Developing the Education System in the Sultanate of Oman through Implementing Total Quality Management: the Ministry of Education Central Headquarters - a Case Study

by

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Abstract

This study seeks to identify the issues that need addressing in the Ministry of Education in Oman as it seeks to expand and improve its education system. The aims of this are (1) to highlight the issues that need addressing in the Ministry of Education, (2) to present a background survey on different approaches of managing change (3) to survey the literature about TQM in order to discover the underlying philosophy of TQM, its gurus, its development and its tools and techniques, (4) to review the experience of TQM in education, its success in this field and to also identify limitations of TQM, (5) to examine the feasibility of applying TQM in the MOE and (6) to design a model for implementing TQM in MOE .

Firstly, an overview of the context of the study is presented. The major internal and external challenges that face the Ministry of Education and call for change are highlighted. This is followed by a description of the Sultanate of Oman, its location, climate, economy, employment, population and how all these affect education and calls for change. After that, education in Oman, its development and structures are examined. To ascertain an understanding of the key issues in relation to the working of the MOE a preliminary study was carried with four focus groups of MOE's central headquarter directors, regional directors, head teachers and teachers. The sample consists of 40 persons, 10 from each group. From this study the following issues were identified; centralization, weak communication, insufficient management support, weak teamwork motivation and faulty planning.

Secondly, seven different approaches for managing change are discussed; the problem-solving approach, the learning organization, the three-step model, the action research model, the reengineering, Fullan's theories of managing change, and Total Quality Management. It is argued that six of these approaches were highlighted as effective approaches in dealing with change but do not fully match the development needs of the Ministry of Education in Oman. However, TQM seems to provide a possible approach for developing the Ministry of Education Central Headquarters in Oman to be able to deal with the internal and external challenges, to solve the existing issues highlighted by the pilot study and fulfil the aspiration of the country and its demands. Drawing on the data from both the pilot study and the literature on TQM, a draft of TQM Model for the MOE was generated. The proposed TQM Tree Model consists of seven TQM principles that suit the MOE; commitment toward TQM, focus on stakeholders, involvement and empowerment,

continuous improvement, training and education, tools and techniques, and rewards. The views of different groups -top management, internal stakeholders and external stakeholders- on the proposed model of TQM and views on issues related to implementation -were also- gathered.

The third part of the thesis reports on the methodology; the data collection and analysis; and the conclusions and recommendations. This stage of the research used a combination of quantitative and qualitative methods. It used a closed item questionnaire to gain a broad feel for the acceptability of the TQM ideas and to establish a broad baseline. In addition, open-ended questions in the questionnaire and semi-structured interviews were used for the same purpose and to provide additional information regarding the TQM implementation; the possible obstacles and facilitating factors. The analysis showed that TQM Tree Model was seen to be a possible approach by top management and stakeholders to develop the Ministry of Education in Oman. The final stage of the study was to gather the views of those in executive positions in the MOE regarding the proposed model of TQM and to identify issues to be considered in an implementation framework. Thus semi-structured interviews were conducted with six of the key personnel in the MOE. Some issues arising from the analysis of all the data collected including final set of the interviews with the executives led to the modification of the proposed TQM Tree Model. Three supportive factors were added as roots for the model; teamwork, budget and communication. In the light of the results from this study, the TQM principles and implementation in education, an implementation framework for the TQM Tree Model in the MOE in Oman is proposed. This implementation framework consists of five stages: the decision, the preparation, the implementation, the evaluation and rewards, and the continuous improvement. Finally the thesis concludes with some recommendations for education development in the light of TQM, some recommendations for the MOE regarding the TQM and some recommendations for further studies.

Dedication

This thesis is dedicated to the soul of my father who encouraged me to be the best I can be, to have high expectations and to fight hard for what I believe. He always provided me with best opportunities in life. I feel he is always with me supporting and guiding.

My Mother was a great tower of strength during our time in the United Kingdom as she has ever been. Her practical and prayerful support, her confidence in me, taking care of the kids, keeping the house together, comforting me and most important loving me enabled me to cope with the changes and stresses that accompany life and study in another country. I could not have done it without her. She shares in my success and I will be forever grateful for her loving support. This thesis is as much hers as mine.

My mother-in-law has always believed and continues to believe in me. Her encouragement is always uplifting and her faith in me never fails.

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Table of Contents

Title page i
Abstract ii
Dedication iv
Acknowledgement v
Table of Content vi
List of Tables vi
List of Figures xii

Part One- The Context 1

Overview 2
Research questions 3
The Aims and Objectives of the study 3
The Present Study's Contribution to Knowledge 3
The Methodology 3
The Outline of the Thesis 4

Chapter One – Introduction 6
1.1 Introduction 6
1.2 External Challenges 6
1.3 Internal Challenges 11
1.4 The Importance of Management of Change in Education 14
1.5 Conclusion 16

Chapter Two-The Sultanate of Oman 17
2.1 Introduction 17
2.2 Location 17
2.3 Climate 18
2.4 Economy 18
2.5 Economic Planning 20
2.6 Employment and the Distribution of Wealth 22
2.7 Population 24
2.8 Language and Religion 26
2.9 History 27
2.10 International Relations 27
2.11 Key Issues for Education 27
2.12 Historical Background of education 28
2.13 Conclusion 34

Chapter Three- Education in Oman 36
3.1 Introduction 36
3.2 The Structure of the Educational System 36
3.3 General Education 39
3.4 Basic Education 39
3.5 Private Education 41
3.6 Special Education 41
3.7 Illiteracy Eradication and Adult Education system 41

3.8 Pre-school Education....41
3.9 Higher Education....41
3.10 Colleges of Education....42
3.11 Existing Issues in the MOE: the Results of the Pilot Study....42
3.12 Conclusion....49

Part Two-The Literature Review....50

Chapter Four- Change Management....51
4.1 Introduction....51
4.2 Concept and Requirements of Change Management....51
4.3 Importance of Change Management....54
4.4 Change Management in Educational Administration....54
4.5 Change Management Theories....55
4.6 Conclusion....73

Chapter Five- Total Quality Management....75
5.1 Introduction....75
5.2 The Concept of Quality....75
5.3 The Development of TQM....79
5.4 Total Quality Management (TQM)....82
5.5 TQM Definition....83
5.6 The Gurus of TQM....84
5.7 TQM principles....94
5.8 TQM Tools and Techniques....95
5.9 Quality Management Systems and Improvement Awards....98
5.10 Conclusion....101

Chapter Six- Total Quality Management in Education……..……103
6.1 Introduction....103
6.2 TQM in Education Context....103
6.3 Benefits of TQM for Education....105
6.4 Concerns about TQM in Education....106
6.5 Case Studies of TQM Implementation in Educational Organizations....108
6.6 Lessons from Case Studies....115
6.7 Proposed TQM Tree Model for MOE in Oman....117
6.8 Conclusion....123

Part Three-The Methodology, the Data Analysis and the Recommendations....125

Chapter Seven- Methodology....126
7.1 Introduction....126
7.2 The Literature Review....127
7.3 The pilot Study....130
7.4 The Main Study....132
7.5 The questionnaire....132
7.6 The Interview....136
7.7 Validity and Reliability....140
7.8 Statistical Analysis....140

7.9 Key Personnel Interviews....141
7.10 Conclusion....141

Chapter Eight- Quantitative Data....143
8.1 Introduction....143
8.2 The Questionnaire....143
8.3 Full Sample: combined results....145
8.4 Top management....152
8.5 Internal Stakeholders....158
8.6 External Stakeholders....163
8.7 Differences between the Three Groups:....168
8.8 Summary of data analysis of the questionnaire....171
8.9 Conclusion....175

Chapter Nine- Qualitative Data Analysis....176
9.1 Introduction....176
9.2 Stages of Qualitative Data Analysis....177
9.3 The Open-ended Questions....178
9.4 The Interview....186
9.5 Issues arising from qualitative data....196
9.6 Conclusion....197

Chapter Ten- The Key Personnel Interview....199
10.1 Introduction....199
10.2 The Interviewees' View toward the TQM Tree Model....200
10.3 TQM Suitability for Application in the MOE in Oman....201
10.4 The Facilitating Factors that Might Help in the Implementation of TQM Tree Model....202
10.5 The Obstacles that Might Face the Implementation of the TQM Tree Model....203
10.6 Further Comments and Future Trends....204
10.7 Summary of the quantitative, qualitative and the key personnel interviews results….....205
10.8 Conclusion....207

Chapter Eleven- TQM Tree Model, its Implementation Framework and Recommendations....209
11.1 Introduction....209
11.2 TQM Tree Model....210
11.3 TQM Tree Model Implementation Framework....213
11.4 Recommendations....225
11.5 Conclusion....227

References....229
List of References....230

Appendices....239
Appendix I-The Pilot Study Letter (English)....240
Appendix II-The Pilot Study Letter (Arabic)....241
Appendix III-The pilot Study Interview (English)....242
Appendix IV-The Pilot Study Interview (Arabic)....243
Appendix V-The Main Study Letter (English)....244
Appendix VI-The Main Study Letter (Arabic)....245

Appendix VII-The Main Study Questionnaire (English) 246
Appendix VIII-The Main Study Questionnaire (Arabic).....250
Appendix IX-The Main Study Interview (English) 254
Appendix X-The Main study Interview (Arabic).....255
Appendix XI-The Mean Rank Table.....256
Appendix XII-The Key Personnel Interview (English) 260
Appendix XIII-The Key Personnel Interview (Arabic).....262

List of Tables

Table 2.1 Main Indication of the National Economy's Performance During the First Long Term Development Strategy (1970-1995) 23
Table 2.2 Percentage Distribution of the Sultanate's Population by Region 24
Table 2.3 Percentage Distribution of Population by Age Group and Sex 26
Table 2.4 the Development of the Numbers of Schools, Teachers and Students in the Sultanate of Oman.....30

Table 3.1 The Interviewees Aspirations.....43
Table 3.2 Achieving the Aspirations.....44
Table 3.3 Barriers to change 46
Table 3.4 Major Problems in the MOE.....47

Table 5.1 Deming's 14 points 86
Table 5.2 Deming's Action Plan.....88
Table 5.3 Juran's Triology 89
Table 5.4 Juran's method 90
Table 5.5 Crosby's Method.....93

Table 7.1 The Population and Sample of the Questionnaire.....135

Table 8.1 Commitment toward TQM.....145
Table 8.2 Focus On Stakeholders 146
Table 8.3 Continuous Improvement.....147
Table 8.4 Involvement and Empowerment 149
Table 8.5 Training and Education.....150
Table 8.6 Tools and Techniques 151
Table 8.7 Rewards.....152
Table 8.8 Top Management (Commitment toward TQM) 153
Table 8.9 Top management (Focus On Stakeholders).....154
Table 8.10 Top Management (Continuous Improvement).....154
Table 8.11 Top Management (Involvement and Empowerment) 155
Table 8.12 Top Management (Training and Education).....156
Table 8.13 Top Management (Tools and Techniques) 157
Table 8.14 Top Management (Reward) 158
Table 8.15 Internal Stakeholders (Commitment toward TQM).....159
Table 8.16 Internal Stakeholders (Focus on Stakeholders).....160
Table 8.17 Internal Stakeholders (Continuous Improvement).....160
Table 8.18 Internal Stakeholders (Involvement and Empowerment) 161
Table 8.19 Internal Stakeholders (Training and Education) 162
Table 8.20 Internal Stakeholders (Tools and Techniques).....162
Table 8.21 Internal Stakeholders (Rewards).....163
Table 8.22 External Stakeholders (Commitment toward TQM).....164
Table 8.23 External Stakeholders (Focus on Stakeholders).....164
Table 8.24 External Stakeholders (Continuous Improvement).....165
Table 8.25 External Stakeholders (Involvement and Empowerment) 166
Table 8.26 External Stakeholders (Training and Education).....167
Table 8.27 External Stakeholders (Tools and Techniques) 167
Table 8.28 External Stakeholders (Rewards).....168

Table 8.29 Differences Regarding Commitment toward TQM 169
Table 8.30 Differences Regard Focus on Stakeholders 169
Table 8.31 Differences Regard Continuous Improvement 169
Table 8.32 Differences regard Involvement and Empowerment 170
Table 8.33 Differences regard Training and Education.....170
Table 8.34 Differences Regard Tools and Techniques 170
Table 8.35 Differences regard Rewards.....171

Table 9.1 Commitment toward TQM.....179
Table 9.2 Focus on Stakeholders 181
Table 9.3 Involvement and Empowerment 182
Table 9.4 Continuous Improvement.....183
Table 9.5 Training and Education.....184
Table 9.6 Tools and Techniques 185
Table 9.7 Rewards.....185
Table 9.8 Interview Analysis 187
Table 9.9 Overcome Obstacles 191
Table 9.10 Facilitating Factors.....193
Table 9.11 Aspirations 195

Table 11.1 MOE Quality Policy 215

List of Figures

Figure 1.1 The relationship between education development and population growth Finance 12
Figure 2.1 Average per Capita GDP(1970-1995) 24
Figure 2.2 Percentage distribution of the sultanate's population by region 25
Figure 2.3 Percentage Distribution of Population by Age Group and Sex 26
Figure 3.1 The MOE Framework.....38
Figure 4.1 The 4-step Problem Solving Model.....58
Figure 5.1 Advantages of Quality 77
Figure 5.2 The Development Stages of TQM.....80
Figure 6.1 The Proposed TQM Tree Model 123
Figure 7.1 The Research Process Stages.....127
Figure 9.1 Steps of Analysing the Qualitative Data.....177
Figure 10.1 Influence on TQM Tree Model 207
Figure 11.1 TQM Tree Model.....213
Figure 11.2 The Proposed TQM Directorate 218
Figure 11.3 TQM Tree Model Implementation Framework.....224

Part One
The Context

Overview

Although this thesis analyses and reflects on thinking and practice in the field of change management, it is in a sense, as much about shifts in my own thinking about the concept of Change Management and the Organizational Development generally and the concept of Total Quality Management (TQM) and its implementation in the Ministry of Education Central Headquarters in the Sultanate of Oman specifically. This thesis generally arose from a sense of dissatisfaction with current trends in practice and a desire to change 'the good to the great'. It began with a sense of unease with the Ministry of Education Central Headquarters which has been struggling to keep up with the pace of external and internal changes and challenges. The journey of development which began with the focus on quantitative issues to expand rapidly and dramatically public education but the focus now has moved towards qualitative issues in which the key focus is on achieving and sustaining high quality education. However, an alteration in thinking does not solely occur through a sense of dissatisfaction or unease with a particular context or change in a theoretical approach. It also requires a survey of the current state of problems facing the MOE Central Headquarters, a review of change management theories and an exploration of the TQM implementation feasibility in the MOE Central Headquarters.

The structure of the educational decision-making and administrative hierarchy of The Ministry of Education (MOE) in Oman is composed of three authority levels. The first one is located in the Ministry Central Headquarters in the capital city, Muscat, and it forms the top level of the hierarchical administration and the second is the mid-level administrative structure represented by the eleven Educational Directorates General in the nine educational regions. Finally, the executive administrative units are represented by the schools.

Education in Oman in general and the MOE in particular is facing dramatic changes as it struggles to meet the requirements of the current century. These circumstances compel the MOE to adopt a new management approach that will enable it to deal with these challenges and pressures. Accordingly the overall aim of this research is to explore the use of TQM as the means of developing the MOE. This overall aim is achieved through answering the following questions:

Research questions

1. What are the areas of work in the Ministry of Education in the Sultanate of Oman that need to be developed?
2. How do stakeholders view the principles of Total Quality Management as a tool for ongoing development?
3. What model of Total Quality Management could be applied to the Ministry of Education in the Sultanate of Oman?

The Aims and Objectives of the study

The general purpose of this study is to examine the extent to which the TQM is applicable to the MOE in Oman. This overall aim is brought to fulfilment by several separate objectives:

1. To highlight the issues that need addressing in the Ministry of Education.
2. To present a background survey on different approaches of managing change.
3. To survey the literature about TQM in order to discover the underlying philosophy of TQM, its gurus, its development and its tools and techniques.
4. To review the experience of TQM in education, its success in this field and to also identify limitations of TQM.
5. To examine the feasibility of applying TQM in the MOE.
6. To design a model for implementing TQM in the MOE.

The Present Study's Contribution to Knowledge

The present study contributes to existing knowledge by testing the possibility of implementing TQM in Omani education in general and in MOE Central Headquarters in particular. To the writer's best knowledge, there has been no previous effort made in the MOE. Thus the study will be a useful body of knowledge for educators in Oman and should lay a foundation for further research. Moreover, it presents a proposed model for implementing TQM in MOE with an explanation of its implementation framework.

The Methodology

The present study used various methods to achieve its aims. It used both quantitative and qualitative approaches. Firstly, semi-structured interviews were used in the pilot study to collect data regarding the issues that need addressing in the Ministry of Education (discussed in chapter three). Then to examine views on the proposed model of TQM and

the feasibility of implementing this in the MOE a questionnaire with closed items and open-ended questions; and semi structured interviews were used. From these data the obstacles that might face the implementation and the facilitating factors that might help in supporting the implementation were identified. Finally, key personnel interviews were conducted to gather the views of the decision makers as to the possibilities of the TQM Tree Model and gain some more information for the implementation framework.

The Outline of the Thesis

This thesis consists of three parts; the context, the literature review, and the methodology, data analysis and conclusions. These three parts include eleven chapters, in addition to this overview.

Part one, the context, aims to provide a background of the thesis and its environment. The context section consists of the overview, chapter one, chapter two and chapter three. The overview is a preface to the whole thesis. It provides information about the problem of the thesis, the research questions, the aims and objectives, the contribution of this thesis to knowledge, the methodology and the outline of the thesis. Chapter one, 'The Introduction' deals with the external and internal challenges that face the MOE which are creating a need for the MOE to change. Chapter two, 'The Sultanate of Oman' is about the Sultanate of Oman, its location, climate, economy, population, language and religion, history and international relations. This chapter concludes with a discussion of some issues that arose from the chapter that concern education. Chapter three, 'Education in Oman' investigates the historical background and the development of education in Oman. It draws out the structure of the educational system. It also discusses improvements in the educational system and the transition from General Education to Basic Education. It concludes with a discussion of the results from the pilot study which highlight the existing issues in the Ministry of Education that need to be improved.

