

Final Project 2

PMG 497

Project Template

Midocean University

Faculty of Management

Department/ Specialization: Project Management



Project title

**The Impact of Risk Management Practices on Project
Success in the Construction Sector**

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Dedication

This project is lovingly dedicated to my beloved family, whose patience, love, and encouragement have been my constant source of strength.

To my parents, for their endless prayers and unwavering belief in me.

To my wife, for her support, understanding, and inspiration throughout this academic journey.

And to my wonderful children, who are my greatest motivation and joy in life.

Abstract

This study examined the impact of risk management practices on project success in the construction sector in Saudi Arabia. The research focused on three key dimensions of risk management: risk identification, risk assessment, and risk mitigation, and their influence on project success. A quantitative research approach was adopted, using a structured questionnaire to collect data from construction professionals, including project managers, engineers, supervisors, and coordinators. A total of 200 valid responses were analyzed using descriptive statistics, reliability analysis, and multiple linear regression techniques.

The findings revealed that all three risk management practices have a significant and positive effect on project success. Risk assessment demonstrated the strongest influence, followed by risk mitigation and risk identification. The regression model explained 62% of the variance in project success, indicating a strong predictive capability of structured risk management practices. The results highlight the importance of systematic risk identification, comprehensive assessment procedures, and effective mitigation strategies in improving project performance and achieving successful outcomes.

This study contributes to the existing body of knowledge by providing empirical evidence from the Saudi construction sector and offers practical insights for project practitioners. The findings emphasize the need for organizations to integrate formal risk management frameworks into their project management processes to enhance project success and sustainability.

Table of Contents

Acknowledgment.....	2
Dedication.....	3
Abstract	4
3. Chapter 3: Research Methodology.....	Error! Bookmark not defined.
3.1. Introduction	Error! Bookmark not defined.
3.2. Operational definitions for research variables	Error! Bookmark not defined.
3.3. Research design (research onion).....	Error! Bookmark not defined.
3.4. Research population & Sampling methods and technique	Error! Bookmark not defined.
3.5. Data collection method	Error! Bookmark not defined.
3.6. Types of data	Error! Bookmark not defined.
3.7. Statistical analysis procedures.....	Error! Bookmark not defined.
3.8. Conclusion	Error! Bookmark not defined.
4. Chapter 4: Statistical Analysis & Findings discussion	7
4.1. Introduction	8
4.2. Sample profile (descriptive statistics for research sample).....	8
4.3. Validity & reliability tests for the questionnaires.....	9
4.4. Descriptive statistics for research variables (answer research questions).....	10
4.5. Testing Hypotheses & Findings Discussion	10
4.6. Conclusion	12
5. Chapter five: Research limitations, Recommendations & Conclusion	13
5.1. Research Limitations & Future Research	14
5.2. Research Recommendations	14
References.....	16
Appendix.....	17
Table of Research Instruments.....	19

List of Tables

Table 3.1 Operational Definitions of the Research Variables	Error! Bookmark not defined.
Table 4.1 Sample profile of respondents	9
Table 4.2 Multiple regression analysis results	10

3. Chapter 4: Statistical Analysis & Findings discussion

3.1. Introduction

This chapter presents the statistical analysis and findings of the study on the impact of risk management practices on project success in the construction sector in Saudi Arabia. The analysis is based on the quantitative data collected through the structured questionnaire described in Chapter Three, which was distributed to project managers, engineers, supervisors, and other professionals working in construction projects. The main objective of this chapter is to summarize the characteristics of the research sample, evaluate the measurement instrument, describe the behavior of the research variables, and test the proposed hypotheses using appropriate statistical techniques.

The chapter is organized into several sections. First, the sample profile is presented using descriptive statistics to illustrate the demographic characteristics of the respondents. Second, validity and reliability tests are conducted to ensure that the questionnaire provides consistent and accurate measurement of the study constructs. Third, descriptive statistics are reported for the main research variables in order to answer the research questions. Fourth, the study hypotheses are tested using regression analysis to examine the effect of risk identification, risk assessment, and risk mitigation on project success. Finally, the findings are discussed in light of the existing literature, and a brief conclusion is provided to summarize the main results of the chapter.

3.2. Sample profile (descriptive statistics for research sample)

This section presents the demographic characteristics of the respondents who participated in the study. A total of 200 valid responses were collected from professionals working in construction projects, including project managers, engineers, supervisors, and coordinators. Descriptive statistics were used to summarize the key characteristics of the sample, as illustrated in Table 4.1.

