ADDIS ABABA UNIVERSITY

COLLEGE OF BUISNESS AND ECONOMICS

DEPARTMENT OF PROJECT MANAGEMENT

ASSESSMENT OF PROJECT RISK MANAGEMENT PRACTICE OF IT PROJECT: THE CASE OF ETHIO TELECOM

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JULY, 2019

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DECLARATION

I, the undersigned, declare that, this research paper is my original work, prepared under the guidance of Dr. Atsede Tesfaye. All resources and materials used herein have been properly acknowledged. I further confirm that the project work has never been presented either in part or in full to any other university for the purpose of earning any degree.

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List of abbreviation and acronyms

CBS	Convergent Billing System
CC	Call Center
CRM	Customer Relation Management
FDRE	Federal Democratic Republic of Ethiopia
FMS	Fraud Management System
GDP	Growth and Transformation Plan
IT	Information Technology
MVAS	Multi Value Adding Service
OSS	Operation Support System
PMI	Project Management Institute
SOC	Security Operations Center
TEP	Telecom Expansion Program
UAS	Unified Authentication System
VS	Video Surveillance

ABSTRACT

This study is targeted to assess project risk practice of IT project in Ethio Telecom by addressing the process undergone namely: risk planning, risk identification, risk analysis, risk response, and risk monitoring and controlling. The primary data was collected from 60 respondents out of the total population of 387 which are selected using non-probability purposive sampling. And the collected data analyzed using SPSS version 20.0. Then the data presented quantitatively using descriptive statistics. Semi-structured interview was also conducted with 4 project managers, and analyzed qualitatively by integrating secondary data obtained from TEP chart, reports, magazines, And Ethio telecom booklet. The findings obtained about the practice of risk planning revealed that the project have a systematic risk planning process and it is prepared with the involvement of relevant stakeholders and consideration of an expert judgment. However, team members do not receive training about how to handle risks. Regarding the practice of risk identification, there is no involvement of all team members; the project uses a measurement system to analyze risk and subjective probability assessment to assess the probability of risk occurrence. While responding to risk the project considers factors such as budget, schedule and resources. There is little practice of risk monitoring and control. And this little practice is not done in accordance with the goal and objective of the project. Therefore, the project should improve its risk management practice by filling the gap between the real practice in the project and the theory.

Key words: project risk, risk management, risk management process

CHAPTER ONE

1. INTRODUCTION

1.1. Background of the Study

A project is a temporary endeavor undertaken to create a unique product, service, or result. The temporary nature of projects indicates that a project has a definite beginning and end. The end is reached when the projects objectives have been achieved or when the project is terminated because its objectives will not or cannot be met, or when the need for the project no longer exists (PMI, 2013).

Project management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirement (PMI, 2013). And also it is a tool that helps organizations to execute designated projects effectively and efficiently (Sandro Azzopardi, 2015).

Risk is anything that may happen that could create an adverse effect to project schedule, cost, quality or scope (Lewis, 2011). Project risk is an uncertain event or condition that, if it occurs, has an effect on at least one project objective. Objectives can include scope, schedule, cost, and quality (PMI, 2008).

Every project is subject to risk. Some can be identified and plans can be put in place if they occur; others cannot and must be dealt with as they occur. A risk is some future event that happens with some probability and results in a change, either positive or negative, to the project (Wysocki 2014). More commonly, though, a risk event is associated with its unwelcome negative result.

PMI (2008) defines project risk management as the processes concerned with conducting risk management planning, identification, analysis, responses, and monitoring and control of a project; most of these processes are updated throughout the project.

A Survey was conducted by Yimam, 2013 on the maturity of project management in the construction industry of developing countries in the case of Ethiopia. The survey analyzed the data collected through questioner from 26 construction projects and identified that, risk management knowledge area is practiced little or by very few in the industry.

Information technology (IT) is one of the fastest growing industries in developed countries (Hartman, 2002). IT projects are complex in nature and vulnerable to risks from the start of the project till the final acceptance of the Service or product (Hijazi, 2014).

Risk management is an essential process for the successful delivery of IT projects. Identifying the risks associated with the implementation of IT can be a major challenge for managers. Risks vary in nature, severity and consequence, so it is important those that are considered to be high level Risks are identified, understood and managed.(Hijazi, 2014) Each phase of the Project is susceptible to different sets of threats that might hinder the project being completed successfully. In order to manage these risks properly, an adequate understanding and identification of the risk factors in every project stage is required (Hijazi, 2014).

Bannerman (2008), defines risk management in IT projects as a set of processes and procedures intended to identify, analyze and handle risk factors, thus improving the likelihood of attaining a successful IT project result and/or circumvent its failure. He further argues that management of risk in IT projects is significant, assists in detecting technical and managerial issues beforehand, (Huang & Han, 2008) and can be a vehicle for delivering IT-enabled organizational change, thus attaining business objectives.

Ethio telecom is a sole telecom operator in Ethiopia, with the vision of becoming world class telecom service provider. According to the company report revealed on February 4, 2019 The Company has around 41,110,210 customers using different services all over the country. To provide a quality service for those customers Ethio telecom work on different information technology (IT) Projects.

Telecom expansion program (TEP) is one of the projects launched to achieve the telecom sector objectives in growth and transformation program defined by FDRE government. The program mainly target to solve the quality, coverage and capacity challenges.

The TEP project has six lots to be roll out in three phases. The software part of the project which is CBS (convergent billing system), CRM (customer relation management), CC (call center), OSS (operation support system), SOC (security operations center), FMS (fraud management system), UAS (unified authentication system) and VS (video surveillance) are found on the fifth lot, and also MVAS (multi value adding service) in the sixth lot. The remaining four lots are work on the infrastructure or hardware part of the project. This research will try to assess the project risk management practice in the software implementation part of TEP Project of Ethio telecom.

1.2. Background of the Company

According to the (company's profile booklet, 2013), the introduction of telecommunications services in Ethiopia dates back to1894, seventeen years after the invention of telephone technology in world. It was Menelik II, the King of Ethiopia, who imported Telephone technology to the Country. With the installation of 477 km long telephone and telegram line from Harar to the capital city Addis Ababa.

In the particular period the telecom has been renamed and restructured through different stage. as a continuation of the 2005/6-2009/10 five years plan and after concentrating its effort on education, health and agriculture, the Ethiopian government has decided to focus on improvement of telecommunication service, considering them as a key lever in development of Ethiopia, Ethio telecom was born, Monday 29th November 2010, from the ambition of supporting the steady by growth of the country, within the growth transformation plan (GDP), with ambitious objectives for 2015.

According to the company report revealed on February 4, 2019 Ethio Telecom has 41,110,210 customers out of which 39,540,729 are mobile subscribers, 184,573 are fixed

line subscribers, 241,286 are narrow band data and internet subscribers and 1,143,623 are broadband data subscribers.

1.3. Statement of the Problem

Unfortunately, many projects do not follow a formal risk management approach (Jones, 1994). Because of their failure to plan for the unexpected, many organizations find themselves in a state of perpetual crisis characterized by an inability to make effective and timely decision. Many people call this approach crisis management or firefighting because the project stakeholders take a reactive approach or only address the project risks after they have become problem (Jones, 1994).

The project manager and project team may rely on aggressive risk taking with little understanding of the impact of their decisions (Lanza, 2011). Conversely, project risks may also be optimistically ignored when, in reality, these risks may become real and significant threats to the success of the project. Unfortunately, risks are often schedule delays, quality issues, and budget overruns just waiting to happen (Wideman, 1992).

Sharma and Gupta (2011) found that IT project managers do not often apply a process to manage risk. Given that evidence is often descriptive and undeveloped, there is variability in the reasons for this. One notable reason, according to Kutsch and Hall (2005), is that IT project managers deny the presence of risk and uncertainty, or delay doing this until circumstances has improved. This is contrary to the rational concept propagated by management approach scholars. This further necessitates the need to carry out such research in light of the evidence of limited application of risk management in IT projects.