The second part, the literature review, is divided into three chapters: chapter four; 'Change Management', chapter five; 'TQM' and chapter six 'TQM in Education'. Chapter four analyses a range of change management theories. It discusses some change management approaches such as the learning organization, problem solving, reengineering approaches, Fullan's theory of Change and Total Quality Management. It concludes with a brief discussion exploring the suitability of TQM for the MOE development. Chapter five is about Total Quality Management. It discusses the concept of 'quality' and the development of TQM. It analyses the philosophy of three of the TQM gurus and their associated

methods. It also points out the tools and techniques of TQM planning and improvement. Chapter six discusses TQM in an education context. It highlights the benefits and concerns of TQM in education. It also discusses the implementation of TQM in six educational organizations and the lessons learned from them. The chapter concludes with a proposed model of TQM for the MOE which is based on the results of the pilot study and the review of literature.

The third part is the methodology, the data analysis and the recommendations. This third part consists of chapter seven; the methodology in addition to chapter eight, nine, ten and eleven. Chapter seven sketches the methodology of the thesis. It describes the stages of the thesis. It describes the pilot study and the main study; and considers the validity and reliability of the tools; the questionnaire and the interview. It describes the statistical analysis process used. It concludes with a description of the key personnel interviews. The data analysis and discussions are presented in three chapters: chapter eight, the quantitative data; chapter nine, the qualitative data; and chapter nine, the key personnel interviews. Chapter eight discusses the results of the quantitative data collected by the closed items of the questionnaire. The data are displayed in tabular form presenting the views of different groups; the top management, the internal stakeholders and the external stakeholders, in relation to the different principles of TQM Tree Model proposed in chapter six; commitment to TQM, focus on stakeholders, involvement and empowerment, continuous improvement, training and education, tools and techniques, and rewards. Chapter nine discusses the qualitative data collected from the open-ended questions of the questionnaire and the interviews. It presents the significant themes emerging from this data and is illustrated by extracts from the interview notes. It concludes with discussing some issues that arose from the qualitative data. Chapter ten discusses the results of the key personnel interviews. As it is the last chapter of the discussion of field work, it concludes with a summary of the key issues that arose from the quantitative data, qualitative data and the key personnel interviews. The last chapter in this part is chapter eleven, the TQM Tree Model, its implementation framework and the recommendations. Chapter eleven is the concluding chapter in which the TQM Tree Model modification is pointed out. It draws together the issues highlighted by the literature review and the results of the field work and brings them together to present the TQM Tree Model and its proposed framework. It concludes with some recommendations for developing education in the lights of TQM principles, some recommendations for the MOE regarding TQM implementation and some recommendations for further research and studies in this area of education.

Chapter One – Introduction

1.1 Introduction

The education system in Oman has witnessed dramatic development in the last few decades with the accession to power of His Majesty Sultan Qaboos bin Said on the 23rd of July, 1970. One of the most prominent tasks he achieved was the establishment of a modern government that included the first Ministry of Education in Oman (Ministry of National Economy, 2001, p.4). The quality and quantity of education has increased rapidly since then; the school buildings became more modern and fully equipped with advanced technology and instructional media, the framework of the education management has become more organized; and the establishment of modern schools accelerated from three before 1970 to more than 1056 in 2006 (Ministry of Education, 2006). In 1995, the Ministry of Education (MOE) started focussing on the development and change of education in order to be able to deal with the national improvement requirements and to face the external challenges of globalization and the advancement of knowledge and technology and the internal challenges of social issues and aspirations for development. These significant developments and trends are raising issues about the direction and functioning of the education system in Oman. In this chapter some of the trends and issues that are creating the need for change including globalization and the social trends in Oman will be outlined.

1.2 External Challenges

The challenge of globalization with its connected characteristics of expanding economic, cultural and political networks of affiliation and association across national borders around the world is now fully articulated to education system in Oman. Moreover, the advancement of knowledge and technology introduces another challenge in thinking about the consequences of technology uses and the mass knowledge for the learning opportunities and outcomes of students and the need for developing the education system in Oman to be able to deal with these external challenges.

1.2.1 Globalization

One of the significant areas of concern in the Omani education is the issue of globalization. Rapid globalization is one of the most salient trends of the new millennium. It is a multidimensional, multilevel phenomenon and is a too broad and ambiguous term to be

defined easily. There are a large number of studies focusing on globalization; they differ in their concentration on a particular set of consequences or in their consideration of globalization in distinct ways. Many studies emphasize its treatment as economic globalization (Panic, 2003) or as technological globalization (Schultz and Kitchen, 2000). Moreover, some of the studies look at the antecedent and concurrent political forces shaping the processes of globalization (Stromquist 2002, Daun 2002). In addition, a few of the studies focus on the socio-political impact of globalization primarily on developing countries (Mittelman, 2000). There is also an enormous number of studies that discuss the impact of globalization on education (Stromquist, 2002; Carney, 2003 and Dale& Robertson, 2002).

Although each of these studies deals with globalization from a certain point of view, most of the studies share something in common. These studies present globalization as a multidimensional process that involves multinational organizations. There is another aspect of globalization beyond the existence of organizations that sit across national boundaries. Globalization is operating at a political and cultural level with areas of concern such as climate change, depletion of resources as well as significant exchanges of ideas, beliefs, art and cuisine with the possible emergence of a 'global culture'. These trends signal an increase in interconnection and argue that there is a growing interdependency between nations, companies, organisations, individuals and so on. Tabb's definition (1999) is particularly useful in this context. He defines globalization *as "a process of reducing barriers between countries and encouraging closer economic, political, and social interaction"*(p.1). A more expansive, but basically similar formulation is put forward by Torres (2002): *"globalization not only blurs the national boundaries but also shifts solidarities within and outside the national state"* (p.363).

Cox (1996) goes even further into the impact of globalization on social structures. He argues that globalisation has significant social consequences and can cause social division and creates contradictions of a three part hierarchy in social structure: (1) a top layer of people who are integrated into global economy; (2) a category of people serving those directly involved in global affairs and (3) those who are excluded from the global economy (Daun, 2002, p.5). According to Cox's taxonomy, globalisation is highly favourable to industrial countries but for the developing countries, there is a real danger that globalisation will mean economic stagnation and marginalization.

According to some researchers (for example, Panic, 2003 and Carney, 2003) globalization has various positive impacts. It is creating enormous opportunities for sharing social values and behavioural norms and promoting development at various levels including individuals, organizations, societies across different countries whether industrialised or developing. Another constructive impact of globalization is the mutual support and benefit to produce synergy for numerous developments of countries, communities and individuals (Cheng, 2002, p.7). Prasad et.al (2003, p.8), in their report about the effects of financial globalization on developing countries to the International Monetary Fund (IMF), claim that globalization could help to raise the growth rate in developing countries through some direct channels such as: augmentation of domestic savings, reduction in the cost of capital, transfer of technology from advanced to developing countries and the development of domestic financial sectors. Globalization could also help developing countries through indirect channels, which in some cases, could be even more important than the direct channels, such as, the increased production specialization in both macroeconomic policies and institutions induced by competitive pressures or the "discipline effect" of globalization. Prasad et.al (2003, p.8) also reveal that the average income for the group of more financially open (developing) economies does grow at a more favourable rate than that of a group of less financially open economies. However, at the same time, globalization could potentially have a serious negative impact on indigenous development particularly for developing countries. Furthermore, globalization can exacerbate inequalities so as to render groups within developing countries, and groups of countries themselves, both poorer economically and not able to influence their roles politically (Woods, 2000, p.9). In other words, globalization is continuing the dominance of advanced countries over developing countries and indeed increasing the gaps between rich and poor areas in all over the world. Thus Chan (2001) notes that, "the less developed countries and communities remain stagnant economically, socially and even politically" (p.168). Globalization then has two facets, positive and negative, and it is important to consider both of these while dealing with globalization in the context of the Arab world and specifically Oman.

Turning to the impact of globalization on the Arab world, the situation is significant particularly in terms of economic development in a highly competitive global economy. Camdessus (1996), the Managing Director of the IMF, in an address at the annual meeting of the Union of Arab Banks argued that

> *Arab countries as a group have attracted very little of the private capital that has surged into developing countries in recent years; nor has their export growth, which has averaged only 1.5 percent per year during the last five years, come anywhere close to the nearly 10 percent average annual export growth achieved by developing trade (p.2).*

The situation in the Gulf Co-operation Countries (GCC) is no better. They have always been affected by oil prices because they are dependent on oil resources. The statistics from the Ministry of National Economy in Oman (2006, p.4) show how Oman's oil revenues witnessed dramatic changes between 1997 and 2000. Oil revenues in 1997 were O.R.1,805.5 million (£1=R.O 0.7), in 2000 they were only O.R. 777.7 million. The gross domestic product (GDP) of Oman was estimated to be 11,855.6 million Omani rials in 2005; out of 11,287.6 million rials representing the total government revenue, 78.8% came from the gas and oil sector. There is no doubt that the dramatic fall in oil revenue has adversely affected the Omani economy and its instability affects the educational planning. As Batah and Issan (1998) note that while the demand for higher education is great, the financial resources are limited and the price of oil is unstable. Clearly, therefore, the situation of Oman in the globalised world is threatened and requires a range of strategies to address these pressures.

With the advent of globalization, educational institutes must begin to transform themselves in order to meet the recent demands. The challenges of globalization permeate and shape the education system so the latter can help to support, maintain and reproduce the development in other fields. The importance placed on globalization in education is not accidental. First, economic globalization places an emphasis on the creation of a skilled labour force and educational policy makers must be responsive to business needs through the educational system. In Oman, therefore, education has become a core element in its economic development. The employment of Omanis received special attention in the sixth five-year development plan (2001-2005), intended to increase in the contribution of the Omani labour force to the labour market (Ministry of National Economy, 2001, p.20). The labour and Omanization sector objectives were formulated regarding the challenges that face the sector and the demand for improvements in the national economy and in accordance with education and training (Ministry of National Economy, 2001, p.20). Second, as the public school system has been found to be deficient in meeting the needs of globalization, so the educational system has been opened to market forces and thus the market-preferred system, which is privatization (Stromquist, 2002, p.39). Worldwide, some corporations have become so powerful that they create their own postsecondary and

vocational education programmes. For example, Burger King has opened "Academies in Fourteen U.S. cities and IBM and Apple contemplate the idea of opening schools for profit" (Burbles and Torres, 2000, p.1). In Oman, the private sector was reluctant to participate in the educational field. However, the role of private sector has started to assume more importance during recent years with the number of general education students in private sector schools increasing from 10.7 thousands students in 1995 to 16.5 thousands in 2000. Nevertheless, looking at the impact of globalization on education, it makes sense to look for greater public investment to support indigenous education.

Worldwide, the effects of globalization vary across and within countries and institutions so that the responses to it also fluctuate. In their editorial essay 'What Does Globalization mean for Educational Change? A Comparative Approach,' Carnoy and Rhoten, (2003) stress that in assessing the impact of globalization on educational change, it is imperative to *"know how globalization and its ideological packaging affect the overall delivery of schooling, from transnational paradigms to national policies to local practices"* (p.2). The current phenomenon of globalization provides a real empirical challenge as much as it does a theoretical frame for reforming education. In conclusion, the educators must acknowledge these forces and consider their consequences to reshape and reform the educational system. Therefore, one of the issues that needs to be considered in the development of the Omani system is globalisation. In taking forward in this study consideration will be given to the development of Omani education in this globalised context.

1.2.2 Advancement of Knowledge and Technology

Nowadays a rapid growth of knowledge and technology is being witnessed. This dramatic advancement of knowledge is the result of research in the different areas of science, economics, education, social studies, medicine and so on. This also could be as a consequence of using the mass media and the growing popularity of the Internet. Annan (2000, p.32) points out that the popularity of the World Wide Web is growing extremely fast, from fifty pages in 1993 to fifty million in 2000. Moreover, Boutel.com estimates that there were 29.7 billion pages on the World Wide Web as of February 2007.

Technological advance (in communication, transportation and production) is giving people greater access to information and places. The cost of various forms of transport, telephone calls and computers has plummeted. For example, the price of a three-minute call from

New York to London dropped from $244.65 in 1930 to $31.58 in 1970, and to $3.32 in 1990 (IMF, 1997, p.45). Similarly, in 1980, there were only two million computers throughout the world, all of them mainframes, but now there are more than 150 million computers in use, 90% being personal computers (Lopez. et.al, 1995, p.35). Stromquist (2002, p.5) points out that *"previously remote and exotic areas of the world have become easily accessible through more rapid and cheaper forms of transportation*". He also emphasizes the impact of the advancement of technology on production by indicating that many goods have attained a level of production by using machines and equipment that make it possible to segment production and still get high precision and quality of final outcomes. It becomes easier to cross the borders between countries and to get the best quality of products immediately. This easier economic exchange is interacting with greater consumerism which in turn is linked with specific lifestyles and identities.

Dearing (2001, p.29-30) in a paper presented to "The University of the 21st Century" conference in Muscat states that *"It is already widely accepted that the rapid pace of advance in knowledge, and pace of economic change, will require us to update our knowledge and skills"*. This is could be considered as advice to educators in facing the challenge of knowledge and technology revolution. This can only be achieved by developing every level of education: primary, secondary and higher education in terms of both academic and administration issues.

1.3 Internal Challenges

Although it is true that external challenges are often the cause or at least the impetus for most educational development, the internal challenges play a great role in forcing the improvement. In the Arab world in general, and in the Sultanate of Oman in particular, there are many internal challenges that require the development of education. Some of these internal challenges are related to social factors such as the population growth and others are related to the educational organisation such as the aspiration for development of the education system to support a changing society.

1.3.1 Population Growth and Structure

The relation of education to population growth looks like a circle as illustrated in figure (1.1). Education and population growth are related through the impact of improved health (McMahon, 2002, p.81). The impact of education on health is seen from two sides, the first one is the reduction of the mortality rates and the second one is the increase in longevity.

The more educated the parents, particularly the mother, the lower is maternal mortality and the healthier is the child. Parental education is significantly associated with the health status of the children (World Bank, 1995, p.28). Development of education and improvement of health lead to population growth. Further, there is consistent evidence in world-wide literature (for example, Simmons, 1980; World Bank, 1996 and McMahon, 2002) that population growth impacts on the development of education. More children mean more schools, more teachers and more a complex education system which needs more advanced management. Therefore, a significant aspect in the development of education is to create and enhance the systems to manage, develop and improve education for an increased population. This forms a challenge for the Ministry of Education as new schools makes an increase in the Ministry's budget crucial. This leads to the next challenge which is finance.

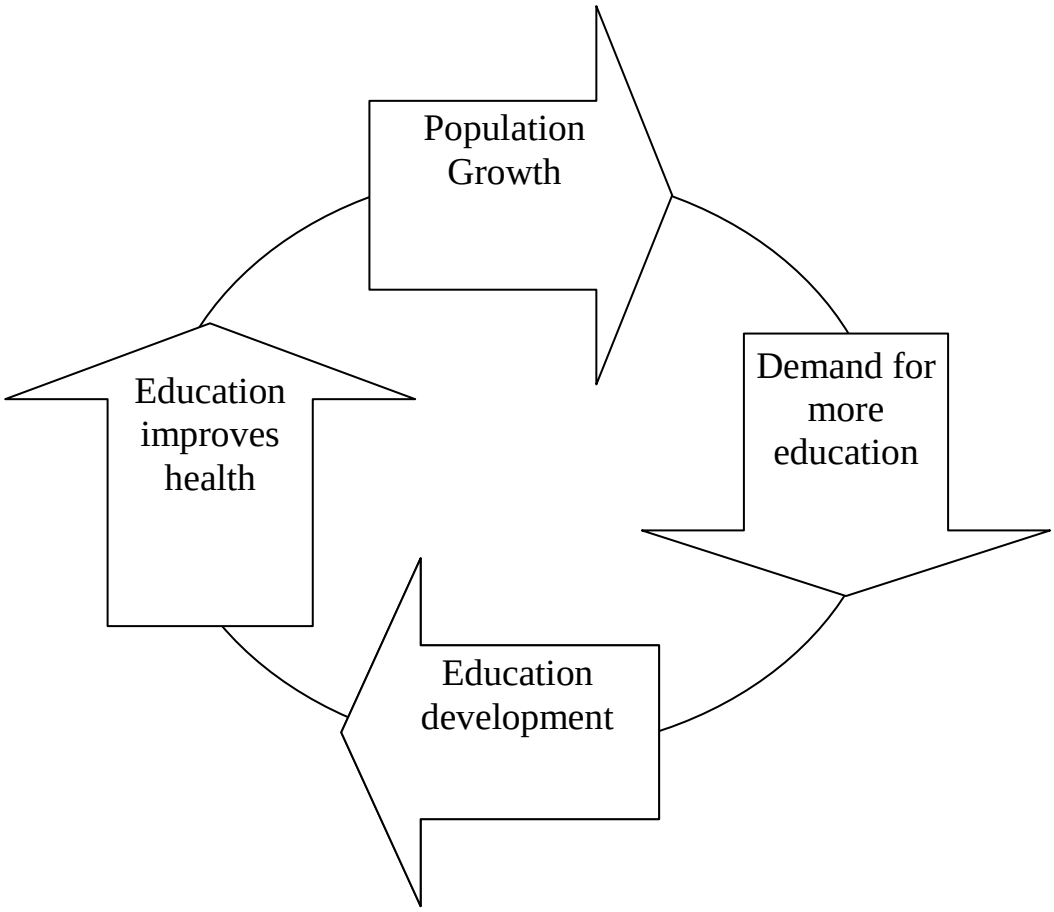

Figure 1.1 The relationship between education development and population growth Finance

1.3.2 Finance

Providing education for a growing and structurally young population presents a financial challenge for two reasons. The first involves the costs related to building modern equipped schools. A school building costs about 430 thousand Omani rials (£1=.7 rials) for Basic

Education cycle one and 460 thousands Omani rials for cycle two. Secondly, the increase in the number of schools has resulted in the need for more teachers and other support staff.

