PROJECT RISK MANAGEMENT FOR ENHANCING VALUE FOR MONEY IN TANZANIA

THE CASE OF SUMAJKT COMPANY LTD, SOUTHERN ZONE

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A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTERS OF PROJECT MANAGEMENT (MPM) OF THE OPEN UNIVERSITY OF TANZANIA.

2020

CERTIFICATION

The undersigned certifies that he has read and hereby recommends for acceptance by the Open University of Tanzania a dissertation entitled, **Project Risk Management for Enhancing Value for Money in Tanzania: The Case of SUMAJKT Company Ltd, Southern Zone** in partial fulfillment of the requirements for the award of Degree of Master in Project Management of the Open University of Tanzania.

Signature ……

Dr. France Shayo

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Date…….

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DECLARATION

I **Rwezaura, Edwin Aron** declare that, the work presented in this dissertation is original. It has never been presented to any other University or Institution. Where other people's works have been used, references have been provided. It is in this regard that I declare this work as originally mine. It is hereby presented in partial fulfillment of the requirements for the Degree of Master in Project Management of the Open University of Tanzania.

Signature …….

Rwezaura, Edwin Aron

(Student)

Date ……

DEDICATION

This work is dedicated to my lovely wife Mrs. Sofia G. Rwezaura for her unyielding encouragement and support.

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First, I thank God for guiding me throughout the process of this study and for granting me the necessary wisdom, strength and health.

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ABSTRACT

This study aimed to assess the role of project risk management for enhancing value for money in Tanzania. The case of SUMAJKT Company Ltd, Southern Zone. Aiming to find out the influence of project risk identification, to examine the effect of risk assessment, to assess the influence of risk response; and to examine the influence of risk monitoring on project value for money. A case study design was selected in which data were collected using questionnaires from 73 respondents who selected randomly. Primary data analyzed using Multiple Linear Regression using SPSS software tool. The study found that, project risk identification is significant in developing a project check risk, reviewing experienced risks, including professional experts, reviewing and conducting SWOT analysis, estimating expected quality; and identifying possible risks that may harm project goals. Calculating possible risks impacts, differentiating controllable and uncontrollable risks; and documentation are the effects of project risk assessment. Further, assessing project risks plays an important role in delivering value for money. Risk response is significant in achievement of project value for money by avoiding, accepting, transferring and risk mitigating risks. Project risk monitoring is significant in risk management plan, project risk response plan, strengthening communication during execution phase; and follow-up of policies and procedures. The study concluded that, project risk management in construction works needs to be continuously prioritized and further recommended that, for organizations implementing or are in plans to execute a project should take into consideration that, conducting project risk management including (identification, assessment, response and monitoring) is paramount so as to achieve value for money.

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LIST OF ABBREVIATIONS AND ACRONYMS

COVID_19	Corona Virus Infection Disease_2019
LTD	Limited
MLR	Multiple Linear Regression
PRM	Project Risk Management
SPSS	Statistical Package for Social Science
SUMAJKT	Shirika la Uzalishaji Mali la Jeshi la Kujenga Taifa

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This chapter introduces the background of the study, the statement of the problem, the objectives of the study, the research questions to guide the study, the significance of the study and the scope of the study.

1.2 Background to the study

Value for money is considered to be a controversial issue in public procurement projects, as it is the output of all implemented projects showing how the project has succeeded to be cost efficient, to deliver the expected quality, at expected quantity and reflect environmental impacts to the surrounding community (Jefferson, 2018). Value for money has to be explained with and built on a set of performance criteria to deliver service; this could result from effective risk management measures. It is built on economy, efficiency and effectiveness (Palmer, 2016). The main aim of risk management is to deliver quality services required by public sector clients in a way that provides superior value for money than conventional procurement. The main focus in public and private procurement is how services are delivered, better management of the risk associated with projects, more effective exploitation of opportunities hence resulting to better project management (Ngosong, 2015).

There is a clear need for the public sector to have an objective to risk management strategies and to determine how they are going to be implemented so as to ensure that through the project proceeding there is value for money appraisal throughout the whole

life cycle of construction projects (Songer, 2014). Weiber, (2014) clarifies that, project risk management strategies focus on outputs, whole life-cycle costs, identifying risks and allocating these to the party best able to manage them; it provides a rigorous framework to ensure that the public sector gets the best value for the investment in the priority project. Hence project risk management is of vital importance in the successful delivery of construction projects at the prior planned value of the project.

According to Grimsey (2013), the United States of America has put in place procedures to ensure that approval of project risk management strategies is well given to all projects that are likely to deliver value for money to the public sector as depends much from tax payer's efforts. Value for money has to be explained with and built on a set of performance criteria of a contractor to deliver service on agreed terms and conditions (Norman, 2010).

Dey (2015) defined the term "risk" as uncertain events and outcomes with known or unknown probability distributions. Further, defined risk management as the set of mechanisms used by the procuring entity to deal with anticipated or actual losses associated with uncertain events and outcomes. These mechanisms are employed depending on beliefs about the probability of event occurrence and anticipated impacts on the project welfare (Palmer, 2016). Risk management can affect development of a country's economy through changes in income and consumption, in investment patterns, and in living conditions of the citizens. Public risk management strategies can involve activities to reduce, mitigate or cope with risk. Public organizations adopt different risk management strategies based on their attitudes toward risk, objectives with respect to risk, other objectives, their asset base, economic, social, and political conditions (Oluka,

2009). Evidence shows that organizations have less capacity to manage risk because they lack access to assets and have fewer risk management instruments to draw upon.

Jefferson, (2018) argues that most African countries face difficulties in risk management as projects lack scope on risk identification, assessment, treatment and monitoring. These are important strategies that are to be implemented well by any client that plans to reach value for money at the delivery stage of the project. Project risk management is an important part of the decision-making process in construction project management as it is the panacea for the achievement of value for money (Weiber, 2014). When drafting the contract, the client should check the sources of risks to the project. A part that seems to challenge the project is inability or failure to obtain and retain levels of resources needed for a project, failure to obtain senior management support and involvement as well as insufficient time to develop the contract (Charvat, 2011).

Smith, (2012) clarified that, regarding the project's integration, scope, time, cost, quality, human resources, communications and procurement, "risk management improves the future prospects of a project as it identifies uncertainties and probabilities". According to (Grimsey, 2013) risk management systems aim to identify and quantify all risks to which the project is exposed so that a conscious decision can be taken on how to manage such risk. Effective risk management in construction requires a comparison between the potential risk and the potential return or future value/quality of the project. In construction projects, risk and uncertainty could have either a positive or negative outcome, threat is a result of a negative risk and opportunity is an outcome of positive risk, therefore, risk does not indicate a bad thing; however, it means outcomes are uncertain (Peter, 2017).

Unfortunately, despite government efforts since independence basing on project risk management, implemented projects still face challenges in managing risk as some projects fail to complete on time, at reasonable cost, disputes arising and ambiguities among the parties are common occurrences in African projects especially Tanzania. The hardest part of an investment in various projects is the procurement planning phase that needs much concentration so as to give a way for ensuring project success from the preliminary stage to end of the project (Jefferson, 2018).

1.3 Statement of the problem

This study aimed to identify the role of project risk management for enhancing value for money in Tanzania. The world is growing too fast and with the rapid population increase, it is difficult to keep up the bound with the expanding population of people hence has forced the increase of construction investment projects over the world. Without civil engineers and project managers who can successfully manage construction projects, these needs will never be met (Kenneth, 2017). The construction projects industry in developing countries are significantly different from those in developed countries due to differences in climate, materials, finance and economics, human resources and cultural factors (Jersey, 2018).

When goals of the project are not clearly identified, the whole project will be under risk. Williams, (2017) argues that inadequate skills for the project especially for complex projects that require skills that the buying entity does not possess causes the project risk occurrence by increasing disputes when the client fails to hire competent experts. The change of project design is a challenging factor that causes risk occurrence during the project implementation. This may be for client design improvement or for engineering design. If one party changes the project design it affects directly the project agreed

budget where sitting for an improvement of the agreement may result to financial risk to the project (Dey, 2015).

Lack of accountability and poor communication among project managers hinder the project success (Zephrey, 2018). Emmanuel (2015) noted that, the number of disputes and court cases due to project delays and poor performance has increased with the construction projects especially for the public sector although the United Republic of Tanzania directs the clients that before the implementation of any projects, assessment on the experts related to nature of the project should be done and client should hire competent staffs where necessary to help in project risk management so as to overcome all associated risks of the project and meet value for money at the end. Unfortunately still construction projects delay, are completed under low quality with disputes and some fail to complete totally, hence the researcher intended to bridge this knowledge gap.

1.4 Research Objectives

1.4.1 General Objective

The study aimed to assess the role of project risk management for enhancing value for money in Tanzania: the case of SUMAJKT Construction Company Ltd, Southern Zone.

1.4.2 Specific Objectives

The study intended to accomplish the following specific objectives:

(i) To find out the influence of project risk identification on the project value for money.

(ii) To examine the effect of risk assessment on project value for money.

(iii) To assess the influence of risk response on project value for money.

(iv) To examine the influence of risk monitoring on project value for money.

1.5 Research Hypotheses

This study was guided by the following research hypotheses:

(i) Effective project risk identification positively influences project value for money.

(ii) Effective project risk assessment positively affects project value for money.

(iii) Effective project risk response positively influences project value for money.

(iv) Effective project risk monitoring positively influences project value for money.

1.6 Significance of the Study

1.6.1 To **a Researcher**

The study is important to a researcher as one of the compulsory requirements for the award of a Master Degree of Project Management of the Open University of Tanzania. The study also is significant to;

1.6.2 Public and Private Organizations

The findings of this study provides public and private organizations to understand the factors that build effective strategies of project risk management for enhancing value for money that will lead to economic growth of Tanzania so that many countries in the world will look at Tanzania risk management strategies as an example in strengthening efficiency on risk management strategies for their benefit. The study also assists organizations to make appropriate decisions in choosing the best methods of risk management with good selection measures of suppliers, contractors, service providers and contractors/project management team who are eligible to provide good management after the award of contract so as to meet the pre-determined objectives of the project that is to obtain value for money.