Forsberg et.al (2005), stated that risk management is usually ignored in the project environment and significant cause of project failures occur due to this. Risks are identified and analyzed in a random, brainstorming fashion. It‘s common to see risks are dealt with on an emergency basis rather than being prepared for in a planned and measured manner. Different projects seem to identify and analyze risk in a random way than in an organized and systematic way. Many projects don‘t seem to make risk

management as part of their project management plan too. From the articles and researches done by different practitioners we can see the importance of risk management in projects but there seems to be a problem in the approach projects are managing risk.

Being a project oriented organization, IT projects experience more risks and need to manage them as effectively and efficiently as possible. This study tried to address the gap between theory of project risk management and the actual practice by focusing on the software implementation part of TEP project.

On the software implementation part of the TEP project, a little concern is given for risk management process. Risk management process is managed by quality and process division with other tasks. Even risk management doesn't have a separate division. The risk management culture among the staff is not very well and risk management is not given a serious consideration. For this reason, the company lost revenue and the project face time and cost overrun.

According to the gathered report from different project team members of the studied company, projects faced delay and lost revue due to unmanaged risks. There are still systems like MMS which didn't start functioning due to not predicting, identifying, analyzing and put response strategies after the implementation of the system. This cause revenue loses and project time over run on the company. Therefore, this study has been initiated with the intention filling the gap between the practices of project risk management with that of the theoretical perspective of the knowledge area.

Objective of the Study

1.3.1. General objective

The General objective of this study is to assess how is the project risk management process of the TEP software implementation project in Ethio Telecom.

1.3.2. Specific objectives

While assessing to achieve the general objective, the following specific objectives will be addressed.

To study how the TEP software implementation project risk management practice at Ethio telecom.

To discuss how TEP software implementation project risk management process applied at Ethio telecom.

To discuss which risk response strategy is mostly applied.

1.4. Basic Research Questions

The study will answer the following research questions after collecting and analyzing the appropriate data.

1. How is the TEP software implementation project risk management practice at Ethio telecom?

2. How are the TEP software implementation project risk management process applied at Ethio telecom?

3. Which risk response strategy is mostly applied?

1.5. Significance of the Study

The company under the study will be benefited from the research to evaluate its current projects risk management practice. Findings and recommendations will help on developing risk management culture among the employs, improve their risk management strategies, and determine how risk management practice is being implemented to achieve projects objective. It can be used by other companies who work on related projects in evaluating their actions in identifying and propose mitigation plan for possible risk exposures. And also the findings may be use to the academia, especially those who may wish to carry out further research on project risk management system.

1.6. Scope of the Study

The scope of the study is delimited to one of the project management knowledge areas, which is project risk management. Even though the researcher aims to assess all Ethio

telecom IT projects risk management practice but Ethio telecom is a big company and work on many projects. And also due to best utilizes available time, resource constraints, willingness of respondents and sample data availability, it is better to assess only risk management practice on TEP software implementation project. For this reason this research is limited to focus on the process of risk management practice of the TEP software implementation project. And the research area will be limited to Addis Ababa city; however, the output of the study will be equally significant to all Ethio telecom projects. The findings and conclusion that are drawn from the research represented the software implementation part of TEP project of Ethio Telecom.

1.7. Limitation of the Study

This study was delimited in accordance to the following major aspect, difficulty to meet all the targeted respondents who are managers due to their busy schedule, out of Ethiopia for training and taking annual leave. But I manage it by communicate them via E mail and telephone. And also Time and Resource limitation, Documents which are important for the research but confidential to the company are not allowed for detail review. Respondents which are staff members of the company that have know-how starting from planning up to closing phase of the project are very few in number and difficult to reach.

1.8. Organization of the Paper

This research as a descriptive research, organized in five chapters in which the first part is introduction consists of background of the study, background of the company, statements of the problem, objective of the study, basic research questions, significance of the study, delimitation and Limitation of the study. The Next is the second chapter which deals with review of related literature on the topic and the third chapter describes the methodology of the study. It covers research design, sample and sampling techniques, source and instruments of data collection and method of data analysis. Validity and reliability of the study as well as ethical consideration also included. Results and discussion are discussed in the fourth chapter, and the last chapter contains research summary, conclusion and recommendations. At the end of the paper, References and annexes will be attached.

1.9. Definition of terms

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, 2014).

Project management is an organized common-sense approach that utilizes the appropriate client involvement in order to meet sponsor needs and deliver expected incremental business value (Wysocki 2014).

A risk is some future event that happens with some probability and results in a change, either positive or negative, to the project (Wysocki 2014).

Risk management is a process of identifying the risks, assessing the risks either quantitatively or qualitatively, choosing the appropriate method for handling the risks, and then monitoring and documenting the risks. (Kerzner 2006)

PMI (Project Management Institute) is the professional association for project managers that promotes project management as a profession, thereby raising the perceived status of project managers, and it has developed a certification process that confers on those who meet the requirements for the designation of Project Management Professional (Lewis, 2011).

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

Introduction

This chapter will provide valuable insights in to the concept of risk management by reviewing the existing theoretical and empirical literatures.

2.1. Theoretical review

2.1.1 Project

A project is defined as a single, definable purpose, product or result, it usually has defined constraints, with expected threats and opportunities, it uses skills from multi professions and organizations, it is unique, it is somewhat unfamiliar, it is a temporarily activity, it is part of the process involved in working to achieve a goal. (Roberts and Wallace, 2004)

Project life cycle is the series of phases that a project passes through from its initiation to its closure (PMI, 2013). Project management involves five process groups as namely project initiation, project planning, project execution, project monitoring and controlling and project closure.

1. Project Initiating processes: include defining and authorizing a project or project phase. To initiate a project or just the concept phase of a project, someone must define the business need for the project, must sponsor the project and take on the role of project manager. Initiating processes take place during each phase of a project.

2. Project planning processes: include devising and maintaining a workable scheme to ensure that the project addresses the organizations needs. There normally is no single "project plan." There are several plans, such as the scope management plan, schedule

management plan, cost management plan, procurement management plan, risk management plan and so on, defining each knowledge area as it relates to the project at that point.

3. Project Executing processes: include coordinating people and other resources to carry out the various plans and produce the products, services, or results of the project or phase.

4. Project Monitoring and controlling processes: The project manager and staff monitor and measure progress against the plans and take corrective action when necessary.

5. Project closing processes: include formalizing acceptance of the project or project phase and ending it efficiently.

2.1.2 Project Management

Project management is the process of planning and executing a piece of work from inception to completion to achieve safe achievement of objectives on time, within cost limits and to the specified standards of quality. It is an approach to manage projects and is an international, interdisciplinary concerned with the whole life cycle of a project, from inception to completion (Roberts and Wallace, 2004).

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

Project management processes are grouped into five categories known as Project Management Process Groups by Project management Institutes (PMI).

Initiating Process Group: Those processes performed to define a new project or a new phase of an existing project by obtaining authorization to start the project or phase.

Planning Process Group: Those processes required to establish the scope of the project, refine the objectives, and define the course of action required to attain the objectives that the project was undertaken to achieve.

Executing Process Group: Those processes performed to complete the work defined in the project management plan to satisfy the project requirements.

Monitoring and Controlling Process Group: Those processes required to track, review, and regulate the progress and performance of the project; identify any areas in which changes to the plan are required; and initiate the corresponding changes.

Closing Process Group: Those processes performed to formally complete or close the project, phase, or contract.

There are ten project management knowledge areas propagated by the Project Management institute PMI (2013), which every project addresses. And these Knowledge areas represent a set of competency skills and processes that must be properly utilized by the project managers throughout the life cycle of the project.

These are:

Project Integration Management

Project integration management incorporates allocation of resources, prioritizing among objectives and alternatives, managing the interactions among the rest of project management Knowledge Areas and creating an environment that encourages team members to fully engage in the project and encourages innovative approaches to developing the project plan (PMI, 2013).

Project Scope Management

It includes the processes required to ensure that the project includes all the work required to complete the project successfully. It is an umbrella for the processes facilitating the inclusion of all the necessary and sufficient goods and/or services in the procurement package (Kovächs, 2004).

Project Schedule Management

Time management refers to scheduling. It describes the process required to ensure timely completion of the project. It consist activity definition, activity sequencing, activity duration estimating, schedule development and schedule control. Because of the importance of project deadlines, scheduling receives a lot of attention (Lewis, 2011).

