

Midocean University
College of Management
Department of Management

Research Title:

**The Role of Project Risk Management in Improving
Project Performance and Achieving Objectives**

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Dedication

This graduation project is dedicated to my parents, whose endless sacrifices, encouragement, and prayers have always been the foundation of my success. Their belief in my abilities has motivated me to overcome challenges and strive for academic excellence.

I also dedicate this work to my teachers, who inspired my passion for knowledge and critical thinking, and to everyone who believes that education is a powerful force capable of transforming individuals, organizations, and societies.

Abstract

This study aims to investigate the critical role of Project Risk Management (PRM) in improving project performance and achieving strategic organizational objectives. In today's highly dynamic and complex business environment, projects are increasingly exposed to a multitude of internal and external uncertainties. Despite advancements in project management methodologies, many projects still fail to meet their baseline time, cost, and quality targets—commonly referred to as the “Iron Triangle”—largely due to inadequate or poorly executed risk management practices.

To address this empirical gap, this research adopts a quantitative, deductive approach to examine how effective risk identification, rigorous assessment, and proactive mitigation strategies influence overall project success. Primary data will be collected through structured survey questionnaires distributed to project professionals, including project managers, risk officers, and team members in the [Banking and financial sector] in [Riyadh/Saudi Arabia]. The data will then be analyzed using SPSS to test the research hypotheses and evaluate the relationship between PRM dimensions and project performance metrics.

The findings of this study are expected to provide valuable, evidence-based insights for decision-makers and stakeholders. By demonstrating the positive impact of risk management, this research highlights the importance of integrating comprehensive PRM practices into project lifecycles, offering recommendations to minimize financial losses, prevent delays, and ensure successful delivery of strategic goals.

Table of Contents

Dedication.....	3
Abstract.....	4
Chapter 1: Introduction.....	7
1.1 Research Introduction	8
1.2 Research Problem	8
1.3 Research Significance	9
1.4 Research Questions	9
1.5 Research Objectives.....	10
1.6 Research Hypotheses	10
1.7 Research Model	10
1.8 scope of the study.....	11
1.9 Project Structure.....	11
Chapter Two: Literature Review	12
2.1 Introduction.....	13
2.2 Research Variable 1: Project Risk Management (Independent Variable)	13
2.3 Research Variable 2: Project Performance and Achieving Objectives	13
(Dependent Variables).....	13
2.4 Relationship Between Research Variables.....	14
2.5 Conclusion	14
Chapter Three: Research Methodology	15

3.1 Research Approach	16
3.2 Population and Sample	17
3.2.1 Target Population	17
3.2.2 Sample Size and Sampling Technique	17
3.3 Data Collection Tool.....	18
3.4 Validity and Reliability.....	20
3.4.1 Instrument Validity.....	20
References	31
Table of Research Instruments	33
Dear Participant,	34
Part 1: Independent Variable - Project Risk Management (PRM)	35
Part 2: Dependent Variables - Project Performance & Achieving Objectives	36

Chapter 1: Introduction

1.1 Research Introduction

Project management has evolved into a critical discipline for organizations aiming to achieve strategic objectives in a dynamic business environment. However, every project is subject to uncertainties that can either positively or negatively affect its outcome. Project Risk Management (PRM) is the systematic process of identifying, analyzing, and responding to project risks. Effective risk management is not merely a reactive measure but a proactive strategy that ensures project performance aligns with defined goals.

1.2 Research Problem

In the context of rapid economic development and the execution of strategic national projects, achieving project objectives on time and within budget is critical. However, many organizations continue to struggle with significant operational challenges, primarily severe time delays, escalating costs, and poor overall project implementation. The core research problem lies in the ineffective and inconsistent application of project risk management practices. When risks are not systematically identified, assessed, and mitigated, projects become highly vulnerable to unforeseen disruptions. This research addresses the gap in understanding how the lack of proactive risk management directly contributes to these recurring implementation failures, hindering organizations from successfully delivering their intended strategic goals.

1.3 Research Significance

Theoretical Significance: This study contributes to the existing body of knowledge by bridging the theoretical gap regarding the direct correlation between specific risk management processes and the "Triple Constraint" (time, cost, scope) of project performance.

