SCHOOL OF GRADUATE STUDIES IN MA PROJECT MANAGEMENT

Assessing Practices and Challenges of Risk Management in Building Construction Projects: - Case Study of Sunshine Construction P.L.C in Addis Ababa

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A Research Project Submitted to the School of Graduate Studies of ST' Mary's University in Partial Fulfillment of the Requirements for the Degree of Master of Arts in Project Management

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Statement of Declaration

I, the undersigned, declare that this project work is my original work and that all sources of materials that are used for this study have been dully acknowledged.

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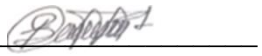
Signature: 

Date: 10/6/24

Letter of Certification

This is to certify that Biruh Tesfa has carried out this research on the topic " Assessing Practice and Challenge of Risk Management in Building Construction Projects. Case Study of Sunshine Construction P. L.C in Addis Ababa" under my supervision. This work is original in the nature and suitable for submission in partial fulfillment of the requirement for the award of Masters of Arts Degree in Project Management and the student has my permission to present it for assessment.

Advisor: Dejene Mamo (PhD)

Sign: 

Date: 10/6/2024

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The realization of this research work is entirely related to the Sunshine Construction company risk management practice and challenges valuable information provided as a company, individual and management level are sole basis for the research.

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ABBREVATIONS

GDP- Growth Development Program

PMBOK- Project Management Body of Knowledge

PERT- Program Evaluation Review Technique

PMI- Project Management Institute

ISO- International Standard Organization

PLC- Project Life Cycle

RPN- Risk Priority Number

SWOT- Strength, Weakness, Opportunity and Treat

SPSS- Statistical Package for Social Science

PHD- Doctor of Philosophy

RBS- Risk Breakdown Structure

STD- Standard Deviation

IT- Information Technology

NA- Not Applied

ATSE- Applied to Some Extent

WA- Well Applied

GA- Greatly Applied

VGA- Very Great Extent

RR- Risk Register

Abstract

This research aims to assess the risk management practices and challenges within Sunshine Building Construction, a leading construction company in Addis Ababa, Ethiopia. By exploring the company's risk management approaches, identifying challenges, and evaluating awareness and implementation levels, this study seeks to provide valuable insights for improving risk management processes in the construction industry.

A mixed method approach is adopted, incorporating both qualitative and quantitative data collection methods, including questionnaire surveys and interviews with project managers, team members, stakeholders, and clients. The population for the study comprises employees working at the head office and various site project managers. Non-probability sampling techniques are utilized to select the sample population based on convenience and manageability with a sample size of 60 respondents. Data is collected through primary sources such as interviews and surveys, as well as secondary sources including document analysis and literature review. Different data analysis techniques are employed, utilizing descriptive statistics and qualitative analysis to interpret the findings. This study investigates the risk management practices and challenges faced by Sunshine Building Construction in Addis Ababa. Key findings reveal a significant positive relationship between risk management practices and project success. Descriptive statistics indicate the presence of an efficient risk management plan, including risk breakdown structures, resource estimation, and scheduling. Risk identification involves comprehensive tools and processes, while risk analysis employs qualitative methods and risk matrices. Risk response strategies include avoidance, contingency planning, transfer, and acceptance, with personnel assigned to specific responses. The study also identifies challenges related to construction, financial, and political/legal issues. The findings underscore the importance of systematic risk management to enhance project outcomes in the construction industry. Key recommendations include analyzing the likelihood and severity of each risk, developing response plans, and prioritizing risks based on a risk register. Engaging the project team and stakeholders in risk analysis, allocating proper budgets, and actively monitoring risks are essential strategies. Regular updates and check-ins with risk managers are crucial to avoid unexpected issues. The study highlights the need for a well-organized risk management policy, training for the project team, and maintaining a documented record of past project risks for future reference.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

The construction sector plays a central role in the economy of any country, providing essential structures such as public and private infrastructure and housing (Page and Tarp, 2020). Among this construction involves in different construction activity mainly high-rise building, dams, irrigation networking, energy conversion and industry plants, environmental protection works, infrastructural facilities like road, bridge, railways, airports and seaports, satellite launching stations, onshore and offshore oil terminals, etc. In developed countries construction sector constitutes a large amount of its growth and development. Whereas in developing and poor counites like Ethiopia it is a sector That contributes over 9.5% of the country's GDP and record of 11.5% annual growth which employs over 1.8 million of people making it the second largest operating segment (Omondi, 2019). The country intends to be a middle-income economy by 2025. Ethiopia's major industries include agriculture, construction, manufacturing, resources and energy, tourism, and food processing. Among this industries agriculture constitutes 50% of its GDP which makes it the first leading sector. Ethiopia targeted to be one of the World's middle-income countries by 2025G.C through industrial transformation. In alignment with the country's industrial transformation policy, the government takes rigid measures to strengthening construction industry as one sub component of industry.

Construction and project are two inter linked concepts. Project is defined as a temporary endeavor undertaken to create a unique project service or result (PMBOK 2008). Construction on the other hand is the installation and assembling of activities for the project equipment and materials at the site in accordance with the approved construction drawing, procedures and specifications (Chudley and Greeno, 2006). In order to achieve the project objective with in the construction there should be a proper management of activities. This management involves in activity of organizing and coordinating of project in order to achieve defined objectives and goals that control and manage resource such as people, money time, technology and procedure effectively and efficiently (Peter and Christian, 2019). Project managers are therefore assigned to project to manage every activity involved with in the project. The main role of project manager includes planning, organizing, staffing, team leading hire, fire and supervise, set goals, deliver on

time, stay on budget, keep client in the loop, solve disputes, draft contracts and manage risks (PMBOK 2008). However, construction projects are subject to uncertainties and most of the time they are exposed to risks related with poor project management, capacity constraint, financial difficulty, technology gap, lack of appropriate infrastructure, rent seeking practice, and lack of good governance (Hendrickson, 1998).

Construction is a complex and demanding process (Hendrickson, 1998). Among other things, it requires interpretation and compliance with several laws, codes and regulations; the collection of substantial resources, including labor, equipment and materials; and communications and coordination between several parties, such as the owner, professional designer, other contractors, sub-contractors and suppliers, who may have different goals and objectives. In addition, there are many factors that are unknown or unknowable at the start of any project (Kim, 2014). It is therefore not surprising that risks are an expected part of this process. A construction risk is any exposure to possible losses. As each construction project is different, each offers a multitude of varying risks. To ensure the success of a project, a contractor starting a construction project must be able to recognize and assess these risks.

Risk management is one of the nine knowledge areas propagated by the project management institute. Risk management in construction project management context is a comprehensive and systematic way of identifying, analyzing and responding to risks to achieve the project objective (Banaitiene and Banatitis, 2012). The benefits of the risk management process include identifying and analyzing risks, and improvement of construction project management processes and effective use of resource. These is done through risk management practice. The objectives of project risk management are to increase the likelihood and impact of positive events, and decrease the likelihood and impact of negative events in the project (Chapman and Ward, 2003; PMI, 2008).

Therefore, in countries like Ethiopia construction is an upcoming industry that involves high skilled and unskilled manpower which facies different challenge (Tefera, 2016). Among these challenges risks are one factors affecting the industry primarily. The risks in construction industry should be managed and practiced through risk management.

1.2 Statement of the problem

In Ethiopia, public and private construction companies are starting to realize risk management practices, but are not yet using risk management models and techniques (Yimam, 2011). This contradicts the fact that the industry is trying to be more efficient in terms of cost and time furthermore control over the projects (Taylor and Fransis,2008). Risk is associated with any project, regardless of industry, and therefore risk management should be of interest to any project manager. Risks differ between projects due to the fact that each project is unique, especially in the construction industry (Gould and Joyce, 2002). However, there are still many professionals who have not understood the importance of including risk management in the project delivery process (Smith, 2006). In addition, there is little awareness of the risks and their consequences, and some construction organizations do not even take the risk into account.

This paper will mainly propose the assessment of the risk management practice in sunshine building construction and challenges that the company is facing in applying them. Even though sunshine is a grade one and having a mile stoning carrier in construction industry the company is exposed to different risks. This makes the construction company loose cost and dalliance in building construction completion.

Most studies (Ejohwomu, 2014; Yimam, 2011) conducted in the field of risk management have focused attention on specific aspects of risk management of construction projects, ignoring a comprehensive and holistic approach with a focused vision to identify construction risks and their likelihood of occurrence and the impact on project objectives and the mitigation strategies that will be applied if the identified risks materialize (Wysocki, 2009). This indicates that construction risk management will be put in place to help identify project risks, analyze them systematically and employ appropriate tools and techniques to manage them.

Different related research were conducted on risk management practice in construction project for instance a research assessing on the risk management practice of construction projects in case study of defense housing construction enterprise concludes that risk management practice is not performed as one of the important issues in managing the project and that it is being implemented in a very random way (Chelkaba, 2020), other research on risk management practice in selected Addis Ababa 10/90 and 20/80 condominium projects summarizes there is still lack of formalized risk management mechanisms such as risk identification, classification,

analysis, response and monitoring (Kalkidan, 2019) , further a research on Assessment of Project Risk Management Practices in Real Estate Projects in Addis Ababa concludes that there is no standard risk management process that is to be followed or implemented inside the projects and that there is kind of risk policy or guideline in the projects which recommends team members and the participants how to handle risks that occur at any point in the course of undertaking the project(Kalkidan, 2017), furthermore a research on Project Risk Management Practices of Selected Chinese Building Contractors in Ethiopia rated the application of risk management techniques is not high, and qualitative techniques obtained much higher ratings than quantitative techniques, suggesting there is much room for improvement for using different risk management approaches, especially quantitative techniques. (Sileshi, 2018).

The above research paper show risk management practice in different projects. Risk management is a very wide theoretical and practical concept. However, this concept has not been emphasized in both theoretically and practically. Further, most studies conducted are done on government owned projects. There are little studies on private owned companies. Furthermore, the most of the research done focus on risk management systems adopted which shows there is a gap in risk identification and analysis techniques and challenges in implementation of risk management practice.

1.3 Research questions

From the statement of the problem the following research question were proposed

1. What are the risk management practice that are being applied in sunshine construction company?
2. What challenges in application of risk management practice with in the company?
3. What risk identification and analysis process are used by sunshine building construction?
4. What is the level of awareness and implementation of risk management practice with in the company?

1.4 Objective of the study

General objective

- The general objective of this research will be to assess the risk management practice and its challenge in sunshine building construction in Addis Ababa.

