean response statistics of Risk Identification, Analysis and mitigation process are 2.43, 2.7 & 2.51 respectively. Their detail statistics also fall between 2.13 to 3.0. All these data consistently show the inadequate application of risk Identification, analysis and mitigating tools techniques and methodology. Similarly Risk monitoring and Control process related responses mean ranged from 2.0 to 2.7 with the overall 2.38.

Table 4-6: - Risk response management questions mean value.

Variables	Mean	Std. Deviation
The project has planned responses as opposed to considering risks as they arise.	2.68	1.309
The project has set clear strategies to respond for threat and opportunity.	2.43	1.152
Risk owners are identified and given responsibility to mitigate risks under their control.	2.20	1.224
Risk owners sufficiently resourced to discharge their bestowed responsibility	2.75	1.316
A decision tree analysis method is in place to choose the most appropriate response	2.60	1.150
Risks are addressed by their priority	2.13	1.159
An allocation of contingency reserve for cost and time considered	2.63	1.427
There is clear and documented guidance when to use risk avoidance, reduction, accept, transferring, exploiting, enhance and sharing strategy	2.85	1.511
Overall	**2.51**	

Source: Self extracted from SPSS

4.7. Frequency of response for multiple choice questions

Response collected from multiple choice questionnaire shows traditional and inconsistent application of risk Identification, Monitoring and control tools and techniques, absence shared vision and proper communication. The frequency distribution in the following tables shows as that different individual have different understandings. As we can see from table 6 bellow, project plan is most selected to identify risk in project which indicates inadequate risk identification and more traditional approach.

Table 4-7: -Inputs used in risk identification.

What inputs are used in risk Identification?	Response	Frequency	Percent	Valid Percent
Risk management plan	Yes	11	27.5	27.5
Risk breakdown structure	Yes	8	20.0	20.0
Project plan	Yes	19	47.5	47.5
Business environment factor	Yes	10	25.0	25.0
Risk categories	Yes	5	12.5	12.5
Historical data	Yes	8	20.0	20.0
None	None	2	5.0	5.3
Missing	No response	2	5.0	

Source: Self extracted from SPSS

In a similar manner in risk monitoring process project performance report is most selected for monitoring purpose. This also shows inadequate risk monitoring practice. In the common risks encountering question poor definition of requirement and lack of sufficient resource are selected most 47.5% and 45% respectively

Table 4-8: -Risk monitoring & control Input

What inputs are used in risk monitoring & control?	Response	Frequency	Percent	Valid Percent
Risk register	Yes	11	27.5	27.5
Risk management plan	Yes	14	35.0	35.0
Work performance data	Yes	11	27.5	27.5
Performance report	Yes	19	47.5	47.5
None are used	Yes	5	12.5	12.8
Missing	No response	1	2.5	
Total		**40**	**100.0**	

Source: Self extracted from SPSS

Table 4-9 shows that the project personnel more focus on technical, Operational and financial risks. Their frequency percentages are 57.5, 52.5 and 42.5, respectively.

Table 4-9: -Types of risk incorporated.

Types of risks incorporated in current project planning		Frequency	Percent	Valid Percent
Technical risks	Yes	23	57.5	57.5
Operational risks	Yes	21	52.5	53.8
socio economic risks	Yes	8	20.0	20.0
Financial risk	Yes	17	42.5	42.5
Compliance risks	Yes	7	17.5	17.5
Environmental risks	Yes	6	15.0	15.0
None	Yes	3	7.5	7.5
Total		40	100.0	100.0

Source: Self extracted from SPSS

Risk monitoring and control related response also shows that project status meeting is used frequently to follow up and anticipate risks. That means project management follows reactive approach to control risks.

Table 4-10: -Techniques used in risk monitoring & control.