Project Cost Management

Project Cost Management is defined in the PMI (2000) as the processes involved in planning, estimating, budgeting, and controlling costs so that the project can be completed within the approved budget.

Project Quality Management

PMI (2008) explains that "Project Quality Management includes the processes and activities of the performing organization that determine quality policies, objectives and responsibilities so that the project will satisfy the needs for which it was undertaken. It implements the quality management system through policy and procedures with continuous process improvement activities conducted throughout, as appropriate."

Project Resource Management

Includes the processes to identify, acquire, and manage the resources needed for the successful completion of the project (PMI, 2017).

Project Communications Management

It includes the processes that are required to ensure timely and appropriate planning, collection, creation, distribution, storage, retrieval, management, control, monitoring, and the ultimate disposition of project information (PMI, 2013).

Project Risk Management

PMI, (2008) defines project risk management as "the processes concerned with conducting risk management planning, identification, analysis, responses, and monitoring and control of a project; most of these processes are updated throughout the project."

Project Procurement Management

PMI (2000), states that “Project Procurement Management is a subset of project management that includes the processes required to acquire goods and services to attain project scope from outside the performing organization.”

Project Stakeholder Management

PMI (2000) defines project stakeholder management as “the processes required to identify the people group or organization that could impact or be impacted by the project, to analyze stakeholder expectations and their impact on the project, and to develop appropriate the management strategies for effectively engaging stakeholders in project decision and execution.”

2.1.3 Definition of risk and project risk management

Definition of risk

The concept of risk and risk assessments has a long history. More than 2400 years ago the Athenians offered their capacity of assessing risk before making decisions. However, risk assessment and risk management as a scientific field is young, not more than 30 to 40 years old. From this period we see the first scientific journals, papers and conferences covering fundamental ideas and principles on how to appropriately asses and manage risk (Bernstein, 1996).

Ana D, (2012) defined risk as an “uncertain but potential element that always appears in the technical, human, social and political events, reflecting changes in the distribution of possible outcomes and subjective probability values and objectives, with possible damaging and irreversible effects”.

Project risk arises from uncertainty. This uncertainty comes from an attempt to predict the future based on estimates, assumptions, and limited information. Although project risk has a downside resulting from unexpected problems or threats, project risk

management must also focus on positive events or opportunities. Therefore, it is important that project stakeholders understand what those events are and how they may impact the project beyond its objectives (PMI, 2008).

According to Richardson (2015), "one view of risk is that it involves the full spectrum of uncertainties in the project. These uncertainties can be related to schedule, cost, and quality variability of the end deliverable". In a project environment, because of the essential uniqueness of projects, some uncertainty must always remain, and the emphasis of management becomes to manage the risk. Therefore, the essence of project management is risk management (Turner, 2009).

Project Risk Management

Forsberg et.al (2005), describes project risk management as "the art and science of identifying, analyzing and responding to risk events throughout the life of a project". Risk management is an aspect of project management that entails identifying risk and developing ways to eliminate and mitigate those risks (Gudda, (2011). It forces the project managers and project teams to focus on the situations where uncertainty exists or will exist and develop suitable plans of action to prevent the possible threats from potential severity on the project or part of it (Kernzer, 2009).

Its objective is to increase the probability and Impact of positive events and decrease the probability and impact of events adverse to the project and is driven by the desire not to fail or fall short of the objectives (Richardson, 2015).

According to Kerzner (2009), proper risk management is proactive rather than reactive. It is not a separate project office activity assigned to a risk management department, but rather is one aspect of sound project management. Risk management should be closely coupled with key project processes, including but not limited to: overall project management, systems engineering, cost, scope, quality, and schedule. Risk management process should occur throughout the project cycle and at all levels of architecture decomposition. Risk management is ongoing and evolves as the project evolves (Forsberg et.al, 2005). Project risk management should be an iterative process requiring

the continuous revisiting of each scientifically assessed risk in each task of a project in terms of schedule, cost, technical aspects, supportability and programmatic as well as in terms of softer relational and 'soft' internal organizational risk factors (Sheppy, Zuliani and McIntosh, 2012).

2.1.4 Risk Management Process

Risk management includes several related actions, including risk: planning, identification, analysis, response (handling), and monitoring and control (kerzner, 2009). Most of these processes are updated throughout the project lifecycle. A process of risk management in projects is a rational chain of practices taken by decision-agents in order to keep the implementation of the project under certain conditions. The decision-agents need to identify, analyze and evaluate the risks in all project life cycle and use their organizational structure and administrative practices in order to act on the risks in favor of the project.

The Project Risk Management processes (PMI , 2017) are:
Plan Risk Management
Identify Risks
Perform Qualitative Risk Analysis
Perform Quantitative Risk Analysis
Plan Risk Responses
Implement Risk Responses
Monitor Risks

Plan Risk Management

The planning process defines how to implement and practice the risk management framework's sub-processes. Without planning managers do not know exactly what to do, when and how. This process prepares the organization for risk management such as developing policies, determining the steps which need to be taken and their order, any resources which may be required, how long it may take, who is responsible for specific processes and may even include trainings and seminars for improving the risk

management expertise of personnel (PMI, 2013). By planning how you will manage risks, you increase the probability that your risk management methods, as well as the project itself, are successful (Wysocki, 2014).

Planning is also important to provide sufficient resources and time for risk management activities and to establish an agreed upon basis for evaluating risks. The Plan Risk Management process should begin when a project is conceived and should be completed early during project planning (PMI, 2013).

Identify Risks

According to Chapman (2011), the purpose of this step is to identify both the threats to the business with the potential of reducing and removing the likelihood of the business reaching its objectives, and the opportunities, which could enhance business performance.

Risks must be identified and described in an understandable way before they can be analyzed and managed. Risks are documented in a concise statement that includes the context, conditions, and consequences of risk occurrence (Callahan and Brooks, 2004).

According to Frame (2002), risk identification process can focus on both internal and external risks, those that are predictable versus those that are unpredictable, those over which we have a measure of control versus those that are largely uncontrollable, and those that are technical versus those that are nontechnical.

Kerzner (2009), risk identification must continue through all project phases and is important that the identification process is concerned with the source of the risk rather than the event itself or the effect. This is because the risk taker can do something about the sources of the risk, but not really do very much about the event or the effects (Roberts and Wallace, 2004).

Perform Qualitative Risk Analysis

PMI (2015), defines Performing qualitative risk analysis is the process of prioritizing risks for further analysis or action by assessing and combining their severity. Through qualitative analysis, it is possible to rank and categorize risks and distinguish which ones are high priorities. You can then identify which risks require responses in the near future, which ones need additional analysis, and which ones are low-priority risks to keep on a watch list. The key benefit of this process is that it enables project managers to reduce the level of uncertainty and to focus on high-priority risks and on the most likely and troublesome ones (Richardson, 2015).

Perform Quantitative Risk Analysis

Perform Quantitative Risk Analysis is the process of numerically analyzing the combined effect of identified individual project risks and other sources of uncertainty on overall project objectives. The key benefit of this process is that it quantifies overall project risk exposure, and it can also provide additional quantitative risk information to support risk response planning. This process is not required for every project, but where it is used, it is performed throughout the project (PMI, 2017).

Plan Risk Responses

Planning a response to risk involves understanding the project and impacts of various corrective actions midstream. You create risk scenarios and schedule impacts. An "expected" scenario is the best guess at what actually will happen, a "pessimistic" scenario is the worst case, and an optimistic scenario is the "best case" (Barkley, 2004).

Effective and appropriate risk responses can minimize individual threats, maximize individual opportunities, and reduce overall project risk exposure. Unsuitable risk responses can have the converse effect. Once risks have been identified, analyzed, and prioritized, plans should be developed by the nominated risk owner for addressing every individual project risk the project team considers to be sufficiently important, either because of the threat it poses to the project objectives or the opportunity it offers. The

project manager should also consider how to respond appropriately to the current level of overall project risk.

Implement Risk Responses

Once the risk has been identified and analyzed, there is still the question of response (Roberts and Wallace, 2004). Risk response planning is concerned with developing strategies to cope with risk events. Whereas risk identification and analysis provide us with an understanding of what can happen on the project, risk response planning furnishes us with actions we can take either to avoid a risk event or to dampen its impacts (Frame, 2002) and addresses the responses that will be made to individual risks (Callahan and Brooks, 2004).