Specific objective

- To assess the risk management practice adopted in sunshine building construction in Addis Ababa.
- To assess the challenges of risk management practice adopted in sunshine building construction in Addis Ababa.
- To describe the risk identification and analysis process used by sunshine building construction.
- To investigate the level of awareness and implementation of risk management practice with in the company

1.5 Significance of the study

The research will contribute in gaining the basic knowledge related to risk management practice by construction companies, stakeholders and project managers and identifying the major cause of risk and basic challenges in practicing risk management activities. In addition, it helps in setting remedial measures to overcome the challenges. Further it also helps in construction companies' level of awareness and implementation of risk management practice. It also serves basis for further studies on the area and especially for researchers who are planning to study risk management practice in private companies in Addis Ababa, Ethiopia.

1.6 Scope of the study

Among different knowledge area of project management this research will focus on risk management. The scope of the study will be limited to assessing risk management practices of a private construction company located in Addis Ababa Ethiopia involved in building construction. It involves in stakeholders, project managers, project team members working with in sunshine construction company. The study is therefore related to project risk management practice and challenges related to building construction projects in Addis Ababa in case of a private company called sunshine construction company.

CHAPTER TWO

LITERATURE REVIEW

2.1 Theoretical Literature Review

Definition of project and project management

The concept project has a long history starting prom ancient civilization. In 2570 BC the great pyramid of Giza completed which show that there were some degrees of planning, execution and control. In 208 BC the Chinese Qin dynasty build the great wall of China which show us there were organized labour force. 1917 Henry Gantt develops a diagram that illustrates a project schedule of activities. In 1956 the American Association of cost of engineers tried to relate planning, scheduling, cost estimating, cost and schedule control. In addition, in 2006 they develop an integrated process for portfolio, program and project management with total cost management framework. In 1957 the critical path method was developed by DuPont corporation used to predict duration by analyzing sequence of activities. Program evaluation review technique (PERT) was developed by us navy Polaris project in 1958 used to analyze the task involved in completing a project. In 1969 the project management institute (PMI) which was founded by five volunteers dedicated in advancing project management, practice, science and profession. A project management body of knowledge guide (PMBOK guide, 1987) Document and standardize accepted project management information and practice.

According to project management institute (PMI) body of knowledge (PMBOK, 1987) founding definition in project is defined as “Any undertaking with a defined starting point and defined objectives by which completion is identified. In practice most projects depend on finite or limited resources with which the objectives are to be accomplished.” Currently project is defined as “a temporary endeavor undertaken to create a unique project service or result.” According to PMBOK® Guide 2016. project is defined as sequence of unique, complex, and connected activities having one goal or purpose that must be completed by a specific time, within budget, and according to specification. Project is human endeavor legitimately regarded by its stakeholders as a project because it encompasses a unique scope of work that is constrained by cost and time and the purpose of which is to create or modify a product or service to achieve beneficial change defined by quantitative and qualitative objectives.

According to Project Management Institute, A Guide to the Project Management Body of Knowledge (PMBOK Guide, 2003) “Project management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements.” On the other hand, project management was defined as a series of planning, organizing, directing and controlling the organization resources to achieve the specific goals and objectives (Kerzner, 2013). The above two definition of project and project management show mainly the relationship between project and management. Knowledge, skills, tools and techniques to project activities are applied to project from the beginning to the end of the project. From the beginning to the end (project life cycle) of the project it has 5 different stages which are Project Initiation stage, the Project Planning stage, the Project Execution stage, the Monitoring and Controlling stage, and the Project Closure stage.

Project management knowledge areas

Different knowledge areas are involved in application of knowledge, skills, tools and techniques. According to project management institute (PMBOK Guide, 2013) Knowledge Areas for Project Management include Project Integration Management, Project Scope Management, Project Cost Management, Project Quality Management, Project Time Management, Project Human Resources Management, Project Communications Management, Project Risk Management, Project Procurement Management, and Project Stakeholder Management.

Project integration management- is a project management field of knowledge that encompasses the processes and activities required to identify, define, combine, unify, and coordinate the different project management processes and activities within process groups. It involves making decisions about resource allocation, making tradeoffs between competing goals and alternatives, and managing dependencies among the knowledge areas. This includes the activities required to manage the project documents to ensure consistency with the project management plan and the overall project objective (Duncan, 1996; PMI, 2013).

Project scope management -consists of the techniques required to make sure that the challenge includes all of the paintings required, and simplest the paintings required, to finish the challenge successfully (PMI, 2013). Project scope control consequently accommodates all of the techniques worried in defining and controlling what's or isn't always protected in a challenge. The main goal of scoping the challenge is to make sure that the challenge group and stakeholders

have the equal knowledge of what product, provider or end result could be produced via way of means of the challenge and what techniques could be utilized in accomplishing that goal (PMI, 2013).

Project time management -is one of the maximum if now no longer the maximum vital components in mission control because its bureaucracy the bases upon which all sports with inside the mission is scheduled. It is the method of making plans and controlling the quantity of time wished to complete a specific interest in a mission. That means, it consists of each making plans and controlling additives of mission control (PMI, 2013; Wysocki, 2009).

Project cost management -consists of the approaches concerned in planning, estimating, budgeting, financing, funding, managing, and controlling prices in order that the task may be finished in the authorized budget. Project fee control is one of the maximum essential factors in task control that require plenty interest considering the fact that its mishandling can lead the task right into an entire failure. It can have an effect on the give up end result with the aid of using both now no longer assembly the overall performance requirement set with the aid of using the sponsor or a complete cancelation of the whole task if now no longer cautiously managed (PMI, 2013).

Project quality management- is the method of figuring out quality standards and/or requirements for the mission and its deliverables, and documenting how the mission will display compliance with applicable quality requirements. The key gain of this method is that it gives steering and course on how excellent may be controlled and confirmed during the mission (PMI, 2013). In general, Project Quality Management consists of the Processes required to make certain the Project will fulfill the desires for which it turned into undertaken (Project Management Methodology Guidebook).

Human resource management -can be viewed as core processes of the project-oriented company, affecting the way the organization acquires and uses human resources, and how employees experience the employment relationship (Duncan, 1996; PMI, 2013).

Project communication management -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 (Duncan, 1996; PMI,

2013).

Project procurement management -includes the processes necessary to acquire products, services, or results needed from outside the project team (Duncan, 1996; PMI, 2013).

Project stakeholder management -includes the processes required to identify the people, groups, or organizations that could impact or be impacted by the project. This knowledge area is very important in project risk management plan. Therefore, the focus of this area is to do a better job of identifying relevant stakeholders and keeping them in the communications channel throughout the life cycle of the project (Kerzner, 2009; PMI, 2008).

Project risk management -According to PMI (2013), PRM involves the processes of conducting risk management planning, identification, analysis, response planning, and monitoring and control risk on a project and the primary focus is to minimize the probability of negative impact on the outcome of the project and to maximize any opportunities that exist for positive events (Robert, 2016; The Orange Book, 2004; Williams, 2004).

Project Risk Management

In the 2000 edition of the project management body of knowledge, or PMBOK Guide, the project management institute defines project risk as "an uncertain event or condition that, if it occurs, has a positive or a negative effect on a project objective." (Meritt and Smith, 2004) defined risk as the possibility that an undesired outcome or the absence of a desired outcome disrupts the project.

Project risk includes both threats to the project's objectives and opportunities to improve on those objectives. It has its origins in the uncertainty that is present in all projects. Known risks are those that have been identified and analyzed, making it possible to plan responses for those risks. Organizations perceive risk as it relates to threats to project success. Risks that are threats to the project may be accepted if they are in balance with the reward that may be gained by taking the risk. Risks that are opportunities may be pursued to benefit the project's objectives (PMBOK Guide 2000).

According to PMBOK guide Project risk management is defined as “systematic process of identifying, analyzing, monitoring and evaluating and responding to project risks”. Whereas ISO 31000: 2018 defines it as coordinated activities to direct and control an organization with regard

to risk. Project risk management deals with the process to identify, analyze and respond to risk throughout the project life cycle, with the goal to ensure the project will be able to reach its objectives. Risk management helps the project by determining the right scope, making realistic schedules and better cost estimates that takes in account provisions to respond to risk events. Risk management also helps project stakeholders understand the true nature of the project, identify the weakness, treat, strength and opportunities. The main purpose of risk management is to build an understanding of the potential problems that might occur on the project and how they might retard the project success, by developing strategies to reduce the impact of a potentially adverse events on the project. Risk management is an investment that the project is willing to make to reduce the impact of the project. There are costs associated with risk management and these costs should not exceed the potential benefits. Project risk management is concerned with the analysis of various risks and reducing their impact. The probability that risk many occur varies as the project makes progress, a risk identified as a low impact and low probability may change in a couple of months to high impact and high probability. The role of the project manager is to ensure there is a constant evaluation of risk factors and update the response plan accordingly. Risk management involves a series of steps and techniques to help minimize the probability and impact of adverse events and maximize the probability and results of positive events with in the context of risk to overall project objectives. project risk management is most effective when it is done early in the life of the project and it's a continuous responsibility throughout the project lifecycle.

Today every organization faces uncertain events that occur in different environments and with different characteristics and impacts. These uncertain events can generate more or less severe consequences for the organization (Aven, 2011). Uncertain events with negative impacts are called risks. The construction industry is no exception in being exposed to these uncertainties, which are complex and diverse risks (Zhao, 2013).

Risk management is very most important point in construction industry. It is most widely used in projects that involve a high level of uncertainty. These types of risky investments are characterized by more formal planning, monitoring and control processes. The easiest way to identify risks is to analyze and draw conclusions from projects that have failed in the past. To make sure that the project objectives are met, the portfolio of risks associated with all actors

across the project life cycle (PLC) should be considered (Cleland and Gareis, 2006). Risk management procedures should be initiated at the earliest stages of the project, during which the planning and procurement of works are defined, as well as the preliminary investment budget. In the following phases, the risk management applied in a systematic way helps to control the critical elements which can have a negative impact on the performance of the project. In other words, to keep track of previously identified threats, will result in early warnings to the project manager if any of the objectives, time, cost or quality, are not being met (Tummala and Burchett, 1999). the construction sector relies on management practices based on intuition, experience and poor risk management.

These practices usually impede the appropriate level of ability to handle the uncertainty and complexity involved in construction projects, resulting in project failures in terms of finishing projects within deadlines, budgets, quality and expected safety. As a common practice, the building construction industry utilizes ordinary project management practices and frameworks (Ibid, 2015). Practices that are limited to assessing the consequences of deviations from the project plan rather than dealing with the causes of delays in the production system (Antunes and Gonzalez, 2015). However, as (Chapman and Ward, 2003; Pieplow, 2012; PMI, 2008) state, much good project management practice can be thought of as effective uncertainty management.