1.7 Scope of the Study

The study was limited to SUMAJKT Construction Company Ltd, Southern Zone of Tanzania. The study area is among indigenous companies executing various construction projects especially in the Southern Zone of Tanzania that is the main target of the researcher. The area contains implemented projects by SUMAJKT Construction Company, hence was attractive on studying how project risk management enhances value for money in Tanzania. It also focused on how the procuring entities both public and private perform project risk management procedures in implementation of work projects especially for construction of buildings and roads.

1.8 Limitations of the study

The researcher was confronted with a number of challenges in executing this task which includes but not limited to inadequate financial resources; research requires enough resources but since the research was self-financed, shortage of resources was inevitable. To overcome this challenge the researcher made full utilization of the available resources.

Time available for preparing and submitting the research paper was in adequate; hence the researcher utilized all days including weekends so as to complete the study according to the time schedule.

Lack of transparency was also a limitation whereby some respondents were not comfortable to provide useful information to the study with the main argument that their privacy was being invaded. As such, a lot of time was taken in explaining that the study was for academic purposes only.

This study was limited to data collection period, as it was conducted during the eruption of the world pandemic known as Corona Virus Disease-2019 (Covid_19). The researcher therefore had to collect data through sending emails to respondents a factor that limited physical meeting with respondents, leading to longer time spent to complete the process.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter discussed the definition of key words, theoretical review, empirical review, and conceptual framework of the study.

2.2 Conceptual Definitions

2.2.1 Project

It refers to a series of tasks that need to be completed in order to reach a specific outcome. A project can also be defined as a set of inputs and outputs required to achieve a particular goal. Projects are often described and delegated or executed by managers who go over their expectations (Grimsey, 2013).Smith, (2012) argues that a project is a planned piece of work that has a specific purpose (such as to find information or to make something new) and that usually requires a lot of time. For the purpose of this study, the definition by Grimsey, (2013) is adopted as it related to the researcher's objectives that intend to study strategies that should be adopted by project managers to achieve the project expectations.

2.2.2 Risk

Risk is an uncertain event or set of circumstances that will have an effect/impact on achievement of one or more project objectives (Williams, 2017). Jersey, (2018) defined risk as the chance of loss or an unfavorable outcome associated with an action. Uncertainty does not know what will happen in the future. Risk refers to a piece of planned work or activity that is finished over a period of time and intended to achieve a

particular purpose (Agrey, 2016). Further, Weiber, (2014) argues that risk is the probability or threat of damage, injury, loss or any other negative occurrence on a project that is caused by external or internal vulnerabilities and that may be avoided through preemptive action. For the purpose of this study, the definition by Weiber, (2014) is adopted as it explains the natural risk occurrence but proposes that a risk may be avoided by certain measures.

2.2.3 Project risk management

This refers to the process of identifying, assessing, treating and monitoring all risks that arise over the life cycle of a project to help the project meet its goals. Risk management isn't reactive only; it should be part of the planning process to figure out risk that might happen in the project and how to control that risk if it occurs (Weiber, 2014). It is the process used by project managers to minimize any potential problems that may negatively impact a project's timetable (Chapman, 2011).

Further, project risk management refers to a process of identifying, analyzing, and minimizing potential problems that could negatively affect the progress of a project. The main objective of risk management in project management is to take care of anything that might deflect the project from reaching its ultimate goal. If project risks aren't identified, avoided or rectified, your project may end up over budget, delayed, or even brought to a complete standstill (Kenneth, 2017). For the purpose of this study, the definition by Weiber, (2014) is adopted because it mentions the project management processes that relate to the researcher's objectives.

2.2.4 Value for money

Cetion, (2011) argues that, value for money is defined as the optimum combination of whole-life cost and quality (or fitness for the purpose) to meet the users' requirement. Caron, (2013) defined value for money as an essential test against which a procuring entity must justify a procurement outcome. Norman, (2010) defined value for money as the value (output) attached to some defined cost/input, as it is associated with economy, effectiveness and efficiency of a product, service or process. Value for money is defined as the most advantageous combination of cost, quality and sustainability to meet customer requirements. Cost means consideration of the whole life cost, quality means meeting a specification which is fit for purpose and sufficient to meet the customer's requirements and lastly, sustainability means economic, social and environmental benefits, considered in the business case, in support of the strategies for government or a company. For the purpose of this study, the definition by Norman, (2010) corresponds to this study as it links the project costs incurred with parameters of value for money that are economy, effectiveness and efficiency.

2.2.5 Project risk identification

Zephrey, (2018) defined project risk identification as the process of determining all possible risks that may affect the project and documenting their characteristics. The key advantage of this process is recording the existing risks and adhering to the solutions offered by the project team to reduce the risk indicators. Songer, (2014) argues that project risk identification is the most important process in the risk management planning that determines which risks might affect the project negatively or positively and documents their characteristics. After the list is made, qualitative and quantitative analysis is done to figure out which risks will spend much time or money. For the

purpose of this study, the definition by Zephrey, (2018) corresponds with this study as it mentions appropriate measures to be taken during project risk identification phase so as to reach solutions.

2.2.6 Project risk assessment

This refers to a disciplined process that involves using checklists of potential risks and evaluating the probability that those events might happen on the project. Some companies and industries develop risk checklists based on experience from past projects. These checklists can be helpful to the project manager and project team in identifying both specific risks on the checklist and expanding the thinking solutions by the team (Jersey, 2018). Risk assessment is the determination of quantitative or qualitative value of risk related to a concrete situation and a recognized threat. Risk assessment involves measuring the probability that a risk will become a reality. But in any project, risk assessment is not a project manager's sole responsibility, the client team and all stakeholders should follow-up the project implementation progress to detect any weakness that may harm the project (Weiber, 2014). For the purpose of this study, the definition by Jersey, (2018) is the best to be adopted because it tells clearly the concept of project risk assessment and directs the project manager on how to deal with risk assessment process.

2.2.7 Project risk treatment / response

It refers to a plan that is prepared to respond to potential risks in a project execution. It shows how risks will be managed whether they are low, high or acceptable risks. The controls set in your risk management plan will assign team members or stakeholders the task of how they will respond to risk (Williams, 2017).

Risk treatment is mandatorily a part of an effective risk management plan. The plan here means how you respond to the reported potential risks. It details on strategies on how to deal with the various risks that tend to be low or high, acceptable or unacceptable. The plan also outlines the role and responsibilities of the team members. Literally speaking, risk treatment also known as risk control, is that part of the risk management where decisions are made about how to deal with risks either in the external or internal environment. Various options exist like risk reduction, risk avoidance, risk acceptance and risk transfer (Kenneth, 2017).For the purpose of this study, the definition by Kenneth, (2017) relates to this study as it is detailed in explaining the concept of project risk treatment that is among the researcher's objectives.

2.2.8 Project risk control / monitoring

According to Charvat, (2011) project risk control and monitoring is where you keep track about responding to risks and performing against the plan as well as the place where new risks to the projects are managed. It provides managers with important information to be involved to analyze the current situation, identify problems and find possible solutions. Peter, (2017) defines project risk control as the process of monitoring identified risks for signs that they may be occurring, controlling identified risks with the agreed-upon responses, and looking for new risks that may creep into the project. Risk monitoring and control is also concerned with the documentation of the success or failure of risk response plans and keeping records of metrics that signal risks are occurring or disappearing from the project. For the purpose of this study, the definition by Peter, (2017) relates with objectives of this study as it shows what should be done after facing a risk during project execution phase.

2.3 Theoretical Review

This section consists of the theory that guided this study in reference to project risk management for enhancing value for money; it is the Loop of Control Theory (LCT).

2.3.1 Loop of Control Theory

According to Elkjaer, (1999)the Loop of Control Theory is a comprehensive model consisting of guidelines described within the project risk management process. It is linked more with the project value attained at the completion. It is suggested to perform a project risk management loop of control at the end of each project phase or when required by major change of circumstances. The beginning of a new phase of the project, for example, site mobilization is a new round of risk identification, assessment and so on as described in the project risk management loop of control. Project risk management loop of control illustrates a dynamic and continuous process in which risks are continuously reassessed until they are prevented, reduced or accepted. The project risk management loop of control can be divided into four different phases: identification, assessment, response and monitoring. These phases are to be planned on how they will be incorporated by the project management team before the start of a project and during continuing of the project, where all risks are to be forecasted before they occur. Poor management of these phases of projects results to loss of life cost value hence fail to attain the client project goals that is reaching best quality.

The identification phase is the most critical to a successful risk management approach, when risks that are not detected cannot be managed to reduce their impacts on the project, which may lead to loss of quality of the project, hence insufficient value for money will be inevitable. For the next phase, risks can be quantified through an assessment of probability and impact (Chapman, 2011). The risk level can be measured

in quantified or qualified elements, meaning that either percentages or monetary units can be used. Further a response is needed where the purpose of the response phase is choosing a risk strategy, which can be acceptance, reduction, elimination or transfer to the other party. The last phase of the PRM Loop of Control theory discusses monitoring which involves documentation and reassessment of the risks in order to make sure that the right action has been taken to prevent these risks. Monitoring phase is aimed to ensure that risk register with potential risks is updated at all times and the responsibility is defined; its success results to added value of the project (Elkjaer, 1999).

The SUMAJKT Construction Company in Tanzania like other companies engaging with construction projects execution faces risks associated with project complexity, time estimation, disputes and project budget constraints as the projects are implemented by the use of own manpower. Further the SUMAJKT projects do not rely much on hiring experts (consultants) for the matter of privacy, which sometimes is a hindrance to project success.