What tools & techniques are used in risk monitoring & control		Frequency	Percent	Valid Percent	Cumulative Percent
Status meeting	Yes	17	42.5	42.5	100.0
Risk audit	Yes	12	30.0	30.0	100.0
Risk assessment	Yes	9	22.5	22.5	100.0
Earned value analysis	Yes	5	12.5	12.5	100.0
Technical performance analysis	Yes	13	32.5	32.5	100.0
Reserve analysis	Yes	3	7.5	7.5	100.0
None	Yes	3	7.5	7.7	100.0
Missing	No response	1	2.5		

Source: Self extracted from SPSS

4.8. Open ended question responses

For the open-ended question out of the forty returned responses eleven of the respondents expressed their feelings and insights and all of them discussed that project risk management does not given sufficient attention by top managements; there is no organized sufficiently staffed and standardized project risk management structure, there is no Motivation, and carrier plan; no organized project data repository and organizational learning management system. It is also commented that project risk management in the company handled traditionally, there is shortage of experienced risk management personnel in the project environment, no scientific tools, technique and methodology applied, no proper integration with the operation.

CHAPTER FIVE

5. SUMMARY OF FINDING, CONCLUSION AND RECOMMENDATION

5.1. SUMMARY OF FINDING

Project risk management is one of critical part of the project to success of the project objective cost, quality, schedule and value creation wise. Therefore, the organization needed to pay due attention set appropriate risk management strategic plan, organize, resource risk management office and establish accountability and responsibility. The cumulative summary of this study shows that about 67% of respondent explained an inadequate attention and commitment of top management to define risk appetite set clear direction, properly organize and resource risk management office and establish accountability and responsibility.

Response on project risk management planning indicates that 73% expressed inadequate and inappropriate risk management planning, 68% expressed poor application of risk Identification process and 69% & 64% inconsistent inadequate application of risk analysis and response methods respectively.

The detail mean value of each area of project risk management process related questions figure lies mostly between 2.0 and 3.0. The overall mean value for risk governance, planning, and risk Identification process response shows 2.43, 2.68 and 2.43 respectively. The response on risk analysis, Mitigation/response and monitoring and control process, mean value figure shows 2.7, 2.51. and 2.38. The mean value less than or equal to 3 implies inconsistent and weak application of project risk management knowledge area and above 3 indicates application of consistent well organized project risk management process.

In a similar manner response for multiple choice question indicates company approaching project risk management process traditionally. Inputs used for risk identification process 47.5% selected project plan other variables ranged between 12 and 27. Risk monitoring control area also 47.5% picked performance report to monitor risks. Furthermore, open-ended question response is summarized as there is not properly organization risk management structure, lack of experienced project risk management personnel and there is traditional, inconsistent project risk management

practice and there is no risk register or documentation system as well as knowledge management and organizational learning system.

This indicates that risk management process follows traditional approach in the company in an incomplete manner; similarly, response for risk identification and mitigation process and 64% of disagreement respectively on proper application of risk Identification and mitigation tools, techniques and methodology; analysis and monitoring and control figure also shows 69% and 68% disagreement respectively.

5.2. CONCLUSION

The current business environment is characterized with complex versatile and dynamic nature that requires dynamic and flexible approach. This nature also requires critical thinking, informed decision making and structured, organized and planned project risk management process. Ethiotelecom is information telecommunication, business support system and other communication related value-added service provider and all these systems are highly dependent on information communication technology. These technologies are extremely dynamic that requires contentious tracking and are susceptible for different manipulation and interference. Moreover, each technology deployment entails updating related systems and components to tape available technology effectively and to secure integrity, compatibility as well as to stay in the business.

These and other factors forced the company to duel with highly and contentious projectized environment. These and current developing competitive environment call the company to carefully design, plan, Identify, analyze, project risks, set in place properly structured and organized response strategy to conduct contentious monitoring and control based on project risk management best practice project management knowledge areas.

In this regard based on the study finding researcher concluded that project risk management in the company is handled with: -

- Absence of clearly defined project risk management policy, procedures, authority and responsibility and with inadequate corporate management attention, oversight, and commitment

- Absence of dedicated, well structured, organized and sufficiently resourced risk management office.
- In consistent and improper application of risk management planning, Risk Identification, analysis, and mitigation tools, techniques and methods
- Poor application of risk Monitoring and control tools, techniques, and methodology.