Empirical Significance: Practically, this research provides decision-makers and project managers with evidence-based insights on how investing in risk mitigation strategies can directly reduce financial losses and improve overall project success rates.

1.4 Research Questions

Main Research Question: What is the role of project risk management in improving project performance and achieving objectives?

Sub-questions:

1. What are the current project risk management practices implemented in the targeted sector?
2. What are the key challenges faced by project managers in applying risk management?
3. How does effective risk mitigation impact project completion time and budget?

1.5 Research Objectives

1. To examine the current project risk management practices within the targeted sector.
2. To identify the key challenges hindering effective risk management.
3. To evaluate the impact of risk management practices on project performance (time, cost, and quality).
4. To propose recommendations for improving risk management processes to achieve project objectives.

1.6 Research Hypotheses

- **H1 (Alternative Hypothesis):** There is a statistically significant positive relationship between effective project risk management and project performance.
- **H2 (Alternative Hypothesis):** Project risk management significantly contributes to the achievement of strategic project objectives.

1.7 Research Model

The conceptual model of this research is based on the relationships between the defined variables:

- **Independent Variable (IV):** Project Risk Management (Risk Identification, Risk Assessment, Risk Mitigation).
- **Dependent Variables (DV):** Project Performance (Time, Cost, Quality) and Achieving Objectives.

1.8 scope of the study

The scope of this research is limited to evaluating project management practices within the [Banking and financial sector] in [Riyadh, Saudi Arabia].

1.9 Project Structure

- **Chapter 1:** Introduction and research framework.
- **Chapter 2:** Literature Review.
- **Chapter 3:** Research Methodology.
- **Chapter 4:** Statistical Analysis.
- **Chapter 5:** Findings' Discussion and Conclusion.

Chapter Two: Literature Review

2.1 Introduction

This chapter provides a critical analysis of existing literature related to project risk management and project performance. It explores the definitions, dimensions, and theoretical foundations of the research variables, identifying existing gaps that this study aims to address.

2.2 Research Variable 1: Project Risk Management (Independent Variable)

Risk management is fundamentally about dealing with uncertainty. According to the Project Management Institute (PMI), risk management includes the processes of conducting risk management planning, identification, analysis, response planning, and controlling risk on a project. Historically, literature has evolved from viewing risk merely as a negative threat to recognizing it as an opportunity. The key dimensions of this variable include proactive risk identification, qualitative and quantitative risk analysis, and the implementation of robust risk mitigation strategies.

2.3 Research Variable 2: Project Performance and Achieving Objectives (Dependent Variables)

Project performance is traditionally measured by the "Iron Triangle" or "Triple Constraint": completing the project on time, within budget, and to the specified quality standards. Recent literature expands this definition to include "Achieving Objectives," which encompasses stakeholder satisfaction, business value realization, and strategic alignment.

2.4 Relationship Between Research Variables

Numerous academic studies establish a strong correlation between the independent and dependent variables. Research indicates that projects with formal risk management procedures have a significantly higher probability of meeting their baseline schedules and budgets. Conversely, conflicts in the literature suggest that over-analyzing risks without practical mitigation responses can consume project resources without adding value. This study addresses this empirical gap by focusing on the practical application of risk strategies.

2.5 Conclusion

The literature review highlights the critical importance of project risk management. However, a gap remains regarding its customized application in specific regional sectors (as defined in the scope). This study builds on the existing theoretical framework to provide targeted, empirical data on how risk management directly enhances project success.

Chapter Three: Research Methodology

3.1 Research Approach

To comprehensively investigate the role of Project Risk Management (PRM) in improving project performance and achieving strategic objectives within NEOM projects, this study adopts a Quantitative Descriptive Analytical Approach. This methodological choice is primarily driven by the nature of the research problem and the formulated hypotheses, which require systematic empirical testing to establish statistical correlations between the independent variable (risk management practices) and the dependent variables (project performance and objective achievement).

