

**UNIVERSITI TEKNOLOGI MARA**

**QUALITY MANAGEMENT  
IMPACTING OPERATIONAL  
PERFORMANCE AT SEREMBAN  
REGIONAL OPERATION, PETRONAS**

**HAZLE BIN IBRAHIM  
MOHD MUNIR BIN AHMAD**

Dissertation submitted in partial fulfillment of the  
requirements for the degree of

**Master in Business Administration**

**Arshad Ayub Graduate Business School**

December 2016

## LETTER OF TRANSMITTAL

Hazle Bin Ibrahim  
Mohd Munir Bin Ahmad  
Master of Business Administration  
Faculty of Business Management  
Universiti Teknologi MARA  
Kedah

December 2016

Head of Program  
Master in Business Administration  
Faculty of Business Management  
Universiti Teknologi MARA  
Kedah

Dear Sir,

SUBMISSION OF APPLIED BUSINESS RESEARCH REPORT (ABR796)

QUALITY MANAGEMENT IMPACTING OPERATIONAL PERFORMANCE AT  
SEREMBAN REGIONAL OPERATION, PETRONAS

With reference to the above matter, we hereby enclosed the Applied Research (ABR) paper entitled "Quality Management Impacting Operational Performance at Seremban Regional Operation, PETRONAS" to fulfill the requirement as needed by the Faculty of Business Management, Universiti Teknologi MARA.

Thank you.

Yours faithfully,

.....  
Hazle Bin Ibrahim  
2014505867

.....  
Mohd Munir Bin Ahmad  
2014584827

## **ABSTRACT**

The purpose of this study is to state the problem, identify and analyze causes affecting operational performance at PETRONAS Seremban Regional Operation (RO). This study also aims to identify the strengths, weaknesses, opportunities and threats that contribute to the operational performance related to quality management in maintenance practices. Several quality management and business tools were used to analyze the problem experienced at Seremban RO. The tools include Root Cause Failure Analysis, Fault Tree Analysis, Event and Causal diagram, Strength, Weakness, Opportunity & Threat (SWOT) analysis, TOWS matrix and decision analysis by using Quadrant Analysis for Decision Making – Effort and Impact Matrix. At the end of this study, strategies that will enhance operational performance at Seremban RO are discussed. The result indicates three elements of quality management contributed to operational performance experienced by the organization. The three elements are employee training and involvement, management involvement and support and work process. Recommended strategies include assigning a number of junior staff to senior staff for coaching, direct engagement with management and establish service level agreement with nearby regional operations. Another suggested strategy is long-term. This consists of enhancement capability training matrix through online system; establish online scorecard for management monitoring and involvement and re-engineering work process for maintenance activities. Since the management support is the driving force behind the implementation of quality practices, it can be said that management support affects operational performance outcome through employee training and employee involvement.

# TABLE OF CONTENTS

	Page
<b>ABSTRACT</b>	iv
<b>ACKNOWLEDGEMENT</b>	v
<b>TABLE OF CONTENTS</b>	vi
<b>LIST OF TABLES</b>	x
<b>LIST OF FIGURES</b>	xi
<b>LIST OF ABBREVIATION</b>	xiii
<b>CHAPTER ONE: INTRODUCTION</b>	
1.0 Introduction	1
1.1 Background of the Industry	2
1.1.1 Oil and Gas in Malaysia	2
1.1.2 Petroleum Nasional Berhad (PETRONAS) and PETRONAS Gas Berhad (PGB)	3
1.1.3 Seremban Regional Operation	4
1.2 Problem Statement	8
1.3 Research Questions	10
1.4 Research Objectives	10
1.5 Scope of the Study	11
1.6 Significance of the Study	11
1.6.1 To the Researchers	11
1.6.2 To the Seremban Regional Operation	12
1.6.3 To the University	12
1.7 Limitations of the Study	12
1.8 Definition of Terms	12
1.8.1 Operational Performance	13
1.8.2 Employee Training and Involvement	13

1.8.3 Management Involvement and Support	13
1.8.4 Work Process Flow and Orientation	14
1.9 Chapter Summary	14

## **CHAPTER TWO: LITERATURE REVIEW**

2.0 Quality Management	15
2.1 Quality Management in Maintenance Practices	15
2.2 Quality Management and Operational Performance	18

## **CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY**

3.0 Introduction	21
3.1 Research Method	21
3.2 Data Collection	23
3.2.1 Primary Data	23
3.2.2 Secondary Data	23
3.3 Business Strategy Analysis Tools	24
3.3.1 Root Cause Failure Analysis (RCFA)	24
3.3.2 Fault Tree Analysis (FTA)	25
3.3.3 Event and Causal Factor (E&C) Diagram	27
3.3.4 S.W.O.T Analysis	28
3.3.5 TOWS Matrix	29
3.3.6 Quadrant Analysis for Decision Making - Effort and Impact Matrix	30
3.4 Chapter Summary	32

## **CHAPTER FOUR: FINDINGS, ANALYSIS AND DISCUSSIONS**

4.0 Introduction	33
4.1 Discussion on Research Question One (Q1)	33
4.1.1 Root Cause Failure Analysis (RCFA)	34
4.1.1.1 Effect & Causal (E&C) Diagram Analysis	34
4.1.1.2 Fault Tree Analysis	37