5.3. Recommendation

Ethiotelecom is entering into new competitive environment. As it is providing communication and information related services, it faces different business, social, economic, technological and environmental threats and opportunities/risks. And hence, anticipating and managing risk become critical and survival issue for the company to ensure competitive advantage over the rival, to create stakeholder/customer value and to stay in the business as well as to build operational excellence. Research result indicates that project risk management in the company is managed in a traditional way without adequate adoption or adaption of project risk planning, identification, analysis, mitigation and monitoring and control tools and techniques.

Therefore, researcher recommends corporate management and project team: -

- To formulate comprehensive project risk management process, procedures; define risk appetites, to allocate sufficient and competent human and material resources for risk management as well as closely follow up proper implementation.

- To set dedicated appropriate structure for risk management organize and resource the office, establish clear authority and responsibility and guidelines and to facilitate risk management training.

- To apply project risk management tools, techniques and methods consistently and continuously in risk planning, identification, analysis, mitigation processes.

- And continuously monitor & control mitigation processes by applying appropriate risk monitoring and control tools and techniques throughout project life cycle.

- This study is conducted using non probabilistic descriptive research method. Sample also taken based on convenient sampling technique. Therefore, taking this paper as initial input it would be better to research further using other research approach and sampling method.

References: -

1. *Ali M., (2018). 'Assessment of risk management practice in Addis Ababa city administration Housing development project—The case of Addis Ababa city house development enterprise (40/60/schemes).*
2. *A guide to the project management body of knowledge (PMBOK® guide), (2013). -- Fifth edition. Project Management Institute, Inc., Newtown Square, Pennsylvania 19073-3299 USA*
3. *A Guide to the project management Body of Knowledge, (1996), Project Management Institute, 130 South State Road, Upper Darby, PA 19082 USA*
4. *Borghesi A. & Gaudenzi B., (2013). 'Risk Management. How to assess, Transfer and communicate critical risks.' Perspective in business culture, Springer, Milan, Heidelberg, New York Dordrecht London*
5. *Chapman C. & Ward S., (2003). 'Project risk management: process, Techniques & Insight', (2nd edt.), School of management, university of Southampton, UK John Willey & Sons, ltd*
6. *Cooper D.F., Grey S., Raymond G., & Walker P., (2005).' Project risk management' Guidelines-- Managing Risk in Large Projects and Complex Procurements*
7. *Daneal K., (2018). 'Assessment of the Challenges of Risk Management Implementation in ethio telecom', Telecom Expansion Program (TEP)*
8. *Gachie W., (2017). 'Project Risk Management': A review or and Institutional project life cycle, University of KwaZulu-Natal, South Africa*
9. *Grener S., (2008). 'Business research method', Bookboon.com*
10. *Grundy T. & Brown L., (2002). 'Strategic project management', Creating Organizational breakthrough. TJ International, UK*
11. *Hampton J, J., (2015). 'Fundamentals of Enterprise Risk Management', (2nd edt)-How top management exposure & Seize Opportunity, American Management Association (AMACOM),1601 Broadway, New York, NY 10019, USA*
12. *Kerzner H., (2017). 'Project management—system approach to planning, Scheduling & controlling', (12th edt.), John Wiley & Sons, Inc. Hoboken, New jersey*

13. *Kendrick T., (2003). 'Identifying & managing risk. Essential tools for failure- proofing your project'. American Management of Association (AMACOM), 1601 Broadway, New York, NY 10019*
14. *Lachman C., (2011). 'Project execution ---A practical approach Industrial & commercial project management', CRC press.*
15. *Keegan M., (2004), 'Management of risk-principles & concepts', The orange book. HM Treasury, Norwich, St. Clements House 2-16, Colegate.*
16. *Mensah G. K. & Gottwald W. D., (2016). 'Enterprise Risk Management –Associated with effective implementation'. Alumnus, Capella University, Minnesota, the USA, financial market institution journal*
17. *Neton P., (2015). Managing Project Risk. Project Skills, WWW.free-management-ebook*
18. *OECD (2014), 'Risk Management and Corporate Governance', Corporate Governance, OECD Publishing. Http://dx.doi.org/10.1787/9789264208636-en*
19. *Robert K. Wysocki, Ph.D., (2014). 'Effective project management'—Traditional, Agile, Extreme, (7th edt.). John Wiley & Sons.inc*
20. *Rahmana M. S., and Adnana T. M., (2020). 'Risk management and risk management performance measurement in the construction projects of Finland' (Journal- Industrial Engineering and Management), University of Oulu, Finland*
21. 'Risk Management/Content matrix', (2020). wikiversity. viewed May 2021. **https://en.wikiversity.org/wiki/Risk_management**
22. *Srinivas K., (2019). 'Process of risk management'---Open access book. Intechopen.com DOI: 10.5772/intechopen.80804*
23. *Steyn J., (2018) 'Introduction to risk management', Part 1- planning for project risk management, https://www.researchgate.net/publication/327981091*
24. *Walliman N., (2011). 'The research method', the basics*
25. *Watts, A. (2014). 'Project Management'. Victoria, B.C.: BC campus. Retrieved from https://open-textbc.ca/projectmanagement/.*
26. *ISO Guide 73: (2009)*
27. *YOM Institute of economic development. (Project risk management (PPM 512) course). Belay T., (PhD)*