Risk Management Process

According to (Lewis,2011) risk management process is a three-step process that involves in

1. Identify risks and threats by asking “What could go wrong?” or “What kind of threats exist?”
2. Quantify threats and risks by assigning them a risk priority number (RPN).
3. Develop contingency plans to deal with risks that cannot be ignored

According to PMBOK risk management processes are plan risk management which includes risk management planning, identify risks, perform qualitative risk analysis, perform quantitative risk analysis, plan risk responses, monitor and control risks. The typical intention of risk management process is to maximize the possibilities and decrease the effects of a risk occasion despite the fact that sort of risk management models with extraordinary numbers of stages.

(Raz, 2012) identifies 5 project risk management practices which include systematic risk identification through documentation reviews and information gathering techniques such as interviews and SWOT analysis; probabilistic risk analysis including the assessment of likelihood that a risk will occur and the consequences if it occurs; detailed planning for uncertainty to reduce the probability and/or the consequences of an adverse risk event to an acceptable threshold; methodic trade-off analysis resulting in a detailed risk response plan and appointing a risk manager. In general, using PMBOK guide project risk management include the process of: -

- Plan risk management
- Identify risk
- Risk analysis
- Plan risk responses
- Monitor and control risks

Planning risk management

Planning risk management is the first step of project risk management which involves in defining how to conduct risk management activities for a project. Careful and explicit planning increases the chances of success of the other five risk management processes. Planning of risk management processes is important to ensure that the degree, type and visibility of risk management is commensurate with to the risks and importance of Project to the organization. Planning is also important to provide sufficient time and resources for risk management activities and to establish an agreed basis for risk assessment. This step uses inputs, tools and techniques and output. The input used are project scope statement, cost management plan, schedule management plan, communications management plan, enterprise environmental factors and organizational process assets which gives an output of risk management plan through a tool and techniques of planning and analysis.

Risk identification

After risk management plan is conducted risk identification is done. Identifying risk is the process of determining which risks may affect the project and documenting their characteristics. Different participant may involve in identifying risk such as stakeholders, project managers, project team members, end users, customers and experts.

This stage necessitates a comprehensive knowledge of the firm, together with various factors such as the organization ‘s market, the environment (legal, social, political and cultural), an in-depth understanding of the firm ‘s strategic and operational objectives, the firm ‘s critical success factors and the threats and opportunities that may prevent the firm from achieving of these objectives (Renault, 2016). An important tool in the identification process is a SWOT analysis, a matrix conducted by the firm by which Strengths, Weaknesses, Opportunities and Threats are identified (Ibid, 2015). Risk identification is a meticulous process, and a firm should ensure that all significant organizational processes are identified and that all the risks emanating from these processes are well-defined. Additionally, any volatility linked to these processes should be identified and grouped (Ferma, 2003 in Renault, 2016).

Risk analysis

Risk analysis is an evaluative process that serves the purpose of establishing some understanding of the magnitude of the risks faced by an organization in undertaking a project. According to (Berg, 2010), risk analysis involves the consideration of the source of risk, the consequence and likelihood to estimate the inherent or unprotected risk without controls in place. That means risk analysis entails the determination of risk impact and the probability of risks occurring in a project. Risk analysis is done through qualitative and quantitative risk analysis.

Perform qualitative risk analysis is the process of prioritizing risks for further analysis or action by assessing and combining their probability of occurrence and impact PMBOK (2008). Qualitative risk analysis includes methods for prioritizing the identified risks for further action. qualitative techniques can often be used for screening risks. The main goal is to reduce the level of uncertainty and to focus on high-priority risks (Frýdlová, 2016).

Quantitative risk analysis is the process of numerically analyzing the effect of identified risks on overall project objectives PMBOK (2008). Quantitative risk analysis is performed on the risks that have been identified in Qualitative Risk Analysis process as potentially and substantially impacting the project ‘s competing demands (UP Version, 2006). It analyzes the effect of those risk events and assigns a numerical rating to those 16 risks.

Planning risk response

Plan Risk Responses is the process of developing options and actions to enhance opportunities and to reduce threats to project objectives. It follows the perform qualitative risk analysis process and the perform quantitative risk analysis process (if used). It includes the identification and assignment of one person (the "risk response owner") to take responsibility for each agreed-to and funded risk response. Plan risk responses addresses the risks by their priority, inserting resources and activities into the budget, schedule and project management plan as needed. PMBOK (2008). Plan risk response uses different tools and techniques such as strategies for negative risk or treats, strategies for positive risk or opportunities, contingent response strategies and expert judgement.

Strategies for negative risk or threats deal with threats or risks that may have negative impacts on project objectives if they occur. These strategies include

- **Avoid**- Risk avoidance involves changing the project management plan to eliminate the threat entirely. Some risks that arise early in the project can be avoided by clarifying requirements, obtaining information, improving communication, or acquiring expertise. The project manager may also isolate the project objectives from the risk's impact or change the objective that is in jeopardy.
- **Transfer**- Risk transfer requires shifting some or all of the negative impact of a threat, along with ownership of the response, to a third party. Transferring the risk simply gives another party responsibility for its management it does not eliminate it. Transferring liability for risk is most effective in dealing with financial risk exposure.
- **Mitigate**- Risk mitigation implies a reduction in the probability and/or impact of an adverse risk event to be within acceptable threshold limits. Taking early action to reduce the probability and/or impact of a risk occurring on the project is often more effective than trying to repair the damage after the risk has occurred.
- **Accept**- This strategy is adopted because it is seldom possible to eliminate all threats from a project. This strategy indicates that the project team has decided not to change the project management plan to deal with a risk, or is unable to identify any other suitable response strategy.

Strategies for positive risks or opportunities deal with risks with potentially positive impacts on project objectives. These strategies include

- **Exploit**- This strategy may be selected for risks with positive impacts where the organization wishes to ensure that the opportunity is realized. This strategy seeks to eliminate the uncertainty associated with a particular upside risk by ensuring the opportunity definitely happens.
- **Share**- Sharing a positive risk involves allocating some or all of the ownership of the opportunity to a third party who is best able to capture the opportunity for the benefit of the project.
- **Enhance**- This strategy is used to increase the probability and/or the positive impacts of an opportunity. Identifying and maximizing key drivers of these positive-impact risks may increase the probability of their occurrence.

Risk monitoring and control

This stage mainly involves review of the progress in the project execution phase with the sole purpose of identifying execution challenges and to strike actions to rectify problems. This stage considers tasks that are still being done, the actual cost in executing the tasks, the duration within which the tasks have been carried out, and the effort invested in these tasks. All these are compared against the budgeted cost, estimated time and the expected output rate as indicated in the Project Management Plan. This stage also takes a closer view of the Project Performance Baseline, assess risks and set up corrective actions (PMI, 2004).

Risk management tools and techniques

Risk management tools and techniques are main mechanisms in risk management process used to convert inputs obtained to output. According to PMBOK guide (2008) some of them are planning meetings and analysis, documentation reviews, information gathering techniques, checklist analysis, assumptions analysis, diagramming techniques, SWOT analysis, expert judgment, risk probability and impact assessment, probability and impact matrix, risk data quality assessment, risk categorization, risk urgency assessment, data gathering and representation techniques, quantitative risk analysis and modeling techniques, strategies for negative risks or threats, strategies for positive risks or opportunities, contingent response

strategies, risk reassessment, risk audits, variance and trend analysis, technical performance measurement, reserve analysis and status meetings.

2.2 Empirical literature review

Construction projects can be extremely complex and fraught with uncertainty. Construction projects are always unique and risks raise from a number of the different Sources (Oyegoke, 2006). Risk and uncertainty can potentially have damaging consequences for the construction projects (Flanagan, 2006). It is well accepted that risk can be effectively managed to mitigate its' adverse effects on construction project objectives, even if it is common in all project undertakings. Therefore nowadays, the risk analysis and management continue to be a major feature of the project management of construction projects in an attempt to deal effectively with uncertainty and unexpected events and to achieve project success. Risk management helps the key project participants – client, contractor or developer, consultant, and supplier – to meet their commitments and minimize negative impacts on construction project performance in relation to cost, time and quality objectives. Traditionally, practitioners have tended to associate construction project success with these three aspects of time, cost and quality outcomes. While risks cannot be eliminated, successful projects are those where risks are effectively managed, of which early and effective identification and assessment of risks is essential.

Risk management in construction project context is a formal process that enables the identification, analyses, planning and management of risk throughout the project lifecycle (PMI, 2008). Studies show that risk and uncertainty have continuously distressed the construction industry compared to other industries due to its complexity, magnitude and time-consuming characteristic (Kang et al., 2015). Regardless of their size and complexity, all construction projects involve risks with varying impacts. According to (Edwards and Bowen, 1998), risks often have a significant impact on the project budget and therefore play an important role in the total costs of a project. Further, (Baloi and Price, 2003) stated as projects are often open systems, rather than closed systems, construction projects in general carry a lot of variation and uncertainty. New construction projects mostly motivate the participants and they often enthusiastically underestimate the risk, probably based on the prior preparations and project management, which leads to an attitude of idealism (Thaheem and Marco, 2013).

Risk management in the construction project management context involves identification, assessment and prioritization of risks by monitoring, controlling, and applying managerial resources with a coordinated and economical effort so as to minimize the probability and/or impact of unfortunate events and so as to maximize the realization of project objectives (Douglas, 2009). Project risk management, which has been practiced since the mid-1980s, is one of the nine main knowledge areas of the project management institute's project management body of knowledge (Tuysuz, 2006).

Risks in construction projects may be from client side such as low-quality advice, low project fund or no budget for risk management. Risk from contractor side such poor tender or document, quality and value for money not sufficiently acknowledged and rewarded by client, unexpected problem, lack of coordinated documentation, poor guidance for operatives, poorly trained workforce. risk from consultant side such as lack of follow up, less experience. Risks that arise due to environmental factors and factors with unknown source.

To maximize the efficiency of risk management, the risk management process should be continuously developed during the entire project. In this way, risks will be discovered and managed throughout all the phases (Smith, 2006). The benefits from risk management are not only reserved for the project itself, but also for the actors involved. The main incentives are clear understanding and awareness of potential risks in the project. In other words, risk management contributes to a better view of possible consequences resulting from unmanaged risks and how to avoid them. (Thomas, 2009) Another benefit of working with risk management is increased level of control over the whole project and more efficient problem-solving processes which can be supported on a more genuine basis. It results from an analysis of project conditions already in the beginning of the project. The risk management also provides a procedure which can reduce possible and sudden surprises (Cooper, 2005 and Perry, 1986). Different attitudes towards risk can be explained as cultural differences between organizations, where the approach depends on the company's policy and their internal procedures (Webb, 2003). In addition, risk management in construction project provide different benefit such as streamlined operations, enhance safety, provide higher confidence for the project, increases profit, minimize uncertainty, better in decision making, solve risks associated to design, construction and operation, ensure clear accountability.