Moreover, the reform of the educational system (the Basic Education) has produced another financial challenge to the Ministry of Education. This is as a result of developing new curriculum and improving the existing one, providing resources and essential training for all staff (MOE, 2004, p.30-31).

1.3.3 Remote Areas

Oman, as will be explained in the next chapter, is the third largest country in Arabia. Oman's geography is varied and the needs of its people are also varied from one area to another. Consequently, providing education to all who need it is really challenging. For example, the Bedouin population live in the desert and mountains and tends to move in small groups from a place to another. Nevertheless, the Ministry takes every effort to ensure that the services available in the remote area schools are within the Ministry's accepted standards (MOE, 2004, p.30-31).

1.3.4 The Aspiration for Development

The demand for the development of education is also challenged by the desire to repair a widening divide in the social fabric in Omani society and the aspiration for quality. Surmounting the challenges mentioned above, there is the urgent need for education to help in treating some social problems such as poverty and to provide equality in the workforce. Gregory (2001, p.404) states that a basic goal of educational planners in developing countries has always been increasing the quantity of the enrolments, but in these days increasing the level of educational quality has also become the goal. The pursuit of this goal has become a key aim in the strategy of the Sultanate of Oman.

In 1995, a conference considering the future direction of the country's economic and social development, titled "Oman 2020, The Vision Conference for Oman's Economy" reported that the country should achieve the following by the year 2020:

1. An efficient and competitive private sector.
2. A diversified dynamic globalised economy.
3. Well developed human resources.
4. Sustainable development within a stable macro-economic framework.

The conference report was endorsed by the government and its findings form a part of the legal framework that the Ministry of Education had to work towards (MOE, 2004, p.8)

1.4 The Importance of Management of Change in Education

As a consequence of the previously mentioned challenges, the traditional and familiar ways of doing things are changing and there is a demand for more qualified, skilful and knowledgeable workers. There is also a need for a vision for teaching and learning that equips students to be able to deal with the current and future challenges.

Change then is endemic within society, certainly within education. In fact, it can be argued that change is a much more 'natural' situation than one of stability. Change, as Whitaker (1993, p.49) defines it, involves moving from a present state to a different future one. It requires new knowledge and skills to enable organizations to adapt successfully to new requirements. As far as educational change is concerned, the meaning will not always be clear. This is probably due to the complex nature of education systems. The view of change in education, according to Oliver's opinion (1996, p.6), must involve the establishment of new targets and strategies. However, change is not just about the creation of new policies and procedures, but it is important that change agents, students, teachers, administrators, parents and employers, are involved. This is because they know the different facets of the education system and among these stakeholders there are some who seek change and who will take change forward. A change process has to take into account the different dimensions of the system. Peeke (1994, p.26) emphasises this aspect of a system:

> *A specific characteristic of the systems view is its emphasis on the interrelatedness of the various parts of the system. Change in one part of the system necessitates change in all other parts also.*

Moreover, feelings and emotions are of primary significance in change. The functional structures by which change is created are extremely important in developing an atmosphere in which people can feel part of the change process (Oliver, 1996, p.5).

In terms of the importance of change management in education, it could be considered as a defensive response to the perceived threats of competitors. Hannan (2001, p.1) stresses that *"If we don't change and change rapidly, others will thrive at our expense"*. Change

also appears to be a means to solve urgent problems, particularly those associated with social and economic pressures. Furthermore, Fullan (1993, p.4) argues that the promise of educational change has a moral purpose, which is to make a difference in the lives of students regardless of their backgrounds and help produce citizens who can live and work productively in increasingly dynamically complex societies.

The MOE in Oman has considered the importance of change and started educational development programmes since 1994 focusing on adaptation within the national educational systems and the development requirements (MOE, 2002b, P.146). This change has to be managed to maintain a sense of purpose and direction. There will be competing demands from different groups and change needs to be managed to balance the demands. However, as organisations are constantly changing and if this process is not managed within an organisation, the direction of the change will be unproductive and destructive.

As a result of global, social and economic trends, there is no other choice but to prepare for the new age in which the key to success is developing and changing education, and using approaches and targets which take into consideration the culture, beliefs and principles of the society, the current social and economic circumstances and the current approaches towards change and development.

There are a number of different theoretical perspectives on change and the management of change. In chapter four, different perspectives are reviewed and discussed to search for a suitable change management approach that help in solving the MOE issues arose from the pilot study and to enable the MOE to face the internal and external challenges discussed in this chapter.

A survey of TQM literature reveals that, a number of educational institutions over the world have successfully adopted TQM and gained development advantages. For instance, Lewis and Smith (1994, p.259) describe how TQM was successful in academic organization such as the Oregon State University. Similarly, Freed and Klugman (1997, p.231) state that TQM was successful in the application to business and administrative processes in Michigan University.

As mentioned previously in this chapter, education in Oman in general and MOE in particular is facing dramatic changes as it struggles to meet the requirements of the current century. These circumstances compel MOE to take adopt a new management approach that

will enable it to deal with these challenges and pressures. Accordingly the overall aim of this research is to explore the use of TQM as the means of developing the MOE through answering the research questions presented in the overview.

1.5 Conclusion

Oman has embarked during the last three decades or so on a courageous educational development. In a globalizing world, the most important aim for the MOE is not only to do its routine role of serving education, but also to face external challenges such as the globalization and the advancement of knowledge and technology which are discussed in this chapter. This is in addition to be able to deal with the internal challenges of population growth, remote areas, finance and the aspiration for development. This requires new ways of thinking and managing, but before discussing the different approaches of managing change, it is important to have a general vision of the Sultanate of Oman, its geography, history economy and education. The next two chapters will highlight the contextual factors about Oman, its education and the existing issues facing the MOE.

Chapter Two-The Sultanate of Oman

2.1 Introduction

This chapter is intended to provide a clear picture of Oman. This is achieved through describing its geography, people, history and economy. The challenges which have been undertaken in each of the phases in Oman are dealt with, both before and since the new era, which dates from the 1970 when his Majesty Sultan Qaboos came to power, until the present time. This chapter also considers how such information is essential for clarifying facts that affect the education system in Oman. This chapter concludes with a discussion of the educational development in Oman and its movement from caring about quantity, to the focusing on quality and planning and looking to the future.

2.2 Location

The Sultanate of Oman is the second largest country in size and population in the Arabian Peninsula, with about 309,000 square kilometers (120,000 square miles), which is equal to the size of the United Kingdom and Ireland and about the size of Kansas State in USA (MOI, 2002, P.7). It lies in the Northern Hemisphere, within the tropical area between latitudes 16 degree and 26 degree North and Longitude 51 degree and 59 degree West. It is bounded on the west by Saudi Arabia and to the South West by Yemen and to the North by United Arab Emirates (UAE). In the West, Oman shares the extraordinary Rub AlKhali desert, Empty Quarter, with Saudia Arabia and the UAE. It has a 3,165 kilometers (1000 miles) coastline extending from the Strait of Hurmuz, that separates Arabia from Iran, in the North to the Southern border with Republic of Yemen. It extends to the Arabian Sea, the Gulf of Oman and the Arabian Gulf. Oman also has a number of scattered islands near its shores. The most important of these are Masira in the Arabian Sea and the Islands of Kuria Moria (ALHalaniat), off the southern coast of Oman (NSA, 2005).

Most of the country is either desert or barren land with mountains. Sand and gravel comprise at least 80% of the country. There is the central massif of the Hajar Mountains comprising 18,000 square miles, in which the Jebel AlAkhdar has the most impressive cliffs and the highest summit in Oman called Jebel Shams, 3075 meters (10,000 feet) high. The Hajar Mountains curve inland away from the coast leaving AlBattinah Plain, the most fertile land in Oman, 3,600 square miles. The centre of Oman between the Hajar Mountains and the southern hills of Dhofar is desert (MOI, 2006).

The Sultanate of Oman consists of three governorates Muscat, Dhofar and Musandam and five regions AlBatinah, AlDhahirah, AlDakhliya, AlWusta and AlSharqia. Each region is further divided into districts (Wilayats) headed by a district governor (Wali) (MOI, 2006, p.7).

2.3 Climate

In general Oman is a hot and dry region. However, the climate varies from region to region. In the coastal areas it is hot and humid in summer with a temperature rising to 47degrees. In the interior it is hot and dry except in some higher locations, such as Aljebal ALAkhdar, where the climate is moderate all year round. Although rainfall is generally light and irregular, the Southern Dhofar province gets the Indian Ocean monsoon (Khareef) rains, which fall between May and September. This heavy rainfall turns Dhofar into a lush green paradise that draws thousands of Arab tourists to Oman every year (MOI, 2002, p.7)

2.4 Economy

The geography of Oman and its climate have affected its history and its people, both of which have developed separately from the remainder of the peninsula. Oman has enjoyed a long history of trade with the ancient civilization of Egypt, Persia, India, Greece and China benefiting from its geographical location. The natural features range between coastal plains, interior hills, wadis and mountains affected the social and economic life (MOI, 2006). These affected the diversification of the economic activities such as agriculture, livestock keeping, mining and other traditional and modern industries dependent on the raw materials available in the environment.

The Omanis have for many centuries gained a living from the land and the sea. The large percentage of fertile land is to be found in the interior, especially in the Jebel AlAkhdar, ALBattinah region and in the Southern province of Dhofar, which was and still famous for growing frankincense. The summer fog and rainfall in the southern coastal plains of Dhofar region directed people's occupation in agriculture, livestock and tourism. This also formed a special source of income for the country (MOI, 2002, p.11). In some other areas where bushes and pastures grow, people keep cattle, camels, sheep and goats. However, people in these areas are nomads who are not settled in one place. They move in the desert searching for pastures for their animals. Thus this nomadic way of life impacts negatively

on provision of education and forms a challenge for the Ministry as discussed in chapter one.

Nowadays more than 100,000 Omanis are employed in agriculture and fisheries. Omani farming, livestock, agriculture and fisheries have made great strides since 1970 (MOI, 2002, p.87). Oman's livestock sector has also grown significantly and reached 1.8 millions head of livestock. Moreover, agriculture development centres train stock breeders in the latest practices to help them improve their performance (MOI, 2003, p.96).

In addition, the long coast line has affected the economic situation of the country, for many of the dwellers of these coasts worked in the sea as sailors, fishermen, and in navigation. Some others worked in shipbuilding and trading. This situation has affected the social life. AlGhafri (2002, p.10) states that this situation has greatly affected social services and thus had its impact on education as children were greatly attracted by work in the sea. The government provides technical and financial support for Omani fishermen and has introduced laws to protect and sustain fish stocks. Nowadays, the fisheries' quality control centres have helped to train the fishing companies in quality control. Now more than thirty Omani companies export fish from the Sultanate to EU countries and many other countries (MOI, 2003, p.98).

However, currently Oman's economy is mainly based on oil income, but the Sultanate's policies have consistently given attention to creating appropriate conditions for investment, providing infrastructure and developing the national manpower to help the growth of the economy. These achievements create diversification of the sources of income and focus on the productive sectors such as gas-based industries, information technology, mining and tourism (MOI, 2003, p.84). In this connection the Ministry of Commerce and Industry's sixth five-year plan (2001-2005) focused on a range of economic strategies designed to diversify the sources of national income through developing various sectors such as mining, tourism and commerce and provide them with support and incentives (MOI, 2003, p.84-85). As a result, the Ministry of Education has the challenge to meet these needs and produce more qualified graduates for these sectors.

Consequently, tourism became an area of high priority in the Oman economy. Attention is now focused on eco-tourism, adventure tourism, culture and heritage attraction, water sports, coastal and leisure retreat resorts (MOI, 2003, p.86-87). Moreover, copper production and its export to neighbouring countries within Arabia and outside played a

prominent role in the economy of Oman during the ancient time. However minerals still play a great role in the economy of Oman, the Sultanate signed ten contracts for new mineral licenses and thirty eight contracts for license renewal in 2001. In addition, Oman building materials earned more than 406 millions rials and marble earned 106.5 millions (MOI, 2002, p.86-87).

Thus it can be said that Oman is characterized by its agricultural, livestock, fish wealth and mining which are considered as potential sources of income other than oil, which forms the main source of national income. Such diversity in the national income has had its impact on the education system in Oman as well as will be seen later in the next chapter.

2.5 Economic Planning

Oman’s economic policy making draws on a series of five-year plans that set the objectives for all government sectors. Economic planning evolves from a consultation process with government and non-government bodies' input and then the Ministry of National Economy produce the five- year development plans (MOI, 2003, p.104).

The First Five-Year Development Plan (1976-1980) coincided with the oil boom. The Plan focused on benefiting from the oil resources to complete the infrastructure, increase the economic capacity of the national economy and promote the private sector. The most prominent achievement in this Plan is the creation of the State Generate Reserve Fund (SGRF) in 1980 as per the Royal Decree No. (1/80) which aimed at ensuring the economic stability and sustainable development (MONE, 2004, p.12).

The Second Five-Year Development Plan (1981 – 1985) aimed at raising the investment rates so as to strengthen production capacities, pursue the completion of the infrastructure, support the private sector and strive to ensure fair distribution of the fruits of development among the different regions. It also called for supporting the SGRF.

The beginning of the Third Five – Year development Plan (1986- 1990) coincided with the considerable drop in oil prices. It sought, as much as possible, to maintain adequate levels of economic activity, together with the attention given by the Plan to regional development processes. The plan was the maintenance of economic and fiscal balance of the country, and continued providing the basic services such as education, health and social supports.

The government adopted strategies for reducing and rationalizing expenditure without jeopardizing the attainment made, particularly in the social aspects.

The Fourth Five –Year Development Plan (1991-1995), which was the last one within the construction of the first development strategy, concentrated on directing the investment towards productive projects to diversify the production base and encourage the private sector. This plan was also distinguished from the previous plans by its focus on the forming of policies and detailed plans as effective methods for achieving its objectives.

During the first long term development strategy (1970-1995) the Sultanate has been able – as mentioned previously – to accomplish significant achievements in all areas and dimensions of the comprehensive development. Then Oman started looking to the future with the plan of more ambitious actions.

In 1995, His Majesty the Sultan directed that a conference should be set up to consider the future direction of the country's economic and social development. This conference "Oman 2020, The Vision Conference for Oman's Economy" was convened in July 1995. The conference report recognized that the world we are living in is changing very fast and the acquisition of global knowledge, information and technology and the development of advanced human skills are essential tools for progress.

The Sultanate adopted on the First of January 1996, in accordance with the Royal Decree No (1/96), the long term development strategy for the period (1996-2020) represented in the vision for Oman's Economy: Oman 2020. The long term development strategy for the period (1996-2020), aims first at maintaining the per capita income at its present level, as a minimum, and strives to double it in real value by 2020. It also aims to achieve economic stability and fiscal balance, provide favourable conditions for economic development through utilization of oil and gas returns to bring about sustainable economic diversification, together with provision and advancement of basic health and education services. The strategy's objectives also include the training of Omani citizens, promotion of their skills, as well as adoption of policies aiming for the promotion of each citizen's living standard (MONE, 2004, p.25).

In general, it can be said that the strategy aims for achieving sustainability of development during the period (1996-2020) through seeking to realize economic stability and fiscal

balance, and introducing substantial changes in the national economy's framework to diversify the production base and develop the human resources.

From 1999, Oman's emerging private and government sectors were involved in drafting the plan. The main aims of the sixth five-year plan (2001-2005) are (MOI, 2003, p.105):

1. Guarantee stable personal income.
2. Increase the number of secondary school students enrolling in higher education and technical colleges.
3. Create more jobs for Omanis.
4. Adopt sustainable financial policies.
5. Promote economic diversification.
6. Develop the private sector.

The Plan sets out general aims and a basic financial framework and estimated revenues and expenditure needed to achieve these aims between 2001 and 2005 (MOI, 2003, p.105).

2.6 Employment and the Distribution of Wealth

Since people are the most important tool for development, the improvement of the quality of the life of Omanis was the ultimate objective for the development strategy, as discussed above. In other words, development aims to give people better lives and this can not be achieved except through a well-trained population. This strategy paid special attention to human resources development in order to broaden the chances for general, higher and technical education and training (MONE, 2004, p.11).

> *We firmly believe that the development of human resources is the cornerstone of the development process in any society, because the human being is the ultimate goal and aim of development as well as being its means and its product (HM Sultan Qaboos bin Said, 2005).*

Skilled and educated Omanis were almost lacking in the Sultanate before 1970, but following the accession of His Majesty to the power in 1970, the situation changed dramatically. Educated Omanis living abroad returned in large numbers replying to a call from His Majesty the Sultan to help in the development of Oman. In the early years of the development, Oman was dependent on expatriate labour (MOI, 1994, p.25). Nowadays, Omanisation, the employment of Omanis, is taking place in all fields at a rapid pace. For

example, in the education sector the number, of Omanis increased from 17,743 in the academic year 2001/2002 to 30,668 in the academic year 2005/2006 (MOE, 2006).

The first long term development strategy sought to raise the national economy's growth rates and its sustainability so as to increase the Omanis' per Capita income and promote the quality of life.

During the period (1970-1995) the national economy– as shown in Table (2.1) and Figure (2.1) (MONE, 2004, p.15) has increased rapidly but there have been fluctuations.

