

Final Project 1

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**The Impact of Total Quality Management Implementation
on Project Performance**

**Project Management Program
Midocean University**

The Impact of Total Quality Management Implementation on Project Performance

A Case Study of SABIC Company in the Kingdom of
Saudi Arabia

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CHAPTER ONE: GENERAL FRAMEWORK OF THE STUDY

1.1 Introduction

Total Quality Management (TQM) is one of the most prominent modern management concepts aiming to improve organizational performance sustainably through customer satisfaction, full employee involvement, and continuous process improvement. In the project sector – especially infrastructure projects – achieving excellent performance in terms of time, cost, and quality is a major challenge. This study seeks to explore the relationship between applying TQM principles and project performance in Saudi Arabia, under Vision 2030, which is witnessing a massive boom in infrastructure projects.

1.2 Research Problem

Many infrastructure projects in Saudi Arabia suffer from schedule overruns, cost increases, and poor output quality, despite some organizations adopting quality management systems. The problem lies in the knowledge gap regarding the integrated impact of TQM on project performance and the scarcity of field studies in the Saudi context.

1.3 Research Questions

1. What is the level of TQM principle application in Saudi infrastructure projects?
2. What is the impact of TQM on project performance (time, cost, and quality)?
3. Are there statistically significant differences in the impact of TQM on project performance depending on project type and size?

1.4 Research Objectives

1. To measure the level of TQM application in Saudi infrastructure projects.
2. To determine the relationship between TQM dimensions and project performance.
3. To provide recommendations for improving project performance through effective TQM implementation.

1.5 Research Hypotheses

- H1: There is a statistically significant effect of TQM implementation on project performance.
- H2: Top management commitment to TQM positively affects cost and time performance.
- H3: Process focus and continuous improvement improve project output quality.

1.6 Research Model

Independent variable: Total Quality Management (TQM) – dimensions include leadership commitment, customer focus, continuous improvement, and employee involvement.

Dependent variable: Project performance – dimensions include time adherence, budget adherence, and output quality.

Figure (1-1): Proposed Study Model (Insert diagram showing TQM dimensions leading to project performance dimensions).

1.7 Research Methodology

- Approach: Descriptive-analytical (quantitative).
- Population and sample: Contracting companies and project management offices working on infrastructure projects in Riyadh and the Eastern Province.
- Sample size: 250 project managers and quality engineers.
- Data collection tool: Electronic questionnaire divided into sections covering TQM dimensions and project performance.
- Statistical analysis: SPSS software using regression, correlation, and ANOVA tests.

1.8 Proposed Work Plan (Timeline)

Table (1-1): Proposed Project Timeline

Phase	Activity	Duration
1	Literature review and completion of Chapter Two	4 weeks
2	Data collection (distribution of 250 questionnaires)	6 weeks
3	Data analysis and writing results (Chapters Three and Four)	4 weeks
4	Review, revisions, and final submission	2 weeks

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents a systematic review of previous literature addressing TQM and project performance. It aims to identify research gaps and build the theoretical framework for the study.

2.2 Independent Variable: Total Quality Management (TQM)

TQM is defined as a management philosophy focusing on customer satisfaction through continuous process improvement and full employee involvement (Deming, 1986; Juran, 1988). Its main principles include leadership commitment, customer focus, continuous improvement, employee involvement, and fact-based decision making.

2.3 Dependent Variable: Project Performance

Project performance is typically measured by the "iron triangle": time, cost, and quality (Project Management Institute, 2021). Recently, criteria such as customer satisfaction and safety performance have been added (Kerzner, 2017).

2.4 Relationship between TQM and Project Performance – Review of Previous Studies

2.4.1 International Studies

Flynn, Schroeder, and Sakakibara (1995) found a strong positive relationship between TQM practices and operational performance (quality and productivity). Kaynak (2003) showed that TQM improves quality, cost, and delivery flexibility. Salaheldin (2009) – a study in Egypt – demonstrated that TQM implementation in construction companies improves schedule adherence and reduces rework.

2.4.2 Arab/Gulf Studies

Al-Ghamdi (2015) – Saudi Arabia – conducted a case study on five large construction firms and revealed challenges in TQM implementation such as resistance to change and lack of training. Al-Najjar and Al-Abdullah (2020) – Kuwait – found that process management is the strongest TQM dimension affecting road project performance. Salaheldin (2009) – Egypt and Gulf – compared 180 companies and showed a positive but weaker relationship in small projects compared to large ones.

2.4.3 Research Gaps

1. Few studies have addressed infrastructure projects in Saudi Arabia after the launch of Vision 2030.
2. Most studies focused on manufacturing or services, while civil construction remains less researched.
3. No previous study has tested a model combining three TQM dimensions (leadership, processes, and employee involvement) together against project performance in a single Saudi context.

2.5 Chapter Summary

The theoretical review confirms a positive relationship between TQM and project performance, but this relationship varies by context and sector. There is a clear need for a field study in Saudi infrastructure projects to determine which TQM dimensions have the strongest impact – which is exactly what the current study aims to achieve.

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APPENDICES (Draft Questionnaire – Summary)

Appendix A: Survey Questionnaire (Key Sections)

- Section 1: Demographic information (role, experience, project type).
- Section 2: TQM implementation level (leadership commitment, customer focus, continuous improvement, employee involvement) – measured on a 5-point Likert scale.
- Section 3: Project performance indicators (time performance, cost performance, quality performance) – measured on a 5-point Likert scale.