SUMAJKT Construction Company adheres to five stages in risk management process when executing construction projects that involves, risk identification that deals with identifying the possible risks that can prevent the company from achieving its strategic and operational objectives of projects; risk assessment that involves analyzing the probability and impact of representation of a given risk that relate to financial and non-financial impacts; risk treatment that involves whether to accept, avoid, reduce or transfer a risk, depending on the level of risk and the company's capacity to deal with such a risk; and lastly, risk monitoring and reporting which deals with structures and systems of monitoring associated risks (Annual report SUMAJKT, 2014).

The Loop of Control Theory insists that, before execution of any project clients are to make sure there are possible measures to reduce risk occurrence during the project execution and after completion of the project. This will help clients to reach the pre-planned goals of the project that mostly is achievement of value for money; hence the client is able to meet its corporate strategies (Jersey, 2018).

2.4 Empirical Review

The construction industry has embraced project management which entails risk management as one of its essential knowledge areas. Therefore, risk management has become a crucial area in the management of projects. Smart project managers employ risk management strategies to tackle challenges that appear to hinder their goals and objectives of performing a project (Agrey 2016).

Williams (2017) studied on ways by which the required value for money can be achieved from a project in Turkey. The main objective of the study aimed to identify on effective project risk management strategies that can help the achievement of the desired value for money. The study adopted a descriptive study design and qualitative technique to reach conclusions. The study found that effective project risk management strategies that can help the achievement of the desired value for money includes risk identification, assessment, treatment and monitoring. The study recommends companies dealing with construction activities to make sure that project management experts are prior involved so that during project implementation all risks will be managed hence will notadversely affect the project.

Norman *et al.* (2010) analyzed on critical influences of project risk management in the construction industry in England. Among the study objectives that the study focused

onwas to determine the project phases where value for money should be originated. The study adopted a case study design and a quantitative technique to collect data from the England construction companies. The study investigated that, in order to obtain value for money, all project risks should be assessed in conjunction with other project aspects such as service/project quality, risk transfer and wider policy objectives that plans on reducing risks of a project before implementation phase. Further, the study recommended that, any construction activity should prior plan strong risk management strategies so as to meet the intended results at the end.

Zephrey (2018) discussed on the project management aid in achieving procurement value for money in Italy. The study aimed to find out measures to reduce project risks so as to increase value for money, performance and to identify the impact of specifications setting on project performance. It applied the methodology of case study design that employed questionnaires and interviews to present qualitative results of the study. The study found that, value for money is a critical issue in various projects especially public procurement projects. Furthermore, the key common factors that applied to drive value for money include the optimum allocation of risks between project parties, focusing on the whole life costs, integrated planning and design of the facilities-related services, the use of an outputs specification approach, a thoroughly executed transfer of risks, sufficient flexibility, ensuring sufficient incentives within the procurement, the terms of the contract, sufficient skills and expertise and proper management of the project scale. The study recommended that a fundamental requirement the client finance initiative procurement for value for money to be achieved, and for it to be secured, appropriate risks should be transferred to the other party.

Agrey (2016) adopted a qualitative analysis using in-depth interviews and observations to examine principal factors that contribute to successful project risk management practices in Brazil. Five success determinants were focused on and these predicted at the end to help achieve value for money: measuring project risk transfer, long-term nature of contracts competition, performance measurement, the use of output specification incentives and lastly private party's management skills. The study found that, engaging the supply market including consultants and contractors from early stage in a project that may be organized through tender briefings is useful particularly where the project is large-scale or complex. The study recommends procuring entity to require collaboration between the contractor and the design team for solutions that achieve optimum cost.

Hikina (2019) studied on risk management principles in strengthening project performance in New Zealand. The study adopted a descriptive study design and qualitative approach to study main objective of the study that was to identify risk management principles on project performance. The study found that, before any financial commitment is made, the project governance board should understand and approve the degree of project risk to which the project exposes the procuring agency. The project governance board should be satisfied that the senior responsible officer has put in place appropriate risk management plans, risk mitigation measures and contingencies are set out in the investment business case. The study recommended that before starting any risk management activities, a risk management plan must be approved by the project governance board through the senior responsible officer and lastly supported by the project director and managers; this helps in cost risk management guarantee.

Chaiwat, (2018) studied on project risk management practices influences in increasing efficiency in public procurement, the case of Pretoria in South Africa. The study objectives were to find out factors for the project implementation failures, to measure roles of project managers in influencing value for money and to determine measures to be adopted in solving project risk management challenges. The study adopted a questionnaire survey to analyze quantitative perceptions of respondents. The study found that risk management in the construction project did not succeed due to a lack of knowledge in risk management from the owner; strengthening project management is the panacea of value for money constraints that will reduce project risk management challenges. It recommended that the management information flow towards risk has to include the past project risk management practices, link with external consultants and come up with updated risk management strategies that will help the project finish on time at reasonable cost as a result value for money will be inevitable.

Yarris, (2015) investigated on the advantages and limitations of project risk management in the construction sector of Guinea. Objectives of the study were to analyze advantages of project risk management and to find out limitations that hinder project risk management success. It adopted a descriptive study design to analyze and discuss qualitative findings. The study found that, project risk management plays a great impact in achieving value for money at the end of the project. Further, it found that management failures in identification, measurement and allocation of risk, life cycle costing of the service options, and developing in-house expertise are most of the challenging factors. The study recommended for the construction sector to make sure a competent project management team is structured to help in accomplishing all the strategies concerned in achieving value for money in construction projects.

Jersey, (2018) adopted a qualitative analysis using in-depth interviews and structured questionnaires to examine principal factors that contribute to successful value for money in construction projects, the case of Algeria. The study objectives focused to determine major project risk management areas in achieving value for money and to find out strategic measures influencing project risk management performance. The study investigated that, project technical skills are essential in project risk management as risk is a function of project uniqueness and the stakeholders' experience. Further, the study concluded that "no any construction project is risk-free", hence the risk could be identified, assessed, treated and monitored. The study recommends the use of ten knowledge areas including integration management, scope management, time management, quality management, human resources management, communication management, procurement management, stakeholder management and cost management for the success of risk management in achieving value for money.

Peter, (2017) investigated on project risk management practices in increasing public sector projects quality. The study adopted case study analysis and mixed approaches that are qualitative and quantitative approach. The main objective of the study was to assess on the influence of project risk in increasing project quality. The study found that, in Kenya the importance of risk management in sustainable construction projects thus increasing and gaining more experience and expertise that is needed for the success of the project. So, the purpose of planning for competent project management team is to gain deeper awareness of project related risks in sustainable construction companies operating in the construction industry. It recommends gaining knowledge of good practices within the construction industry to be able to propose further investigation of the subject that could improve the existing project risk management and

sustainable construction project goals that is achievement of pre-determined value for money.

A study was conducted in Uganda on procurement planning and its impacts in project risk management practices. The study objectives were to determine failures hindering project risk practices and to evaluate the risk management strategies adopted in project risk management in achieving value for money. It adopted a cross-sectional design to analyze qualitative findings from observed practices in public construction companies. The study reported that, the construction projects are complicated, need experience and risk management knowledge are vital tools in managing them. Delays are prevailing in construction projects especially in developing countries. Apart from their impact on advances in work, delays add costs in implementation of construction projects. It recommends construction companies to employ risk management processes that might alleviate the situation by identifying, assessing, treating and monitoring all possible project risks hence value for money achievement will be inevitable (Smith, 2012).

Dorice, (2017) studied on project management contributions on quality performance in construction of bridges in Tanzania. The study adopted a case study research design to analyze quantitatively the research findings. The study objectives were to determine weaknesses hindering domestic contractors' contribution in project quality and to measure the extent to which project management practices are managed by clients in achieving expected quality. The study investigated that, Tanzania is over-reliant on foreign experts to train her indigenous professionals, contractors and consultants to execute big projects. Indigenous contractors in the construction industry in Tanzania were still young a factor that places a challenge on the overall execution and

application of project management concepts and principles among stakeholders. The study recommended organizations to invest more on project management-related issues such as procurement and project performance so as to reduce possible project risks.

Oluka, (2009) assessed the impact of project delays on value for money achievement in the public sector. The study employed an experimental design to analyze qualitatively the research questionnaires administered from the construction sector in Tanzania. The study's main focus was to identify the impacts of project delay in value for money. The study concluded that, the complex projects implemented by the Tanzania government lack indigenous, competent, and experienced and those who have financial capability to perform the contractual requirements. Furthermore, the finding reported that, few indigenous contractors are participating as third parties to the complex projects hence at the end financial risk by paying contractors from abroad is inevitable as they demand high payments to execute projects. The study recommends that, in order to solve the problem of project delay, Tanzania should put much effort on empowering domestic experts so as to increase project management performance in the public sector.

Fredrick, (2016) studied on risk analysis and management for major construction projects in Tanzania. The study employed a case study design to analyze qualitatively and quantitatively the respondent's responses to determine project risk management strategies adopted in construction projects and to find out strategic impacts of project risk management in the construction industry. The study found that, project risk identification, assessment, treatment and monitoring are strategic measures adopted in construction projects, as their impacts were found to influence increasing the quality

of the project depending on the costs incurred hence achieving value for money. The study recommended the construction companies focus much on the main target strategic measures applied in project risk management so as to increase more value for money achievement.

2.5 Research Gap

However, construction projects are prone to several unknown factors in the developing countries; the application of risk management practices and policies are being used to avoid challenges in several projects, although, still risk control is difficult to avoid the prospective risks in the construction project, whereby identifying all the risks need much time as results to failure (Blackwell, 2018). The reviewed studies have tried to discuss the risk management challenges with fewer solutions on what could be attained to help developing countries especially Tanzania increase effectiveness in project risk management so as to reach value for money that is the pre-objective from the start of the project. This study is going to bridge the knowledge gap left by focusing on the effective measures that should be adopted to manage project risks so as to reach value for money based on reasonable whole life-cycle costs, right time, quality and quantity which are effectiveness, economy and efficiency.