Table 2.1

Main Indicators of the National Economy's Performance During the First Long Term Development Strategy (1970 – 1995)

(O.R. Million)

Detail	1970	1975	1980	1985	1990	1995	Growth Rate: 1970 to 1995 (Percernt per year)
Gross Domestic Product	104.7	724.2	2185.0	3590.6	4493.0	5307.2	17.0
Final Consumption	32.3	344.1	1235.7	2252.1	3056.1	4062.2	21.3
Capital Formation	14.7	258.0	444.2	900.4	554.8	795.0	17.3
Merchandise Exports	88*	489.2	1294.5	1778.1	2116.4	2345.9	14.7
Merchandise Imports	40*	348.4	678.0	1161.9	1075.9	1683.6	16.9
Trade Balance (Surplus+/Deficit-)	48*	140.8	616.5	616.2	1040.5	662.3	
Current Account Balance (Surplus+/Deficit-)	_	-13	293	11	475	-249	
Government Revenue	50.1*	387.7	923.7	1572.9	1876.3	1851.6	16.2
Government Expenditure	46*	509.5	949.8	1928.4	1887.4	2331.0	17.8
(Surplus+/Deficit-) of Government Account	4.1*	-121.8	-26.1	-355.5	-11.1	-479.4	
Per Capita Gross Domestic Product (O.R.)	158.0	878.9	2061.3	2535.7	2764.9	2490.5	11.7
Muscat General Consumer Price Index (1995=100)	_	_	_	_	95.3	100.0	

(MONE, 2004, p.15)

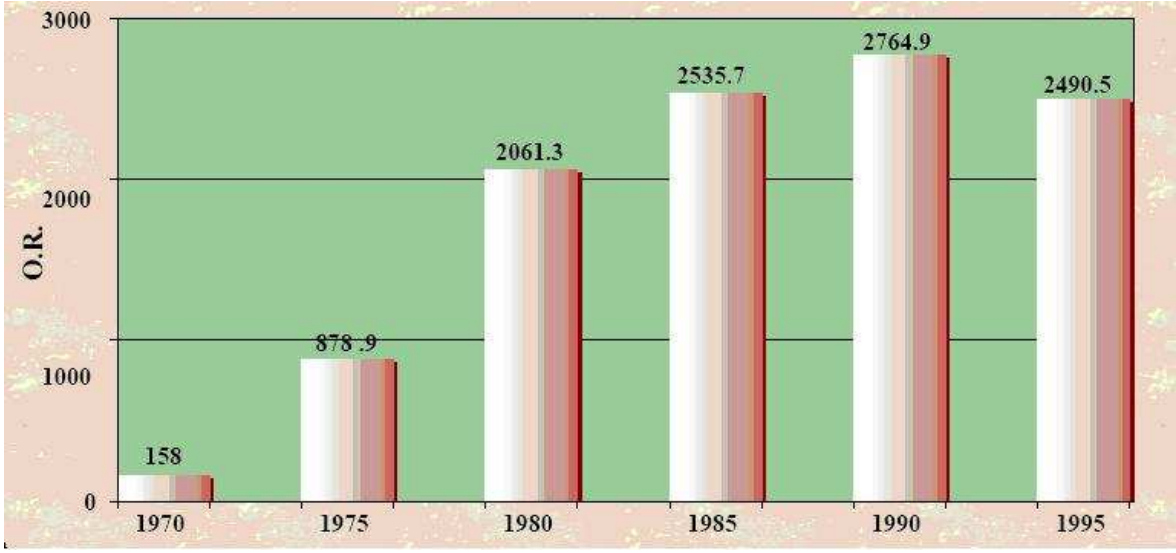

Figure 2.1 Average per Capita GDP(1970-1995)

The Ministry of National Economy (MONE, 2004, P.15) realizes significant achievements, where: "

• The Gross Domestic Product GDP, at current prices, increased from about O.R. 105 (O.R. .7= £1) million in 1970 to about O.R.5307 million in 1995 achieving an average annual growth rate of 17%.

• The Per Capita GDP increased from O.R. 158 in 1970 to about O.R. 2491 in 1995 i.e. an average annual growth rate of 11.7%"

2.7 Population

According to the Ministry of National Economy census, Oman has a population of about 2,331,391, growing at a rate of about 3.3% annually. Table (2.2) and figure (2.2) show population density percentage distribution of Oman's population per region.

Table 2.2 Percentage Distribution of the Sultanate's Population by Region

Governorate/region	Percentages of total population
Muscat	27.1
AL Batinah	28.0
Musandam	1.2

AL Dhahira	8.8
AL Dakhlia	11.3
AL Sharqiyah	13.4
AL Wusta	1.0
Dhofar	9.2
Total	100.0

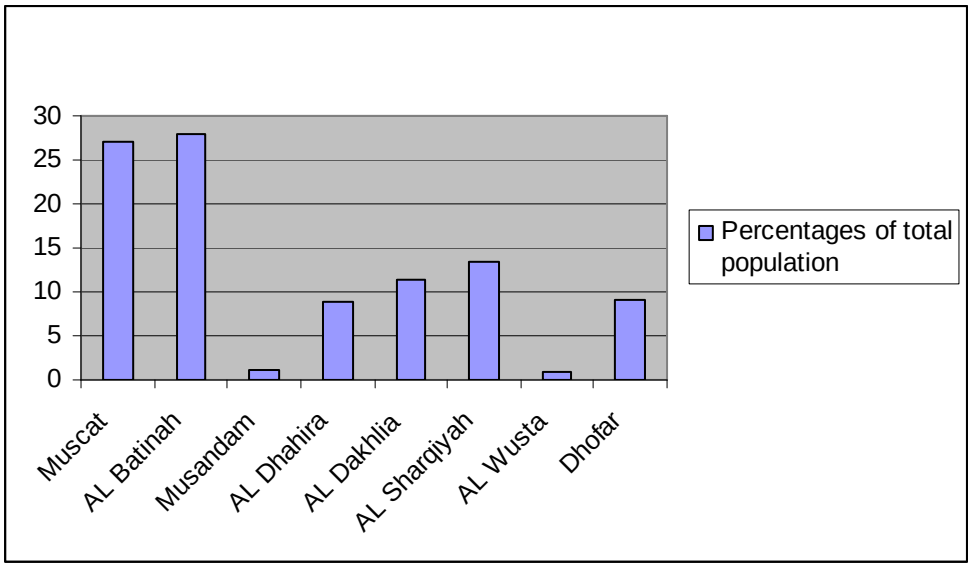

Figure 2.2 Percentage distribution of the sultanate's population by region

Table (2.2) and figure (2.2) show that the most densely populated regions are Muscat and ALBattinah, and this means they need more educational facilities and the access to education is easier. On the other hand there are some regions that have some remote places in the desert with much less people such as AL Wusta where people are leading a nomadic life which make education services very difficult to access. This forms one of the major challenges for education in Oman.

Table (2.3) and figure (2.3) show the age composition of total population. It is noticeable that more than 50% of the population are in the age group between 0-15 years of age.

Therefore, this impact on access to educational services in the country forms a prominent challenge for the Ministry of Education.

Table 2.3 Percentage Distribution of Population by Age Group and Sex

Age group	Male	Female
0-14	51.6%	51.6%
15-64	45.4%	45.4%
64+	3.0%	2.9%

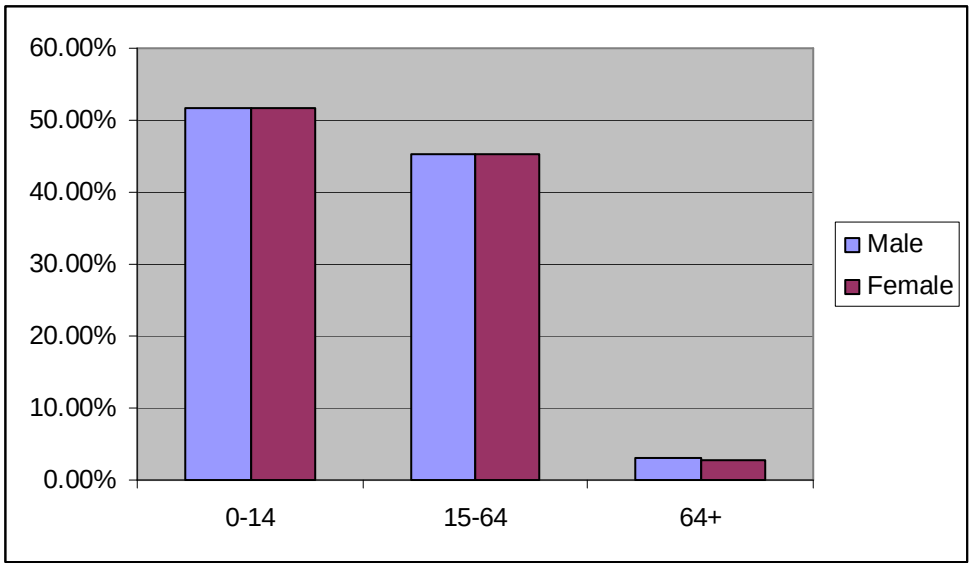

Figure 2.3 Percentage Distribution of Population by Age Group and Sex

2.8 Language and Religion

The main language is Arabic and Islam is the religion of the country. The Omanis were among the first to embrace Islam in 630AD when the prophet Mohammed sent his envoy, Amr ibn AlAs, to meet the ruler of Oman to invite them to embrace the faith. Oman became a stronghold of Islam, helping to spread the faith to south-east Asia and to eastern and central Africa since then (MOI, 2003, p.20).

2.9 History

Oman's civilization dates back at least 5,000 years, when it was inhabited by fishing communities and hunters. It was mentioned in the Sumerian tables by the name Majan referring to Oman's ancient copper mines. The name Oman is said to originate from Arab tribes who migrated from the Uman region of Yemen (MOI, 2003, p.20).

By the Middle Ages, Oman was a flourishing seafaring nation, sending dhows to trade with Africa, India and the Far East. By the 19th century Oman expanded its territory across the Arabian Gulf and into East Africa where it controlled the island of Zanzibar. Oman has also established political links with other great powers of the time, including Britain, France and the United States (MOI, 2003, p.20-23).

This period was associated with the migration of Omani citizens to other Gulf countries (Kuwait, Bahrain, Saudi Arabia, Qatar and the United Arab Emirates) seeking a means of livelihood in different occupations. When His Majesty Sultan Qaboos came to power in 1970, he encouraged these Omanis to return home to help to turn Oman into a modern and influential country (MOI, 2003, p.23). Before His Majesty's reign, the country was poor and backward, lacking education and medical care. His Majesty's challenge was to turn the Sultanate into a modern and influential state. Since then Oman has witnessed significant development in many different areas of life.

2.10 International Relations

There has been a period of stable foreign policy and good foreign relations. This has given Oman security and chances in developing the social services, as well as education. In addition, it also gives a chance for Omanis to study in different countries and to have various experiences. In year 2002 there were over 20,000 Omani students, of whom just over half were women, studying at universities in forty-five different countries.

2.11 Key Issues for Education

It is clear from this chapter that there are several issues that affect education in Oman and call for a fundamental change:

There is a very rapid expansion in all aspects of life in Oman and in education as well. These expansions form a challenge for education in a number of different areas. The

economic expansion and diversification require more qualified human resources. This is in addition to the movement from a religious centred to wider curricula focusing more on science and technology.

The geographic dispersal and remote areas present a challenge for education. Moreover, it is not always easy to provide suitable education for the various traditional cultures and ways of life such as the Bedouins.

The percentage of population in school age is very high and this put more demand on the Ministry of Education for providing more educational facilities.

2.12 Historical Background of education

Education in Oman before 1970 took the form of what is known as "Kuttab" which is basically a group of boys and girls taught to recite the Holy Quran, some Arabic language skills and some mathematical skills and knowledge by a single teacher. This required no organized place, it took place in mosques, houses and even under the shades of trees. Birks and Sinclair, as cited in AlHamami (1999, p.95), stated that the curricula were produced by the teacher. What was taught in these schools was mainly religious in content, consisting mostly of the Quran, Sunna, the Prophet's words and teachings.

In this framework many schools were established such as Mazin bin Ghadooba school and ALJulanda bin Masoud, who assigned a teacher for every ten students. The study in these non-organized schools took place every day except Thursday and Friday. Every study session was from morning till afternoon with two breaks within. There were about twenty to fifty students in every session. Their age range between 6 and 14. There were not clear criteria for assessing the education except the quality of memorizing the Holy Quran (MOE, 2002, p.16-17).

By the end of the 19th century a form of more organized schools were established. The most famous of these schools were AlKhoor School, AlZawawi School and AlWakeel School. Various subjects were taught in these schools mainly the Holy Quran and Arabic skills (reading, writing and grammar).

The transition from traditional schools to modern schools started in 1970 when a few schools were established under the supervision and planning of the government. The most

famous of these schools were Alsultania Alawla (The First Royal) and AlSultania AlThania (the Second Royal) and AlSaiediah School in Muscat, Mutrah and Salalah. This is in addition to some private schools. The curricula in these schools were specific and taught by Omani and non-Omani teachers employed by the government. Some of these schools had two levels, introductory level which is for two years and the primary level for six years. Some of the text books were brought from Egypt, Palestine and Lebanon (MOE, 2002b, p.23-37). Although those schools are seen as the starting point of modern education in Oman, there were limited numbers of students, about 900 students and the curricula were not comprehensive and unsatisfactory.

July 1970 marked a significant transitional point in the history of the Sultanate of Oman in general and in the Educational sector specifically. This is because the first Ministry of Education was established that year. The year 1970 witnessed the start of the Omani renaissance and the beginning of the education development. His Majesty Sultan Qaboos appreciated the relationship between education and development, so he made it very clear in his first speech that he would give education urgent and special attention. In his first speech His Majesty said:

> *I promise you to proceed forthwith in the process of creating a modern government. I will proceed as quickly as possible to transform your life into a prosperous one with a bright future. Every one of you must play his role towards this goal (MOI, 1996, p.11).*

The early years of the renaissance was one of the swift spread of formal education. Many people came forward claiming education. The table below (3.1) shows the dramatic change in the number of schools, teachers and students in a limited period. The number of formal schools increased from 16 in 1970 to 1046 in the year 2005, the number of teachers increased from 196 in 1970 to 3596 in 2005 and the number of students increased from 6941 in 1970 to568074 in 2005. As a result of this acceleration in the quantity, there was a decrease in the quality. This, obviously, caused a main challenge to the education system as will be seen later in this chapter.

Table 2.4 the Development of the Numbers of Schools, Teachers and Students in the Sultanate of Oman

year / item	1970	1975	1980	1985	1990	1995	2000	2005
Number of schools	16	207	373	588	779	953	993	1046
Number of teachers	196	1980	5150	9793	15121	22292	26416	32345
Number of students	6941	55752	106032	218914	355986	488797	554845	568074

Faced with a lack of school buildings, textbooks, teachers and other equipment needed for schools, the MOE found it necessary to use other substitutes. Hence, hired buildings, tents and even shades of trees were used as schools. Textbooks were imported from friendly countries. Moreover, teachers were recruited from different countries. In addition, school buildings were used for two shifts, one during the morning and the other in the afternoon (MOE, 2002, p.43). This period has also included the start of special education and the adult-education, for those who missed the chance of education when they were young or who did not finish their general education.

The academic year 1976/77 was the start for the beginning of quality planning and development as it was the beginning of the Five-Year Development Plans. After the establishment of a framework for the different education levels, more concern was paid to vocational education. Accordingly, two preparatory vocational schools were established one for girls and the other for boys. In addition, some specialized institutes were established, for example, Nizwa Agricultural School, teacher institutes, secondary commercial schools and secondary Islamic Institute. This is in addition to the focus on the quality of the school buildings and the other attached services and equipment such as laboratories, libraries, workshops and other provision needed for increasing the standard of the educational services. Moreover, a special school for pupils with hearing and communication difficulties was established (MOE, 2002b, p.44-45). One can say that the period between 1976 and 1980 was characterized by the diversification of education, the encouragement of teaching girls, spreading formal and adult education and taking into account quality plus the quantity of education.

During the period of the second national development plan, 1981-1985, the plan was greatly occupied with maintaining the balance between the processes of spreading and diversifying education. This as in addition to improving the access to education and spreading formal and adult education throughout the regions of the country. In response to quality development of education, the teacher training institutes were up-graded to the standard of intermediate teacher training colleges. These colleges offer two-year training for the secondary school graduates. Attempting to offer the education for all citizens, in 1984, a school for the mentally disadvantaged children was opened and guides were given to parents to help their children.

In the third development plan, 1986-1990, efforts were exerted in the diversification of education together with enhancement of the educational services. The status of the educational institutions had become more stable the educational planning focused on the balance between quality and quantity. In 1986, the establishment of Sultan Qaboos University was the completion of the educational system in Oman. During this period, the main objectives of the development plan were as follows:

1. Liaison between the educational system and the labour market.
2. Spread educational services in remote places where they did not reach yet.
3. Completion of the provision of educational buildings.
4. Use of permanent school buildings.
5. Spread of Intermediate Teacher Training Colleges in order to achieve Omanisation in the teaching posts.

During the fourth National Development Plan, 1991-1995, many changes in the educational institutions were undertaken, the most important of them are:

1. A Ministry of Higher Education was established; separate from the Ministry of Education.
2. Teacher Training Colleges were set up in most regions of the Sultanate and an Institute for qualifying University graduates to become teachers was established in Muscat.
3. The Teacher Training Colleges were up-graded to University level and they were placed under the authority of the Ministry of higher education.
4. Private colleges and institutes were started in the private sector.

The reform of education was a great concern for responsible people in the Sultanate. H.M. the Sultan gave directives for developing education, taking into consideration the development of education in the developed countries. Consequently, a conference on

Omani economic development up to the year 2020 was held in Muscat in 1995. The conference made a number of recommendations about development of education which has formed the core of the present reforms.

The Ministry of Education reviewed its system and performance and identified the most important challenges for the third millennium. These were as follows:

1. Provision of sufficient number of Omani qualified teachers.
2. Lack of educational research.
3. Difficulty in funding educational development projects.
4. The private sector's reluctance to participate in the education sector.
5. Low enrolment rates in adult education system.

In identifying these challenges, the Ministry of Education has started its educational reform. Although this reform was trying to face the challenges, still there are some challenges and issues that need to be solved by using a modern approach of managing change. This is what we are going to elaborate on later in this thesis.

During the fifth National Development Plan, 1996-2000, the educational system was undergoing many further significant changes and development processes. A complete revision of the educational system and performance took place. This took the form of reviewing educational aims and objectives and identifying new ones, starting an innovative development of curricula so as to cope with the current scientific and technological trends, up-grading the teacher training and introducing a basic education system, which will be discussed later in this chapter.