Risk management practice in Ethiopia

Construction projects are initiated in complex and dynamic environments resulting in circumstances of high uncertainty and risk, which are compounded by demanding time constraints. The management of risk is one of the most important issues facing the majority of the construction firms in developing countries in general and less developing countries like Ethiopia in particular. So, Ethiopia currently seems facing major challenges in managing construction industry in terms of risk management practices which is particularly reflected through cost overrun, schedule delay and performance constraints. The industry is still at the infancy stage, growing unfortunately, slowly both technically and financially. Like in other developing countries, the construction industry in Ethiopia is overwhelmed by many problems (Abadir, 2011; Tsegay, 2016). Thus, the current state of the construction industry can be characterized by utilization of old equipment and low levels of availability, severe shortage of construction materials, low level of management, especially project management knowledge and practice, insufficient and ineffective labor-based construction technology), inadequate and inappropriate project organization structures, which lead to problems of responsibility, communication and coordination, etc. (MUDAC, 2012).

Sunshine construction company

Sunshine construction is established in April 1984 and involved into a private limited company in 1993. While establishing its primary target was scaling the height in construction sector, attaining front position and spreading its area of undertaking into various business activities. The architect, the initiator and proprietor of sunshine construction is Ato Samuel Tafesse. The company has a capital of 500,000,000 Ethiopian birr. Which is equally shared between Ato Samuel Tafesse and Mrs. Fetlewerk Elala. Currently the company has over 7000 employees and 38-year milestone career of the company enabled it to build a reliable capacity and exhibit practical excellence in the construction sector.

In the early years of its establishment, Sunshine Construction had started to engage itself in minor construction and water proofing works with less than ten employees. Since the establishment of Sunshine Construction PLC in 1984, the last 30years have been marked by hard work, tough challenges and sweet successes. Sunshine Construction has attained a prestigious

role position at the helm of the sector and become a bloodline to the establishment of other business and philanthropic entities under investment group.

With industry experience spanning three decades, the company is well established player in the construction industry. It has a proven track record in the construction industry of building, road, and bridge and real estate developments. Sustained hard work, efficient leadership and encouraging economic environment have enabled the company to build a reliable operational capacity and prove itself a dynamic force particularly in the construction sector and real estate developments.

A research "Assessment of Risks in High Rise Building Construction in Jakarta" conducted to identify, classify, and rank high probable risks in high-rise building projects in Jakarta (Santoso, 2003). Questionnaire survey and interview employed in the study to engineers from contracting companies in the city. The research outcomes displayed those risks associated to managerial and design factor are the most important in high-rise construction projects in terms of both occurrence and degree of impact. The study recommended project leaders shall give due attention for the known risk factors which enables them to coordinate all components of a project, minimized interference from client's side, and building the capacity of consultants are the very significant ones for the project to be successful.

According to (Bahiru, Jaeho and Tai, 2017) prepared research on the impact of risk in construction project performance. the researchers identified different risk factors and quantified their impact. From these identified risks factors those have very high-risk level on project costs are equipment/material failure, labor poor productivity and equipment scarcity. Lack of training, communication is high risk level in project cost. The quality of the project affected by labor poor productivity is very high. The others like equipment/material failure, managerial inadequacy, and lack of training, lack of communication and departures of qualified staff are high risk level in term of quality. Generally, very high risks are rating based on the analysis in project performance are equipment/material failure, the labor poor productivity and equipment and material non-availability, their risk level was greater than 50%.

(Yimam, 2011) indicated that generally the maturity of the development aspect of construction project management identified at casual development maturity stage. It described that risk and safety management are the least matured among project management knowledge areas.

Essentially, it reflected that these two knowledge areas are completely unfamiliar or experienced rarely in the construction sector. Based on the outcome of an empirical evidence of the study, about 2/3 of the contractors do not have risk management practice. Nearly, 24% of contractors practiced risk management poorly. Out of the 21 contractors in his study, merely two implemented risk management process entirely at a casual or proper stage. None of the respondents identified to implement risk management at a 'managed' stage. Again, simply 38% showed that they 'identified and documented' risks and 33% assumed they implemented some examination to the probability and effect.

(Haddush, 2016) conducted an empirical survey in an effort to examine the experience of the construction industry of Ethiopia with respect to the management of risk and the implementation of integrated risk management. The findings show that formal risk management is not well practiced in the industry with only 28.6% of them implementing formal risk management with risk management policy approved by the board of directors signifying absence of a structured approach to deal with the risks that greatly affect the performance and competitiveness of the enterprises. The researcher suggested a sustainable implementation of integrated risk management practice and the need for the owners of construction enterprises, their board and the top management to be able to discharge their leadership role in implementing integrated risk management in their enterprises for the success and growth of the construction industry.

(Tadayon, Jaafar and Nasri, 2012) in their analysis "An Assessment of Risk Identification in Large Construction Projects" investigated explicitly risk identification in the Asian nation. Questionnaire surveys conducted from participants in large construction projects. Within the study, Government, consultants and contractors were participated. The result of the study exposed that the foremost important classes of risk in constructing projects are financial risks, construction risks, demand or product risks, and political risks were hierarchical from one up to fourth hierarchically.

2.3 Research gap analysis

For the last four decades the risk management research has developed extensively in the construction industry (Forbes, 2008) assumed that construction projects are visible to risk at the time of their coming into existence (Schieg, 2006) and are observed to have more essential risk due to the involvement of many contracting parties such as owners, contractors and designers,

among others (El-Sayegh, 2008). Different related research was conducted in risk management practice in construction project. According to (Chelkaba, 2020) research conducted on assessment of the risk management practice of construction projects on case study of defense housing construction enterprise concluded that there is no policy or guideline that is stated for project which directs uncertainty management. According (Kalkidan, 2019), there is still lack of formalized risk management mechanism such as risk identification, classification, analysis, response and monitoring. Whereas (Kalkidan, 2017), identified that there is no standard risk management process that is to be followed or implemented inside the projects and that there is no kind of risk policy or guideline in the projects which recommends team members and the participants how to handle risks that occur at any point in the course of undertaking the project, further research by (Sileshi, 2018), on Project Risk Management Practices of Selected Chinese Building Contractors in Ethiopia concluded that risk management practice are applied to some extent. The above researches try to show the strength, weakness, treat and opportunity in different projects. Therefore, SWOT analysis will be used as a research gap analysis mechanism.

The research approach will be a qualitative approach assessing the risk management practice and its challenges facing when applying the it related to a building construction in a grade one construction company called sunshine construction plc. Therefore, main the focus of the study is to assess the risk management practice adopted in sunshine building construction in Addis Ababa, assessing the challenges of risk management practice adopted in sunshine building construction in Addis Ababa, to describe the risk identification and analysis process used by sunshine building construction, investigating the level of awareness and implementation of risk management practice with in the company. The main contribution of this study will be to enhance the risk management practice and provide solutions for challenges that the company is facing.

2.4 Conceptual framework

The conceptual framework for the study will begin with risk management process which includes planning of risk management, identifying risk, risk analysis and plan risk response and monitor and control risk. While risk management process is done different tools and techniques are used. Then after the challenges of risk management from construction related, political and

legal, financial and economical will be viewed. Finally risk response strategies such accept, transfer, mitigate and avoid risk are shown in the figure below.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the methods used to carry out the research, the sort of research design that should be utilized, the target population, the sample size, sampling procedures, the procedure used to get samples, and the research equipment and method of data collecting. It also described how data is analyzed and presented.

3.2 Research design and approach

A research design is a strategic formwork for action that serves as bridge between research questions and execution or implementation of the research (Durrheim, 2007). The purpose of this study will be assessing risk management practice and its challenge in building construction projects in Addis Ababa in case of Sunshine Construction p.l.c. As a result, descriptive design is ideal to emphasize the importance of assessing, identifying and its challenges in the company actual situation.

The research approach is a plan and procedure that consists of the steps of broad assumptions to detailed methods of data collection, analysis, and interpretation (Chetty, 2016). The strategy that will be adopted for the study is a mixed method approach that seeks and uses both qualitative and quantitative data for analysis. The main tool of the study is a questionnaire survey followed by a series of interviews with project managers. The survey sample comprised project managers, project team, clients, contractors and consultants who are expected to employ risk management in a given project.

3.3 Population and sampling techniques

The population for this study will be employees working at the head office and different site project managers, team members, stakeholders and clients and the sample size of the study is 60.

The sampling design employed for this study will be non-probability sampling as the sample size required for the research was selected based on the convenience (judgement) of the researcher and manageability of the sample population. As Saunders (, -2016) indicated, for non-probability samples, the probability of each case being selected from the total population is not known.

(Creswell and Kalton, 2012) also explained in non-probability sample, respondents will be selected based on their convenience and availability.

3.4 Data source and data collection

There are two types of data sources namely primary and secondary data (Kothari, 2004). The primary data are those which are collected fresh and for the first time, and thus happen to be original in character (e.g. interview and questionnaire). the questionnaires mainly used are nominal and ordinal types. Nominal aspect includes categories like positions in the company and educational status whereas ordinal aspect including Likert scale. The Secondary data is defined as data that have been previously collected for some other purpose. Hence, for this study, both primary and secondary data sources will be used. As regards primary data, information will be obtained through the administration of different data gathering tools such as interview and survey questionnaire to the respondents that will be selected using purposive sampling technique. Regarding secondary data, documents available will be analyzed and reviewed in line with literature pertinent to the study.

3.5 Method of data analysis and interpretation

In this study, mixed data analysis will used. The results were analyzed in percentages and figures using descriptive statistics and presented in the form of bar charts and tables. Firstly, quantitative data will be analyzed using the Statistical Package for Social Sciences (SPSS). Descriptive statistics will be used to report means, and frequency counts for each item. Secondly, data will be obtained through interview and will be discussed and analyzed qualitatively. Then, results will be discussed by combining interview results with survey data.

3.6 Organization of the Study

The study was organized in to five chapters. Accordingly, chapter one began with the introduction section of the study followed by background of the study, statement of problem, research questions, and objectives of the study, significance of the study and scope of the study. In the second chapter, relevant literature which includes theoretical and empirical evidences was thoroughly reviewed. In the third chapter, the research methodology including introduction, research design and approach, population and sampling techniques, data sources and data collection, method of data analysis and interpretation and organization of the study were

presented. In the fourth chapter, results of the study were discussed and reported. Finally, based on the findings, conclusions and recommendations were posed.