Monitor Risks

Monitoring risk is a question of identifying key risk milestones or points in the project schedule where risk decisions need to be made. These milestones would mark whether a piece of equipment worked, or a key resource (Barkley 2004).

According to Callahan and Brooks (2004), Monitoring and controlling risks is the process of implementing risk response plans, tracking identified risks, monitoring residual risks, identifying new risks, retiring risks and/or issues, contingency modification, and evaluating risk process effectiveness throughout a project. Continuous risk monitoring ensures risks are detected and managed and that risk response actions that are implemented and effective. Risk monitoring continues for the life of the project.

2.1.5 Risk response strategies

Risk responses should be planned and implemented to address overall project risk. There are five alternative strategies considered for dealing with risk:

1. **Avoid:** Where the level of overall project risk is significantly negative and outside the agreed-upon risk thresholds for the project, an avoid strategy may be adopted.

This involves taking focused action to reduce the negative effect of uncertainty on the project as a whole and bring the project back within the thresholds.

2. **Exploit:** Where the level of overall project risk is significantly positive and outside the agreed- upon risk thresholds for the project, an exploit strategy may be adopted. This involves taking focused action to capture the positive effect of uncertainty on the project as a whole.

3. **Transfer/share:** If the level of overall project risk is high but the organization is unable to address it effectively, a third party may be involved to manage the risk on behalf of the organization. Where overall project risk is negative, a transfer strategy is required, which may involve payment of a risk premium. In the case of high positive overall project risk, ownership may be shared in order to reap the associated benefits.

4. **Mitigate/enhance:** These strategies involve changing the level of overall project risk to optimize the chances of achieving the projects objectives. The mitigation strategy is used where overall project risk is negative, and enhancement applies when it is positive.

5. **Accept:** Where no proactive risk response strategy is possible to address overall project risk, the organization may choose to continue with the project as currently defined, even if overall project risk is outside the agreed upon thresholds. Acceptance can be either active or passive. The most common active acceptance strategy is to establish an overall contingency reserve for the project, including amounts of time, money, or resources to be used if the project exceeds its thresholds.

2.2 Empirical Review

There are different researches done on risk management practices of deferent companies in our country Ethiopia. From those here I reviewed most of them for my empirical review.

A study conducted by Kalkidan, (2017) on the Assessment of Project Risk Management Practices in Real Estate Projects in Addis Ababa found that risk management is not treated as a continuous process in the projects. In addition, risks that occur in the projects are mostly handled by the project manager instead of assigning a responsible person or department that is exclusively responsible for handling risks and the risk management process; risks are mostly managed with the project manager instincts of what the best response might seems. In addition, there exists no methodical way of identifying risks in the projects and risks are not being numerically analyzed in spite of the existence of qualitative risk assessment to identify their likelihood of occurrence. It is concluded in this aspect that, risk management planning, analysis and response are among the most problematic areas of the risk management process that need a prominent improvement.

A Survey carried out by Frezewed, (2016) on the practice of project risk management in the case of Batu and Dukem town water supply project revealed that risk management knowledge area is practiced little in the projects. The study also showed that there is no practice of assigning a risk manager, whose primary responsibility is managing risks. not only that standard risk management process is absent within the projects, there is no policy or guideline that is designed on how to manage risks in the projects and no well defined strategy that guides on how to respond to risks within the project. Moreover, the research findings show that in spite of the presence of risk identification and analysis, through planning does not exist. Generally, the outcome of the research showed that risk management practice is implemented to some extent but there is a gap between the theory of project risk management which should be applied and the actual practice that is performed by the two water supply projects.

Bereket (2017) studied practice of risk management in Butajra town asphalt road construction project revealed that the practice of developing an effective risk

management plan in the project is a poor practice even though it is prepared with the involvement of stake holders, and the plan put in to consideration the environmental factors, while planning and performing of managing risk. In addition the project has a poor record in enabling its project teams by giving training on how to plan and handle risks. Regarding the process of risk monitoring and control the findings revealed that risks are not monitored and controlled well and do not use the history and information available to supplement the risk control practice.

Lidya (2017) on her study, An Assessment On The Risk Management Practice Of construction Projects; Case Study Of Addis Ababa Saving Houses Development Enterprise find that the risk identification, risk impact assessment is not done following the formal process. Project managers and consultants assess the probability and impact of risks based on their experience. They mostly use their judgments. Lack of professional that properly understand steps of impact assessment also created high financial, schedule and quality impact. Risks are prioritized based on their impact. Even though prioritizing risks based impact is right risk management decision, there is no guarantee for how reliable the impacts assessment is. This makes the whole process defective.

All the above studies show the need for a coordinated and an integrated risk management framework. Even in organizations which are risk focused, there is still a gap that needs to be filled between the theory of project risk management which should be applied and the actual practice that is performed.

CHAPTER THREE

3 RESEARCH METHODOLOGY

3.1 Introduction

In this chapter of the research, research approach, research design, Sample Size and Sample Technique, data collection, Validity and Reliability of the Instrument and ethical consideration will be discussed.

3.2 Research Methodology

According to (Brynard and Hanekom, 1997) research methodology, necessitates a reflection on the planning, structuring and execution of the research in order to comply with the demands of truth, objectivity and validity. Hence, research methodology focuses on the process of research and the decisions which the researcher has to take to execute the research project.

3.3 Research approach

Creswell (2009), there is more insight to be gained from the combination of both qualitative and quantitative research than either form by itself. Their combined use provides an expanded understanding of research problems. Thus, with the intention of getting the general picture of the practice of project risk management the research used a mixed approach both qualitative and quantitative.

3.4 Research Design

According to (Anol, 2012), the descriptive survey involves acquiring information about one or more groups of people asking them questions and tabulating their answers. Descriptive design helps to present a picture of the specific detail of a situation and describing the characteristics of particular situation (Neuman, 2007).

The study applies descriptive research design, since it attempts to assess the practice of project risk management in the software implementation part of TEP project in Ethio Telecom. This is basically because the research instrument is designed as close ended questions with semi-structured interviews. The other reason for selecting descriptive research approach is that the data gathered from all possible sources were described to assess the project risk management practice of Ethio telecom software part TEP project.

3.5 Sample Size and Sample Technique

3.5.2 Sampling Technique

Accordingly, telecom expansion project structured from Project director to staffs level. But as the researcher described in the delimitation of the study it give focus for TEP software implementation project risk management practice.

The study applies non-probability sampling. According to (Yalew, 2017), it is useful for certain studies that require the researcher to collect the data from particular individuals that know how about the studied situation. It enables the researcher to choose sample of participants that are necessarily sufficient for the study. The sampling type apply in the study is purposive sampling. It is useful when focusing on a limited number of informants, whom we select strategically so that their in-depth information gives optimal insight into an issue. According to (Neuman, 2007), such type of sampling is appropriate when a researcher use it to select unique cases that are especially informative, and when it wants to identify particular types of cases for in-depth investigation.

3.5.3 Sample Size

Sample size refers to the number of items to be selected from the universe to constitute a sample. The important issue that helps the data analysis and saves time and other wastages is selecting the appropriate sample size (Kothari, 2004).

About 387 numbers of staff from different division are participated in TEP software project. For the study 66 staffs are selected as a sample using purposive non probability

sampling. Because they participate in all the lifecycle of the project and they are currently available in the office to communicate.

3.6 Data Collection

In order to get appropriate data, the study use both primary and secondary sources of data. Primary sources of data include questionnaire and semi-structured interview to supply firsthand information from sample respondents based on the review of related literature important to the subject of the study. The reviewed literature was made to develop an insight on project risk management practice. Thus, interview and questionnaires designed focusing on the practice of project risk management process. The Managers of the software parts of the project were reached via Semi-structured interviews. While project team members reached through questionnaire. The secondary sources of data collected from the TEP charter and the company's booklet. In addition relevant books, journals and empirical research also used.