The sixth Five-Year Development Plan (2001-2005) represents the second phase within the framework of the long term development strategy approved for the period 1996-2020. Such a strategy is manifested in the Vision for Oman’s Economy: Oman 2020 (a conference on Omani economic development up to the year 2020 was held in Muscat in 1995). It is, therefore, closely linked with the previous plan and the plans that will follow. This Plan is aimed at the development and prosperity of the Omani citizens and broadening the scope of their options. As a result of the wide expansion in general education services, secondary education output has increased rapidly. Accordingly the demand for higher education services increased extremely quickly to levels that exceed the existing capacity. In order to bridge this gap and meet the necessities of a knowledge based economy, as well

as enabling the Omani youth to fill the new employment opportunities, including the substitution of expatriate labour during the current plan and subsequent plans, the first priority has been identified as raising the admission of the general secondary outputs in the higher education institutions (MONE, 2003, p.68). In dealing with the effects of the massive expansion of education throughout the country in a limited time and trying to improve the quality of education, the plan aims at upgrading and spreading basic education. This shall be achieved through by increasing the number of entrants into the first grade of primary school and improving the quality of education through establishing modern school buildings during the plan period with the aim of abolishing evening classes; and increasing the number of first grade schools of basic education and reducing the rates of school drop out and repetition (MONE, 2003, P.69).

This concise narration of the history of education in the Sultanate of Oman is aimed to give a clear background for the rapid development of education in Oman. Thus the history of education in Oman can be divided into four main stages.

1. **The pre-renaissance stage**: it is the period before 1970. There were only three formal schools and some Quranic schools.
2. **The quantitative stage:** it is the period between 1970 and 1980. The focus in education was on the rapid quantitative development of education.
3. **The qualitative stage**: it is the period between 1981 and 1995. This stage emphasized the improvement of the quality of education and the diversification of education.
4. **The future stage:** it is the period started after the "Oman 2020, The Vision Conference for Oman's Economy", many educational reforms such as the Basic Education started to address the educational requirements of the future.

In chapter one and the end of chapter two, there are some internal challenges produced from the geographical or social aspects. Moreover, in the rapid expansion of a national mass educational system, the issue of quality, as mentioned earlier in this chapter, was not always at the forefront, as other more pressing issues such as expanding the number of teachers, school buildings and establishing curricula programmes took precedent. In facing these challenges, the Ministry of Education has started its educational reform in the year 1995. Though these reforms are ongoing there remain a number of significant challenges coming from within the Ministry of Education. In the following paragraphs some of these issues will be explored.

AlHammami (1999, p.4) argues that although the Oman's education system has gone through many changes and innovations, its underlying philosophy and general aims and objectives have remained largely unaltered. Starting a change without altering and clarifying the aims of it is an issue highlighted by Fullan (1992, p.vii) as he claims that many educational reforms fail because of a lack of clarity about purpose when the intention behind the change has not been stated clearly enough. This lack of understanding of the purpose of development can cause major problems:

> *One of the most fundamental problems in education today is that people do not have a clear coherent sense of meaning about what educational change is for, what it is, and how it proceeds. Thus there is much faddism, superficiality, confusion, failure of change programs, unwarranted and misdirected resistance and misunderstood reform. What we need is a more coherent picture that people who are involved in or effected by educational change can use to make sense of what they and others are doing (Fullan, 1991, p.4).*

Since the clarity and constancy of the purpose of any development or change is required to be successful, the educational reform in Oman is facing a challenge in defining the reform purpose and its clear objectives.

AlHammami also states that there is a deficiency in the "General Education" system, pre-university education (grade1-12). He adds that there is a discrepancy between the inputs and the intended outcomes of the system. Pressures from the stakeholders whether parents, educators, labour market or the force of worldwide advancement have created a mismatch between labour requirements and the outcomes of the education system; and the development of the education in Oman. Similarly AlGhafri (2002, p.134-135) in exploring the challenges facing the education system in Oman states that the number of graduates who join the labour market is meagre. This problem is connected with the weak relationship between the labour market and the education system with graduates not having the required skills to meet the demands of the labour market and economy.

The previously mentioned challenges and some others are going to be discussed in more details later in this thesis. The other significant issue is the structure of the educational system in Oman.

2.13 Conclusion

In summary, the diversification of geographical features, climate, sources of income and population along with the good international relations have had their impact on the

development of Oman and hence on education, as education is the means to make the Omanis adaptable to modern and sudden changes. The role of education is to provide Omani citizens with the ability to face the external challenges of globalization and the advancement of knowledge and technology. Education also helps Omanis to deal with the internal challenges of population growth, finance, remote areas and the aspiration for development.

The educational history of the Sultanate of Oman has undergone rapid development. It has developed significantly in terms of quantitative issues; the number of schools increased from 3 before 1970 to 1046 in 2006. The quality also increased from religious focused schools to a much wider curriculum using advanced technology in teaching. Now a significant issue facing the Omani education system is to identify the future development and emerging issues and to plan to address these. Although there has been significant development, there are some factors that need to be considered to continue the development in the current time such as the internal and external challenges reviewed in chapter one, the nature of the Sultanate of Oman and its impact on education

It is clear from this chapter that there are several issues that affect education and call for change. Before discussing the possibilities for managing change, the next chapter explores the education system in Oman, its structure and the existing issues regarding its roles.

Chapter Three- Education in Oman

3.1 Introduction

The demand for educational development in the Sultanate of Oman has been so urgent that the past 36 years have witnessed many attempts at reform looking at both expanding provision -the quantitative aspects- and improving the provision -the qualitative aspects. This chapter explores these issues and also highlights the structure of the educational system in Oman; the educational legislation and the educational structure. This chapter concludes with the discussion of the pilot study which revealed the aspirations that the participants had for the development of the education system in Oman. This data included a consideration of ways to achieve these aspirations and the barriers to change. Additionally, the pilot study highlighted the existing issues in relation to the role of the Ministry of Education in Omani Education.

3.2 The Structure of the Educational System

3.2.1 Educational legislation

Educational policies in the Sultanate of Oman derive from the directives of His Majesty the Sultan and from governmental decisions which form the basis of the Ministry's educational policies and plans (MOE, 2001, p.3). This structure of the educational decision-making and administrative hierarchy as shown in figure (3.1) is composed of three authority levels. The first one is located in the Ministry Central Headquarters in Muscat and it forms the centralized top level of the hierarchical administration and the second is the mid-level administrative structure represented by the eleven Educational Directorates General in the nine educational regions. Finally, schools operate as executive administrative units (MOE, 2001, p.3).

The Ministry's responsibilities include formulating educational policies, establishing educational objectives and planning projects. The Ministry has the role of supervisor including monitoring tasks so as to ensure implementation of planned educational policies. Educational legislation is developed through committees and boards, such as the Education Council headed by H.E. the Minister and includes the Undersecretaries and the Directors General as members. Some other high level committees participate in proposing policies and legislation and monitoring their implementation (MOE, 2001, p.3).

The Ministry of Education encourages decentralized administration and decision making at the local level to improve the performance of and to ensure an immediate response rather than waiting for central directives. Within the approach of decentralization, the Ministry mandated the Regional Directorates to manage the implementation of the education system according to the Ministry's organization, structure and administration system (MOE, 2001, p.4).

The Ministry of Education plans and organizes its tasks within the context of the National Development Plan. The five-year educational plans address the objectives and projects targeted within the period of five years. Each plan includes timeframes for the implementation process, with the aim of ensuring flexibility in responding to changing conditions. The responsibilities and accountabilities assigned to each department at all levels and the tasks for each department have been precisely specified. The Ministry of Education has delegated responsibility for school management to the local educational administrative bodies and school staff (MOE, 2001, p.4).

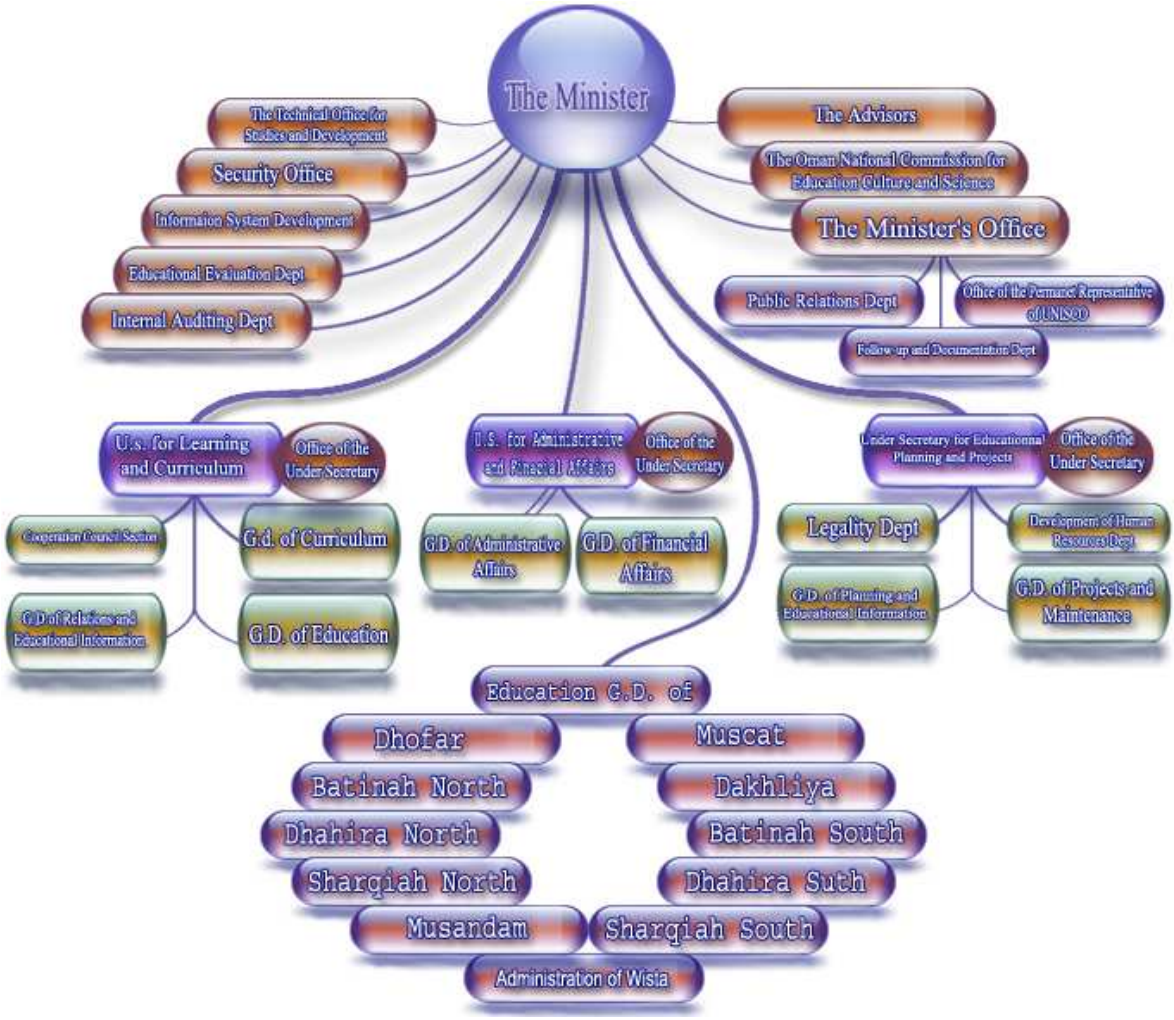

Figure 3.1 The MOE Framework

3.2.2 Education System

There are two educational systems currently in the MOE in Oman: the General Education and the Basic Education. In 1997, the Ministry began replacing the three level General Education system (primary, preparatory and secondary) with the Basic Education system. This reform aims to create a unified education system covering the first ten years of schooling. The Basic Education is organized in two cycles followed by a two-year post-Basic Education School System. The old system of General Education (Grades 1-12) is still functioning side by side with the new Basic Education one. The Ministry of Education is planning to phase the basic education system into General Education Schools.

(MOE, 2004, p.14)

3.3 General Education

General education means pre-university education, which is offered free to all citizens who are interested. It comprises three levels: primary, preparatory and secondary (MOE, 2004, p.14)

3.3.1 Primary Education (Elementary)

Children aged not less than six and not more than eight are accepted in 1st elementary. The duration of this level is normally six years, at the end of which successful pupils progress to the next level known as preparatory level. This Primary level aims to assist children developing healthy and integrative manners and to acquire basic skills and knowledge to enable them understand the social, environmental and economic relations within their community. It also prepares pupils for the continuation of their education in the next level.

3.3.2 Preparatory level

Students who successfully complete their elementary education, are admitted to this three-year level. This level forms the intermediate level between primary and secondary levels. This level aims at addressing the students' social and psychological needs relevant to their early adolescence. It also aims at enhancing the students' interests and abilities. It gives them appropriate skills and knowledge and assists them to progress to secondary education.

3.3.3 Secondary Education

Students who successfully complete their preparatory education, are admitted to this three-year secondary level. This level aims at consolidating the students' spiritual, mental and social development and prepares them for higher education, employment and participative citizenship.

3.4 Basic Education

A key strategy in developing the education system in Oman has been the replacing of the "General Education" structures and programmes with the programme known as "Basic Education". The Basic Education is gradually replacing the General Education. Basic Education is defined as:

> *a unified 10-year education, provided by the government in the Sultanate of Oman for all children of school age. It meets their basic education needs in*

> *terms of knowledge and skills, enabling them to continue their education and training according to their interests and dispositions. It also prepares them to face the challenges of present circumstances and future development in the context of comprehensive social development (MOE, 2001, p.1).*

The Basic Education is intended to provide (MOE, 2001, p.1):

1. Integration between theory and practice, thought and work, education and life.
2. Comprehensiveness in developing the aspects of personality.
3. The acquisition of self-learning skills in the context of lifelong education.
4. The inclusion of the values and practices necessary for mastery and excellence in learning and teaching.
5. The means to meet the needs of human development in the context of comprehensive social development.

Basic Education covers a span of ten years and is divided into two cycles based on the pupils' age in each cycle and the characteristics and growth needs.

3.4.1 The First Cycle

The First Cycle lasts for four years and consists of Grade 1-4. Pupils' age in this cycle ranges between 5 and 10. This Cycle is concerned with providing the pupils with the knowledge and skills necessary for their age group and developing their attitudes and values to continue learning in the following levels. The Ministry has given particular attention to the first cycle because of its great importance as a foundation stage (MOE, 1998).

3.4.2 The Second Cycle

This cycle lasts for 6 years and consists of grades 5-10. Pupils' age in this cycle ranges between 11 and 15. It aims to teach communication and learning skills, critical thinking, science and modern technology.

3.4.3 Secondary education

This level covers a span of two years (Grades 11 and 12). It is composed of both compulsory and elective subjects. It leads to the General Certificate in General Education and to the General Education Diploma in Post-Basic Education (MOE, 2001).

In addition to the General Education system which is now being replaced by the Basic Education system, there are a number of other aspects that are part of education in Oman.

Included here are Pre-Five Education, Special Education and Adult Education-both first level education to tackle adult illiteracy as well as higher education (MOE, 2001).

3.5 Private Education

The private sector plays a supportive role in the provision of education. Its main role is in the kindergarten and nurseries. However, the private education sector contributes as well in providing access to primary, preparatory and secondary education.

3.6 Special Education

The Ministry of Education has established special schools for hearing and communication impairment, for the complex learning impairment and a special institute for the students with visual impairment. Students with visual impairment are allowed to join ordinary schools, which are provided with the educational equipment and learning facilities they require to access learning.

3.7 Illiteracy Eradication and Adult Education system

Illiteracy eradication and adult education is a key priority alongside formal education. This kind of informal education is designed to give an opportunity to those who missed the chance of education when they were in school age. Candidates who successfully overcome their illiteracy can continue their general education and progress to higher education too.

In addition to the ministry responsibilities toward general education it also supervises pre-school education, which is established largely by the private business sector.

3.8 Pre-school Education

This is provided by some government institutions and by private sector schools, in the forms of kindergarten and nurseries for children below school age.

3.9 Higher Education

Higher education is the responsibility of the Ministry of Higher Education. Higher Education includes Sultan Qaboos University, the Colleges of Education, Technical Colleges and Institutes and private universities and colleges. These institutions offer higher education for students who successfully pass secondary school.

Sultan Qaboos University was established in 1986. It was opened with five colleges: Medicine, Engineering, Agriculture, Science and Education. In 1987, a College of Arts was added and in 1993 another College of Commerce and Economics was established. Moreover, the University has also set up programmes for study to higher degrees.

The Sultan Qaboos University admits students who successfully complete their secondary certificate. However, entry is highly competitive and based on examination scores because the capacity of intake of the University is quite limited. This is part of the reason why private Universities and colleges have opened.

3.10 Colleges of Education

As mentioned previously in this chapter, the Colleges of Education were established first as secondary level institutes and then intermediate Training Colleges and finally University Teacher Education Colleges. These Colleges are under the supervision of the Ministry of Higher Education. They provide courses for secondary schools graduates to become teachers for all levels of general education. As part of the continuous development of higher education in the Sultanate of Oman and following the success of Omanisation policy in the public education system, five out of the six colleges have been converted to specialist colleges with effect from the academic year 2005/2006. This step was taken to enable the colleges to increase their student intake in the range of disciplines required for the nation's development. The College of Education in Rustaq is continuing in its original role of running training courses for teachers (MOI, 2006, p.100)

3.11 Existing Issues in the MOE: the Results of the Pilot Study

After reviewing the development of the Education in Oman in chapter two, it is clear that there have been substantial changes in the expansion of education but there is a need to consider issues of quality. The previous parts of this chapter discussed the structure of the Ministry of Education in Oman, its legislation, remit, size and educational system. As a preliminary to investigate the issues concerning the role of the MOE, a pilot study was conducted. The main purpose of the pilot study, as explained in detail in chapter seven, is to discover the existing issues in the MOE in relation to their role in leading and managing the development of the Omani education system and to help in selecting a suitable method for the main study. The pilot study used four separate semi-structured focused group

interviews; the first group consists of Directors in the MOE Central Headquarters, the second group consists of Directors in the Regional Directorates, the third group consist of the head teachers and the fourth group consist of the teachers. The researcher is a member of the MOE staff but as she needed to collect information from others, she selected the pilot study sample to be as representative as possible. This is especially important as the MOE's stakeholders are diverse and scattered within the MOE hierarchical system. The Directors in the MOE Central Headquarters play prominent roles in the process of decision making and formulation of the policies. Similarly, the Directors in the regions have major roles in the connection between the field; schools; and the policy makers. Moreover, they are an important part of the decision makers in the regional levels. Head teachers and teachers are the implementers of any development in the school level and usually their contact with the MOE Central Headquarters is through the Regional Directorates. There were four main questions as follows:

1. What are your aspirations for education in Oman?
2. What do you think you/we should do to achieve these aspirations?
3. What do you see as the barriers to change?
4. What would you identify as major problems in relation to the role of MOE?

