



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم



MONA MAGHRABY



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم



شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلم



MONA MAGHRABY



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغييرات



يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



MONA MAGHRABY



AIN SHAMS UNIVERSITY
FACULTY OF ENGINEERING
Structural Engineering Department

Model for Performance Management in Construction Project

A Thesis submitted in partial fulfillment of the requirements of the degree of
Master Science in Civil Engineering
(Construction Projects management)

By

Mohamed Mohamed Assem Mohamed El-Sadek Mohamed Abdelkarim
Bachelor Degree in Civil Engineering
(Structural Department)

Faculty of Engineering, Ain Shams University, year 2004

Supervised By

Prof. Dr. Ibrahim Abdel Rashid
Professor- Construction Projects management
Faculty of Engineering, Ain Shams University

Prof. Dr. Ibrahim Mahdi
Professor and Chairman of Projects Management Department
Faculty of Engineering, Future University

Cairo - (2021)



AIN SHAMS UNIVERSITY

FACULTY OF ENGINEERING

Structural Engineering Department

Model for Performance Management in Construction Project

A Thesis submitted in partial fulfilment of the requirements of the degree of

Master Science. in Civil Engineering

(Construction Projects management)

By

Mohamed Mohamed Assem Mohamed El-Sadek Mohamed Abdelkarim

.Bachelor Degree in Civil Engineering

(Structural Department)

Faculty of Engineering, Ain Shams University, year 2004

Supervision

Name and Affiliation

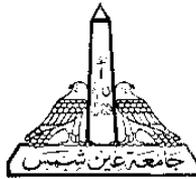
Signature

Prof. Dr. Ibrahim Abdel Rashid

Professor- Construction Projects Management
Ain Shams University

Prof. Dr. Ibrahim Mahmoud Mahdi

Professor- Projects management Department
Future University



AIN SHAMS UNIVERSITY

FACULTY OF ENGINEERING

Structural Engineering Department

Model for Performance Management in Construction Project

A Thesis submitted in partial fulfilment of the requirements of the degree of

Master Science. in Civil Engineering

(Construction Projects management)

By

Mohamed Mohamed Assem Mohamed El-Sadek Mohamed Abdelkarim

.Bachelor Degree in Civil Engineering

(Structural Department)

Faculty of Engineering, Ain Shams University, year 2004

Examiners' Committee

Name and Affiliation

Signature

Prof. Dr. Tarek Mahmoud Attia

Housing and Building National Research Centre

Prof. Dr. Khaled Ahmed Hamdi

Professor- Construction Projects Management
Ain Shams University

Prof. Dr. Ibrahim Abdel Rashid

Professor- Construction Projects Management
Ain Shams University

Prof. Dr. Ibrahim Mahmoud Mahdi

Professor- Projects management Department
Future University

Date: 10 August 2021

Statement

This thesis is submitted as a partial fulfillment of the requirements of the degree of Master Science in Civil Engineering, Faculty of Engineering, Ain shams University.

The author carried out the work included in this thesis, and no part of it has been submitted for a degree or a qualification at any other scientific entity.

Student name

Signature

.....

Date: 10 August 2021

Researcher Data

Name : Mohamed Mohamed Assem Mohamed ElSadek Mohamed Abdelkarim

Date of birth : 21/11/1981

Place of birth: Cairo

Last academic degree: High Structural Engineering Diploma

Field of specialization: Structural Engineering

University issued the degree: Ain Shams University

Date of issued degree: 2009

Current job: Quality Manager

Thesis Summary

Introduction

The concept of managing the performance has been started since the beginning of the nineteenth century by mainly measuring the performance either by using account standards and /or return on investment calculations (ROI). Gradually the non-financial measures have directly effect on the cost had been adopted and used as quantity of non-conformity and ratio of defects. By the late of 1970s, the concept of managing the performance was developed and the focus had been shifted to manage what was measured as a result of slow economic growth and high competition between the companies. This was considered as an approach and introduction for a new different management technique as (Total Quality Management, ISO "quality management system" standard, Malcolm Baldrige model...etc.).

In the manufacturing industry and during the last 50 years, these models have played a great role in enhancing business and operation goals. The percentage of waste / loss was improved and became 12% or less. The historical successes of applying different quality performance management models in manufacturing industry have encouraged construction companies to apply such models in managing projects' performance to control and improve four main areas, namely revenue improvement, cost reduction, process cycle-time improvement and increased customer satisfaction.

Problem statement

However, after more than three decades, the role of quality performance management is still limited; and low significant enhancement in the construction projects' performance compared to manufacturing industry. The waste in the construction industry was reached up to 40% average. This problem urged a lot of researchers to conduct plenty of significant studies to identify the causes for this limited role of quality performance management systems in construction industry.

The difference in properties between manufacturing and construction industries is considered one of the main causes for such limitation. This resulted in identifying barriers such as, using more paperwork, increased project cost, the need for training, delayed work progress, difficulty of measuring, less flexibility in operation, etc. Therefore, all construction companies aiming at implementing quality management models/systems should extend their effort firstly to develop an adapted performance management model, consider the difference between the properties in both the manufacturing and construction fields and mitigate the effect of the barriers to apply quality performance management in construction projects.

The Objective of the Research

The purpose of this research is to provide a proactive performance management model that can be used to manage critical success factors (required operations conditions) to apply quality performance management systems in construction projects; and to be part of the main/general performance management model of construction companies. The proposed proactive management model is based on identifying the critical success factors / required operation conditions to apply quality performance management system in construction projects, the barriers stand against the required operations conditions, control actions to the barriers' causes and key performance indicators in order to measure / detect early the quality level of the implementation of the performance management system.

The Methodology of the research

Comprehensive literature review was carried out to collect relevant information. Semi structured interviews and focus group techniques were implemented for analyzing the collected data using different tools as root causes and brainstorming. As result of the study, a proposed proactive model was developed and evaluated by selected construction professionals used quantitative analysis tool “Failure Mode and Effect Analysis”. The thesis is divided into five chapters.

- **Chapter 1:** It includes the introduction, problem statement, research objectives and methodology.
- **Chapter 2:** A comprehensive literature review was carried out for significant number of studies that had been conducted on main topics related to this thesis “Developing Performance Management Model in Construction Projects”.
- **Chapter 3:** The design and formulation method of the new proposed performance management model based on the data gathered through the literature review, verified and classified the collected data throughout the conducted interviews, set control actions; key performance indicators and evaluation scale to quantify the control actions throughout conducted workshop.
- **Chapters 4:** Assessment of the proposed performance management model, identification of the critical barriers and discussion of the obtained results.
- **Chapter 5:** It presents brief summary and conclusions with recommendations for future research.

Key Words: Performance management, Performance management system framework, Quality performance management system, Critical successes factors, Barriers, Key performance indicators, Risk priority number.