2.6 Conceptual Framework

The conceptual framework (Figure 2.1) for the study developed by relying on the four specific objectives focuses on essential concepts on which data collection and analysis was based.

Independent variables **Dependent variable**

Effective Project Risk Management

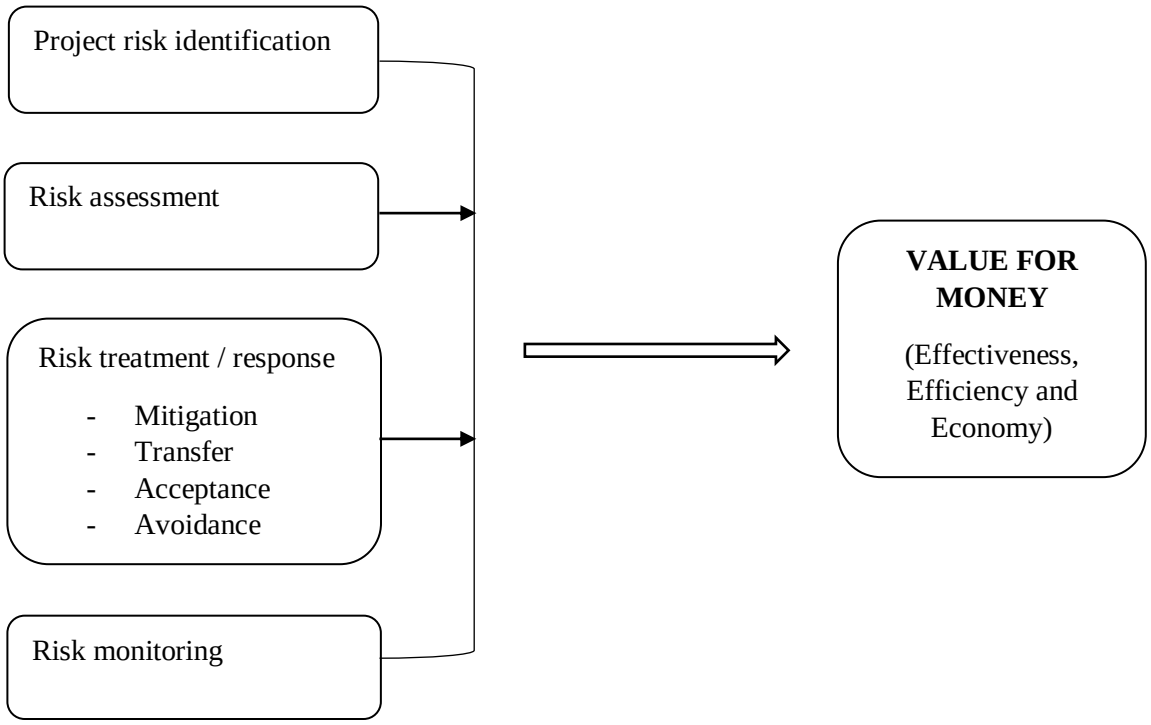

Figure 2.1 Conceptual framework

Source: Researcher, 2020

2.6.1 Theoretical Framework

Figure 2.1 above represents two elements that form the basis of the study as influencing on the assessment of the roles of project risk management for enhancing value for money in Tanzania. The figure presents two conceptual variables, moving from left are the independent variables and the right variable is dependent. Independent variables include the strategies that build the bases of effective project risk management hypothesis. They prove evidence that, effective project risk identification positively influences project value for money, effective project risk assessment positively affects project value for money, effective project risk response positively influences project value for money; and effective project risk monitoring positively influences project

value for money. They stress that, if a client project management team will implement fully these strategies, the project will be implemented under the bases of effectiveness, economy and efficiency that together builds value for money that is the dependent variable.

After achievement of value for money from the project is when we get what we call successful utilization of tax payer's funds (public funds) if it is a public implemented project or cost effective, for private clients we say that the project is cost effective. Thereafter achieving value for money the public or private organization may focus to implement other projects or strategic corporate plans. But after the project failure to achieve value for money, it may disturb implementation of other future projects under the strategic corporate plans.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents research methods and techniques used in data collection and analysis. It comprises details about the research design, research techniques, research area, population, sample size and sampling techniques used to select respondents and data collection techniques used to collect relevant information, data validity and reliability as well as data analysis of the study.

3.2 Research Area

The study was conducted at SUMAJKT Construction Company Ltd, Southern Zone because it is among indigenous companies executing various construction projects especially in the Southern Zone of Tanzania that is the main target of the researcher. It comprised three regions which are Mbeya, Njombe and Iringa. The research area has adequate number of potential and actual populations who provided an adequate data and information to the researcher about the study, further the implemented construction projects to the Southern Zone is large, including buildings and roads. The research area was expected to perform risk management during implementation of various projects that may include prolonged failure to achieve value for money. Therefore, the area includes information rich case, presence of the phenomenon to be researched, accessibility to area and data as well as familiarity of the area by the researcher and it met the researcher's aim to measure project risk management roles in effective value for money.

3.3 Research Philosophy

Journaljpri. (n.d.) argue that the research philosophy is a system of the researcher's thought following which new reliable knowledge about the research object is obtained. In other words, it is the basis of the research which involves the choice of research strategy, formulation of the problem, data collection, processing, and analysis.

In this study, the researcher's study was guided by the positivism research philosophy.

This is due to the fact that Positivism research philosophy relates to the natural scientist and entails working with an observable social reality to produce generalizations. It promises to bridge unambiguous and accurate knowledge as originates in the works of Francis Bacon, Auguste Comte and the early twentieth-century group of philosophers and scientists known as the Vienna Circle with great focus on strictly scientific observer method designed to yield pure data and facts uninfluenced by human interpretation or bias (Research philosophies and approaches, 2016).The positivism philosophy was applicable to this study as the researcher intended to measure on how project risk management enhances value for money achievement at the end of the project.

3.4 Research Design

In this study a case study design was adopted. The case study research design aims at collecting quantifiable information to be used for statistical analysis of the population sample. It is used to test validity of variables to see if provided facts are in the real life of the study population. It allows collecting and describing the nature of the demographic segment (Kothari 2004).

This study was based on quantitative technique to analyze research findings from respondents on project risk management for enhancing value for money in Tanzania.

The study was characterized as cross-sectional whereby, Kothari, (2004) argues that a cross-sectional survey method targets to gather data from a relatively large number of cases at a particular time. In this study, the research data was recorded depending on the respondents' opinions about the study from the field.

3.4.1 Quantitative Research Technique

The technique emphasized statistical and objective measurement, making numerical analysis of data collected by the use of questionnaire statements that was measured by use of Likert Scale. Quantitative research technique focuses much on measurement of numerical data accordingly to the presented filled information by the respondents. It allowed the researcher to ignore the doubtful information data according to the response to Likert Scale information by respondents when filling the data. The quantitative technique involved tables on data presentation through SPSS.

3.5 Population

Population refers to the entire group of people or item on which information is collected (Kothari, 2004). For the purpose of this study, the population was grouped into three categories which are; from the SUMAJKT contractor's management team who comprised a total of 21;consultant's supervision team who comprised a total of 17 experts; and 14clients (public and private entities) as for each one client there was at least 4 personnel who report project information and proceedings to the top management, (14 x 4 = 56) hence the total population for the study comprised94 individuals who provided data concerning the study.

3.6 Sample Size and Sampling Techniques

Under this part, the researcher derived how sample size was obtained for the study; this was to show how the exact sample size used in data collection was obtained. It presents the simple random sampling that was used to select individuals with equal chance to participate. The methods of data collection included both primary and secondary.

3.6.1 Sample Size

A sample is a set of respondents or units selected from a larger population for the purposes of collecting information. Kothari (2006) defines sample as a collection of some parts of the population on the basis of which judgment is made small enough to suitable data collection and large enough to be a true representative of the population from which it had been selected. Sample size refers to a number of items to be selected from the universe to constitute a sample. The researcher used a total population size of 94 respondents who involved SUMAJKT contractor's management team, clients (public and private entities) and SUMAJKT Consultant's supervision team. These respondents were selected from Mbeya (Southern Zone headquarters) and from Njombe and Iringa branches respectively.

The researcher used Slovin's formula to obtain sample from a targeted population. Let, "N" be the total population size, "n" be the sample size researcher needs to obtain from a total population and "e" be the allowed probability of committing an error in selecting a sample from a population that was (0.05). The sample size "n" was obtained as follows (Slovin, 2003);

$n = N / (1 + Ne^2)$ is applied to get sample size for each respondent group.

$n = 21/(1+21 \times 0.05^2) = 20$ individuals

$n = 56/ (1+56 \times 0.05^2) = 49$ individuals

$n = 17/ (1+17 \times 0.05^2) = 16$ individuals

Table 3.1 Sampling frame

S/N	**Respondents**	**Population sample size**	**Sample size**
1	SUMAJKT contractor's management team	21	20
2	Clients (Public and Private entities)	56	49
3	SUMAJKT Consultant's supervision team	17	16
	Total sample size	**94**	**85**

Source: Researcher 2020

3.6.1.1 Simple Random Sampling

Kothari (2006) argues that, it is a probability sampling whereby each member of the population has an equal chance of being selected to form a sample. This sampling technique was applied by the researcher as it provided each individual equal chance of being selected and it avoided biased response.

3.7 Methods of Data Collection

In order to enable the researcher to attain research objectives to a sound level, both primary and secondary data related with this study was collected in order to know the views of respondents and documentation about project risk management for enhancing value for money.

3.7.1 Primary Data

In primary data collection, original data was collected by the researcher from the respondents, using questionnaire method.

3.7.1.1 Questionnaire

The researcher used structured questionnaire as a tool of gathering relevant data and information from the study. The researcher administered questionnaires online through e-mail due to the novel infectious virus (Covid_19). This style provided an opportunity for respondents to respond directly to the questions raised in the course of administration of the research tools.