CHAPTER FOUR

RESULT AND DISCUSSION

4.1 Introduction

This chapter contain mainly on data analysis, interpretations, discussion and result. which draws from the objectives of the study. The analyses are both qualitative and quantitative. The chapter is structured according to the questions in the questionnaire and provides discussion of the findings, their implications. Moreover, the additional data and observations, gained from the survey are as well incorporated into the discussion.

To answer the questionaries' raised in the first chapter questionnaires, interviews were used as a survey instrument in order to capture information and data on risk management practice and challenges through risk identification techniques, possible risk description and analysis techniques, risk response strategies, risk monitoring and control and risk management techniques. Construction project risk management practices help determine what project risks or hazards exist or are anticipated, their remoteness in time, duration period and possible outcomes.

4.2 Response rate

This chapter used to assess the risk management practice and its challenge in sunshine building construction in Addis Ababa. The survey had a sample size of 60 respondents, returning questionnaires, yielding a response rate of 100% percent. It is a reliable response rate for data analysis as (Babbie, 2002) posited that any response of 50 % and above is adequate for analysis. Moreover, it is possible to generalize that as the response rate indicates all of the respondents were happy towards the study and its findings.

4.3 General Information on Demographic Characteristics of the Respondents

This section profiles the respondents in respect to gender, age, level of education, year of experience and trainings to participate in one year of the respondents of employee's performance. The items in the research instruments used in the study informed profiling of the respondents.

4.3.1 Gender of respondents

Table 1.Genders of the respondent

Genders of the respondent					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	37	61.7	61.7	61.7
	female	23	38.3	38.3	100.0
	Total	60	100.0	100.0	

Source: - SPSS output 2024

The data sought on whether respondents were males or females. The study found it important to analyze gender distribution of the respondent so, as to compare the level of participation in managers and employees of sunshine building construction in Addis Ababa. The study did not consider any of the gender in the selection of respondents. Respondents asked to indicate their gender. From the findings of the males made the majority of the respondents at 37 (61.7 %) and the females at 23(38.3 %) as shown the above table. This indicates the majority of the respondents are males.

4.3.2 Age of the respondent

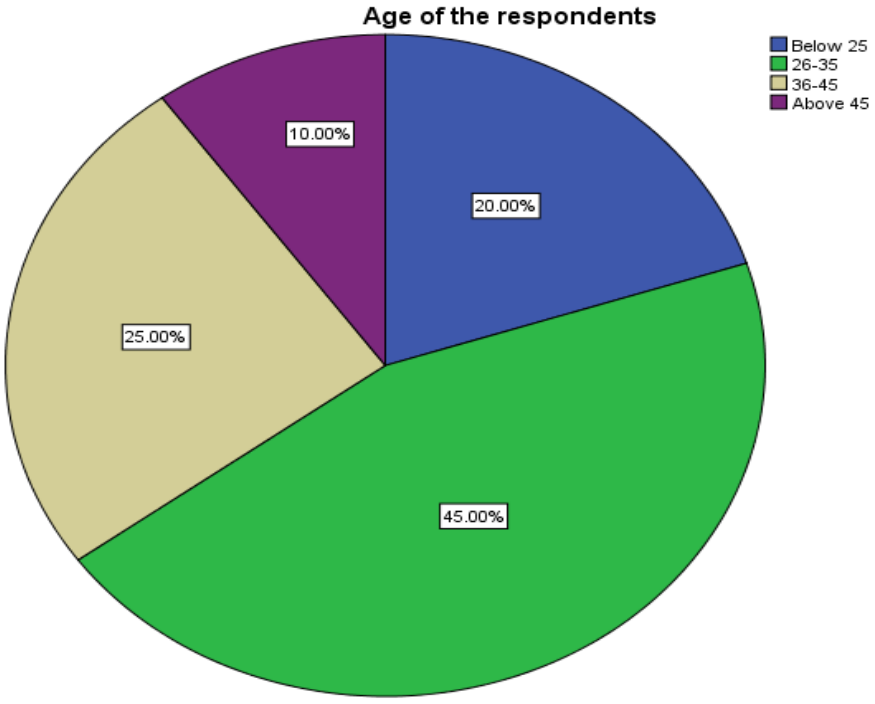

Figure 1.Age of the respondents

Source: - SPSS output 2024

From the given figure above Respondent asked to indicate their age group in years. This done to understand the age distribution of the respondents since an individual's age was not a consideration in the selection of respondents in this study. Age groups classified into four categories: as we see the below 25 years; 26-35 years, 36-45 years, and above 46 years. Regarding to respondent Age category in year majority 27(45%) of respondents are participated at age of 26-35 years old, similarly the second highest number15 25%) of respondents are at age of 36-45 years. on other hand the list participated respondents are below 25-year-olds are 12(20%). Finally, 46 and above 46 years old are 6 (10%). This confirms that 27 (45 %) of respondents were youths between the age of 26-35 years. About the age, distribution of the respondent majority of them found at young and youth age and well known about to assess the risk management practice and its challenge in sunshine building construction in Addis Ababa.

4.3.3 Education level of respondents

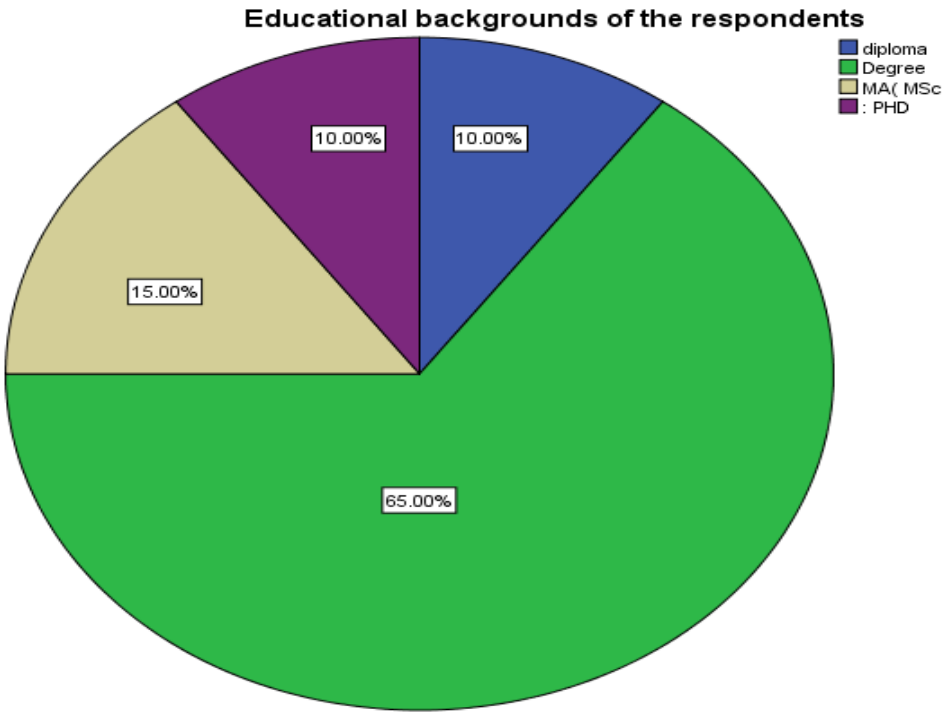

Figure 2.Educational levels of the respondents

Source: - SPSS output 2024

From the figure above the respondents asked to indicate their highest level of education. Respondent's level of education considered important in this study in respect to responding to the research instruments as well understanding the effect of employee's performance. The study sought to establish the educational level of respondents from the findings of the respondents 6

(10%) had diploma whereas first degree was the majority of the respondents having 39 (65%) and with master's level of education having 9 (15%) as shown in the table above. Finally, 6 (10%) of the respondents were PHD. From this majority of the respondents are educated and have knowledge to assess the risk management practice and its challenge in sunshine building construction in Addis Ababa which ware first degree having 62 (36.5%).

4.3.4 Work Experience of respondents

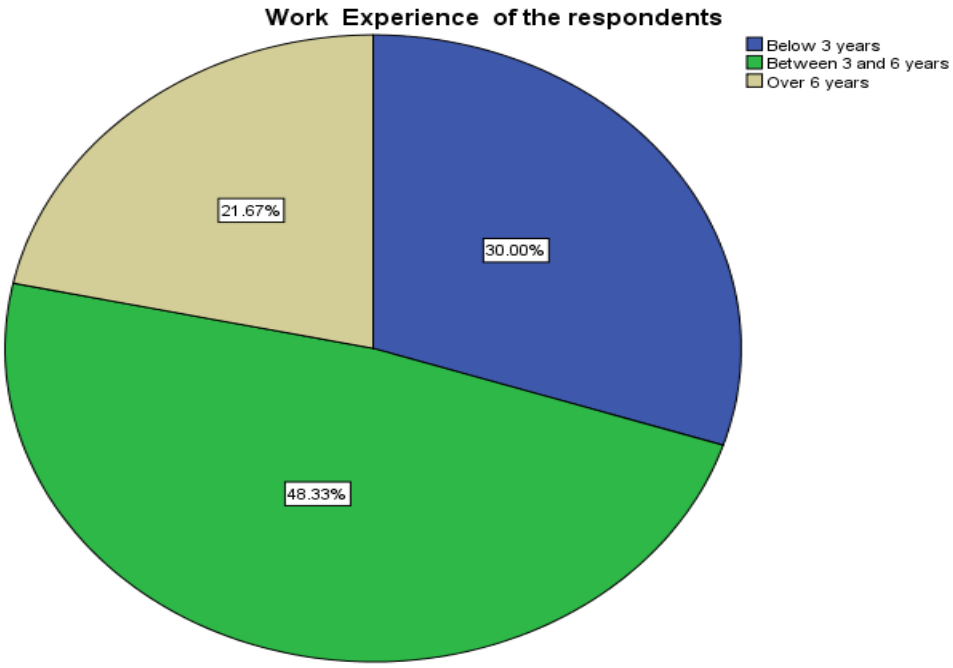

Figure 3.Work experience of the respondents

Source: - SPSS output 2024

From the given table above the study sought to establish that the work experience of respondents. From the findings of the respondents below 3 years were 18 (30%) followed by those Between 3 and 6 years 29 (48.3 %) and over six years were 13 (21.7 %) as shown the above table. So, the established of the work experience of the respondents from the findings the majority of them are from Between 3 and 6 years which is 29 (30%) years followed below 3 years were 18 (30%) work experience About the education, distribution of the respondent majority of them found at young andyouth age which were found under work group.

4.4 Descriptive Statistics

The objective of the study used to assess the risk management practice and its challenge in sunshine building construction in Addis Ababa. This section contains descriptive statistics of the

research variables namely General information about risk management plan, Risk Identification, Brainstorming session, Risk Analysis, Risk Response strategies, Risk management tool and techniques.