3.7 Data Analysis

The data collected analyzed using both quantitative and qualitative methods. The data obtained from close ended questionnaire analyzed using SPSS version 20.00 software which helps to make descriptive analysis of the gathered data to present quantitatively using frequency and percentage. While the semi structured interview made was analyzed by organizing the common ideas.

3.8 Validity and Reliability of the Instrument

For research data in order to be of value and of use requires validity and reliability measurements. Both are fundamental bases of scientific method of research. For a research to be reliable, it also needs to be valid.

3.8.2 Validity

According to Kothari (2004), validity refers to the extent to which a test measure what we actually wish to measure. It is about finding out if the data collected is relevant to the

problem being investigated. The validity of the research considered while developing close-ended questionnaires and semi structured interviews checked by benchmarking the related literature review and questionnaires in order to generate a valid response. The instrument of data collection validity is checked by asking others peoples who have made researches in the same area and those who has know-how on the studied area for feedback and asks my advisor for approval before conducting collection.

3.8.3 Reliability

Reliability refers the degree to which the results of the research are repeatable (Walliman, 2006). It is about absence of difference in the research findings if the research were repeated. In order to confirm the applied researcher approach is consistent or not, the research has been supported by using reliable sources of information such as related journals, articles, books, websites, and work papers and studies related to the studied area.

The reliability of the interviews also maintained by having interview with each software managers to ensure the reliability of the information obtained by cross checking the respective responses gained from them. The Likert scale questionnaire items reliability was checked by the application of the Cronbach Coefficient Alpha using SPSS software for the computations of internal consistency. As a rule of thumb, researchers consider a measure to have adequate reliability if Cronbach's alpha coefficient exceeds 0.7 (Leary, 2012).

3.9 Ethical Consideration

Official support letter from Addis Ababa University School of Commerce is bring for Ethio Telecom. And Data collection after is undertake after permission is obtained from the company. The researcher has followed ethically and morally acceptable processes throughout the research. The data is collected with the full consent of the participants. Regarding privacy of the respondents, their responses are strictly confidential and only used for academic purposes. The study in line with the organizations policy in relation to

any intellectual property rights of the organization. Since it could be unethical to access some confidential documents, the organization ‘s code of ethics taken in to account without significantly compromising the findings of the study. Concerning references, all the materials and sources acknowledged properly.

CHAPTER FOUR

4. RESULTS AND DISCUSION

4.1. Introduction

This chapter will provide the findings and results from the data collected through close ended questionnaire and semi structured interview which is analyzed using SPSS statistics version 20.0 in order to assess project risk management practice of Ethio Telecom and to provide adequate recommendations for the identified gaps.

4.2. Response Rate

The primary data that was collected through questionnaire consisted of 25 close ended items which was distributed to 66 individuals who are involved in TEP software implementation project in all the lifecycle of the project. An interview was also held with the project manager as a source of primary data. Only 60 questionnaires are completed and returned, 4 of the questionnaires were not returned and the 2 of them were discarded because they have defect. Which mean that the response rate is 90.9%.

4.3. General Information of the Respondents

This section summarizes and presents the demographic characteristics of the respondents such as age, level of education, year of work experience and current work position.

Table: 1 Age of respondent

		Frequency	Percent	Cumulative Percent
Valid	20 - 30 year	13	21.7	21.7
	30-40 year	35	58.3	80.0
	40 - 50 year	10	16.7	96.7
	above 50 years	2	3.3	100.0
	Total	60	100.0	

Source: own survey, 2019.

The above table depicts that 21.7% of respondents age is between 20–30, 58.3% of them are between 31– 40, 16.7% of them are between 41–50 and the remaining 3.3% are above 50.this indicates that majority of the respondent are young.

Table 2 Level of education

		Frequency	Percent	Cumulative Percent
Valid	diploma	3	5.0	5.0
	degree	39	65.0	70.0
	masters	18	30.0	100.0
	Total	60	100.0	

Source: own survey, 2019.

The above table reveals that 5.0% of the respondents' holds diplomas, 65.0% of the respondents are degree holders and remaining 30.0% are postgraduates. The finding reveals that Ethio Telecom has well educated employees for the study area. From this we can conclude that most of the respondents are educated.

Table 3 Year of work experience

		Frequency	Percent	Cumulative Percent
Valid	3-5 year	10	16.7	16.7
	6-10 years	13	21.7	38.3
	11-15 years	28	46.7	85.0
	above 15	9	15.0	100.0
	Total	60	100.0	

Source: own survey, 2019.

The above table reveals that 16.7% of the respondents have 3-5 years work experience. While 21.7% of the respondents holds between 6–10 years' of experience and most of the respondents 46.7% have 11-15 year of experience and finally 15% respondents have above 15 years work experience. These shows the respondents can understand the process of the study area and respond for the questionnaire clearly.

Table 4 Work experience on the project

		Frequency	Percent	Cumulative Percent
Valid	below 1 year	8	13.3	13.3
	2 year	17	28.3	41.7
	2-3years	11	18.3	60.0
	above 3 years	24	40.0	100.0
	Total	60	100.0	

Source: own survey, 2019

The above table depicts 13.3% of the respondent have below 1 year experience on the project,28.3% have 2 years' experience on the project, 18.3% have 2-3 years' experience on the project And the remaining 40.0% of the respondent have above 3 years' experience on the project. This indicates that most of the respondents have good experience on the project. Working more years on the project would mean that a more informed response to the questions is given because of the respondents extended knowledge of the project's doings.

Table 5 Position in the project

		Frequency	Percent	Cumulative Percent
Valid	Manager	5	8.3	8.3
	Supervisor	6	10.0	18.3
	Expert	12	20.0	38.3
	Specialist	14	23.3	61.7
	Administrator	23	38.3	100.0
	Total	60	100.0	

Source: own survey, 2019.

The above table also depicts 8.3% of the respondents are on manager position, 10.0% of the respondents are supervisor, 20.0% of them are experts 23.3% specialist and the remaining 38.3% are on administrator position. From the above information the researcher accredited respondents' qualifications, experiences and positions that they hold allow them to knowledgably and reasonably put their extent of agreement, so that, it

has positive contribution on the validity of the study. This indicates that respondents are from different position in the project this helps to get data from different perspective.

4.4. Result

The researcher applied five point Likert scale questionnaire where (1 =Strongly Disagree, 2 = Disagree, 3 = Uncertain, 4 = Agree and 5 = Strongly Agree) to collect data from respondents. 66 Questionnaire were distributed to the target group of respondents and 60 of them are filled and returned. The data was analyzed and presented using SPSS software program while semi structure interview results have been analyzed qualitatively.

4.4.1 Risk management system

In the second part of the questionnaire the respondents are asked general questions about risk management. As the purpose of the study is to assess and describe the risk management practices of software implementation projects, the introductory questions are designed to provide general information and insight to the actual risk management practices of the projects.

Table 6- risk management

Risk Management	N	Mean	Std. Deviation
The project has a defined or standard risk management process	60	3.58	.720
There is a policy or guideline that recommends how to manage risks	60	3.45	.872
Risk management is treated as a continuous process in the project	60	3.30	1.046
Responsible person or department is assigned to handle risk	60	3.22	1.075
Training is given for all team member about risk management	60	2.65	1.233
Valid N (list wise)	60		

Source: own survey, 2019

From the above table The average result (3.58), obtained for the question designed to check if The project has a defined or standard risk management process, reveals that majority of respondents agreed in the presence of a defined or standard risk management process that is to be followed. Furthermore, interview made with the project Managers also confirmed the presence of a defined or standard risk management process. But it is not well defined and it is not applied properly. This indicates that the project has a defined or standard risk management process.

And also the response obtained average (3.45), for the question if there is a policy or guideline that recommends how to manage risks majority of the respondent Agreed for the existence of policy or guideline that recommends how to manage risks. However, interview made with the project Managers indicated that there is policy or guideline that recommends how to manage risks but it is not well known and understand by all project team members and risks are not manage following the policy or the guideline they are simply a written document.

The average result (3.30) , indicates for the question Risk management is treated as a continuous process in the project reveals that project risk management process is not continuous throughout the project cycle. An interview made with project managers implies that most of risks are treated when they occur. Risk management didn't have responsible person or department assigned for the project. The average result (2.65), response shows that training is not given for project team members about project risk management.