3.7.2 Secondary Data

3.7.2.1 Documentary Review

This information was obtained from various sources, so the researcher used different documents in order to access accurate and reliable data. Documents utilized comprised of guidelines, directives, policies and regulations (regarding project risk management), books and journals (as literatures) and information from SUMAJKT Company Ltd websites. Further sources of documents were obtained through Google Scholar, Science Direct and Research Gate that related to the study. Lastly, all information observed by the researcher from SUMAJKT Company Ltd environment included to present valid information by the researcher.

3.8 Data Validity and Reliability

3.8.1 Reliability

Reliability refers to the extent to which the data collection yields consistency result between two measures of the same thing (Kothari 2009). This increased transparency of

the research findings. Reliability in the quantitative research is used to check the consistency of patterns as developed by other scholars.

The objective of formulating a reliable instrument was for scores on similar items to be related on internal consistency so as to contribute unique information. The structured questionnaire was applied to seek the information on the roles of project risk management for enhancing value for money in Tanzania. It involved a number of questions in a Likert measurement scale-type of five scales designed as strongly disagree, disagree, neither agree nor disagree, agree and strongly agree. The reliability of the measurement scales was measured using a Cronbach's alpha. Kothari, (2006) argues that Cronbach's alpha should vary between 0 and 1; therefore the value must be more than 0.7 or higher for satisfactory analysis to proceed.

3.8.2 Reliability test

For the reliability test of the data Cronbach's alpha was calculated using SPSS tool and the result is presented in Table 3.2 below. The alpha values for all constructs in the study are greater than the guideline of 0.70, so it can be concluded that the measurements applied for analyses were found to be of acceptable reliability.

Table 3.2: Reliability test

Variables	Cronbach's Alpha	N of Items
Project risk identification	.872	7
Risk assessment	.716	5
Risk treatment	.777	4
Risk monitoring	.707	7
Value for money	.766	4

Source: Researcher, 2020

Descriptive statistics of the level of agreement of the respondent's Perception towards different variables of the research

The researcher uses itemized rating scale to construct a range. This range was used to measure the perception level of the respondents towards each variable. The researcher applied the following formula to construct the range (Shrestha, 2015).

Itemized rating scale: *Max - Min*

5 = 5 -1

5 = 0.80

The mean of each individual item ranging from 1- 5 falls within the following interval:

Interval of Means

4.21 – 5.00 Strongly Disagree

3.41 – 4.20 Disagree

2.61 – 3.40 Neutral

1.81 – 2.60 Agree

1.00 – 1.80 Strongly Agree

3.8.3 Validity

Kothari (1990) defined validity as the most critical criterion and indicates the degree to which an instrument measures what it is supposed to measure. In other words, validity is the extent to which differences found with a measuring instrument reflect true differences among those being tested. This was ensured throughout the research basing the study on relevant literature and formulating methods of data collection that was used to collect the expected data. The study based on construct validity type as intended to get appropriateness of inferences that based on the basis of observations or measurements

that provide exact result of the study. This means the measure provided similar results to theoretical facts or results that showed correlations of data.

3.9 Data analysis

The researcher used quantitative data to conduct analysis for the study. The qualitative data from direct respondents was analyzed by using Statistical Package for Social Science (SPSS) software tool by applying a Multiple Linear Regression (MLR). The findings from the descriptive part of this study was organized and presented in the form of words, numbers and percentages by using charts and tables where necessary and applicable. Finally, results of the four specific research objectives was obtained through hypotheses testing, based on the significance level (p-value less or equal to 0.05, strength of relations, and direction).

The objective of the regression in this study was to identify the role of project risk management for enhancing value for money in Tanzania. The regression equation takes the following form:

$VM = \alpha 1 + \beta 1X1 + \beta 2X2 + \beta 3\ X3 + \beta 4X4 + e$

Where:

VM = Value for money

X1= risk identification

X2= Risk assessment

X3= Risk treatment

X4= Risk monitoring

$\alpha 1$ = the intercept term- constant which would be equal to the mean if all slope coefficients are 0.

E= error term

Therefore, the equation used was,

VM = 0.880 + 0.520X1 + 0.515X2 + 0.270X3 + 0.387X4

3.10 Ethical Considerations of the study

The researcher considered every requirement of research ethics to establish trust with the participants and to respect them independently, thus enabling them to make sound decisions on the data collection tools. Ethical measures were important in ensuring the validity and reliability of data collected. Other ethics considered were informant consent, confidentiality, privacy and dissemination of results by ensuring the information provided by respondents was used for research purposes only and the respondents possessed the right to withdraw from the study partially or completely.

This study took into consideration ethical rules and regulations on conducting research/dissertation as stipulated by the Open University of Tanzania.

CHAPTER FOUR

FINDINGS, RESULTS AND DISCUSSION

4.1 Introduction

This study aimed to identify the role of project risk management for enhancing value for money in Tanzania. This chapter offers data presentations, hypothesis testing and discusses the findings basing on three specific objectives that were to find out the influence of project risk identification on the project value for money, to examine the effect of risk assessment on project value for money, to assess the influence of risk response on project value for money; and to examine the influence of risk monitoring on project value for money.

Data was collected from 73 respondents who responded including both females and males obtained from SUMAJKT contractor's management team, clients (public and private entities) and SUMAJKT consultant's supervision team who were selected from Mbeya (Southern Zone headquarters) and Njombe and Iringa branches respectively. Respondents targeted by the researcher to provide information about the study were selected randomly and depending on their availability and willingness to provide information for the study.

4.2 Distribution of questionnaires

Table 4.1: Distribution of questionnaires

Response rate	**Frequency**	**Percentage**
Responded	73	85.9%
Not responded	12	14.1%
Total	85	100.0%

Source: Field Data, (2020)

Table 4.1 shows that, out of the total 85 questionnaires prepared to be administered by the researcher, only 73 questionnaires were responded to dully filled and returned hence used in analysis representing a response rate of 85.9% which is fair and representative.

4.3 Background information of the respondents

The demographic of this study included gender, level of education and work experience of respondents. This demographic information was used in making generalizations about the total of respondents used in this study.

Table 4.2: Demographic Information of respondents

Demographic Information		**Frequency**	**Percentage**
Gender	Males	56	76.7
	Females	17	23.3
	Total	**73**	**100.0**
Age (Years)	18 – 25	14	19.2
	25 – 50	37	50.7
	Above 50	22	30.1
	Total	**73**	**100.0**
Education	Certificate	6	8.2
	Diploma	15	20.5
	Bachelor Degree	30	41.1
	Master's Degree	18	24.6
	PhD	4	5.5
	Total	**73**	**100.0**
Respondent Category	SUMAJKT contractor's management team	16	21.9
	Client	44	60.3
	SUMAJKT Consultant's supervision team	13	17.8
	Total	**73**	**100.0**
Work Experience	1-5	18	24.7
	5-15	39	53.4
	Over 15	16	21.9
	Total	**73**	**100.0**

Source: Field Data, (2020)

4.3.1 Gender of the respondents

The study involved gender distribution of respondents in order to answer the questionnaires provided as shown on Table 4.2 above. This was done with an objective to find the differences in number of males and females who participated in this study. The result shows that female respondents were 23.3% and male respondents were 76.7%, hence the larger number of respondents was male.

4.3.2 Age of Respondents

In this study, this demographic factor was considered to be important to determine age of respondents who engaged in this study. Table 4.2 above shows that respondents aged between 18-25 years were 19.2%, respondents between 25-50 years were 50.7% and above 50 years were 30.1%. The findings show that majority of the respondents were aged between 25-50 years. From this study the findings imply that participant respondents in the study were matured.

4.3.3 Education level of the respondents

The level of education of respondents was an important factor for the study to see if it helped respondents to use their professional qualification to perform well in providing useful information for the study. The study revealed that majority of respondents at 41.1% was Bachelor's degree holders, followed by 28.6% who held a Master's degree. Diploma holders were 20.5%, Certificate holders were 8.2%), while Doctorate (PhD) holders were 5.5%. Therefore, the level of education for each group shows that majority of respondents were educated, hence the study obtained data from educated respondents.

4.3.4 Respondent category

Another demographic factor included in this study was to identify categories of respondents who participated in this study. It included SUMAJKT contractor's management team who were 21.9%, clients (public and private entities) who were 60.3%, while SUMAJKT Consultant's supervision team were 17.8%, all were selected from Mbeya (Southern Zone headquarters) and Njombe and Iringa branches respectively.

4.3.5 Work experience of respondents

The results show that, majority, 53.4% had work experience of about 5 to 15 years, 24.7% had work experience of about 1 to 5 years, while 21.9% had work experience spanning over 15 years.

4.4 Research Findings

Questionnaires of Likert-type scale questions (close-ended questions) comprised a series of statements used to collect data from 73 actual respondents. The statements comprising the 5-Lickert items expressed a belief, preference, judgment or opinion respondents agreed or disagreed with. The response variety for each statement was a linear scale indicating the extent respondents agreed or disagreed with each statement i.e., 1 = Strongly Disagree, 2 = Disagree, 3 = neither Neither Agree nor Disagree, 4 = Agree and 5 = Strongly Agree. The 5 Likert-type items were combined into a single composite variable during analysis in order to provide a quantitative measure of characters. The results as per each specific research objective of the study were presented.

The researcher used different techniques to analyze the data as follows:

- First descriptive statistics (frequency and percentage) to describe and analyze the demographic information of the study.
- Secondly, descriptive statistics (mean and standard deviation) to describe the opinion of the respondents on different variables.
- Next, Pearson's correlation to determine whether there is a relationship between the dependent and independent variables.
- Finally, the researcher conducted t - test to test each hypothesis.

4.5.1 The influence of risk identification on the project value for money

This section of the questionnaire tested the influence of project risk identification on the project value for money. A series of seven statements were presented to respondents and they were asked to rate their level of agreement with each statement. Table 4.3 indicates the mean and standard deviation for each item.