28. *Zelalem A., (2020). 'The Assessment of Project Risk Management Practices in Development Bank of Ethiopia financed Projects', the Case of Manufacturing Projects Administered at Head Office*

ADDIS ABABA UNIVERSITY
SCHOOL OF COMMERCE
DEPARTMENT OF PROJECT MANAGEMENT
MA IN PROJECT MANAGEMENT

Dear respondent,

This questionnaire is prepared to explore information about top management oversight towards risk management as well as current application of risk management knowledge areas in project management environment of ethiotelecom.

The researcher sought to indicate improvement areas for the company beyond his requirement of MA thesis. Therefore, your unreserved, honest, and thoughtful response lifts me up more than halfway to reach the intended objective and the response will be used only for here mentioned purposes. Your anonymity is strictly observed.

I thank you in advance for your support and sharing me your precious time!

Note: - please put this [×] mark in the bracket and column provided in the table.

Part One: -Respondent detail

1. What is your highest Education level? Diploma [ ] Degree [ ] Post graduate [ ] Other please specify _____
2. Do you have any certification like Certified information system management CISM, ACCA or others? Please specify_____
3. Gender Male [ ], Female [ ]
4. Experience in ethiotelecom: - One to 10 year [ ], 11 to 20 year [ ] 21 to 35 year [ ] 36 to 45 year [ ] More than 45 year [ ]?
5. How many years Project activity related experience you have? One to 3 year [ ], 4 to 6 year [ ] 7 to 10 year [ ] More than 11, please specify_____
6. What is your Field of study? Electrical engineer [ ] Civil engineer [ ] Accounting [ ]

Information system [ ] Computer science [ ] Other please specify _____

7. Current position: - Director [ ] Manager [ ] Supervisor [ ] Specialist [ ] or other please specify_____

8. Current role in the project or related activity Please specify _____

_____

Part Two: -Questions related to application of risk management knowledge area and top management support.

This part consists of statements about top management oversight & commitment to wards risk management, application of risk management process (tools and techniques) and communication. Therefore, please putt X mark on the appropriate position you are under in the column provided as Strongly agree (SA), Agree, (A) Neutral (N), Disagree (DA) and Strongly disagree (SDA).

No.	**A. Good governance**	**SA**	**A**	**N**	**DA**	**SDA**
1	Top management established project charter, segregation of duty, risk management policy that defines risk, risk tolerances/appetite, corporate governance and oversight, responsibilities, and accountabilities.					
2	Top management defined Risk-management discipline, methods/process for identifying risks, evaluating, and prioritizing risks, mitigating, and controlling risks, monitoring, and reporting.					
3	Top management set the risk organization structure including experts and leaders, oversight committees, how risk-management functions are integrated, and executive sponsorship and commitment.					
4	Top management set Methods on how to monitor and report risk, evaluate risk, control activities, and related assurance activities.					
5	Top management committed resource to build capabilities including information tools, risk-event databases, risk analysis and modeling, training of management, and management change capabilities.					