From the general questions about the risk management system the responses shows that there is policy and guide line that recommended how to handle risk and The project has a defined or standard risk management process. But the company under the study didn't have reasonable person or department for managing risk and didn't give training for staffs this affect the risk management process.

Risk Planning

Table 7- risk planning

Risk planning	N	Mean	Std. Deviation
There is systematic approach or careful planning done to perform risk management in the project	60	3.10	.969
Risk management planning is undertaken with the project planning	60	3.40	.960
Relevant stakeholders and project team members are involved in risk management planning	60	3.00	.902
Expert judgment is considered while planning for project risks	60	3.43	.890
Valid N (list wise)	60		

Source: own survey, 2019

In the above table the average response obtained for the question if there is a systematic approach or careful planning done to perform risk management in the project is (3.10). This result shows majority of the respondents rated this practice as below average and the response obtained from the interview also reveals the same result.

The average result (3.40), get for the question designed to check if the risk management planning is undertaken with the project planning, implies that the greater number of the respondents agree that Risk management planning is undertaken with the project planning.

Regarding the issue on the involvement of relevant stake holders in the planning and performing of managing risk the average response is (3.00) implies much of the respondents agree on the involvement of relevant stakeholders in the planning and performing of managing risk.

The average result (3.58), obtained for the question designed to check if the project considered an expert judgment or meetings while planning for risks that might occur in

the project, reveals that majority of the respondents agree on the consideration of an expert judgment while planning for risks.

The overall response about risk management implies that, there is a systematic approach or careful planning done to perform risk management in the project. Risk management planning is undertaken with the project planning and also relevant stakeholders and project team members are involved in risk management planning. Expert judgment is considered while planning for project risks in the project.

Risk identification

Table 8- Risk Identification

Risk Identification	N	Mean	Std. Deviation
Potential risks are identified and assessed in a methodical way	60	3.25	.932
All team members within the project play a role in identifying risk	60	2.82	1.172
SWOT Analysis is used to identify risk by the management	60	3.42	.962
Risk is identified in every life cycle of the project	60	3.05	1.111
Physical inspection is done by the managers to identify risk	60	2.80	1.038
Valid N (listwise)	60		

Source: own survey, 2019.

The average result (3.25), for the question if Potential risks are identified and assessed in a methodical way, greater numbers of respondents agree that Potential risks are identified and assessed in a methodical way. The interview result that was held also supported this statement by elaborating that Potential risks are identified and assessed in a methodical way. The projects do well in terms of identifying sources of risks, areas of impacts and their corresponding causes and potential.

The average result (2.82), for the question to identify All team members within the project play a role in identifying risk the result indicates majority of the respondents disagree that team members have an involvement in the process of risk identification.

Regarding the questions if the management used SWOT Analysis and physical inspection to identify risk the average result obtained is (3.42) and (2.80) respectively shows, SWOT Analysis is the preferred way of risk identification for the project.

From the question if Risk is identified in every life cycle of the project, the result is obtained is (3.05), this implies that risk is not identified in every life cycle of the project. The interview that was held with the project managers also supported this statement by elaborating that risk is not identified in every life cycle of the project. According to the project manager, once the risk is identified at the beginning stage risks are observed when the occurred.

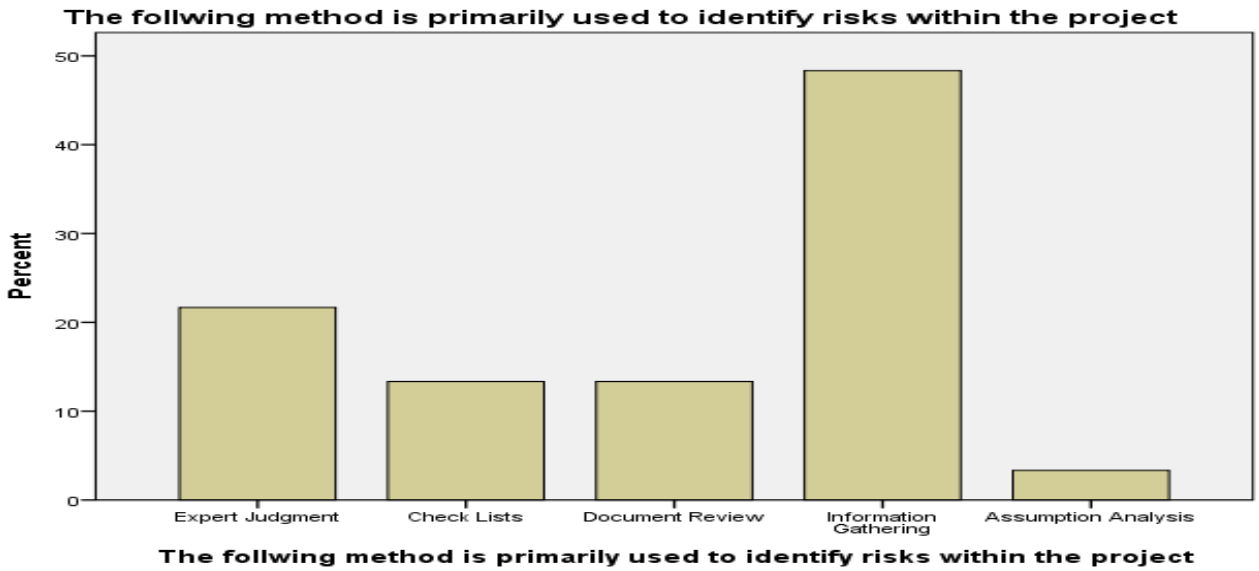

Figure 1 Methods to identify risks within the project

Source: own survey, 2019.

As we can see from the above, bar chart around 21.7% of the respondents responded that expert judgment is a tool used to identify risk within the projects and 13.3% and 13.3% of the respondents responded that checklists and document review respectively are the tools used for identification. The remaining 48.3% responded that information gathering is used as a tool and 3.3% of the respondents responded that assumption analysis is used to identify risk that may occur in the project. This result implies that majority of the respondents believe that information gather is the most used method to identify risks that might occur and secondly expert judgment is also used as a tool in the identification process. The interview result that was held with the project managers also supported this statement by elaborating that information gathering is used as a tool. According to the project manager, information is gathered from staffs in different section involved in the project.

In the risk identification of the risk management process of the project Potential risks are identified and assessed in a methodical way but all team members within the project didn't play a role in identifying risk. SWOT Analysis is used to identify risk by the management than physical inspection. And risks didn't identify in every life cycle of the project. Information gather is a method primarily used to identify risk in the project.

RISK ANALYSIS

Table 9- risk analysis

risk analysis	N	Mean	Std. Deviation
There is a measurement system to analyze the risk	60	3.37	.956
Project document are updated after assessment of the risk that might occur.	60	3.33	.877
Risks are formally assessed with respect to their likelihood of occurrence and impact magnitude	60	3.20	1.162
Valid N (list wise)	60		

Source: own survey, 2019

The average result (3.37), about if there is a measurement system to analyze the risk indicates majority of the respondents agree that there is a way to measure risk in order to analyze risks that might occur within the projects. The result of the interview with the project manager also indicated that uncertainties that have the probability to occur are rated in values at the planning stage of the project so that it can help make decisions to the various threats and opportunities that the projects might encounter. Average result (3.33), shows majority of the respondent disagree that Project document are updated after assessment of the risk that might occur.

Question asked to check if risks are formally assessed with respect to their likelihood of occurrence impact magnitude the average result (3.20) is obtained, this implies majority of the respondent Disagree that Risks are formally assessed with respect to their likelihood of occurrence and impact magnitude. Interview made with the managers also implies that risks are not assessed formally.

The overall responses obtained from the respondent revealed that there is a measurement system to analyze risk but project documents are not updated after assessment of the risk. And risks are not formally assessed with respect to their likelihood of occurrence impact magnitude in the project.

RISK RESPONSE

Table 10- Risk Response

Risk Response	**N**	**Mean**	**Std. Deviation**
There is a well developed strategy within the project to respond to risk	60	3.78	1.121
Factors such as budget, schedule and resources are considered while responding to risk	60	3.70	.809
Valid N (list wise)	60		

Source: own survey, 2019.