Table 4.3: Influence of risk identification on the project value for money

		N	Min	Max	Mean	Std. Deviation
1	Developing an organization project check risk help to select right project implementation measures	73	1	5	2.25	1.460
2	Experienced risks from past projects should be reviewed	73	1	5	2.33	1.395
3	Asking for professional experts simplifies identifying possible project risks	73	1	5	2.04	1.207
4	Practicing documentary review helps to learn from other related projects.	73	1	5	2.03	1.224
5	Studying SWOT analysis helps to identify project risks	73	1	5	2.05	.998
6	Estimating project expected quality should relate to cost and quantity	73	1	5	2.15	1.371
7	Performing assumptions analysis will help to identify possible risks that may weaken the corporate strategy	73	1	5	2.29	1.369
					2.16	1.289

Source: Researcher, 2020

According to the data illustrated above, respondents agree that developing an organization project check risk helps to select right project implementation measures with mean of 2.25, also experienced risks from past projects should be reviewed and this was agreed by 2.33mean respondents. Likewise, respondents agreed that asking for professional experts simplifies identifying possible project risks with mean of 2.33, while practicing documentary review helps to learn from other related projects, studying SWOT analysis helps to identify project risks, estimating project expected quality should relate to cost and quantity, performing assumptions analysis helps to identify

possible risks that may weaken the corporate strategy were supported by respondents of mean 2.03, 2.05, 2.15 and 2.29 respectively.

The study findings imply that when all these factors are taken into consideration it will show the influence of project risk identification on the project value for money by the mean of 2.16 and show a variation of 1.289.

4.5.2 The effect of risk assessment on project value for money

This objective tested on the influence of project risk identification on the project value for money. A series of five statements were presented to respondents where they were asked to rate their level of agreement with each statement. Table 4.4 indicates the mean and standard deviation for each item.

Table 4.4: Influence of project risk assessment on project value for money

		N	Min	Max	Mean	Std. Deviation
1	Identifying all potential project risks improves success of risk assessment	73	1	5	1.85	1.101
2	Calculating impacts of possible risks determines high project value for money	73	1	5	1.97	1.040
3	Practicing differentiation of controllable and uncontrollable risks increases value for money	73	1	5	2.33	1.292
4	Strengthening a project risk assessment management personnel ensures value for money	73	1	5	1.86	1.058
5	Documentation of the risk assessment results ensures value for money	73	1	5	1.53	.929
	Overall				1.91	

Source: Researcher, 2020

Research findings indicate that most of respondents agreed with mean of 1.85 that identifying all potential project risks improves success of risk assessment hence improving value for money; respondents of mean 1.97 agreed that calculating impacts of possible risks determines high project value for money. Likewise, the study identified that practicing differentiation of controllable and uncontrollable risks increases value for money, strengthening project risk assessment management personnel ensures value for money and documentation of the risk assessment results ensures value for money as

respondents agreed to these statements with mean values of 2.33, 1.86 and 1.53 respectively.

Therefore, the study findings indicate that risk assessment plays an important role in project risk management for enhancing value for money in Tanzania and it is shown through the overall mean of 1.91 from the study respondents.

4.5.3 The influence of risk response on project value for money

Average of means and standard deviations were used to test the influence of risk response on project value for money. The following are results from study respondents.

Table4.5: The influence of risk response on project value for money

		N	Min	Max	Mean	Std. Deviation
1	Risk avoidance eliminates project threats hence influences value for money	73	1	5	1.88	1.105
2	Risk acceptance helps to increase concentration to other risks hence enhances value for money	73	1	5	2.19	1.391
3	Risk transfer to the other party helps to increase value for money	73	1	5	1.86	.787
4	Risk mitigation reduces high risks occurrence hence influences value for money	73	1	5	1.92	1.140
	Overall				1.96	

Source: Researcher, 2020

The data in Table 4.5is on respondents' responses regarding the influence of risk response on project value for money. The study indicated that risk avoidance eliminates project threats hence influences value for money as shown by mean value of 1.88 and showing a deviation from others by 1.105; also risk acceptance helps to increase concentration to other risks hence enhances value for money as indicated by mean of 2.19. However, risk transfer to the other party helps to increase value for money and risk mitigation reduces high risks occurrence hence influences value for money as most respondents of mean values 1.86 and 1.92 respectively argued on this.

The study findings imply that having proper strategies on how to deal with the various risks, be they low or high, acceptable or unacceptable will have a positive impact on project risk management for enhancing value for money in Tanzania as the overall mean of 1.96 from total respondents of this study argued on it.

4.5.4 The influence of risk monitoring on project value for money

This section of the questionnaire tested the objective on the influence of risk monitoring on project value for money. A series of seven statements were presented to respondents where they were asked to rate their level of agreement with each statement. Table 4.6 indicates the mean and standard deviation for each item.

Table 4.6: Influence of risk monitoring on project value for money

		N	Min	Max	Mean	Std. Deviation
1	Risk management plan ensures achieving project value for money	73	1	5	1.89	.826
2	Risk registering simplifies monitoring project risk	73	1	5	1.99	1.047
3	Effective project risk response plan enhances value for money	73	1	5	1.48	.944
4	Strengthening communication during execution phase influences value for money	73	1	4	1.89	.826
5	Changing the project scope reduces project risk negative impacts	73	1	5	1.78	1.121
6	Project risk monitoring ensures follow-up of policies and procedures hence influence value for money	73	1	5	1.90	1.095
7	Technical performance measurement during project execution increases value for money	73	1	3	1.75	.521
	Overall				1.81	

Source: Researcher, 2020

According to the data illustrated below, respondents agree that risk management plan ensures achieving project value for money as shown by 1.89 of total respondents; risk registering simplifies monitoring project risk, effective project risk response plan enhances value for money, and strengthening communication during execution phase

influences value for money has been agreed with respondents by mean values of 1.99, 1.48, and 1.89 respectively. Furthermore, respondents agreed that changing the project scope reduces project risk negative impacts, project risk monitoring ensures follow-up of policies and procedures hence influence value for money, technical performance measurement during project execution increases value for money by mean values of 1.78, 1.90 and 1.75 respectively. The study findings imply that, risk monitoring has an influence on project value for money as shown by overall mean values 1.81.

4.5.5 Project Value for Money

Table 4.7: Project Value for Money

		N	Min	Max	Mean	Std. Deviation
1	SUMAJKT projects are always cost effective	73	1	5	2.71	1.514
2	Outputs from SUMAJKT projects are always of high quality	73	1	5	2.51	1.335
3	SUMAJKT projects are always environmentally friendly	73	1	5	2.37	1.318

Source: Researcher, 2020

The findings show that, majority of the respondents agreed that SUMAJKT projects are always cost effective by mean of 2.71 assuring that the projects end within planned cost, respondents agreed that outputs from SUMAJKT projects are always of high quality with mean response of 2.51. Further, majority of respondents agreed that SUMAJKT projects are always environmentally friendly with mean response of 2.37. This implies that the SUMAJKT projects are always cost effective and efficient to users, means achieves value for money.

4.6 Discussion of the findings

The influence of risk identification on the project value for money

The study found that, project risk management positively influences value for money, as it is an important and the first phase when the management should be careful to ensure all risks are detected. The study revealed that, developing an organization project check risk helps to select right project implementation measures. Experienced risks from past projects should be reviewed so that the project is protected. The respondents agreed that getting consultation from qualified personnel simplifies identifying possible project risks. The study found that, practicing documentary review helps to learn from other related projects where they succeeded and where failures were found, for mitigation procedures. Estimating project expected quality should relate to cost and quantity. Further, studying Strength, Weakness, Opportunity and Threats (SWOT) analysis helps to identify project risks, while estimating project expected quality should relate to cost and quantity of the project. Performing assumptions analysis helps to identify possible risks that may weaken the corporate strategic goals.

The findings agree with (Chileshe & Kikwasi, 2014) who studied on risk assessment and management practices (RAMP) within the Tanzania construction industry, showing implementation barriers and advocated solutions. The study found that a solution towards overcoming the barrier of ‘lack of information’, the most suggested option is through the adoption of alternative procurement strategies such as associating that is built on the co-operative attitude that encourages open communication among project parties. This can contribute to improved information sharing and enables project teams to a better exchange of knowledge in identifying project risks, and allows individuals to introduce their personal experiences among others towards those risks hence it needs

high competence. It recommended for usage of existing roadmaps such as those developed by European Construction Technology Platforms (ECTP), while ICT technologies uptake within construction organizations will provide value in identifying project risks.

On the other hand the study correlates with (Business, 2019) who said that engaging the supply market (consultants and contractors) at an early stage in a project, especially through tender briefings, can also be useful, particularly where the project is large-scale or complex. Some risks may require collaboration between the contractor and the design team for solutions that achieve optimum value. Delivery models that enable this, for example early contractor involvement (ECI) arrangements, may be more appropriate, especially where the risks are significant.

The influence of project risk assessment on project value for money

The study revealed that, project risk assessment positively affects achievement of value for money, due to dealing with studying and understanding all risks associated with a project so as to be managed. It is evident that, identifying all potential project risks improves success in risk assessment hence resulting to value for money achievement. It was revealed that calculating the impacts of possible risks determines the project value for money that will be obtained. Further, it was revealed that, practicing differentiation of controllable and uncontrollable risks increases value for money. Strengthening project risk assessment with qualified managerial personnel ensures value for money. This goes together with full documentation of the risk assessment results that at the end ensures value for money.

The study agrees with (Business, 2019) who found that assessing risks is about developing an understanding of the likelihood and impact of the risks identified on the risk register in order to support decisions about how risks should be treated within acceptable time limits for the project so as to reduce unnecessary increase in cost a factor that may limit achieving value for money. The stage requires that any circumstances that could potentially change the likelihood and impact of a risk occurring should be recorded, as these will be important when considering potential mitigation measures later.