4.4.1 Descriptive Statistics General information about risk management plan

This section presents the analysis of General information about risk management plan obtained from the results. Interpretation of the data and findings in the following discussion produced the mean score and standard deviation of the responses of respondents on the assessments of risk management practice and its challenge in sunshine building construction in Addis Ababa. The questions were scaled by using a five-point Likert scale in which 1= strongly disagree, 2= Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree to rate the exhibited General information about risk management plan. The analysis of the General information about risk management plan was investigated by using means and standard deviations from the results. The results of the means were interpreted based on: 1-1.49 = Very Low; 1.5-2.49 = Low; 2.5-3.49 = Moderate; 3.5-4.49 = High; 4.5-5.0 = Very high.

Table 2.Descriptive Statistics of General information about risk management plan

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
The presence of effective and efficient risk management plan in the company	60	1.00	5.00	3.5333	1.19981
planning meetings to develop the risk management plan	60	1.00	5.00	3.6333	1.13446
Develop Risk Breakdown Structure (RBS) to define risk categories	60	1.00	5.00	3.6167	1.02662
Estimated resources and costs needed for risk management activities and include them in the project budget	60	1.00	5.00	3.6500	1.05485
Define and include risk management activities in the schedule.	60	1.00	5.00	3.5833	1.15409
Valid N (listwise)	60				
Aggregate mean and STD				3.60332	1.120861

Source: - SPSS output survey data 2024

The results presented in Table 2 indicate that the sample mean for individual responses ranging between 3.5333 and 3.6500. These values of sample mean generally tends to 3.60332 on the Likert scale used in this study and thus translates to agreement amongst respondent in respect to the activities implied by the statements. Similarly, the sample standard deviation for the different responses ranged between 1.02662 and 1.19981 demonstrating that the responses were fairly close together around the sample mean as the variability was narrow. Furthermore, the aggregate scores for sample mean and sample standard deviation for General information about risk management plan were 3.60332 and 1.120861 respectively.

According to the given table majority of the respondents stated that Estimated resources and costs needed for risk management activities and include them in the project budget having a highest means of 3.6500 and STD of 1.05485, planning meetings to develop the risk management plan having a highest means of 3.6333 and STD of 1.13446 and Develop Risk Breakdown Structure (RBS) to define risk categories having a highest means of 3.60332 and STD of 1.120861 respectively.

On the other hand, majority, the respondents stated that Define and include risk management activities in the schedule having a means of and 3.5833 STD of 1.15409 and the presence of effective and efficient risk management plan in your company having a means of and 3.5333 STD of 1.19981 respectively.

In general, General information about risk management plan of the respondents were used to assess the risk management practice and its challenge in sunshine building construction in Addis Ababa having aggregate scores for sample mean and sample standard deviation for General information about risk management plan were 3.7040 and 1.18612 respectively.

4.4.2 Descriptive Statistics Of risk management practice

4.4.2.1 Descriptive Statistics of risk identification

This section presents the analysis of Risk management practice of Risk Identification obtained from the results. Interpretation of the data and findings in the following discussion produced the mean score and standard deviation of the responses of respondents on the assessments of risk management practice and its challenge in sunshine building construction in Addis Ababa. The questions were scaled by using a five-point Likert scale in which 1= strongly disagree, 2= Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree to rate the exhibited Risk management practice of Risk Identification. The analysis of the Risk management practice of Risk

Identification was investigated by using means and standard deviations from the results. The results of the means were interpreted based on: 1-1.49 = Very Low; 1.5-2.49 = Low; 2.5-3.49 = Moderate; 3.5-4.49 = High; 4.5-5.0 = Very high.

Table 3.Descriptive Statistics of Risk management practice Risk Identification

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
The company has processes/tools for identifying project risks such as:	60	1.00	5.00	3.4500	1.26792
Brainstorming session.	60	1.00	5.00	3.7667	1.07934
Using check lists.	60	1.00	5.00	3.7167	1.12131
Conducting interviews with experts/expert judgment.	60	1.00	5.00	3.8500	.97120
Use past experience/review of documentations	60	1.00	5.00	3.8667	1.04908
All key project participants involved in risk identification.	60	1.00	5.00	3.8000	1.07040
Prepare risk registers for projects	60	1.00	5.00	3.5500	1.25448
Valid N (listwise)	60				
Aggregate mean and STD				3.7143	1.130894

Source: - SPSS output survey data 2024

The results presented in Table 3 indicate that the sample mean for individual response ranging between 3.4500 and 3.8667. These values of sample mean generally tends to 3.7143 on the Likert scale used in this study and thus translates to agreement amongst respondent in respect to the activities implied by the statements. Similarly, the sample standard deviation for the different responses ranged between 0.97120 and 1.26792 demonstrating that the responses were fairly close together around the sample mean as the variability was narrow. Furthermore, the aggregate scores for sample mean and sample standard deviation for Risk Identification were 3.7143 and 1.130894 respectively.

According to the given table majority of the respondents stated that Use past experience/review of documentations having a highest means of 3.8667 and STD of 1.04908, Conducting interviews with experts/expert judgment having a highest means of 3.8500 and STD of .97120

and All key project participants involved in risk identification having a highest means of 3.8000 and STD of 1.07040 respectively.

On the other hand, majority, the respondents stated that Brainstorming session having a means of 3.7667 and STD of 1.07934, Using check lists session having a means of 3.7167 and STD of 1.12131, Prepare risk registers for your projects having a means of 3.5500 and STD of 11.25448 and the company has processes/tools for identifying project risks such as any having a means of 3.4500 and STD of 1.26792 respectively.

In general, Risk Identification of the respondents were used to assess the risk management practice and its challenge in sunshine building construction in Addis Ababa having aggregate scores for sample mean and sample standard deviation for Risk Identification were 3.7143 and 1.130894 respectively.

4.4.2.2 Descriptive Statistics of risk analysis

This section presents the analysis of Risk management practice of Risk Analysis obtained from the results. Interpretation of the data and findings in the following discussion produced the mean score and standard deviation of the responses of respondents on the assessments of risk management practice and its challenge in sunshine building construction in Addis Ababa. The questions were scaled by using a five-point Likert scale in which 1= strongly disagree, 2= Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree to rate the exhibited Risk management practice of Risk Analysis. The analysis of the Risk management practice of Risk Analysis was investigated by using means and standard deviations from the results. The results of the means were interpreted based on: 1-1.49 = Very Low; 1.5-2.49 = Low; 2.5-3.49 = Moderate; 3.5-4.49 = High; 4.5-5.0 = Very high.

Table 4.Descriptive Statistics of Risk management practice Risk Analysis

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
There are established qualitative risk analysis methods and tools	60	1.00	5.00	3.5000	1.20028
There is a process in place to quantify risks	60	1.00	5.00	3.4000	1.16735

Assess the probability of achieving specific project objectives.	60	1.00	5.00	3.4667	1.35880
Identify risks that require the most attention by quantifying their relative contribution to the overall project risk	60	1.000	5.000	3.75000	.950022
A risk matrix that defines probability/likelihood and impact exist in the company	60	1.00	5.00	3.6167	1.32884
Valid N (listwise)	60				
Aggregate mean and STD					

Source: - SPSS output survey data 2024

The results presented in Table 4 indicate that the sample mean for individual responses ranging between 3.4500 and 3.8667. These values of sample mean generally tends to 3.7143 on the Likert scale used in this study and thus translates to agreement amongst respondent in respect to the activities implied by the statements. Similarly, the sample standard deviation for the different responses ranged between 0.97120 and 1.26792 demonstrating that the responses were fairly close together around the sample mean as the variability was narrow. Furthermore, the aggregate scores for sample mean and sample standard deviation for Risk Identification were 3.7143 and 1.130894 respectively.

According to the given table majority of the respondents stated that Use past experience/review of documentations having a highest means of 3.8667 and STD of 1.04908, Conducting interviews with experts/expert judgment having a highest means of 3.8500 and STD of .97120 and All key project participants involved in risk identification having a highest means of 3.8000 and STD of 1.07040 respectively.

On the other hand, majority, the respondents stated that Brainstorming session having a means of 3.7667 and STD of 1.07934, Using check lists session having a means of 3.7167 and STD of 1.12131, Prepare risk registers for your projects having a means of 3.5500 and STD of 11.25448 and the company has processes/tools for identifying project risks such as any having a means of 3.4500 and STD of 1.26792 respectively.

In general, Risk Analysis of the respondents were used to assess the risk management practice and its challenge in sunshine building construction in Addis Ababa having aggregate scores for

sample mean and sample standard deviation for Risk Analysis were 3.7143 and 1.130894 respectively.

4.4.2.3 Descriptive Statistics of risk response strategies

This section presents the analysis of Risk management practice of Risk Response strategies obtained from the results. Interpretation of the data and findings in the following discussion produced the mean score and standard deviation of the responses of respondents on the assessments of risk management practice and its challenge in sunshine building construction in Addis Ababa. The questions were scaled by using a five-point Likert scale in which 1= strongly disagree, 2= Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree to rate the exhibited Risk management practice of Risk Response strategies. The analysis of the Risk management practice of Risk Response strategies was investigated by using means and standard deviations from the results. The results of the means were interpreted based on: 1-1.49 = Very Low; 1.5-2.49 = Low; 2.5-3.49 = Moderate; 3.5-4.49 = High; 4.5-5.0 = Very high.

Table 5.Descriptive Statistics of Risk management practice Risk Response strategies

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
A There are techniques of risk responses in place such as:	60	1.00	5.00	3.5000	1.26892
Risk avoidance (Taking another course of action)	60	1.00	5.00	3.4500	1.22716
Having Contingency plan	60	1.00	5.00	3.7000	1.19745
Risk Transfer to third party (e.g. Insurance company)	60	1.00	5.00	3.4667	1.17122
Risk acceptance/ retention	60	1.00	5.00	3.9167	1.09377
Reduce risk to acceptable threshold level	60	1.0	5.0	3.567	1.1255
Combinations of retention, reduction and transfer responses to risk	60	1.00	5.00	3.7000	1.12446

There are personnel assigned for each agreed risk responses (e.g. safety personnel, safety management, risk officer)	60	1.00	5.00	3.2500	1.18786
Contingency plan is allocated for time	60	1.00	5.00	3.8500	0.91735
Contingency plan is allocated for cost	60	1.00	5.00	3.7333	1.13297
Based on the analyzed risks, risk management plan is developed and communicated to all stakeholders	60	1.00	5.00	3.5667	1.16977
A risk matrix was/is developed for the project	60	1.00	5.00	3.0667	1.41261
Valid N (listwise)	60				
Aggregate mean and STD				3.5639	1.167391

Source: - SPSS output survey data 2024

The results presented in Table 5 indicate that the sample mean for individual response ranging between 3.4500 and 3.8667. These values of sample mean generally tends to 3.7143 on the Likert scale used in this study and thus translates to agreement amongst respondent in respect to the activities implied by the statements. Similarly, the sample standard deviation for the different responses ranged between 0.97120 and 1.26792 demonstrating that the responses were fairly close together around the sample mean as the variability was narrow. Furthermore, the aggregate scores for sample mean and sample standard deviation for Risk Response strategies were 3.7143 and 1.130894 respectively.