The mean value (3.78), in the above table for the question if there is a well-developed strategy within the project to respond to risk, indicates that the project is practice a well-developed strategy to respond to risk. Regarding the consideration of budget, schedule and resources, while responding to risk the mean value is (3.70) which indicate the agreement of majority of the respondents on the consideration of budget, schedule and resources while responding to risk.

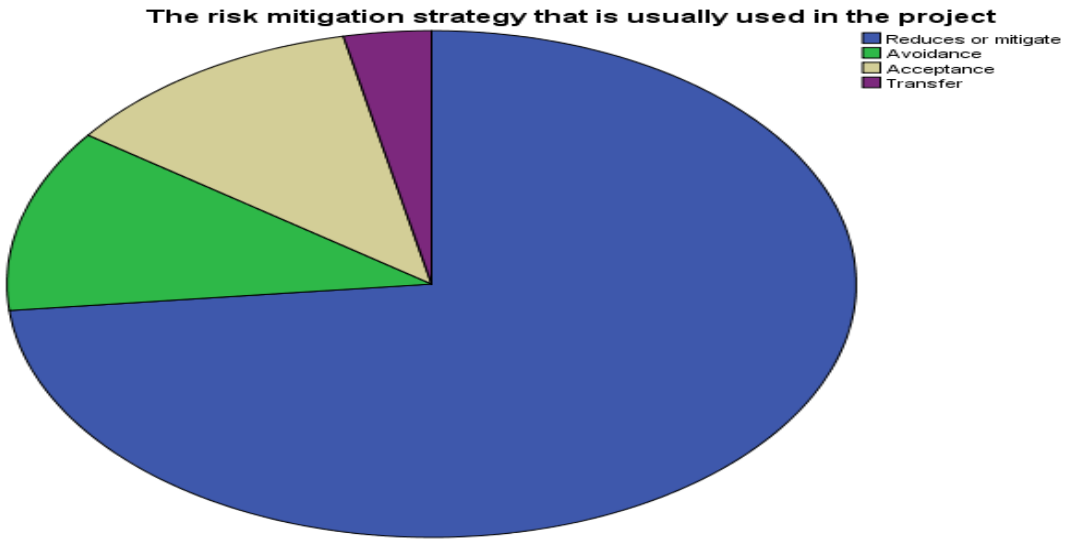

Figure:2 Risk mitigation strategy

Source: own survey, 2019.

The above pie chart illustrates that the majority of the respondent which is 73.3% agreed on reduces or mitigate strategy is used for risk mitigation strategy. The remaining 11.7% says that acceptance, 11.7% avoidance and 3.3% transfer is used as a strategy risk mitigation. This indicates that reduces or mitigate risk response strategy is widely used.

There is a well-developed strategy within the project to respond to risk and Factors such as budget, schedule and resources are considered while responding to risk. And also reduces or mitigate risk response strategy is widely used.

RISK MONITORING AND CONTROLLING

Table 11- Project risk monitoring and controlling

Project risk monitoring and controlling	N	Mean	Std. Deviation
Based on the current result of the project monitored and controlled well	60	3.02	1.000
The project monitor, control and review the process for risk management to ensure that it complies with standards and procedure	60	3.15	.777
Information available or the history of the project is used to supplement to control risk	60	3.10	.858
Risks that occur within the project are control in a way that goes with the goal and objective of the project	60	2.91	.873
Valid N (list wise)	60		

Source: own survey, 2019.

The ratings (3.02) and (2.91) for the questions if risks are monitored and controlled well and if these activities are done in a way that goes with the goal and objective of the project respectively shows there is little practice of risk monitoring and control and this little practice is not done in accordance with the goal and objective of the project.

The result obtained (3.15), for the question if project monitor, control and review the process for risk management to ensure that it complies with standards and procedure, the response shows that majority of respondent disagree that The project monitor, control and review the process for risk management to ensure that it complies with standards and procedure.

Regarding the question asked to rate if the project uses information available and its history, to supplement the risk control practice, the average rating value is (3.10) which indicates the management does not supplements the risk control practice by using information available and the history of the project. These results were also confirmed during the interview held with the project manager.

The project didn't monitor and controlled well. The project didn't monitor, control and review the process for risk management to ensure that it complies with standards and procedure. Information available or the history of the project is not used to supplement to

control risk. Risks that occur within the project are not control in a way that goes with the goal and objective of the project

CHAPTER FIVE

5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

In this chapter the summary of finding of the study, the conclusion that should be drawn from data analysis and recommendations, that the researcher propose about the risk management practice of the project to enhance effective implementation of the project by stakeholders should be discussed.

5.1. Summary of Findings

The sampling technique used was purposive. 66 questionnaires were prepared and distributed for 66 samples, 60 Questionnaires are completed and return 60 participants' responses for closed ended questions while 4 are not returned and 2 of them discarded. To triangulate the findings, interview was conducted with 4 project managers and. The data gathered through semi structured interviews were compiled and well maintained with the data gathered with questionnaire. Thus, findings retrieved from the data presented in this section are:

- According to the analyze data on general question about risk management there is defined or standard risk management process that is to be followed for the TEP project. Furthermore, interview made with the project Managers also confirmed the presence of a defined or standard risk management process. But it is not well defined and it is not applied properly in practice. And also there is existence of policy or guideline that recommends how to manage risks. However, interview made with the project Managers indicated that there is a policy or guideline that recommends how to manage risks but it is not well known and understand by all project team members

and risks are not manage following the policy or the guideline, they are simply a written document.

- The response from the respondent indicates that project risk management process is not continuous throughout the project cycle. An interview made with project managers implies that most of risks are treated when they occur the process didn't takes place in every lifecycle of the project. In addition the greater number of respondent agreed on that there is no responsible person assigned to handle issues related to project risk management. From the interview made with project managers I can understand that risk management didn't have responsible person or department assigned for the project but the process is handled by other department quality and assurance along with other tasks.

- Response of respondent on the question if training is given about risk management shows that more than a half of the respondents confirmed that training is not given for project team members about project risk management.

- About risk planning, According to rating of respondents there is a plan that is carefully designed on how to manage risk. And respondents agree that Risk management planning is undertaken with the project planning in addition finding reveals that there is a high rate of involvement of relevant stakeholders in the planning and performing of managing risk. The interview result that was held with project managers also supported this statement. The same finding revealed that consideration of an expert judgment while planning for risks that might occur in the project rated by majority of the respondents. And also the interviews with project managers insure that expert judgment is considered while planning for risk.

- Data analyzed about risk identification reveals that potential risks are identified and assessed in methodical way. Moreover role of all team members within the project in identifying risk rated less by the respondents. And the finding indicates that SWOT analysis is used as a risk identification tool than physical inspection. In addition the

finding implies that information gathering is rated as the primary method used to identify risk by the project.

- About risk analysis, the data analyzed shows that respondents agree about there is a risk measurement system that value risks in monetary terms. Whereas they rated, the practice of updating Project documents after assessment of the risk that might occur is not good. Most of the respondent and even the project managers disagree on risks are formally assessed with respect to their likelihood of occurrence and impact magnitude.

- Based on the rating of the respondents on the process of risk response majority of the respondents agree on the existence of a well-developed strategy with in the project to respond to risk, in addition the project considers budget, schedule and resources while responding to risk. Risk reduces or mitigate strategy is chosen by most of the respondents as a risk mitigation strategy most of the time when risk occurs in the project.

- The findings obtained from the risk monitoring and controlling process revealed that majority of the respondents disagree that risks are not monitored and controlled well. In addition the respondents disagree on information available or the history of the project is used to supplement to control risk. And risk's that occur within the project are not controlled in a way that goes with goal and objective of the project.

5.2 Conclusion

The Research intend to assess the project risk management practice of TEP software implementation project in the case of Ethio telecom, In order to address the main objective of this research; the following key research conclusions can be discerned.

At the outset, the practice of developing an effective risk management plan in the project is a poor practice even if the project has policy or guideline that recommends how to manage risk but it is just a write document and they don't use it properly to manage risk. Also the project has a poor record in giving training for team members on how to plan

and handle risks. There is a problem show that there is no responsible person or department for risk management and also risk management is not being practiced as a continuous process which indicates once the risk process applied at the first stage later on risks are solved after they become a problem.