The influence of risk response on project value for money

The study found that, project risk response phase when well implemented, positively affects project value for money as each kind of risk has its mitigation measures that need to be followed. The findings indicated that risk avoidance eliminates project threats that may harm the project; hence it positively influences value for money. Further, risk acceptance affects positively project value for money as it is helpful to increase concentration to other risks that may have high impact on the project. Furthermore, risk transfer to the other party is helpful in increasing project value for money. This is helpful when it allows the management to concentrate with other core corporate operations. It was revealed that, risk mitigation reduces high negative impact to disturb the project occurrence hence influences value for money. This implies that, the stage of risk response should be adhered with all intention by the management so as to ensure that the implementation procedures are in line to achieve value for money.

The study findings imply that having proper and dealing in details with strategies on how to deal with the various risks, low or high, acceptable or unacceptable will have a

positive impact on project risk management for enhancing value for money in Tanzania as the overall mean of 1.96 from total respondents of this study argued on it.

The study findings correlate with Vanita *et. al,* (2014) who conducted a study on "Assessment of Risk Response Strategies Practiced In Software Projects" and found that the process of responding to risk factors during a project's life cycle is a crucial aspect of risk management referred to as risk response strategies. The study research explored the status of risk response strategies applied in the software development projects in India. The study found that mitigation emerged as the most significant risk response strategy to achieve project targets, while acceptance, transfer; and avoidance of risk were mostly manifested in the forms of transparency in communication across stakeholders, careful study of the nature of risks and close coordination between project team, customers who are end-users of the service and top management.

Further, the study agrees with Ward & Chapman, (2003) who reported that efficient and effective project management requires appropriate management of all the sources and process of determining uncertainty would induce strategic plan of a wider set of responses for managing a particular source of uncertainty. For example, a risk identification process, focusing on potential threats, might highlight insufficiency or unavailability of a key resource, prompting possible responses such as re-scheduling activities; and obtaining additional resource. However, an exercise seeking to identify sources of uncertainty encourages a more open ended and neutral description of factors which facilitates a less constrained consideration of response options.

The influence of risk monitoring on project value for money

The study found that, risk monitoring positively affects project value for money; this is intensive treatment to all associated risks. The study found that, risk management plan ensures achieving project value for money as it provided implementation measures to be followed from the start up to end of the project. Risk registering simplifies monitoring project risk as each associated risk is recorded with its mitigation measure. Effective project risk response plan enhances value for money, while strengthening communication during project execution phase also positively influences value for money. Furthermore, the findings revealed that, changing the project scope reduces project risk negative impacts that may harm the project. Project risk monitoring ensures follow-up of policies and procedures that target to achieve value for money. Technical performance measurement during project execution in return results to achievement of value for money.

The study findings correlate with (Altoryman, 2014) who found that the monitoring and controlling stage involves observation of the project execution phase to identify difficulties and to take actions to correct problems. The monitoring and controlling stage includes the ongoing activities, in addition to monitoring the actual cost, time and effort expended against the project management plan (PMP). Further, it includes monitoring of the project performance baseline, addressing risks; and taking actions. Therefore, project monitoring phase was reported as a stage which consists of progress tracking, comparison between the actual and predicted outcome, impact analysis and adjustment making. All these steps must focus on achieving the project objective within the allocated time period and budget cost that is aiming at achieving value for money.

4.7 Regression Analysis for the study variables

Multiple regression analysis was conducted to identify the role of project risk management for enhancing value for money in Tanzania.

In this survey, four hypotheses were developed to identify the role of project risk management in enhancing value for money in Tanzania for the purposes of determining the extent to which the explanatory variables (project risk identification, risk assessment, risk treatment and risk monitoring) were examined on the dependent variable (the value of money), using multiple regressions. Regression analysis was employed after the study met the regression assumptions. The significance level of 0.05 with 95% confidence interval was used.

Table4.8: Regression Analysis for the study variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.745[a]	.556	.530	.46954

Source: Researcher, 2020

a. Predictors: (Constant), project risk identification, risk assessment, risk treatment, risk monitoring

b. Dependent: Value for money

(Note: $R^2 = 0.745$; Adj. $R^2 = 0.530$.; F-value = 21.267; Sig=0.000).

The regression model presents how much of the variance in the value of money is explained by the underlying project risk management elements. The predictor variables i.e. project risk identification, risk assessment, risk treatment and risk monitoring have accounted for 53.0 % of adjusted R square which indicates 53.0% of the project value

for money in Tanzania was explained by the variation of the four predictor variables whereas the remaining 47.0% are explained by other variables of this model.

The ANOVA table tells us whether the overall model results in a significantly good degree of the prediction of the outcome variable (Field, 2020). The proposed model was adequate as the p-value is less < 0.05 i.e. 0.000 (Table 4.8). This indicates that the overall model statistically showed significant relationship between project risk management in enhancing value for money in Tanzania.

Table4.9 : ANOVA

1 Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	18.755	4	4.689	21.267	.000[a]
Residual	14.992	68	.220		
Total	33.747	72			

Source: Researcher, 2020

a. Predictors: (Constant), project risk identification, risk assessment, risk treatment, risk monitoring
b. Dependent: Value for money

The objective of the regression in this study was to identify the role of project risk management for enhancing value for money in Tanzania. The regression equation takes the following form:

$VM = \alpha 1 + \beta 1X1 + \beta 2X2 + \beta 3\ X3 + \beta 4X4 + e$

Where:

VM = Value for money

X1= risk identification

X2= Risk assessment

X3= Risk treatment

X4= Risk monitoring

α1 = the intercept term- constant which would be equal to the mean if all slope coefficients are 0.

E= error term

Therefore, the equation is

VM = 0.880 + 0.520X1 + 0.515X2 + 0.270X3 + 0.387X4

Table4.10: Coefficients of project risk - enhancing value for money

Model	Unstandardize Coefficients		Standardized Coefficients			Co linearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	.880	.196		4.492	.000		
Project risk identification	.520	.111	1.038	4.673	.000	.133	7.547
Risk assessment	.515	.066	.489	7.803	.000	.648	1.542
Risk treatment	.270	.071	.243	3.810	.000	.350	2.856
Risk monitoring	.387	.136	.343	2.848	.006	.175	5.701

Source: Researcher, 2020

4.7 Correlation analysis: relationship between the study variables

In this study Pearson's correlation coefficient was used to determine whether there is significant relationship between project risk identification, risk assessment, risk treatment and risk monitoring with value for money. The following section presents the results of correlation on the relationship between independent variables and dependent variable which are linear and positive ranging from weak to moderate correlation coefficients.

Table 4.11: The relationship between independent variables and Value for money

		Value for money
Project risk identification	Pearson Correlation	.701**
	Sig. (2-tailed)	.000
	N	73
Risk assessment	Pearson Correlation	.281*
	Sig. (2-tailed)	.080
	N	73
Risk treatment	Pearson Correlation	.630**
	Sig. (2-tailed)	.000
	N	73
Risk monitoring	Pearson Correlation	.412**
	Sig. (2-tailed)	.000
	N	73
Value for money	Pearson Correlation	1
	Sig. (2-tailed)	0.00
	N	73

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Researcher, 2020

As it is clearly indicated in Table 4.11, a strong moderate positive relationship was found between project risk identification and value for money ($r = .701$, $p < .05$), risk treatment and value for money ($r = .630$, $p < .05$), and a weak to moderate positive relationship was found between risk assessment ($r = .281$, $p < 0.05$) and risk monitoring ($r = .412$, $p < 0.05$) which are statistically significant at 95% confidence level.

Although we cannot make direct conclusions about causality from a correlation, we can take the correlation coefficient a step further by squaring it. The correlation coefficient squared (known as the coefficient of determination, r2) is a measure of the amount of variability in one variable that is shared by the other. Therefore, based on the correlation coefficients result obtained from the table, project risk identification accounts for 49.1%, risk assessment for 7.9%, risk treatment for 39.7% and risk monitoring for 16.9%. This implies that, effective project risk management impacts on the value for money.

4.8 Hypothesis Testing

According to the research method, the Pearson correlation coefficient was used to test the hypotheses. There were four hypotheses that aimed to see if there is a relationship between the four independent variables of effective project risk management (project risk identification, risk assessment, risk treatment, risk monitoring) and value for money. The Sig result of each hypothesis test is less than 0.05 thus each test can be confirmed. The tests are summarized as follows:

H1: Effective project risk identification positively influences project value for money.

According to the results of the Pearson correlation test, the research hypothesis is confirmed at person correlation coefficient of 0.701. Therefore, we fail to reject the hypothesis since coefficient of correlation supports the hypothesis; r= 0.701, P < 0.05 and thus, there is a positive relationship between project risk identification and project value for money**.**

H2: Effective project risk assessment positively affects project value for money.

According to the results of the Pearson correlation test, the research hypothesis is confirmed at person correlation coefficient of 0.281. Therefore, we fail to reject the hypothesis since coefficient of correlation supports the hypothesis; r= 0.281, P < 0.05 and thus, effective project risk assessment positively affects project value for money.

H3: Effective project risk response positively influences project value for money.

According to the results of the Pearson correlation test, the research hypothesis is confirmed at person correlation coefficient of 0.630. Therefore, we fail to reject the hypothesis since coefficient of correlation supports the hypothesis; r= 0.630, P < 0.05 and thus, there is a positive relationship between effective project risk response and project value for money.

H4: Effective project risk monitoring positively influences project value for money.

According to the results of the Pearson correlation test, the research hypothesis is confirmed at person correlation coefficient of 0.412. Therefore, we fail to reject the

hypothesis since coefficient of correlation supports the hypothesis; $r = 0.412$, $P < 0.05$ and thus, effective project risk monitoring positively influences project value for money.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary, conclusion from the study; and recommendations based on the research findings and makes suggestions for further studies.