The following tables show the results from analysing the interviews presented in four themes according to the answers of the four questions.

3.11.1 The Interviewees' Aspirations

Table 3.1 The Interviewees Aspirations

The theme	The results
The Interviewees' Aspiration	• Meet the world wide needs. • Curricula focus more on science. • Curricula focus on life skills. • Education focus on market needs. • Plan according to the field (schools) needs. • Open communication between planners and implementers. • Cooperation between different directorates and within each directorate. • Less centralization.

The four groups' responses were similar to each other. Their aspirations range from general such as meeting world wide needs to specific such as open communication between MOE Central Headquarters and the schools. One of the interviewees stated;

> *We wish there will be open communication between the MOE Central Headquarters and the schools. Sometimes, very minor issues take a long time to be solved because of the weak or let us say slow communication. This is in addition to the various channels they need to go through (Group three).*

The open communication is also related to another point which is centralization in planning and decision making. Many of the interviewees aspire for less centralization. One of the interviewees stated;

> *The MOE will be more developed and most of the existing problems will be solved if it moves seriously towards decentralization. Regional Directorates are qualified enough to deal with many of the issues that are still centralized (Group one).*

Many other aspirations, as shown in the previous table, are focused on planning. Participants stated that they aspire for planning to focus more on schools' needs and the needs of market forces. They also stated that the curriculum should focus on life skills and more on science as requirements for the economy. One of the interviewees stated that;

> *Planning in the MOE is central and theoretical, it is born in offices. We want the MOE to have more practical planning based on schools' needs and we wish to see the decision making less centralized (group three)*

3.11.2 Achieving the Aspirations

Table 3.2 Achieving the Aspirations

The Theme	The Results
Ways to Achieve aspiration	• Understanding change process. • Cooperation and teamwork. • Inspired and informed Management. • Participation of all staff in change and development projects. • Organizational structure development. • Creation of shared vision • Change and development should focus on the MOE objectives.

In their views regarding achieving their aspiration, the four groups of the interviewees focused on three main ideas: management, participation and planning.

The interviewees stated that in order to achieve their aspiration, there must be an informed and inspired management or in other words, supportive managers. One of the interviewees stated that;

> *To achieve our aspiration we need an inspired and informed management who believe in change and who can support the staff with good ideas and suggestions instead of depressing them (group two).*

Another interviewee stated; *Managers should also be leaders in a cooperative way (group two).*

The interviewees stated that more participation of staff would be useful in achieving the aspirations and developments. They also mentioned better understanding of the change process, cooperation and team work as means for achieving their aspiration. Moreover, they highlighted the importance of a shared vision between managers and staff. One of the interviewee said;

> *In order to achieve these aspirations, I think, all MOE's staff and managers should participate in the development from A to Z. I mean, they should have better understanding of the change process and the reasons behind it and also get informed about the feedback. We always participate in change but then we hear nothing about the results till we start a new change project (group three)*

The third idea in the theme of achieving the participants' aspirations is planning. The participants suggested that development in the MOE should focus on achieving the Ministry's objectives. Moreover, they said that the organizational structure should develop to support the changes in the Ministry and to solve some of the issues such as the weak coordination between directorates. One of the interviewee stated that;

> *I think MOE's organizational structure needs to be developed in a way that makes the different directorates more cooperative and communicative. This might be achieved through adding some departments or directorates responsible for change and coordination between different levels in the ministry (group one).*

Another interviewee suggested

> *If we are about to develop and or implement a change in the Ministry, there is a need for the development to be based on the existing MOE objectives,*

otherwise, it will lead us to a different way from where we would like to go (group four).

3.11.3 Barriers to change

Table 3.3 Barriers to change

The Theme	The results
Barriers to change	• Unmotivated workers. • Lack of communication. • Weak team work motivation. • Insufficient management support. • Various contradictory change projects. • Unqualified staff. • Lack of realistic databases. • Sustaining change projects

The interviewees highlighted various barriers to change. Most of which are related to the role of the managers in development, the staff's motivation and qualification, the planning of and communication between the development projects.

The interviewees stated that the role of the managers in supporting the change is very important. One of the interviewees said;

The support of managers toward change is essential. The problem we face here is that managers support any new change project at the beginning and then switch to a new change project (group four).

This limited focus on sustaining change projects already set up is an issue. Another barrier to change they highlighted is the staff's motivation to participate in change projects. They also highlighted an important issue regarding the staff's qualification and their background education and training which is sometimes not suitable for the roles in the change. One of the interviewees stated that;

Sometimes the staff who are responsible to implement change are not well-trained or qualified for change projects which affect the projects negatively and this also might prohibit the change completely (group three).

Another important barrier that was highlighted by the interviewees is the planning of the change project. One of the interviewees stated that;

> *The various change projects that are implemented in the field at the same time form a barrier to change. Different projects from different directorates are dealing with the same issue and are implemented at the same time (group two).*

Besides the unsuccessful planning, this barrier also highlights the issue of coordination and communication between different directorates.

3.11.4 Major Problems in the MOE

Table 3.4 Major Problems in the MOE

The Theme	The results
Major problems in relations to the role of MOE	• Unqualified staff. • Centralization in planning. • Unmotivated change implementers. • Lack of communication. • Unsatisfactory school graduates. • Repetition of process because of faulty planning. • Ineffective delegation of authority. • Subjective staff evaluation. • Negative interaction between the roles of different directorates. • Lack of constancy of purposes between different directorates. • Weak coordination between different projects. • Unfair human resource development plans. • Unsuccessful meeting arrangements. • Ineffective time management.

In discussing the problems that are related to the MOE, the interviewees stated that there are various problems mostly concerned with management, staff, and planning. Various problems mentioned are related to the management's roles in the MOE. Interviewees said that planning in the MOE is mostly in the administrative level in the MOE Central Headquarters and both the Regional Directorates and the schools are implementers. In their view, this forms a problem as planners are not involved directly with the issues in the field, so they plan change theoretically. One of the interviewees stated;

> *Managers in the MOE Central Headquarters sit in their offices and plan for a change project. Theoretically, it is perfect but practically it is not working for us (group three).*

The interviewees also highlighted some other issues related to management such as the qualification of managers. They stated that some managers are not well-qualified to accomplish their roles. Moreover, interviewees stated that one of the prominent issues in the MOE is the delegation of authority. They pointed out that the managers keep most of the responsibilities to themselves and they delegate authority unsuccessfully. In highlighting this point one of the interviewees stated;

> *Managers try to be responsible for most of the tasks and when they delegate, they delegate unsuccessfully by assigning the wrong person or the wrong task (group two)*

Other problems highlighted by the interviewees were related to staff. They pointed out that the lack of motivation of those to implement change is an issue to be concerned. They also stated that there is unfair staff evaluation and this is due to the unclear evaluation criteria. Moreover, the human resource development is unfair and it is mostly centred in the MOE Central Headquarters and opportunities are not available to others. One of the interviewees pointed out:

> *The training and postgraduate studies are not fair for all. Most of the chances are for the MOE Central Headquarters' staff. In the Regional Directorates, staff get very limited chances" (group two).*

Most of the problems highlighted by the interviewees were related to planning. They raised the issues of unsuccessful meeting management. When there is a meeting in the MOE Central Headquarters, there is no understanding about staff from other regions and their personal circumstances and the distance between the Central Headquarters and their regions. Another problem that was highlighted is time management. When some tasks are assigned to the staff, either the time is too long for them to be accomplished or too short. This is in addition to the ineffective planning of some projects that causes a lot of repetition and waste of time.

There are some other problems such as weak communication, coordination and interaction between different directorates and within each directorate. One of the interviewees stated;

> *There is no complete coordination between different directorates regarding development projects which causes confusion in the field and negative effects in the implementation of the projects and in the teaching and learning (group four).*

There are some other problems which are discussed before in this section such as the unsatisfactory school graduates. This problem is mostly related to the planning of curricula and education system. It was highlighted that the planning is not concerned fully with the needs of the economy and market forces and so unsatisfactory school graduates are produced.

In summary, aspirations and ways to achieve them; and the barriers to change and problems related to the MOE roles highlighted some other major issues. Most of the issues pointed out the roles of the MOE Central Headquarters in achieving the aspirations and in being responsible for the existing problems. This is because the MOE Central Headquarters is considered as the top level of the Ministry of Education's hierarchical administration and it is responsible for centralized decision making, planning, management, communication and human resource development. Consequently, the development of the MOE Central Headquarters might help in solving the existing issues and help the MOE to deal with the internal and external challenges and fulfil the Oman's aims and aspirations.

3.12 Conclusion

The educational history of the Sultanate of Oman has undergone rapid development. It has developed significantly in terms of quantitative issues; the number of schools increased from 3 before 1970 to 1046 in 2006. The quality also increased from religious focused schools to a much wider curriculum using advanced technology in teaching. Now a significant issue facing the Omani education system is to identify the future development and emerging issues and to plan to address these. Although this is significant development, there are some factors that need to be considered to continue the development in the current time such as the internal and external challenges reviewed in chapter one, the nature of the Sultanate of Oman and its impact on education, and the existing issues and problems facing the Ministry of Education. Thus the next chapter discusses various change management theories to find a suitable approach that can help the MOE to overcome the existing challenges and issues.

Part Two
The Literature Review

Chapter Four- Change Management

4.1 Introduction

This chapter aims to identify the different approaches of managing change and improvement to critically appraise the various theoretical models in order to find the best suitable approach to develop the Ministry of Education in Oman. This will be achieved through defining the meaning and nature of educational change. Change is a significant issue within the management and administration of educational systems and so it is important to examine this concept in some depth. This chapter will also highlight the importance of the management of educational change and factors affecting initiation, implementation, sustaining change and ensuring that changes become embedded into accepted practice. Moreover, the issues of change in educational administrative organizations are explored drawing from discussions and research in this area. This is in addition to mapping out change management theories, their advantages and limitations with regard to the context of the Ministry of Education Central Headquarters. This chapter concludes with the proposal that Total Quality Management might be a suitable approach for developing the Ministry of Education in Oman.

4.2 Concept and Requirements of Change Management

The management of change has become a topic of perennial interest in the last three decades as a result of the enormous and apparent change in every aspect of human endeavour and initiative. It is argued that change is an integral feature of organizational life and of education in particular. As a result, learning how to deal with and manage change has become almost a prerequisite to maintain development and improvement within educational systems. Therefore a key concept of the process of educational development is that of 'change' with the management of change a major focus of both research and practice. The meaning of educational change is rarely clear and this lack of clarity often leads to organizations being reticent to change. However, any change cannot be successful unless it has a clear meaning. Thus Marris (1975, p.121) argues that, "*any innovation cannot be assimilated unless the meaning is shared*". In the following sections a discussion of the meaning of educational change and some of its several dimensions will be presented.

The meaning of change as stated in the Oxford Dictionary is "*making or becoming different*". It entails action in a situation to transform an object from one condition to

another (Calabrese and Shoho, 2000, p.210). Reviewing some of the literature related to the meaning of educational change, it is found that change is multidimensional and can vary accordingly within the same person as well as within the same organization. Morrison in his book *Management Theories for Educational Change* (1998, p.13) gives a good description of the fundamental meaning of the educational change:

> *a dynamic and continuous process of development and growth that involves a reorganization in response to felt needs. It is a process of transformation, a flow from one state to another, either initiated by internal factors or external forces, involving individuals, groups of institutions, leading to realignment of existing values, practices and outcomes*

In his definition Morrison refers to educational change as a continuous process of evolution, whereby transition is a normal part of the sequence of events and the education system is perceived as being in a state of natural flux. Fullan (1991, p.37) adds that the educational change is not a single entity; it is multidimensional where there are at least three dimensions: the possible use of new materials, the possible use of new methods and the possible alteration of beliefs. Such a view requires a development of people strategies to cope with organizational change. This is the most difficult part given the centrality of people and social relationships within the educational process. Oliver (1996, p.4) underscores these characteristics:

> *Education is an area of work which demands a high level of personal commitment. It is difficult in many ways, to imagine someone working in education without giving an enormous amount of 'themselves' to the job.*

Therefore, change has a personnel dimension that the people who need to be the change agents should have positive attitudes to change and to contribute to the process of change effectively. So a sense of empathy for those participating in change is a prerequisite.

Participation or more specifically positive participation is an essential requirement, if educators, whether teachers or administrators, feel that they are part of the process of decision making about change and not merely implementers, the atmosphere of change will be more participative and have a more positive outcome in initiating and ensuring effective change. As Oliver (1996, p.6) explains:

> *It is important for the viability of the transition that change agents are involved who are familiar with the different facets of the organization and the implications of the proposed change.*

In short, change agents need to be self-conscious about the nature of the educational organization and appreciative of the change process and its unpredictable character. Change agents then ought to cope with difficult aspects of change and influence its desired outcomes.

An important facet of change is the starting point of change which is highlighted by Morrison in his previously mentioned definition. It is the needs assessment. Analyzing the needs or identifying the reasons behind change is an important feature in the planning of change. Handy and Aitken (1990, p.102) sum this up:

> *People will push for change because they are dissatisfied; events will push those who want to hold on to what they have got because they are satisfied. The only certainty about the future is its uncertainty, that there will be changed.*

Change, however, is not always a result of individual or groups within an organization being dissatisfied. In education, change may either imposed or voluntarily participated in. The factors affecting change initiation in the MOE in Oman were discussed in detail in chapter one and chapter three. Nevertheless, whether the change is internally driven or externally imposed, the process of managing change will be complex. It represents "passing through the zones of uncertainty…the situation of being at sea, of being lost, of confronting more information than you can handle" (Schon, 1971, p.12). Given that change is full of uncertainty, the following points should be highlighted which emphasize the personal dimension in the process of change and its management. First, it is very much the case of practising new ways towards the aimed development. Second, these practices need cooperation and good relationships between change planners and implementers. Third, in such a dynamic situation people must become, as Goodchild and Holly (1989, p.165) emphasise, more experimental, tolerant of failure, ambitious, self-confident, resourceful, flexible, creative, cooperative, supportive and mutually reinforcing; and encouraging of each other.

Real change, then, whether desired or not, initiated by internal or external forces engages significant individual and organizational experience, and is characterized by uncertainty and ambivalence. Furthermore, when the change works out and causes a positive alignment to existing values and practices, it can result in a sense of accomplishment, be rewarding and provide professional development. The anxieties of uncertainty and the joys of

accomplishments and the sense of professional development are central characteristics of the meaning of educational change.

4.3 Importance of Change Management

Change is an ever-present feature of educational organizations, though as chapter one shows the pace and magnitude of educational change have increased significantly in recent years. Whitaker (1993, p.1) notes that there has been more educational legislation in the UK, since 1980, for example, than in the whole previous history of education. The increase in legislation in relation to education is a logical result of the challenges to educational systems posed by a rapidly changing world: globalization, pressing needs for skilled labour and technological advances that are having an impact on life as well as education. These changes require constant adjustment to educational organization. Bennett et.al (1992, p.1) state that since the early 1980s school and college management throughout the world has had to deal with a set of expectations and responsibilities which has been changing rapidly. They add that many of the changes are radical and have unclear consequences. It is clear that the way such changes are managed, and the appropriateness of the approach adopted, have essential implications for the way people experience change and their perceptions of the outcome (Burnes, 2000, p.251-2). Burnes (2000, p.252) also claims that many managers have doubts about both the approaches to and outcomes of change. He adds that, according to some surveys, organizations can and do experience severe problems in managing change effectively. Undoubtedly, managing change is an essential activity at all levels within educational organizations in order to effectively integrate that change within daily practices, and to get the most out of the benefits and outcomes.

4.4 Change Management in Educational Administration

Managing educational change is one of the most important and complex tasks of educational administration. As Fullan (1995) and others point out, education leaders need to understand the change process in order to lead and manage change and development efforts effectively. Educational administrators must learn how to cope with the natural complexity that exists during change and how to overcome the change obstacles. Such inspired and informed educational administration is critical to the success of the educational development. Burnes (2000, p.505) points out the importance of the administration and the roles of managers in development:

> *Managers can identify opportunities for progress, and can ensure the organization and its environment remains in harmony. They can create the conditions for growth and prosperity. Effective managers are, therefore, for very positive reasons, important to an organization.*

In a changing educational organization, administrators must change to survive and prosper. As discussed in previous parts of this chapter an appropriate organizational change will not enable people to work effectively unless they are appropriately managed. There is no doubt that changes in education are causing profound shifts in the roles of the educational administrators. New methods with old thoughts and management cannot work effectively. So a change process needs to be accompanied by change in administration as well. Morrison (1998, p.207) summarized the important role of administration in change management in two points. First, educational administrators must exercise leadership for change and direction of the organization, i.e. managers must set the direction of changes and developments. Second, educational administrators must support changes that have been initiated in other parts of the organization, to balance the change initiation. Morrison sees the educational administration in change as leader, director and supporter of change. Managers plan, direct and supervise the change; as well as support it.

4.5 Change Management Theories

Change management theories are linked to identifying and managing processes planned to make organizations more successful. The next few paragraphs will focus on approaches to planning and implementing the changes required to achieving, or shaping, strategic objectives in organizations.