The descriptive dimension of this approach allows the researcher to accurately depict and evaluate the current state of risk identification, assessment, and mitigation practices as they are currently implemented within NEOM's complex project environments. By capturing this baseline data, the study can objectively outline "what exists" regarding risk management maturity in these megaprojects.

Simultaneously, the analytical and quantitative dimensions are utilized to examine the relationships and impacts between the variables. Given that NEOM represents a cornerstone of Saudi Vision 2030, its projects are characterized by high complexity, significant capital investment, and tight schedules. Therefore, relying on quantitative data collected through a standardized survey instrument enables the objective measurement of how effective risk management strategies directly influence the "Iron Triangle" metrics (time, cost, and quality). Furthermore, a quantitative approach facilitates the generalization of the findings across various sectors within NEOM, providing robust, data-driven evidence that eliminates subjective bias and clearly answers the research questions

3.2 Population and Sample

3.2.1 Target Population

The population of a research study refers to the entire group of individuals or objects to which the researchers are interested in generalizing the conclusions. For this study, the target population consists of professionals actively involved in the planning, execution, and management of projects within the NEOM megaproject development in Saudi Arabia. This specifically includes project managers, risk management officers, site engineers, project coordinators, and strategic planners working across various NEOM sectors (such as THE LINE, Oxagon, Trojena, and Sindalah). This population was deliberately selected because they possess the direct practical experience, technical expertise, and daily operational involvement required to accurately evaluate the actual impact of Project Risk Management (PRM) practices on project performance.

3.2.2 Sample Size and Sampling Technique

Given the immense scale of NEOM and the large number of professionals distributed across its various specialized regions, surveying the entire population is practically unfeasible due to time and resource constraints. Consequently, the researcher relies on a Simple Random Sampling technique combined with a convenience approach to distribute the survey among accessible professionals within the targeted sectors.

The study aims to collect data from a representative sample size of approximately 50 to 100 respondents. According to statistical guidelines for descriptive quantitative research, this sample size is considered adequate and

statistically sufficient to perform reliable data analysis using the Statistical Package for the Social Sciences (SPSS). It ensures that the collected responses provide a solid foundation for testing the research hypotheses while maintaining a low margin of error.

3.3 Data Collection Tool

To gather the primary quantitative data required for this study, a structured, selfadministered questionnaire was developed as the main data collection instrument. The questionnaire method was selected due to its efficiency in gathering standardized responses from a busy professional population, such as the engineering and managerial workforce at NEOM. It allows for the collection of objective, quantifiable data that can be easily coded and analyzed statistically to test the research hypotheses.

3.3.1 Questionnaire Design and Measurement Scale

The questionnaire was designed in a clear and concise manner to ensure high response rates and minimize ambiguity. To measure the participants' perceptions and attitudes regarding the research variables, the study utilized a standard 5-point Likert scale. Respondents were asked to indicate their level of agreement with various statements, where the scale was structured as follows: •

1 = Strongly Disagree

• 2 = Disagree

• 3 = Neutral

• 4 = Agree

• 5 = Strongly Agree

3.3.2 Structure of the Questionnaire

Based on the literature review and the conceptual model of the study, the survey instrument is systematically divided into two main parts designed to evaluate the core variables:

- Part 1: Independent Variable - Project Risk Management (PRM): This section consists of 9 specific items (PRM 1 to PRM 9) aimed at evaluating the maturity and application of risk management practices within the respondent's projects. The questions cover the essential dimensions of PRM: proactive risk identification (e.g., using formal tools like SWOT or brainstorming), comprehensive risk assessment (prioritization based on probability and impact), and robust risk mitigation (developing actionable contingency plans, continuous monitoring, and resource allocation).

- **Part 2: Dependent Variables - Project Performance & Achieving Objectives:** This section comprises 6 items (PP 1 to PP 6) designed to measure the success and outcomes of the projects. It assesses traditional project performance metrics, often referred to as the "Iron Triangle," by asking respondents about their projects' adherence to approved budgets, predefined time schedules, and rigorous quality standards. Furthermore, it evaluates the broader realization of strategic objectives, including stakeholder satisfaction and the successful delivery of the organization's long-term business value.