5.2 Summary of the major findings

The first objective of this study was to find out the influence of project risk identification on the project value for money. The findings indicated that developing an organization project check risk helps to select right project implementation measures, experienced risks from past projects should be reviewed so as to identify probability of occurrence in the current project. Asking for professional experts simplifies identifying possible project risks as they are experienced with different risks while practicing documentary review helps to learn from other related projects. The study revealed that, studying Strength, Weakness, Opportunity and Threats (SWOT) analysis helps to identify project risks, while estimating project expected quality should relate to cost and quantity of the project. Performing assumptions analysis will help to identify possible risks that may weaken achievement of goals and objectives.

This study examined the effect of risk assessment on project value for money. It was found that the measured factors contained great acceptability and consistency of measurement on identifying all potential project risks. To improve success of risk assessment, calculating impacts of possible risks is helpful to determine project value for money. Practicing differentiation of controllable and uncontrollable risks increases value

for money, strengthening project risk assessment management personnel ensures value for money; and doing documentation of the risk assessment results ensures value for money. The study found that, assessing the project risks plays an important role in delivering value for money.

Further, in assessing the influence of risk response on project value for money, the findings indicated that the factors show great acceptability and consistency of results that risk avoidance eliminates project threats hence influencing value for money, risk acceptance helps to increase effort to other risks hence enhances value for money, risk transfer to the other party helps to increase value for money; and risk mitigation reduces high risks occurrence hence influencing value for money. This risk response management phase found to be most important as it touches variety of options that help to achieve value for money.

Furthermore, the study revealed that, the influence of risk monitoring on project value for money is also highly significant as the tested factors found to have great acceptability and consistency of measurement that risk management plan ensures achieving project value for money, risk registering simplifies monitoring the risk, effective project risk response plan enhances value for money, strengthening communication during execution phase influences value for money, changing the project scope reduces project risk negative impacts, project risk monitoring ensures follow-up of policies and procedures hence influence value for money, while technical performance measurement during project execution increases value for money.

5.3 Conclusion

The study concluded that project risk identification plays a great role in enhancing project value for money as it includes important aspects that pertain to developing an

organization project check risk helps to select right project implementation measures. All the project risks that have been experienced from the past are reviewed so that they do not appear in the current project. Further the study revealed that consultation enhances value for money, while passing through the past projects simplifies addressing the risk, hence these factors were found to be significant in the achievement of value for money. Studying Strength, Weakness, Opportunity and Threats (SWOT) analysis helps an organization to determine its ability to solve certain risks, estimating project expected quality needs to relate with the incurred cost and quantity.

This study found that all risks associated with a project need to be assessed so as to reduce their impacts, practicing differentiation of all controllable and uncontrollable risks helps to strengthen the process where the management is active to document all risks that are prone to the project. Therefore, risk assessment plays a major role by ensuring that the project focuses on achieving all goals and objectives set.

Thereafter, conducting project risk response including risk avoidance eliminates project threats that may disturb the project hence influencing value for money, accepting risks helps to increase effort to deal with other risks hence enhances value for money as when an organization can’t afford to cure the risk it needs to prepare environments of transferring that risk to the other party so that to get more time to deal with the core corporate activities. Mitigating the risks not only puts a buyer at a good position not to be affected by the risk but also helps to reduce disputes that may disturb the project.

Risk monitoring was found to be significant in enhancing project value for money as it considers strategic management plans including risk registering that simplifies the process. Strengthening communication during execution phase is significant to the project as it may help also in changing the project scope hence reduce project risk

negative impacts. Project policies and procedures follow up has great influence to value for money, as it encourages technical performance measurement during project execution, hence value for money becomes inevitable.

5.4 Study Recommendations

First and foremost, the study found out that project risk management plays an important role in enhancing project value for money. Therefore, the study recommends that organizations implementing or planning to execute a project should take into consideration that, conducting project risk management is vital so as to achieve all the expected prior planned quality that presents the whole value for money. Much consideration is to be put in ensuring that all project risk management phases are taken into consideration by investing in the aid of qualified experts.

It should be remembered that, if there is little or limited implementation in policies and strategies in project risk identification, assessment, response and monitoring, value for money possibly will not be achieved hence losing the scope, running into unnecessary cost, a factor that presents wastage of entity or public funds.

As the study found that project risk management plays a great role in enhancing project value for money, there should be enough budget for employing of competent professionals who will be able to ensure that there is no any step that is lost so that the management phases will be integrated easily to achieve value for money that is assured when the principles of economy, efficiency and effectiveness are directly shown physically.

Further, the study recommends that all construction companies should ensure that all implemented projects meet if not exceed clients' expectations so that at the end it will be

able to ensure that the projects are always economical, effective and efficient. This will encourage building strong competitive advantage and corporate image and help the contractors to meet their corporate strategic objective results.

5.5 Suggestions for further studies

As the researcher's study was conducted in one SUMAJKT zone of Southern Tanzania, it reached a small segment of the population found in that geographical area. It is recommended further studies be conducted in larger geographical areas which contain a larger number of the population a factor that will help to get more conclusions for further studies. Further, this will encourage other researchers to come up with more valid results that will open the door for changes especially where organizations and companies were failing to manage project risks effectively. Therefore, the researcher expects that the communities and countries where further studies are conducted will be able to receive quality projects with high value for money, hence development will be inevitable.

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APPENDIXES

Appendix I: Questionnaire

[SUMAJKT contractor's management team, Clients (Public and Private Entities), SUMAJKT Consultant's supervision team].

My name is **Rwezaura, Edwin Aron** pursuing Master's Degree of Project Management. The aim of this questionnaire is to gather data required for the purpose of research study entitled **"Project Risk Management for Enhancing Value for Money in Tanzania"** which is part of requirement for the award of of Master's Degree of Project Management of the Open University of Tanzania, The Faculty of Business Management. The data you provide will assist the researcher on studying project risk management for enhancing value for money in Tanzania. The information given will be treated with high confidentiality. Please fill the questionnaire according to the instructions.

PART A: DEMOGRAPHIC INFORMATION

(*Please tick one box for each of the questions 1-6)*

1. Gender

Male [ ] Female [ ]

2. Please indicate your age category

18-25 years [ ] 25-50 years [ ] Over 50 years [ ]

3. What is the highest educational level that you have attained?

Certificate [ ] Diploma [ ] Bachelor's degree [ ] Master's degree [ ]

PhD [ ]

4. How long have you been working with your organization/company?

1-5 years [ ] 5-15 years [ ] Above 15 years [ ]

5. Indicate your category among these;
    a) SUMAJKT contractor's management team
    b) Client
    c) SUMAJKT Consultant's supervision team [ ]

6. What is your current position in the organization/company?

    ……

SECTION B:

I. PROJECT RISK IDENTIFICATION INFLUENCE PROJECT VALUE FOR MONEY.

[Please put a tick [√] in the box that corresponds most closely to how much you agree with each statement. There is no right or wrong answer (I am just interested in your opinion].

	Opinions	**Strongly Disagreed**	**Disagreed**	**Neither Agree nor Disagree**	**Agree**	**Strongly Agree**
1	Developing an organization project check risk help to select right project implementation measures					
2	Experienced risks from past projects should be reviewed					
3	Asking for professional experts simplifies identifying possible project risks					
4	Practicing documentary review helps to learn from other related projects.					
5	Studying SWOT analysis helps to identify project risks					
6	Estimating project expected quality should relate to cost and quantity					
7	Performing assumptions analysis will help to identify possible risks that may weaken the corporate strategy					

II. PROJECT RISK ASSESSMENT AFFECTS PROJECT VALUE FOR MONEY. [Please put a tick **[√]** in the box that corresponds most closely to how much you agree with each statement. There is no right or wrong answer (I am just interested in your opinion)].

	Opinions	**Strongly Disagreed**	**Disagreed**	**Neither Agree nor Disagree**	**Agree**	**Strongly Agree**
1	Identifying all potential project risks improve success of risk assessment					
2	Calculating impacts of possible risks determines high project value for money					
3	Practicing differentiation of controllable and uncontrollable risks increases value for money					
4	Strengthening a project risk assessment management personnel ensures value for money					
5	Documentation of the risk assessment results ensures value for money					

III. PROJECT RISK RESPONSE INFLUENCE PROJECT VALUE FOR MONEY.

[Please put a tick [√] in the box that corresponds most closely to how much you agree with each statement. There is no right or wrong answer (I am just interested in your opinion)].

	Opinions	**Strongly Disagreed**	**Disagreed**	**Neither Agree nor Disagree**	**Agree**	**Strongly Agree**
1	Risk avoidance eliminates project threats hence influences value for money					
2	Risk acceptance helps to increase effort to other risks hence enhances value for money					
3	Risk transfer to the other part help to increase value for money					
4	Risk mitigation reduces high risks occurrence hence influences value for money					

IV. PROJECT RISK MONITORING INFLUENCE PROJECT VALUE FOR MONEY.

[Please put a tick [√] in the box that corresponds most closely to how much you agree with each statement. There is no right or wrong answer (I am just interested in your opinion)].

	Opinions	**Strongly Disagreed**	**Disagreed**	**Neither Agree nor Disagree**	**Agree**	**Strongly Agree**
1	Risk management plan ensures achieving project value for money					
2	Risk registering simplifies monitoring the risk					
3	Effective project risk response plan ensures value for money					
4	Strengthening communication during execution phase influence value for money					
5	Changing the project scope reduces project risk negative impacts					
6	Project risk monitoring ensures follow-up of policies and procedures hence influence value for money					
7	Technical performance measurement during project execution increases value for money					

V. PROJECT VALUE FOR MONEY

	Opinions	**Strongly Disagree**	**Disagree**	**Neither Agree nor Disagree**	**agree**	**Strongly agree**
1	SUMAJKT projects are always cost effective					
2	Outputs from SUMAJKT projects are always of high quality					
3	SUMAJKT projects are always environmental friendly					

THANK YOU FOR YOUR PARTICIPATION!