4.5.1 Problem- solving approach

Problem solving is one of the most common approaches in dealing with change because of its daily use in life. Dealing with a flat tyre, finding good material for your thesis and searching for good computer programs for your children are all typical problems in our lives and illustrate how problem-solving is a part of human activity. Before looking at the terminology of problem-solving, though, starting with a definition of a problem is useful.

Harris (1998) argues that a problem has more than one meaning. In keeping with this insight, he offers different explanations in an effort to clarify its meaning as fully as possible. He points out the various meanings of a ‘problem’ as follows:

A problem is an opportunity for improvement: it is a chance to make the organization or some of the situation better.

A problem is the difference between your current situation and your goal state: knowing the gap between the existing situation and the one aimed at is a problem.

A problem results from the recognition of an imperfect present and belief in the possibility of a better future: hopes for treating the imperfection of the organization and aims toward a better future cause a challenge and therefore a problem.

A problem is also simply defined by Johnstone (1992, iv) as a 'situation where at present you do not know the answer'

Looking at the definitions put forward by Harris and by Johnstone one can notice that a problem exists whenever one has a goal and an ideal state and these have not been attained. Moreover, aspiration for a better future can form a problem. A problem also exists when the present and the intended situations are identified and the solver is not immediately able to achieve the goal.

Furthermore, Shibata (2004) assures the previous meaning of a problem and argues that a problem is decided by purposes. He adds if a purpose is different between managers, they look at the identical situation in different ways. Therefore, in order to manage change using a problem-solving approach, the change agents, such as organization managers, should start from the definition and clarification of purposes and problems.

From the previous definitions, it can be concluded that problem solving is a change process where the problem solvers use previous knowledge to move from one point to another without initially knowing how to move. Problem solving is also when one invents a new rule or combines some of previously learned rules to solve a problem. One can use different strategies to reach a solution, as it will be described in the following paragraphs.

Much of the literature in this area consists of variations on the problem solving approach and its applicable models. Bank(1992, p.174) identifies a six stage model of problem solving:

- Stage One: Identifying the exact problem (the most important problem if there are more than one)
- Stage Two: Identifying the causes of the problem.
- Stage Three: Generating and prioritizing possible solutions to the problem.
- Stage Four: Choosing the most suitable solution and translating it into action plans.
- Stage Five: Implementing the preferred solution, ensuring that the commitment is high and the application is well controlled.
- Stage six: Evaluating the outcomes to find out how effective the solution has been.

In Bank's model, enough time must be given to the early stages in order to ensure that the problem is correctly perceived and the appropriate solution is selected. Moreover, implementing the solution and planning for contingencies are essential for the success of the model.

Fisher (2004) suggests a 4-step model which is easily applicable:

- Stage One: Identify the problem. Problems are extremely complex and inter-related. The most important is to find the principal problem that, if solved, will help in solving other problems.
- Stage Two: Generating alternatives. During this stage alternatives are suggested as tentative or possible solutions.
- Stage Three: Evaluating alternatives. In this stage all alternatives are considered and evaluated to make judgements.
- Stage Four: Choosing a solution and developing a plan for implementation. This is the decision making stage. After choosing the suitable solution, an implementation plan is required.

It is noticeable that Fisher's model is much similar to Bank's but it is more concise. When using Fisher's model in change management, change agents must share in identifying the problems and in selecting the alternatives as this makes the degree of commitment in implementation much higher.

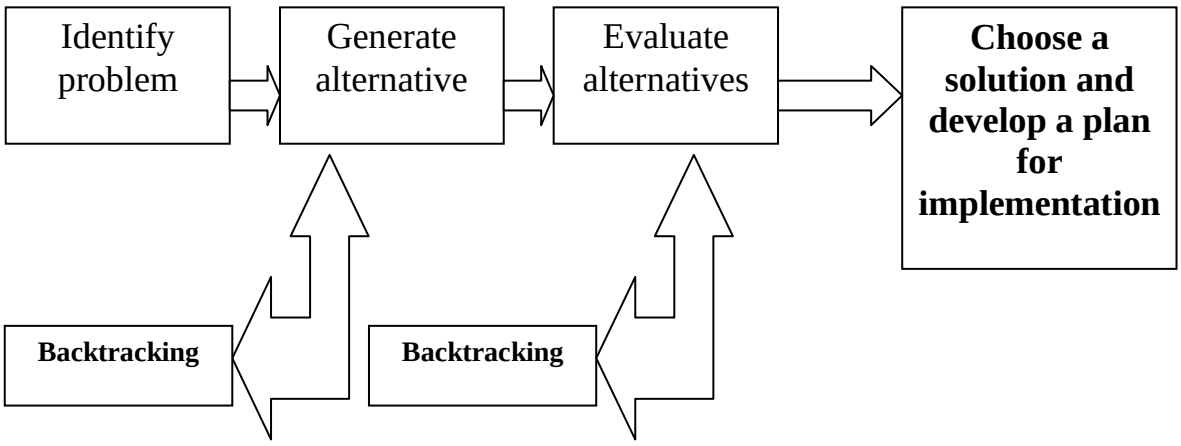

Figure 4.1 The 4-step Problem Solving Model

In conclusion, the problem-solving approach centres on thinking about goals and ideals. When a goal is met, the problem should be concluded. In this approach, the awareness of problems or weaknesses will increase the chances of improvement, so change agents will be problem seekers rather than problem avoiders. As a result, most problems of the organization will be solved and change will be achieved. Problem-solving approaches provide the basic framework and processes underpinning school development planning widely used in many educational systems such as the UK and Australia.

However, although a problem-solving approach is useful for change management, an important limitation of its application in the MOE Central Headquarters is the context effects. MOE Central headquarters operates within real time rather than a timeless theory that presents a way of moving through stages so that moving through problem solving towards the aimed goal, the problems change radically and consequently goals must go through adjustments and refinements. Problem-solving approaches lay out a sense of logical steps which you move through progressively. However change is a far more complex process. It is difficult to keep the goals focused on current and emerging problems. In other words, there are some causal factors in the environment which are not part of the problem but still influence the problem-solving process. For example, there might be problems in perception, or inability to understand other's views. Emotional problems such as the fear of risk-taking or inability to accept criticism could form an obstacle in implementing a problem-solving approach. There are some other obstacles that can be caused by the lack of support from the top management or usage of incorrect data.

4.5.2 Learning organization

Argyris and Schon in their book *Organizational Learning: Theory, Method and Practice* (1996), discuss the idea of organization learning and how to use it as an approach for

change management. They define an organization as learning in the sense that all organizations learn whether productive or not, as organizations will acquire information (knowledge, understanding, know-how, techniques or practices) of any kind and by whatever means. However, Argyris and Schon describe the productive learning organization in terms of the value the organization attributes to an increase in effectiveness and efficiency.

It is important to point out the complex interactions that occur between individual and organization learning. These are discussed by Argyris and Schon (1996, p.4-6): the learning of individuals who interact with one another is essential to organizational learning, which feeds back to influence learning at the individual level. The focus is on how the organization can encourage individuals to share their knowledge and thus enrich the knowledge of the organization. It is likely that the flow of knowledge through the organization can be suspended by the organization hierarchy or by boundaries between the individuals, as often is the case within education.

One of the basic theories of organization learning is the Organization Inquiry. Organization Inquiry is always based on a problematic situation due to the mismatch between the expected and the actual outcome. Argyris and Schon (1996, p.11) claim that an inquiry becomes an organizational inquiry when undertaken by individuals as agents for the organization according to the prevailing roles and rules. For example, in an educational organization the ongoing process of obtaining quality is usually individual but if this issue is discussed on the shared agenda of all concerned staff and it is decided that it is to be investigated involving different perspectives then it will become an organization inquiry.

Argyris and Schon (1996, p.20-21) define two types of learning in an organization; single-loop learning and double-loop learning. The single-loop is instrumental learning that changes strategies of actions or assumptions related to strategies in ways that do not change the values of a theory of action. In other words, organizations learn in order to adjust to a changing context and to introduce change to keep performance within the range specified by existing values. On the other hand, double-loop learning means learning that results in change in the values of theory-in-use, as well as its assumptions and strategies. The double-loop refers to the two feedback loops that connect the observed effects of action with strategies and their values. This means that organizations learn about their own learning process. Argyris and Schon (1996, p.21) emphasise that through double-loop

learning only the individuals or organizations can address the desirability of the values that rule their theories-in-use and seek alternative or better outcomes.

In order to create an organization environment conductive to strategic learning, Argyris and Schon (1996, p.259) suggest that the members of the organization must be able to learn strategically. Therefore, managers should learn to create an organizational environment in which designers are encouraged to make their ideas explicit, implementers are helped to surface their questions and worries about designs and the implementation, and both designers and implementers are helped to feel the importance of their roles in organization learning.

Argyris and Schon (1996, p.282-284) describe an idealized progress toward double-loop learning in organizations in order to restructure and fix the organization. First the defensive patterns that prohibit the learning are described. Then, participants with managers design ways to stop self-reinforcing processes that interrupt the double-loop learning. Next, managers help participants to assess the degree to which their action strategies are likely to limit the implementation of the solutions they have designed. After that, managers help participants to realize the failure of their strategies and involve them in some sessions to develop some of the skills and concepts they need. Then, managers reduce the use of defensive reasoning, and increase the use of productive reason. Finally, managers reduce secondary inhibitory loops, especially organizational defensive routines, and replace them with high quality inquiry, good dialectic and double-loop learning.

By using organization learning as a change management approach the organization progresses in a spiral of continuous learning and innovation instead of simply repeating cycles (The Auditor General of Canada, 1992, p.157). However organization learning might not be suitable in an educational organization like the MOE Central Headquarters because it is couched in the language of ‘humanistic mission’ while paying almost no attention to some managerial aspects such as time management and funding which are some of the main issues that arose from the pilot study as discussed in chapter three. Moreover, the MOE is not a discrete organization that is not self- standing but is more complex with these necessary relationships and decision-making processes over distance and different institutions.

4.5.3 The Three –step model

One of the early fundamental approaches of change management was derived from the seminal work of Kurt Lewin. He conceived of change as a modification of those forces keeping a system's behaviour stable (Cummings and Worley, 1993, p.53)

In developing this approach, Lewin (1958, quoted in Burnes, 2000, p.270) notes that:

> *A change toward a higher level of group performance is frequently short lived; after a 'shot in the arm', group life soon returns to the previous level. This indicates that it does not suffice to define the objective of the planned change in group performance as the reaching of a different level. Permanency at the new level, or permanency for a desired period, should be included in the objective. A successful change includes therefore three aspects: unfreezing(if necessary) the present level…, moving to the new level…and [re]freezing group life on the new level. Since any level is determined by a force field, permanency implies that the new force field is made relatively secure against change.*

In Lewin's view, the level of behaviour at any time is the result of two sets of forces: those striving to maintain the status quo and those pushing for change. When these two forces are equal, the levels of behaviour are maintained in what Lewin called "*quasi-stationary equilibrium*". In order to change that state, *"one can increase the forces pushing for change, decrease those forces maintaining for current state or apply a combination of both"* (Cummings and Worley, 1993, p.53). Lewin views this change approach as consisting of three steps (Morrison, 1998, p.23-5; Burnes, 2000, p.270-271 and Cummings and Worley, 1993, p.53):

Step One: Unfreezing the present level. This step involves reducing those forces that maintain the organization's behaviour at its present level. Unfreezing usually requires recognition that the existing practices are no longer effective. Unfreezing is sometimes accomplished through some form of confrontation or re-education for participants and organizations. It can also be achieved through team-building or some other forms of change development. The essence of these activities is to enable the change agents to become more convinced of the need for change.

Step Two: Moving to the new level. This step shifts the behaviour of the changing organization to a new level. It involves taking actions to move to a more desirable state after having identified the need to move from the present state. Alternatives are identified and the most appropriate selected. It also involves developing new behaviours, values and attitudes through changes in organizational structures and processes. A key task in this step

is to ensure that it is done in such a way that the change agents do not revert back to the old ways of doing things.

Step Three: Refreezing the new level. In this stage the organization is stabilized in the new state in order to ensure that the new ways of working are relatively safe from regression. This can be achieved through careful attention to support strategies and mechanisms that positively reinforce the new ways of working; these include rewards and the development of the organizational culture, norms, policies and structure.

In the three-step approach, before a new change occurs, the old behaviour has to be discarded. Only then can the new practices be accepted. The three-step approach stresses the importance of felt-need and the role of change agents is clear, both in unfreezing and moving to the new. The three-step approach provides a general framework for understanding of change management. What is useful about this approach is that it gives rise to thinking about creating a staged framework to changing the organization. Studying the situation before moving is usually good practice. However, this approach is relatively broad and not easily applicable in educational organizations in general and the MOE Central Headquarters particularly. This model of change is a start-stop process with the refreezing process stabilising new practices but this model does not take into account change as a continual process especially where the emphasis is on ongoing improvement such as is the case with the role of MOE. Further, it does not allow for change efforts within the organizations that start with instability. In other words, the beginning and the ending point of this approach is stability, which for most educational organizations especially MOE Central Headquarters, is impossible as it is changing rapidly, as discussed in chapter three.

4.5.4 Action Research Model

The action research model focuses on planned change as a cyclical process in which initial research about the state of the organization provides information to guide later actions to change. Then, the results of the actions are evaluated to offer additional information to direct further actions and so on (Cummings and Worley, 1993, p.55). French and Bell (1984, p.98-9) summarise the definition of action research as follows:

> *Action research is research on action with the goal of making that action more effective. Action refers to programs and interventions designed to solve a problem or improve a condition …action research is the process of*

> *systematically collecting research data about an ongoing system relative to some objective, goal, or need of that system; feeding these data back into the system; taking action by altering selected variables within the system based both on the data and on hypotheses; and evaluating the results of actions by collecting more data.*

It is clear from the above definition that action research involves considerable collaboration between organizational members and change agents. There also has to be felt-need for the necessity of change. In addition, this approach requires a lot of data gathering and analysis before action planning and implementation, as well as careful assessment of results after application.

There are eight main steps of action research put forward by Cummings and Worley, 1993, p.56-8):

Problem identification. This stage usually starts when there is a felt-need for change. It might begin when someone with power in the organization senses that the organization has one or more problems that might be alleviated with the help of change management practitioners.

Consultation with a behavioural science expert. During the initial contact, the consultants or the change agents and the organizational members assist each other. As the change agents have their own normative, developmental theory or frame of reference, they must share them with the organizational members from the beginning to establish an open and collaborative atmosphere.

Data gathering and preliminary diagnosis. Change agents usually complete this stage, often in conjunction with organizational members. The four major methods of gathering data are: interviews, process of observation, questionnaires and organizational performance data. One approach to diagnosis begins with observation, proceeds to semi structured interview and concludes with a questionnaire to measure the problems identified by the earlier steps precisely.

Feedback to key client or group. As action research is a collaborative process, the data are fed back to the client, usually in a work-team meeting. This step gives the organization members the opportunity to identify the strengths and weaknesses of the organization or the department under change. The change agents provide the organizational members with all relevant and useful data.

Joint diagnosis of problem. At this stage, the group discusses the feedback and the focus returns to research. A close interrelationship exists among data gathering, feedback and diagnosis because the basic data from the organization members have been summarised by the change agents and presented to group for validation and further diagnosis.

Joint action planning. In this step, the change agents and the management team agree on further actions to be taken. The actions agreed to will depend on the culture, technology, and environment of the organization; the diagnosis of the problem; and the time and expenses of the intervention.

Action. This stage involves the practical change from one state to another. It may include installing new methods and procedures, reorganizing structures and reinforcing new practices. These actions cannot be implemented immediately but require enough time for the organization to transform from the present to the desired state.

Data gathering after action. Since action research is a cyclical process, data must also be gathered after the action has been taken in order to measure and determine the effects of the action and to feedback the results to the organization. This, in turn, may lead to rediagnosis and new action.

Action research is a successful model to help organizations to implement change and gain general knowledge that can be applied to other settings. However, to implement it, there is a need to gain the commitment of organization members. Often action-research focused on a specific practice or set of practices conducted by a group where there is an issue or problem. Its strength is direct involvement of practitioners. However, its focus is in relation to their practice rather than the workings of the organization as whole. This is extremely difficult especially when dealing with large or complex organizations such as educational organizations. This approach might not be suitable for the MOE Central Headquarters as an Action Research approach involves participation of all staff in formulation of existing research problems and the actions to solve these problems. This is because the MOE Central Headquarters needs an approach not only dealing with existing problems but also looking at future and anticipating expected problems to avoid them.

4.5.5 Reengineering

Reengineering is one of the change management theories that concentrate on the processes by which educational organizations get things done. This view of change has come from

development in business in the 1990s; two significant books influenced much of the thinking during the 1990s. Osborne and Gaebler (1992), in their book *Reinventing Government,* rethought the role of government in society in USA. A parallel book in the business sector is *Reengineering the Corporation: a Manifesto for Business Revolution* (1993) by Michael Hammer and James Champy. They present a new vision about how companies and universities should operate and succeed in the changing world. Hammer and Champy argued this approach relates to Adam Smith's model and industrial revolution style. In 1995, Hammer with Steven Stanton published a sequel, *The Reengineering Revolution: A Handbook*, by that time the concept of 'reengineering' was more popular, having been brought into common usage.

The concept of 'reengineering' has been examined in the last two decades by evaluating patterns of actions of companies and universities that had dramatic success in bringing about effective change compared to those that failed to achieve a new way of operating. If one looks back to all the innovations, visions, models, and theories which affected life, work, and operation, one can call all of those events the reengineering of their times and places. Adam Smith's revolutionary model of business Wealth of Nation (1776) was reengineering two hundred years ago. His model examined in detail the consequences of economic freedom. It covered such concepts as the role of self-interest, the division of labor, the function of markets, and the international implications of a laissez-faire economy**.** John Stevens, father of railroad development, was reengineering in 1825 and Henry Ford's vision in the automobile industry was reengineering in 1903.