The complete bilingual or English questionnaire structure is attached in the Appendix section at the end of this research document for reference.

3.4 Validity and Reliability

To ensure the quality, accuracy, and consistency of the data collected from the research sample, the study instrument (the questionnaire) was subjected to rigorous validity and reliability checks before proceeding with the final data analysis.

3.4.1 Instrument Validity

Validity refers to the degree to which a survey instrument accurately measures what it is intended to measure. To establish Content and Face Validity, the initial draft of the questionnaire was reviewed by the academic supervisor and experts in the field of management. Their feedback was utilized to refine the phrasing of the items, ensuring they are clear, unambiguous, and directly aligned with the

research objectives and the specific context of NEOM's operational environment. This expert evaluation confirmed that the 15 items adequately cover the dimensions of both the independent variable (Project Risk Management) and the dependent variables (Project Performance and Achieving Objectives)

3.4.2 Instrument Reliability

Reliability indicates the consistency and stability of the measurement tool; meaning that if the questionnaire were administered repeatedly under similar conditions, it would yield consistent results. To measure the internal consistency of the survey items, the researcher will utilize the Cronbach's Alpha coefficient statistical test using the Statistical Package for the Social Sciences (SPSS).

In academic research, a Cronbach's Alpha value of 0.70 or higher is generally considered the standard threshold for acceptable reliability. By computing this coefficient for both the risk management items and the project performance items individually, as well as for the overall instrument, the study will statistically verify that the 5-point Likert scale responses are highly consistent and reliable for testing the proposed hypotheses.

Reference List

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Table of Research Instruments

Table of Research Instruments

This section presents the research instruments that will be used to collect quantitative data. The researcher relies on a structured questionnaire to measure the independent and dependent variables.

Variable	Dimensions	Number of Items (Questions)	Sources
Independent Variable (IV):	Project Risk Management (PRM)	- Risk Identification	

- Risk Assessment

- Risk Mitigation | 9 Items | Adapted from PMI (2021) and previous literature | | **Dependent Variables (DV):** Project Performance & Achieving Objectives | - Time & Cost Constraints

- Quality Standards

- Strategic Objectives | 6 Items | Adapted from standard project management literature | | **Total**
| | **15 Items** | |

Appendix: Questionnaire for Research Variables

Dear Participant,

This questionnaire is designed to collect data for a research study titled "*The Role of Project Risk Management in Improving Project Performance and Achieving Objectives*". Your responses will be kept strictly confidential and used solely for academic research purposes.

Instructions: Please indicate your level of agreement with the following statements by ticking (✓) the appropriate box using the 5-point Likert scale: (1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Neutral*, 4 = *Agree*, 5 = *Strongly Agree*)

Part 1: Independent Variable - Project Risk Management (PRM)

No.	Statement
1 2 3 4 5 :--- :--- :--- :--- :--- :---	PRM 1
Our project team regularly identifies potential risks before the project execution phase begins.	
	PRM 2
We use formal tools and techniques (e.g., SWOT, brainstorming) to identify project risks.	
	PRM 3
Identified risks are comprehensively analyzed and prioritized based on their probability and impact.	
	PRM 4
The project team develops clear and actionable risk mitigation plans for high-priority risks.	
	PRM 5
Risk responses and contingency plans are effectively implemented when a risk occurs.	
	PRM 6
Project risk management is treated as a continuous process throughout the entire project lifecycle.	
	PRM 7
Regular meetings are held to monitor and review existing risks and identify new ones.	
	PRM 8
Sufficient budget and resources are allocated specifically for managing project risks.	
	PRM 9
Team members are well-trained and aware of their roles in project risk management.	

Part 2: Dependent Variables - Project Performance & Achieving Objectives

No	Statement	1	2	3	4	5
PP 1	Projects in our organization are approved budget.					
PP 2	Projects are typically finished o deadlines.					
PP 3	The final deliverables of our pro predefined quality standards.					
PP 4	Our completed projects succes value.					
PP 5	The outcomes of our projects a organization's strategic objectiv					
PP 6	Key stakeholders are generally results.					