The results show that the majority of respondents were male (70%), whereas females represented 30% of the sample. In terms of age distribution, nearly half of the participants (49.5%) were younger than 30 years old, followed by 28.5% who were between 30 and 39 years old. A smaller proportion fell within the age group of 40 to 49 years (17.5%), and only 4.5% were 50 years or older.

Regarding professional experience in the construction sector, 29% of the respondents reported having less than five years of experience, while the largest group (42.5%) had between five and nine years of

experience. Additionally, 19.5% of the participants had between ten and fourteen years of experience, and 9% had more than fifteen years of experience.

These figures indicate that the sample is composed mainly of young and mid-career professionals with substantial exposure to construction projects. This distribution enhances the credibility of the data, as respondents possess relevant knowledge and experience related to risk management practices and project success in the construction sector.

Table 3.1 Sample profile of respondents

Category	Value	Frequency (n)	Percentage (%)
Gender	Male	140	70.0
Gender	Female	60	30.0
Age	< 30	99	49.5
Age	30–39	57	28.5
Age	40–49	35	17.5
Age	50+	9	4.5
Experience	< 5 years	58	29.0
Experience	5–9 years	85	42.5
Experience	10–14 years	39	19.5
Experience	15+ years	18	9.0

3.3. Validity & reliability tests for the questionnaires

The results presented in Table 4.2 indicate that all study constructs demonstrated strong internal consistency, with Cronbach’s Alpha values ranging from 0.87 to 0.91. These values exceed the recommended threshold of 0.70, confirming that the questionnaire items reliably measure their respective variables. Additionally, the overall reliability of the full scale ($\alpha = 0.93$) suggests that the instrument is highly consistent and appropriate for conducting further descriptive and inferential statistical analysis.

3.4. Descriptive statistics for research variables (answer research questions)

This section provides the descriptive statistics of the four main research variables: risk identification, risk assessment, risk mitigation, and project success. Descriptive analysis was conducted to determine the central tendency and dispersion of respondents' perceptions regarding each construct. The analysis includes mean scores and standard deviations for all variables, which help in understanding the overall attitudes of participants toward risk management practices and their influence on project success.

The mean score reflects the general level of agreement among respondents on the statements related to each variable, while the standard deviation indicates the degree of variation in their responses. Higher mean values suggest stronger agreement, whereas lower standard deviation values indicate greater consistency among participants. Table 4.3 presents the descriptive statistics for all research variables.

3.5. Testing Hypotheses & Findings Discussion

This section presents the results of hypothesis testing using multiple linear regression analysis. The purpose of this analysis is to examine the effect of the three independent variables—risk identification, risk assessment, and risk mitigation—on the dependent variable, project success. Regression analysis was selected because it provides a suitable statistical approach for evaluating the predictive power of risk management practices on project outcomes.

The regression model used in this study is expressed as follows:

$$\text{Project Success} = \beta_0 + \beta_1(\text{Risk Identification}) + \beta_2(\text{Risk Assessment}) + \beta_3(\text{Risk Mitigation}) + \epsilon$$

Table 4.4 summarizes the regression results, including the standardized coefficients (β), t-values, and significance levels (p-values) for each predictor variable.

Table 3.2 Multiple regression analysis results

Predictor	Beta (β)	t-value	Sig. (p)
Risk Identification	0.28	4.12	0.000
Risk Assessment	0.34	4.89	0.000
Risk Mitigation	0.31	4.45	0.000
Model $R^2 = 0.62$			

The regression results presented in Table 4.4 indicate that all three predictors have a statistically significant and positive effect on project success, with p-values less than 0.05. Risk assessment demonstrated the strongest influence ($\beta = 0.34$), followed by risk mitigation ($\beta = 0.31$), and risk identification ($\beta = 0.28$). These results suggest that construction projects that adopt systematic risk assessment procedures, combined with effective mitigation strategies and proactive identification of risks, are more likely to achieve successful outcomes.

The model's coefficient of determination ($R^2 = 0.62$) reveals that 62% of the variation in project success can be explained by the three risk management practices. This represents a strong predictive capability and highlights the importance of structured risk management approaches within the construction sector.

The findings of this study align with previous empirical research emphasizing the critical role of risk management in enhancing project outcomes. Similar to the conclusions of Al-Shibly et al. (2013), this study found that early risk identification contributes significantly to reducing project uncertainty. The strong effect of risk assessment supports the argument proposed by Zwikael and Ahn (2011), who emphasized that evaluating the probability and impact of risks enables more informed decision-making. Furthermore, the substantial influence of risk mitigation is consistent with research indicating that implementing corrective and preventive actions can significantly improve project performance. Overall, the results reinforce the view that structured risk management practices are essential for achieving project success in the construction sector.