6	Corporate management continuously guide and manage risk that require top management particular attention					
7	Corporate management attached rewarding system for project manager to retain and encourage him.					
8	There is predefined major financial, legal, societal, environmental and reputation risks categories with respective level of impact range.					
9	Top management structured reporting system to include risk related activities alongside project progress and performance appraisal.					
10	Top management established risk identification, quantification and analysis tools and technologies/system					
11	Top management set training plan for risk management and follow-up the implementation					
12	Top management established transparency, responsiveness, inclusiveness, shared beliefs, attitudes, and discipline that characterize how risk is considered in project activities					
13	Top management-built consensuses, allocate appropriate financial budget to mitigate uncertainties effectively and efficiently					
B. Risk management planning						
1	There has been a well formulated risk management plan for the project					
2	Required resources and costs for the risk management process are estimated and included in the project budget.					
3	Risk management activities were clearly defined and included in the schedule of the project.					
4	There is well documented risk register system or database					
5	The project team has staffed with experienced risk management experts					
6	During planning risk owner is identified, organized, communicated, and resourced appropriately					
7	There is a policy and procedure that guide the project team to go through a disciplined risk management process and reporting					
8	Planning meetings were held with participation of key stakeholders to					

	develop the risk management plan and get endorsement of members.					
9	In risk planning predefined templates, metrics and historical data are used					
10	There were established risk management tools, techniques, and data sources to accomplish risk management process					
11	Risk management plan were incorporated methodology, role & responsibility, timing, risk category, schedule, and risk tolerance					
12	During planning analytical technique, expert judgment and meeting with selected risk management and project team members were used.					
13	Top management set rewarding plan as well as carrier path to retain and encourage project team members.					
14	Existing risk plan included the entire risk management process, i.e., identifying, analyzing, responding, monitoring, and controlling risk					
C. Risk Identification						
1	The project risks were identified based on established risk identification process for projects by experts					
2	Risks are identified throughout the project lifecycle					
3	Risk identification were conducted at the planning phase of the project as well as during work breakdown structure					
4	The project team is involved in the risk identification process					
5	All key project participants involved in risk identification					
6	A clear description of the risks within the cause and effects were understood and documented					
7	Risk register is prepared and used for risk identification process in the project					
8	Scope statement, milestones, WBS and deliverables of the project are used to identify risks.					
9	The identified risks were reliable to address the degree, type, and visibility of risk management proportionate to the project plan					

D. Risk analysis

Qualitative risk analysis

- **Qualitative risk analysis** is the process of assessing the impact and likelihood of identified risks.

1	The project has established qualitative risk assessment process and tools					
2	The project has risk matrix that defines probability of list of risks identified and their impact					
3	Assumptions made during the analysis of identified risks was clearly stated					
4	The Assessment of risk was done based on sufficient information and data					
5	Project documents were updated after risks were analyzed qualitatively					
6	Qualitatively risks were identified using probability/Impact matrix, expert judgment and risk tracking like current & previous ranking and frequency					
7	Progress of resolving risks is recorded and documented					
8	Project risk analysis included residual and secondary risks					

Quantitative Risk Analysis

- **The quantitative risk analysis process** aims to analyze numerically the probability of each risk and its consequence on project objectives, as well as the extent of overall project risk**.**

1	Project office quantifies level of risk that is acceptable and set mitigation plan for those beyond the threshold.					
2	The project risk has been quantified with standard process using statistical tools and techniques					
3	Identified risks were numerically analyzed to show their effect on overall success rate of project.					
4	Projects identified and quantified risks were sufficient to identify realistic and achievable project cost, schedule, scope, and targets.					
5	The Project document has been updated after risks were analyzed quantitatively					
6	Risk quantification is done based on historical and current dependable data.					