Regarding risk planning we can conclude that the practice of developing an effective risk management plan is available in the project and also it is prepared with the involvement of stake holders, and expert judgment is considered while planning for project risk.

In addition, this thesis revealed that risk identified and assessed in a methodical way. However the role of all team members in risk identification is less. The primary method used by the project to identify risk is information gathering. Moreover SWOT analysis is preferably used in the identification process of risks. And risks are not identified in every lifecycle of the project however the project does not use physical inspection to identify risk,

The project uses a measurement system to analyze the risk but the project didn't have a practice of updating Project documents after assessment of the risk that might occur. And risks are not assessed formally with respect to their likelihood of occurrence and impact magnitude.

The project use a well-developed strategy to respond to risk and the impact of the response on budget, schedule and resources is also considered well, while responding to risk. And also risk reduces/mitigation is the most frequently used risk response method followed by risk avoid and acceptance.

And the project has poor practices of risk monitoring and control and these little practices are not done in accordance with the goal and objective of the project. The project didn't use the history and experience of the project to monitor and control risk.

Finally, from the interview we held with project manager and response of different staff we can conclude that the risk management practice of Ethio telecom in the TEP software practice is poor there are write document but not applicable in practice properly. They

didn’t consider risk in all the lifecycle of the project risks are identified at the initiation of the project. Risks are managed after they occur or where they are almost to occur. This indicates that there is a gap between the theory and the practical activities.

5.2. Recommendation

The practice of project risk management in Ethio Telecom shows a deviation with that of theoretical aspect of the knowledge area. On which the company should recognize and give greater emphasis to the identified gaps and ensure the effective management of its project risk management practice. Thus, the researcher provides the following recommendations pinpointing focal points that would be helpful to the company project risk management in productive directions.

- Risk management processes should be takes place through all the project lifecycle integrated with the project plan. Risk management needs to be seen as a continuous process throughout the projects lifecycle. It is essential that the incidence of risk be reviewed to see whether it has changed over time. Risk Management is a dynamic process which means new risk will be identified some will be terminated and control measures will need to be updated in response to changing internal and external events. The assessment of the impact and likelihood will also need to be reviewed in light of management actions.

- It is helpful to include all team members on the risk management process since they are close to the project they know very well about what risks the project may face.

- The project should follow a well-developed guide line that recommends how to manage unexpected uncertainties which enables it to have a defined/standard risk management process. The project should assign a responsible person or department, whose primary responsibility is managing the overall activities related with risk management activities. The projects should have risk management professionals who have adequate risk .management experience and

are proficient in the area. And training should be given for all team members about the overall risk management process.

- The monitoring and review process should be integrated into existing processes so that it adds value and supports the successful achievement of objectives. Implementations of risk monitoring and control activities are vital to the successful management of project risks in any project. The poor practice of risk monitoring and control in the project should be improved and done in accordance with the goal and objective of the project.

- Risk register is the tool used for capturing important information about the risk or opportunity and is a continual process. The project should use Information available or the history of the project to supplement the process of risk monitoring and control. And also risk lesson learned from the project should be documented for the next projects.

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Appendix

Appendix 1: Questionnaire

Addis Ababa University College of Business and Economics School of Commerce Masters of Art in Project Management

Dear Respondents:

My name is Rediat Mekonnen, I am a post graduate student in Master's in Project Management at Addis Ababa University School of Commerce. As part of my studies I am conducting a project work entitled "Assessment of project risk management Practice at Ethio Telecom".

I kindly request you to participate in this research study by completing the attached questionnaire. In order to ensure that all information will remain confidential please do not include your name anywhere in the questionnaire. I also sincerely request you to respond to the questions as honestly as possible and return the completed questionnaires at your earliest convenience.

In case of any question or dilemma please contact me via-rediatmekonnen19@gmail.com

Thank you for your cooperation!

Questioners

Part I: General Information

- Please indicate your opinion by marking a **(√)** on the appropriate answer.
- Please encircling the option provided for each multiple choice questions.

Age

20 -30years ☐ 30-40years ☐ 40-50years ☐ above 50 years ☐

Level of Education

Diploma ☐ Degree ☐ Postgraduate ☐ Others, please specify _____

Years of work experience

3-5 Years ☐ 6-10Years ☐ 11-15 Years ☐ above 15 ☐ Years

For how many years have you worked on the project?

Below 1 year ☐ 2 Years ☐ 2-3Years ☐ above 3 ☐ Years

5. Your position in project

Manager ☐

Supervisor ☐

Expert ☐

Specialist ☐

☐

Administrator
Other, please specify_____

Part II: **General Question about risk management system**

S/No.	Questions	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1.	The project has a defined or standard risk management process.					
2.	There is a policy or guideline that recommends how to manage risks.					
3.	Risk management is treated as a continuous process in the project.					
4.	Responsible person or department is assigned to handle risk.					
5.	Training is given for all team members about risk management.					

Risk Planning

S/No.	Questions	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
6.	There is systematic approach or careful planning done to perform risk management in the project.					
7.	Risk management planning is undertaken with the project planning.					
8.	Relevant stakeholders and project team members are involved in risk management Planning.					
9.	Expert judgment is considered While planning for project risks.					

Risk Identification

S/No.	Questions	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
10.	Potential risks are identified and assessed in a methodical way					
11.	All team members within the project play a role in identifying risk.					

12.	SWOT Analysis is used to identify risk by the management.					
13.	Risk is identified in every life cycle of the project.					
14.	Physical inspection is done by the managers to identify risk.					

15. The following method is primarily used to identify risks within the project.

A. Expert Judgment

B. Check lists

C. Document Review

D. Information gathering

E. Assumption analysis

F. none

Risk Analysis

S/No.	Questions	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
16.	There is a measurement system to analyze the risk.					
17.	Project documents are updated after assessment of the risk that might occur.					
18.	Risks are formally assessed with respect to their likelihood of occurrence and impact magnitude					

Risk Response

S/No.	Questions	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
19.	There is a well developed strategy within the project to respond to risk.					
20.	Factors such as budget, schedule and resources are considered while responding to risk.					

21. The risk mitigation strategy that is usually used in the project…..

A. reduces or mitigate

B. avoidance

C. acceptance

D. transfer

Risk Monitoring and Controlling

S/No.	Questions	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
22.	Based on the current result of the project are risks monitored and controlled well.					
23.	The Project monitor, control and review the process for risk					

	management to ensure that it complies with standards and procedures.					
24.	Information available or the history of the project is used to supplement to control risk.					
25.	Risks that occur within the project are controlled in a way that goes with the goal and objective of the project.					

Appendix 2: Interview

Addis Ababa University College of Business and Economics School of Commerce Masters of Art in Project Management

Interview Questions for the Ethio Telecom project managers.

My name is Rediat Mekonnen; I am a graduating class student of Masters Program in Project Management at Addis Ababa University School of Commerce. As part of the Masters program now I am conducting a project work entitled Assessment of project risk management Practice in Ethio Telecom.

Therefore, I would like to express my deepest gratitude for your cooperation in answering for the following interview questions. The very purpose of this research is to assess the practices of project Risk management practice in ethio telecom. This being said, it should be noted that, the research mainly depends on the accuracy of your answer. Lastly, I would like to assure you that, the data being collected from you will be presented anonymously and kept under strict confidentiality.

Thank you for your cooperation!

Interview Questions

1. Your position in the project?

2. How long have you been working in this project?

3. In which part of the project you participated?

Questions related to risk management system.

Does the project risk planning integrated with the project plan? When did you plan risk management?

Did you believe that the project risk planning is prepared with the appropriate stakeholders and project team members?

What does the risk management process in the project look like?

Dose the risk management process takes place throughout the project lifecycle?

How do you explain the awareness of risk among the project managers and other staff in the projects? What measures are taken to build good risk management culture among employees?

Have you ever had discussions with project members to extract lesson learned from completed projects? And have a document of lesson learned for next projects?

What is your evaluation of the overall project risk management process of the project?

Who handle Uncertainties that occur within the project mostly? Is that the project manager, the consultant, the client, specialized risk management team or all teams participating in the project?