According to the given table majority of the respondents stated that Risk acceptance/ retention having a highest means of 3.9167 and STD of 1.09377, Contingency plan is allocated for time having a highest means of 3.8500 and STD of 0.91735, Contingency plan is allocated for cost having a highest means of 3.7333 and STD of 1.13297 and Combinations of retention, reduction and transfer responses to risk having a highest means of 3.7000 and STD of 1.12446 respectively

On the other hand majority the respondents stated that Having Contingency plan having a means of 3.7000 and STD of 1.19745, Based on the analyzed risks, risk management plan is developed and communicated to all stakeholders having a means of 3.567 and STD of 1.16977, Reduce risk

to acceptable threshold level having a means of 3.567 and STD of 1.1255 and A There are techniques of risk responses in place having a means of 3.5000 and STD of 1.26892 respectively. In additions to this majority of the respondents stated that Risk Transfer to third party (e.g. Insurance company) having a means of 3.4667 and STD of 1.17122, Risk avoidance (Taking another course of action) having a means of 3.4500 and STD of 1.22716, There are personnel assigned for each agreed risk responses (e.g. safety personnel, safety management, risk officer) having a means of 3.2500 and STD of 1.18786 and A risk matrix was/is developed for the project having a means of 3.0667 and STD of 1.41261 respectively.

In general, Risk Response strategies of the respondents were used to assess the risk management practice and its challenge in sunshine building construction in Addis Ababa having aggregate scores for sample mean and sample standard deviation for Risk Response strategies were 3.7143 and 1.130894 respectively.

4.4.2.4 Descriptive Statistics of risk management tool and techniques

This section presents the analysis of Risk management tool and techniques strategies obtained from the results. Interpretation of the data and findings in the following discussion produced the mean score and standard deviation of the responses of respondents on the assessments of risk management practice and its challenge in sunshine building construction in Addis Ababa. The questions were scaled by using a five-point Likert scale in which 1= strongly disagree, 2= Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree to rate the exhibited Risk management practice of Risk Response strategies. The analysis of the Risk management tool and techniques was investigated by using means and standard deviations from the results. The results of the means were interpreted based on: 1-1.49 = Very Low; 1.5-2.49 = Low; 2.5-3.49 = Moderate; 3.5-4.49 = High; 4.5-5.0 = Very high.

Table 6.Descriptive Statistics of Risk management tool and techniques

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Existence of Any tools/techniques used for risk management planning	60	1.00	5.00	3.7667	1.19840
Existence of Any tools/techniques used for risk management identification	60	1.00	5.00	3.5833	1.09377

Existence of any tools/techniques used for risk analysis	60	1.00	5.00	3.8167	.96536
Existence of any tools/techniques used for risk response	60	1.00	5.00	3.7167	1.16578
Valid N (listwise)	60				
Aggregate mean and STD				3.72085	1.09672

Source: - SPSS output survey data 2024

The results presented in Table 6 indicate that the sample mean for individual response ranging between 3.5833 and 3.8167. These values of sample mean generally tends to 3.72085 on the Likert scale used in this study and thus translates to agreement amongst respondent in respect to the activities implied by the statements. Similarly, the sample standard deviation for the different responses ranged between 0.96536 and 1.19840 demonstrating that the responses were fairly close together around the sample mean as the variability was narrow. Furthermore, the aggregate scores for sample mean and sample standard deviation for Risk management tool and techniques were 3.72085 and 1.09672 respectively.

According to the given table majority of the respondents stated that Existence of any tools/techniques used for risk analysis having a highest means of 3.8167 and STD of .96536, Existence of Any tools/techniques used for risk management planning having a highest means of 3.7667 and STD of 1.19840, Existence of any tools/techniques used for risk response having a highest means of 3.7167 and STD of 1.16578 and Existence of Any tools/techniques used for risk management identification having a highest means of 3.5833 and STD of 1.09377 respectively

In general, Risk management tool and techniques of the respondents were used to assess the risk management practice and its challenge in sunshine building construction in Addis Ababa having aggregate scores for sample mean and sample standard deviation for Risk management tool and techniques were 3.72085 and 1.09672 respectively.

4.4.3 Descriptive statistics of challenges of risk management practices

This section presents the analysis of challenges of risk management practices obtained from the results. Interpretation of the data and findings in the following discussion produced the mean score and standard deviation of the responses of respondents on the assessments of risk management practice and its challenge in sunshine building construction in Addis Ababa. The

questions were scaled by using a five-point Likert scale in which 1= strongly disagree, 2= Disagree, 3 = Neutral, 4 = Agree, 5 = strongly Agree to rate the exhibited challenges of risk management practices. The analysis of the challenges of risk management practices was investigated by using means and standard deviations from the results. The results of the means were interpreted based on: 1-1.49 = Very Low; 1.5-2.49 = Low; 2.5-3.49 = Moderate; 3.5-4.49 = High; 4.5-5.0 = Very high.

Table 7.Descriptive Statistics of challenges of risk management practices

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Challenges are related to construction issue	60	1.00	5.00	4.0167	.99986
Challenges are related to financial/economical issue	60	1.00	5.00	3.3667	1.30146
Challenges are related to political/legal issue	60	1.00	5.00	3.6333	1.28837
Valid N (listwise)	60				
Aggregate mean and STD				3.67223	1.196563

Source: - SPSS output survey data 2024

The results presented in Table 7 indicate that the sample mean for individual response ranging between 3.3667and 4.0167. These values of sample mean generally tends to 3.67223 on the Likert scale used in this study and thus translates to agreement amongst respondent in respect to the activities implied by the statements. Similarly, the sample standard deviation for the different responses ranged between 0.99986 and 1.30146 demonstrating that the responses were fairly close together around the sample mean as the variability was narrow. Furthermore, the aggregate scores for sample mean and sample standard deviation for challenges of risk management practices were 3.67223 and 1.196563 respectively.

According to the given table majority of the respondents stated that Challenges are related to construction issue having a highest means of 4.0167 and STD of 0.99986, Challenges are related to political/legal issue having a highest means of 3.6333 and STD of 1.28837and Challenges are related to financial/economical issue having a highest means of 3.3667 and STD of 1.30146 respectively

In general, challenges of risk management practices of the respondents were used to assess the risk management practice and its challenge in sunshine building construction in Addis Ababa having aggregate scores for sample mean and sample standard deviation for challenges of risk management practices were 3.67223 and 1.196563 respectively.

4.5 Interview

Risk management practices, mechanisms, measures, and strategies can be used to improve risk management practices were: - Establish a Risk Management Framework: Develop a comprehensive risk management framework that outlines the organization's approach to identifying, assessing, and managing risks. This framework should include clear guidelines, processes, and responsibilities for managing risks effectively. Conduct Regular Risk Assessments: Regularly assess and prioritize risks facing the organization to identify potential threats and opportunities. This can involve conducting risk assessments at different levels of the organization and across various departments to ensure a holistic view of risks. Implement Risk Mitigation Strategies: Develop and implement risk mitigation strategies to reduce the likelihood and impact of identified risks. This may involve implementing controls, safeguards, or contingency plans to address specific risks. Enhance Communication and Reporting: Foster open communication channels within the organization to ensure that all stakeholders are aware of potential risks and their implications. Implement regular reporting mechanisms to keep key stakeholders informed about the organization's risk profile and mitigation efforts.

Invest in Technology and Data Analytics: Utilize technology and data analytics tools to enhance risk management practices. This can include implementing risk management software, predictive analytics, and dashboards to monitor and analyze risks in real-time. Provide Training and Education: Offer training and education programs to employees on risk management best practices, policies, and procedures. This can help build a risk-aware culture within the organization and empower employees to identify and manage risks effectively. Continuous Improvement: Continuously evaluate and improve risk management practices based on feedback, lessons learned, and emerging trends. Regularly review risk management processes, policies, and procedures to ensure they remain effective and aligned with the organization's objectives. By implementing these risk management practices, mechanisms, measures, and strategies, organizations can enhance their ability to identify, assess, and manage risks effectively, ultimately improving their overall risk management practices.

To avoid challenges related to risk management practices, organizations can implement the following strategies: Establish a Strong Risk Management Culture: Foster a risk-aware culture within the organization by promoting accountability, transparency, and open communication about risks. Encourage employees at all levels to actively participate in identifying and managing risks. Senior Management Support: Ensure that senior management is actively involved and supportive of risk management initiatives. Leadership commitment is crucial for setting the tone for risk management practices and allocating resources to address key risks. Clear Roles and Responsibilities: Define clear roles and responsibilities for risk management across the organization. Ensure that employees understand their roles in identifying, assessing, and managing risks, and provide appropriate training and support to fulfill these responsibilities. Integrated Risk Management Approach: Integrate risk management into strategic planning, decision-making processes, and day-to-day operations. Align risk management practices with organizational goals and objectives to ensure that risks are managed in a holistic and coordinated manner.

Continuous Monitoring and Evaluation: Implement a robust monitoring and evaluation process to track the effectiveness of risk management practices. Regularly review and update risk assessments, mitigation strategies, and controls based on changing circumstances and emerging risks. Stakeholder Engagement: Engage with key stakeholders, including customers, suppliers, regulators, and industry partners, to gain insights into external risks that may impact the organization. Collaborate with stakeholders to address shared risks and enhance resilience. Use of Technology and Automation: Leverage technology, data analytics, and automation tools to streamline risk management processes and enhance decision-making. Implement risk management software, predictive analytics, and dashboards to improve risk visibility and response times. Regular Training and Awareness Programs: Provide ongoing training and awareness programs to educate employees about risk management best practices, policies, and procedures. Encourage a culture of continuous learning and improvement to build risk management capabilities. By implementing these strategies, organizations can proactively address challenges related to risk management practices and enhance their ability to identify, assess, and manage risks effectively.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter presents a summary of the findings, conclusions and recommendations as per the research objective.