No.	E. Risk Response	SA	A	N	DA	SDA
1	The project has planned responses as opposed to considering risks as they arise.					
2	The project has set clear strategies to respond for threat and opportunity.					
3	Risk owners are identified and given responsibility to mitigate risks under their control.					
4	Risk owners sufficiently resourced to discharge their bestowed responsibility					
5	A decision tree analysis method is in place to choose the most appropriate response					
6	Options and actions are developed to enhance opportunities and to reduce threats to project objectives					
7	Risks are addressed by their priority					
8	An allocation of contingency reserve for cost and time considered					
9	There is clear and documented guidance when to use risk avoidance, reduction, accept, transferring, exploiting, enhance and sharing strategy					

No.	F. Risk monitoring and control	SA	A	N	DA	SDA
1	Risks that occur within the project are controlled in a way that goes with the goal and objective of the project.					
2	There is formal monitoring & control process with continuous evaluation and reporting and follow-up initiatives					
3	Identified risks are tracked and reassessed					
4	New risks are identified, and Residual risks are monitored					
5	Project team hold periodic meetings specifically for risk discussions					
6	Effectiveness of risk management process is evaluated throughout the project					
7	Risk monitoring and control is treated as a continuous process in the project					
8	Project management plan, project documents and organizational process					

	assets are updated after monitoring and control process					
9	Project team performs reserve analysis					
10	There is established clear communication strategy					

Part three: - This part consists of multiple choices, please put [x] mark in the boxes you deemed applied in project risk planning, identification analyses, mitigation, monitoring and control activities in the company project environment. **(Note: -you can select more than one if applicable)**

1. Which input/s was/were used in risk planning of the project?

☐ Risk breakdown structure ☐ Organizational process and risk policy

☐ Project charter ☐ Work breakdown structure

☐ Stakeholders register ☐ Project management plan.

☐ Enterprise environmental factor ☐ Stakeholder risk tolerance ☐ None of them

2. What tool and technique/s was/were used in risk planning?

☐ Analytical technique ☐ Expert judgment

☐ Selected project and risk management related personnel ☐ None of them

3. What common risks you encounter in the current project environment?

☐ Poorly defined requirement ☐ Inexperienced project manager

☐ Lack management support. ☐ Lack of proper organization

☐ Lack of sufficient and qualified resource (human & material). ☐ poor estimation

4. Types of risks incorporated in current project risk planning are: -

☐ Technical risks. ☐ Operational risks ☐ Socio economic risks

☐ Financial risks. ☐ Compliance risks ☐ environmental risks ☐ None

5. In puts used for risk identification are: -

☐ Risk management plan. ☐ Risk breakdown structure. ☐ Project plan

☐ Business environment factors. ☐ Risk categories ☐ Historical data ☐ None

6. Tools and technique used in risk identifications process are: -

☐ Document review ☐ Brain storming ☐ roup discussion ☐ Check list analysis

☐ Cause and effect diagram ☐ Questionnaire ☐ Expert judgment ☐ SWOT analysis ☐ Trend analysis ☐ None

7. Inputs used in the project office to analyze the risk qualitatively are: -

☐ Risk management plan ☐ Base line scope ☐ Risk register

☐ Business environment factor ☐ Organizational process asset ☐ None of them

8. What tools and techniques used in qualitative risk analysis?

☐ Probability & Impact assessment ☐ Probability & impact matrix ☐ Expert judgment

☐ Risk categorization ☐ Risk priority assessment ☐ Data quality assessment ☐ None

9. What inputs has been used in the project office in quantitatively analyzing risks of project?

☐ Risk management plan ☐ Cost management plan ☐ Schedule management plan

☐

Risk register ☐ Organizational policy, process & discipline ☐ historical data ☐ None.

10. Which techniques and tools used to analyze risks quantitatively?

☐ Sensitivity analysis ☐ Simulation model ☐ Decision tree ☐ Expected monetary value ☐ Fault tree analysis ☐ Expert judgment ☐ None

11. Inputs used for risk response are: -

☐ Risk management plan ☐ list of significant risks ☐ Risk threshold ☐ Risk ranking ☐ list of potential responses ☐ None of them

12. What input/s is/are used in monitoring and control activity of project risk?

☐ Risk register ☐ Risk management plan ☐ work performance data ☐ Performance report ☐ None are used.

13. What tools and techniques are used in risk monitoring and control in the project?

☐ Status meeting ☐ Risk audit ☐ Risk assessment ☐ Earned value analysis. ☐ Technical performance analysis ☐ Reserve analysis ☐ None

14. Please put an idea you have in mind about practice of risk management related activity in the company you deemed important to be included

_____

_____

_____

_____

_____

_____

*** I apologize for any inconvenience you may face in this questionnaire.*