5.2 Summary of Findings

The main purpose of this research was to assess the risk management practice and its challenge in sunshine building construction in Addis Ababa. The respondents comprised of employees of which formed a population of 60 respondents. The summary of the findings is presented as follows:

- The sample size of 60 questionnaires was distributed and 60 responses have correctly filledand returned which accounted 100% of response rate.
- Majority of the respondents were males having 37 (61.7 %) and the females at 23(38.3 %).
- Regarding to respondent Age category in year majority 27(45%) of respondents are participated at age of 26-35 years old, similarly the second highest number15 25%) of respondents are at age of 36-45 years.
- Majority of the respondents are educated and have knowledge to assess the risk management practice and its challenge in sunshine building construction in Addis Ababa which ware first degree having 62(36.5%).
- The result of the aggregate mean of all General information about risk management plan related items was 3.7040 with standard deviation 1.18612, which lies between the range of [3.5 - 4.49] and it felt high mean range section and General information about risk management plan of the respondents were used to assess the risk management practice and its challenge in sunshine building construction in Addis Ababa.
- Risk Identification of the respondents were used to assess the risk management practice and its challenge in sunshine building construction in Addis Ababa having aggregate scores for sample mean and sample standard deviation for Risk Identification were 3.7143 and 1.130894 which lies between the range of [3.5 - 4.49] and it felt high mean range section.
- Risk analysis of the respondents were used to assess the risk management practice and its challenge in sunshine building construction in Addis Ababa having aggregate scores for

sample mean and sample standard deviation for Risk analysis were 3.7143 and 1.130894 which lies between the range of [3.5 - 4.49] and it felt high mean range section.

- Risk Response strategies of the respondents were used to assess the risk management practice and its challenge in sunshine building construction in Addis Ababa having aggregate scores for sample mean and sample standard deviation for Risk Response strategies were 3.7143 and 1.130894 which lies between the range of [3.5 - 4.49] and it felt high mean range section.
- Risk management tool and techniques of the respondents were used to assess the risk management practice and its challenge in sunshine building construction in Addis Ababa having aggregate scores for sample mean and sample standard deviation for Risk management tool and techniques were 3.72085 and 1.09672 which lies between the range of [3.5 - 4.49] and it felt high mean range section.
- challenges of risk management practices of the respondents were used to assess the risk management practice and its challenge in sunshine building construction in Addis Ababa having aggregate scores for sample mean and sample standard deviation for challenges of risk management practices were 3.67223 and 1.196563 which lies between the range of [3.5 - 4.49] and it felt high mean range section.

5.3 Conclusions

This study was designed to answer the research questions and this section will summarize the key findings of the study in relation to each research objective in order to formulate the recommendations of the study. Study conclusions were drawn basing on the different research

Findings revealed that there is a positive significant relationship between dependent and independent variables. The general objective of this research will be to assess the risk management practice and its challenge in sunshine building construction in Addis Ababa. The study also used to assess the risk management practice adopted in sunshine building construction in Addis Ababa, to assess the challenges of risk management practice adopted in sunshine building construction in Addis Ababa, to describe the risk identification and analysis process used by sunshine building construction and to investigate the level of awareness and implementation of risk management practice with in the company.

Under Descriptive Statistics of General information about risk management plan respondents were agreed that the presence of effective and efficient risk management plan in sunshine building construction in Addis Ababa is available with planning meetings to develop the risk management plan, to Develop Risk Breakdown Structure (RBS) to define risk categories, Estimated resources and costs needed for risk management activities and include them in the project budget and Define and include risk management activities in the schedule.

In descriptive statistics of Risk management practice of sunshine building construction in Addis Ababa there is Risk Identification such that The Company has processes/tools for identifying project risks such as: Brainstorming session, using check lists, conducting interviews with experts/expert judgment and Use past experience/review of documentations. In sunshine building construction in Addis Ababa All key project participants involved in risk identification and Prepare risk registers for your projects. In sunshine building construction in Addis Ababa in case of Risk Analysis there are established qualitative risk analysis methods and tools, there is a process in place to quantify risks, assess the probability of achieving specific project objectives, identify risks that require the most attention by quantifying their relative contribution to the overall project risk and A risk matrix that defines probability/likelihood and impact exist in the company.

Risk Response strategies in sunshine building construction according to the respondents there are techniques of risk responses in place such as: Risk avoidance (Taking another course of action), Having Contingency plan, Risk Transfer to third party (e.g. Insurance company), Risk acceptance/ retention, reduce risk to acceptable threshold level and Combinations of retention, reduction and transfer responses to risk. There are personnel assigned for each agreed risk responses (e.g. safety personnel, safety management, risk officer), Contingency plan is allocated for time and Contingency plan is allocated for cost. Based on the analyzed risks, risk management plan is developed and communicated to all stakeholders and a risk matrix was/is developed for the project.

In Risk management tool and techniques sunshine building construction in construction according to the respondents Existence of Any tools/techniques used for risk management planning, Existence of Any tools/techniques used for risk management identification, Existence of any tools/techniques used for risk analysis and Existence of any tools/techniques used for risk response. On the other hand, challenges of risk management practices of sunshine building

construction Challenges are related to construction issue, Challenges are related to financial/economical issue and Challenges are related to political/legal issue.

5.4 Recommendations

The result in this study therefore, suggested that sunshine building construction in Addis Ababa the need for strongly assess the risk management practice and its challenge.

- For instance, each risk identified has to, analyze the likelihood, severity, and for each risk, sunshine building construction should come up with a response plan.
- Sunshine building construction should prioritize risks based on the risk register and analysis, which risks are most likely to happen and most potentially damaging to any project. Risks consider doing the analysis with the project team or with key stakeholders. So that, based on the response plan assigned to team members to their action on risks which has high severity and probability of occurring.
- Sunshine building construction should allocate proper budget will help to much for managing risks and in order to avoid any nasty surprises by risk so that it is obvious properly managed risks makes projects successful.
- Sunshine building construction should have actively that monitoring risks on projects in order to avoid any nasty surprises sending regular status updates for project teams and project stakeholders proactively.
- Also, check in regularly with individual risk managers. As the project manager or team lead, check in with them regularly to make sure everything is going well.
- The finding revealed that weather sunshine building construction risk management policy and procedure organized as to manage risks effectively during the implementation of Information Technology (IT) projects in general.
- Project team should take active training and development about project risk management to exploit the opportunities and to reduce the threats of uncertainties in the project.
- There should be a document that registers past project risks to learn from for future projects.
- The risk management plan is vital to communicate with and obtain agreement and support from all stakeholders to ensure the risk management process is supported and performed effectively over the project life cycle. Hence, all project stakeholders should participate in the risk planning and the roles and responsibilities of various stakeholders

participating in the project should be clearly defined. Moreover, the risk management plan should be integrated with the project plan in order to reduce the consequence of project uncertainties within the project.

- Risks should be identified throughout the project lifecycle and project teams have to actively participate on it.
- Sunshine building construction should improve the practice of risk analysis by prioritizing risks for further analysis or action by assessing and combining their probability of occurrence and impact that enables project managers to reduce the level of uncertainty and to focus on high-priority risks. In addition, the bank has to improve the practice of analyzing the effect of identified risks on overall project objectives numerically that produces quantitative risk information to support decision making in order to reduce project uncertainty.
- Options and actions should be developed to enhance opportunities and to reduce threats to project objectives. Hence, proper risk response strategies should be developed to prevent or mitigate the identified risks. Risks should be audited and reviewed periodically, and risk management processes have to be evaluated throughout project lifecycle.

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Section A: Biography data

1. What is your current position in the company?

Project manager [ ] Project engineer[ ] Members of project implementation team[ ] Risk officer [ ] Risk auditor [ ]

2. What is your educational status: PHD [ ] MA(MSc.) [ ] BSc [ ] Diploma [ ]

other……

3. How long have you been involved in construction project implementation?

Below 3 years [ ]

Between 3 and 6 years [ ]

Over 6 years [ ]

Section B: The following are sentences related to practices, challenges, tools and techniques/strategies of risk management applied to building construction projects. Please Kindly indicate the extent to which the following project risk management practices, challenges and strategies are applicable within the company in building construction project(s) on a 5-point scale where,

1= Not Applied (NA)

2= Applied to some extent (ATSE)

3= well applied (WA)

4= greatly applied (GA) and

5= Applied to very great Extent (VGA). And Mark with a tick (√) against the most applicable response.

1	**General information about risk management plan**	5	4	3	2	1
A	The presence of effective and efficient risk management plan in your company					
B	planning meetings to develop the risk management plan					

C	Develop Risk Breakdown Structure (RBS) to define risk categories					
D	Estimated resources and costs needed for risk management activities and include them in the project budget					
E	Define and include risk management activities in the schedule.					
2	**Risk management practice**	5	4	3	2	1
2.1	**Risk Identification**					
A	The company has processes/tools for identifying project risks such as:					
B	Brainstorming session.					
C	Using check lists.					
D	Conducting interviews with experts/expert judgment.					
E	Use past experience/review of documentations					
F	All key project participants involved in risk identification.					
G	Prepare risk registers for your projects					
2.2	**Risk Analysis**	5	4	3	2	1
A	RR					
B	There is a process in place to quantify risks					
C	Assess the probability of achieving specific project objectives.					
D	Identify risks that require the most attention by quantifying their relative contribution to the overall project risk					
E	A risk matrix that defines probability/likelihood and impact exist in the company					
2.3	**Risk Identification Risk Analysis Risk Response strategies**					
A	A There are techniques of risk responses in place such as:					
B	Risk avoidance (Taking another course of action)					
C	Having Contingency plan					
D	Risk Transfer to third party (e.g. Insurance company)					

E	Risk acceptance/ retention					
F	Reduce risk to acceptable threshold level					
G	Combinations of retention, reduction and transfer responses to risk					
H	There are personnel assigned for each agreed risk responses (e.g. safety personnel, safety management, risk officer)					
I	Contingency plan is allocated for time					
J	Contingency plan is allocated for cost					
K	Based on the analyzed risks, risk management plan is developed and communicated to all stakeholders					
L	A risk matrix was/is developed for the project					
3	**Risk management tool and techniques**	5	4	3	2	1
A	Existence of Any tools/techniques used for risk management planning					
B	Existence of Any tools/techniques used for risk management identification					
C	Existence of any tools/techniques used for risk analysis					
D	Existence of any tools/techniques used for risk response					
4	**Challenges of risk management practices**	5	4	3	2	1
A	Challenges are related to construction issue					
B	Challenges are related to financial/economical issue					
C	Challenges are related to political/legal issue					

Section C: short answers questions

1. What risk management practices mechanism, measures or strategies should be used to improve risk management practices in your opinion?

2. What strategies should must be used to avoid the challenges related to risk management practices?