By 'reengineering', Hammer and Stanton (1995, p.3-5) mean: "The fundamental rethinking and radical redesign of business processes to bring about dramatic improvements in performance". In their definition, there are four key aspects: radical, redesign, process and dramatic. 'Radical' means going to the root of things. Reengineering is not about improving what already exists; rather, it is about throwing it away and starting over and reinventing how you do your work. The second key word is 'redesign'. Reengineering is about the design of how work is done. The design of processes in organizations is of essential importance. Smart, capable and well-trained employees cannot work properly in poorly designed organizations. The third key word in the definition is 'process' which means a group of related tasks that together create value for a customer. The last key word in the definition is 'dramatic'. Reengineering is not about making things

five or ten percent better but it is about making quantum leaps in performance, achieving breakthrough.

Many authors believe that reengineering is a useful change management theory to redesign current processes in education. Naseh in his article *Reengineering in Higher Education* (2004, p.2*)* presents the benefits an organization can gain from applying reengineering:

> *When a process is reengineered, jobs evolve from being narrow and task-oriented to broad and multidimensional work; people who once did as they were instructed now make choices and decisions on their own; managers stop acting like supervisors and start behaving more like coaches; and employees focus more on clients' needs and less on managers' needs. Practically every aspect of an organization is transformed, often beyond recognition. This certainly has many points of strength such as multidimensional employees, manager as coach, and clients' needs.*

Practically, reengineering work can be expressed in four steps (Hammer and Stanton 1995, p.56-7):

1. Understanding the old process and stakeholder requirements; so as to identify the weaknesses of the existing process and recognize the performance demand of the new one.
2. Inventing a new process design that destroys long-held assumptions.
3. Constructing the new process, including filling out the full details of its operation, developing its implications for all aspects of the organization, training people, establishing essential information systems and so on.
4. Selling the new way of working and living to the whole organization.

To succeed in the implementation of reengineering processes, fundamentally it needs to be driven from the topmost levels of an organization. As Hammer and Stanton (1995, p.56) state, leadership is the key ingredient for reengineering success. However, although leadership is very important to reengineering, the working team is essential as well. Hammer and Stanton (1995, p.58) also suggest some of traits that characterize the kind of person who is most likely to make a good reengineer: process-oriented, creativity, enthusiasm, optimism, team player, and communication skills.

Reengineering then has the advantage of being a choice when there is not enough time to accomplish organization process redesign. It is also a simple and quick method for an organization that needs a quick response or immediate change. In this sense, it could be suitable to say that sometimes directive strategies are more effective than organizational participation. Reengineering also has the advantage of dealing with major issues up-front

rather than avoiding them. Another chief advantage about reengineering is that it demonstrates that management is serious about quality as it has a clear specification. On the other hand, reengineering does not offer the time or the chance for the much needed adaptation of an organization to changing conditions. It imposes opportunities swiftly by fiat, usually from an external group of experts asked to make long overdue changes. Moreover, it does not consider employees' morale attitudes. The last might be the major cause of not being suitable for implementation in the MOE Central Headquarters as the ignoring of employees' feelings toward change might bring out negative reactions including denial, anxiety and withdrawal. This is in addition to the withdrawal of old process which will not suit the MOE at the present. Also, the MOE working with the Regional Directorates and the schools imposes a distance that would make rapid change directed from the top a difficult process.

4.5.6 Fullan's theories of managing change

Michael Fullan, one of the experts in the field of educational change, in his book, *Change Forces* (1993), discusses some of the basics of educational change. In this text he examines a number of issues. He defines the meaning of educational change and why it is important. He also identifies the role of the moral purpose and change agency of education. In addition, he delves into the complexity of education and focuses on the school as a learning organization and its relationship to its environment.

First, Fullan discusses the meaning and the potential of educational change. He argues that changing education does not mean introducing innovations or reforms into the educational system but it is also an introduction of a new mindset about educational change. In other words what we need for change is a change of mind. Without a change in thinking the insoluble basic problem is the combination of a continuous change theme with a continuous conservative system. He adds that the main problem in changing education is to transform the educational system as a learning organization. This needs the educators, administrators and teachers alike to be experts in the dynamics of change and become skilled change agents.

Second, Fullan explains why it is important that education develops such a change capacity. It is not only because change is all around us but also for the moral purpose of education. He mentions four moral imperatives singled out by Goodlad (1990), which are facilitating critical enculturation, providing access to knowledge, building an effective

teacher- student connection and practicing good stewardship. He defines change agency as "being self conscious about the nature of change and the change process" (P.12). He also mentions four core capacities required as a generative foundation for building greater change capacities: personal vision, inquiry, mastery and collaboration. He argues that the relationship between moral and change agency is strong. They are natural companions in postmodern society.

Third, he delves into the complexity of the change process. He identifies eight lessons for understanding change in new ways. They are:

- You can not mandate what matters (the more complex the change the less you can force it).
- Change is a journey not a blueprint (change is non-linear, loaded with uncertainty and excitement and sometimes perverse).
- Problems are our friends (problems are inevitable and you can not learn without them).
- Vision and strategic planning come later (premature vision and planning causes problems)
- Individualism and collectivism must have equal power (both individual and groupthink are important).
- Neither centralization nor decentralization works (both top-down and bottom-up strategies are necessary).
- Connection with the wider environment is critical for success(the best organizations learn externally as well as internally).
- Every person is a change agent (change is too important to leave to experts, personal mind set and mastery is the ultimate protection).

It is easy to believe that Fullan's change process is exciting in the way in which seemingly incompatible pairs like failure and success, personal mastery and collective action and pressure and support must go together in a successful change process. However, this process is exceedingly complex as one must be careful not to over control nor to leave it to disorder. Moreover, what makes Fullan's change process different and not easy is the combination of individuals and societal agencies.

Fourth he focuses on the idea of the school as a learning organization. He assumes that currently the school is not a learning organization but the future school will look different. He believes that the vast majority of change efforts are misconceived because of their failure to understand the concept of the learning organization and therefore, the combined

forces of moral purpose and skilled change agency. He also shows how educational organizations of the future will function and highlights the importance of the co-existence of individualism and collaboration. Moreover, he identifies the reason for reform failing. He argues that the vision and strategic planning have blind spots and the educators must work in new ways.

Fifth, he discusses the relationship between education and its environment. He says that a learning organization will not find the solutions for its existing needs by searching the environment (although it is helpful), but needs to look holistically at the complex view of its own existence. This means that the learning organization must use its own innovative capacities and connect with the wider environment. Fullan's key message at this point is that the learning organization is part of a great holistic system that requires a holistic interactive view to improve and develop. Regarding Oman, the five-year plans consider this issue and there is always a holistic view. In addition, as mentioned previously, globalization and its impact on education makes this point is inevitable. The question is though, whether this holistic view shapes practice in schools.

Sixth, he argues that the best solution and the worst problem in education today is teacher education. There is no belief that the investment in teacher education will yield results. He says that the teacher education is a tool for improvement so that the problem of productive change cannot be addressed unless continuous teacher education - pre-service and in-service - is treated as the major vehicle for producing teachers as moral change agents. Issan (2003, p.58) points out the importance of teacher education in Oman and stated that physical facilities alone, even if adequate and sufficient, will not ensure educational efficiency but it is necessary to have an adequate number of well trained teachers and to assure a high standard of professional training. Al-Tobi (2003, p.59) adds that teacher training programmes must accompany school reform in Oman.

Finally, Fullan discusses the individual and change in societal context. He says that people change systems but not by themselves. The role of individual is to shape and check the organizations they work in. Although focusing on the individual is not a substitute for system change, it is the most effective strategy for accomplishing it.

Although Fullan's theories of change management are quite advantageous in schools as educational organizations, they might not be as successful in the MOE Central Headquarters. This is because the MOE Central Headquarters is the centralized top level of

a hierarchical administration where decisions are made and plans are formed. MOE performs bureaucratic rather than educational activities per se. Its task is to administer the national education system of Oman in which there are complex institutional relationships between the MOE Central Headquarters, the Regional Directorates and the Schools. The emphases that Fullan places on building participation is important but with a hierarchical institution that is geographically dispersed his processes are not directly applicable.

4.5.7 Total Quality Management

Total Quality Management (TQM) is one of the most successful change management approaches that came into existence out of a crisis. By the end of World War II, the Japanese economy was destroyed, and so when Deming offered them TQM, it was their best choice. After the success of TQM in Japan, it has generated a great deal of research and some media attention. Then, it spread to many business and education organizations in USA, the West and all over the world; and in most cases dramatic results have been found. Though some research has been directed to the application of TQM principles in educational organizations, most of it has focused on operational and administrative problems. Nowadays, the implementation of TQM has had a broad application by the management of many educational establishments seeking to implement the change required to meet the needs of the present time within the limit of funding.

Total Quality Management can be defined regarding its elements as follows (Macdonald, 1998, p.6):

- Total means that everyone in the organization is involved in the final product or service to the stakeholder and that every work process or activity contributes to the success of the whole.
- Quality means conformance to requirements. That allows for measuring quality.
- Management means that TQM will not happen by accident. TQM is a managed process which involves people, systems and supporting tools and techniques.

The TQM gurus, such as Deming, Juran and Crosby, whilst differing in emphasis, all tend to agree on the main drivers within TQM models. Some examples of these drivers are the management or leadership commitment, the focus on customers and employees and the continuous improvement (Deming, 1992; Juran, 1974 and Crosby, 1984)

The leadership commitment is the basis of TQM and it is impossible to implement TQM in educational institutions without it. Stanley Spanbauer (Sallis, 2002) describes the meaning and requirements of leadership commitment in the developing quality of education as follows:

> *Commitment means much more than giving an annual speech on how important quality is to our school. It requires unending enthusiasm and devotion to quality improvement. It calls for an almost fantastic promotion of and attention to new ways to do things. It requires constant review of each and every action (p.65).*

A management or leadership commitment is a difficult task to achieve in such a complex organization like the educational one. However, leaders who hold positions of responsibility in educational organizations need to demonstrate their commitment to TQM and the implications of TQM continuously in all of their actions. Murgatroyd and Morgan (1993, p.93) argued that when the staff of a school take ownership and command of the tools of a vision and related strategy, nothing will stop them from making their vision a reality. The role of leadership is to own the vision and make it live through daily action, in other words, commitment.

The heart of the TQM philosophy is the recognition of the extreme importance of the stakeholder. Education has a variety of customers and it is important to define them, identify their attitudes towards the current education system and to satisfy their expectations (Murgatroyd and Morgan, 1993, p.6). TQM also requires a great deal of attention to the employees which means effective communication with employees throughout the organization and a management attitude that recognizes the significance of the employee contribution in ideas and actual competence.

Most of the change management approaches aim to improve quality, but what makes TQM different is its focus on long-term quality improvement. Sallis (2002, p.24) stresses that TQM is a systematic approach to achieving appropriate levels of quality in a consistent fashion that meet or exceed the needs and expectations of the customer. Constant innovation, improvement and change are emphasised, and those organisations that practise it are locked into a cycle of continuous improvement.

As TQM is characterised by empowerment, teamwork and open communication, it tends to challenge a traditional hierarchical structure and breaks down barriers in the managerial

system. Many educational managers may find this method of dealing with change difficult and uncomfortable especially because some of TQM's vocabulary is industrial-like and relates to costs and profit. Moreover, it might fail because of the lack of commitment, resources and real desire of changing the culture. However, this might face any other method of change management, but the benefits of co-operation, communication and continuous improvement in TQM can potentially release a tremendous reservoir of discretionary effort within an organization.

As mentioned previously, education in Oman in general and in the Ministry of Education in particular is facing dramatic changes as it struggles to meet the requirements of the recent time. This compels the Ministry of Education to adopt a new management system that will enable it to deal with these challenges, and the quality should be the key and the critical factor to the development and success of it. For this purpose, in the researcher's view there are possibilities in using Total Quality Management (TQM) in the MOE Central Headquarters. Any purposed use of TQM as an approach for developing the MOE should be justified by its advantages. Total Quality Management is a management approach that involves everyone in the organisation from chief executive to the lowest worker.

It can help make the relationship between the educators and the stakeholders stronger. Murgatroyd and Morgan (1996, p.60) emphasise that in the TQM "the customer-supplier relationships within the school and between the school and its consumer and provider stakeholders are the basis for all activities". Moreover, TQM offers a systematic approach to practice continuous development (Peak, 1995, p.14). This means that TQM helps educators need to work together with the stakeholders to improve the system continuously. This suits the current rhythm of rapid change. In addition, TQM provides a set of tools for uncovering the causes of low performance (Peak, 1995, p.14). Dealing with the causes of the problems itself rather than trying to fix the results should enhance the improvement and lessen the problems. The most important advantage for TQM in educational development is helping educators to plan for the future and trying not only to think about the circumstances of today's world but also foreseeing the future and being prepared for it. Murgatroyd and Morgan (1996, p.60) state that, "*TQM leadership is about imagination". It is about dealing with the facts and the expectations".*

A survey of TQM literature reveals that a number of educational institutions over the world have successfully adopted TQM and gained development advantages. For instance, Lewis

and Smith (1994, p.259) describe how TQM was successful in academic organization such as the Oregon State University. Similarly, Freed and Klugman (1997, p.231) state that TQM was successful in its application to business and administrative processes in Michigan University.

This evidence is in addition to the pilot study results, presented in chapter three, which reveal that TQM might possibly be a suitable approach for solving the existing issues in the MOE and consequently develop the Ministry.

4.6 Conclusion

This chapter points out the concept and requirements for change management. It discusses seven different approaches for managing change; the problem-solving approach, the learning organization, the three-step model, the action research model, reengineering, the Fullan's theories of managing change, and the Total Quality Management. Six of these approaches are highlighted as effective approaches in dealing with change but do not fully match the specific issues that need to be addressed in the Ministry of Education in Oman. However, there are some common concepts from the change management approaches which need to be considered when approaching any change including the adoption of TQM. These issues are related to culture change and the need to have a supportive leadership. Other key concepts and strategies from this discussion which are relevant to the issues facing the MOE include the issues of education, training, evaluation and the provision of feedback. Moreover, teamwork and the involvement of the change agents was always an issue to be considered from change management approaches. This is in addition to the importance of the planning and the data collection. These concepts are also of importance in the TQM approach and will be particularly central in the final stages of the study when there is an examination of the issue of implementing change. For example, most of the change management theories require culture change. In learning organization model, there is a need to change the values of the organization in order to achieve the change. Moreover, Fullan says that change requires change in mind in addition to changing the methods and skills. Leadership was another issue that is emphasised by change management theories and at the same time central in TQM implementation. Reengineering emphasises the importance of management in making decision and support change. In addition, Fullan highlights that management support and cooperation with the rest of the staff is essential in change management. Furthermore, action research model, problem-solving approach and Fullan state that training is essential in acquiring the needed skills for

carrying out the change appropriately. Teamwork is a central issue when dealing with change. Fullan sees that a mixture of both individualism and collectivism is essential for managing change. Action research model, the three step model and problem solving approach require cooperation and teamwork to achieve the aimed change.

Nevertheless, it is argued that TQM provides a possible approach for three main reasons. Firstly, it is suitable for the development of the MOE Central Headquarters as the centralized top level of the hierarchical administration in the Omani education system. Secondly, it might be a suitable means for solving the issues highlighted by the pilot study results. Thirdly, after reviewing the six other changes management approaches, it seems a possible one for the MOE Central Headquarters as it offers possibilities of systematic involvement across the organization. Thus the next two chapters will explore in greater details TQM in general and within the educational context.

Chapter Five- Total Quality Management

5.1 Introduction

The 1980s have witnessed a remarkable expansion of the Total Quality Management (TQM) concept. TQM has been taken up across many different types of organisations including business, commerce and more recently public services including education. Advocates of TQM argue for its stakeholder orientation. Among the claims made for TQM are that all members of TQM organizations strive to manage the improvement of the organization through the ongoing participation of all employees in problem solving and decision making efforts across different hierarchical boundaries. However, it is important we look in detail at TQM both conceptually and its practical application. As the starting point, this chapter looks at the idea of 'quality'. In order to understand Total Quality Management fully, the development of TQM from inspection, to quality control, then quality assurance and finally Total Quality Management is explored. This is followed by a discussion of three of the TQM gurus' philosophy and methods. This chapter also includes a description of some of the TQM tools and techniques. Finally, this chapter concludes with a brief description of the Quality Management Systems and Improvement Awards.

5.2 The Concept of Quality

Quality has emerged as and remains a dominant theme in management literature since the 1980s. Despite its popularity, the term has a variety of contradictory meanings. This is partly because the term implies different meanings to different people in different contexts. This confusion can also be due to the ambiguity of the term itself as it is a context dependent construct. As Pfeffer and Coote (1991, p.31) state "quality has a slippery meaning". In order to gain an understanding of the concept of 'quality', various definitions will now be discussed.

Thus if we draw from various dictionary definitions of the word 'quality', the following aspects are highlighted[1]:

- The standard of something as measured against other things of a similar kind.
- A degree of excellence or worth.

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[1] *Oxford English Dictionary* (1999, p.1170), *The word Net Dictionary and* The *Webster's 1913 Dictionary.*

- The condition of being of such and such a sort as distinguished from others, nature or character relatively considered, as of goods; character; sort; rank.

Definitions that have been put forward by different dictionaries tend to focus on various different facets of the term. These facets typically go around the idea of the nature of the product or service, the excellence, the comparison and competition of the same kind of things. All of the previous definitions are merely general meanings of quality. When applied in this way almost none of them are satisfactory to TQM.

In reviewing the literature on management, it is revealed that there are also various definitions of quality. These definitions are related to a body of knowledge about product, service and customer and client satisfaction. Deming, Crosby and Juran are the key writers whose individual ideas continue to dominate the quality movement. According to Deming (1986, p.5) “quality should be aimed at the needs of the consumer, present and future”. In his definition of quality, he emphasises that the stakeholder is the most important group in measuring quality, and their needs and expectations should be surveyed, anticipated and satisfied. Deming has mapped out the important advantages of quality, which are shown in figure (5.1).

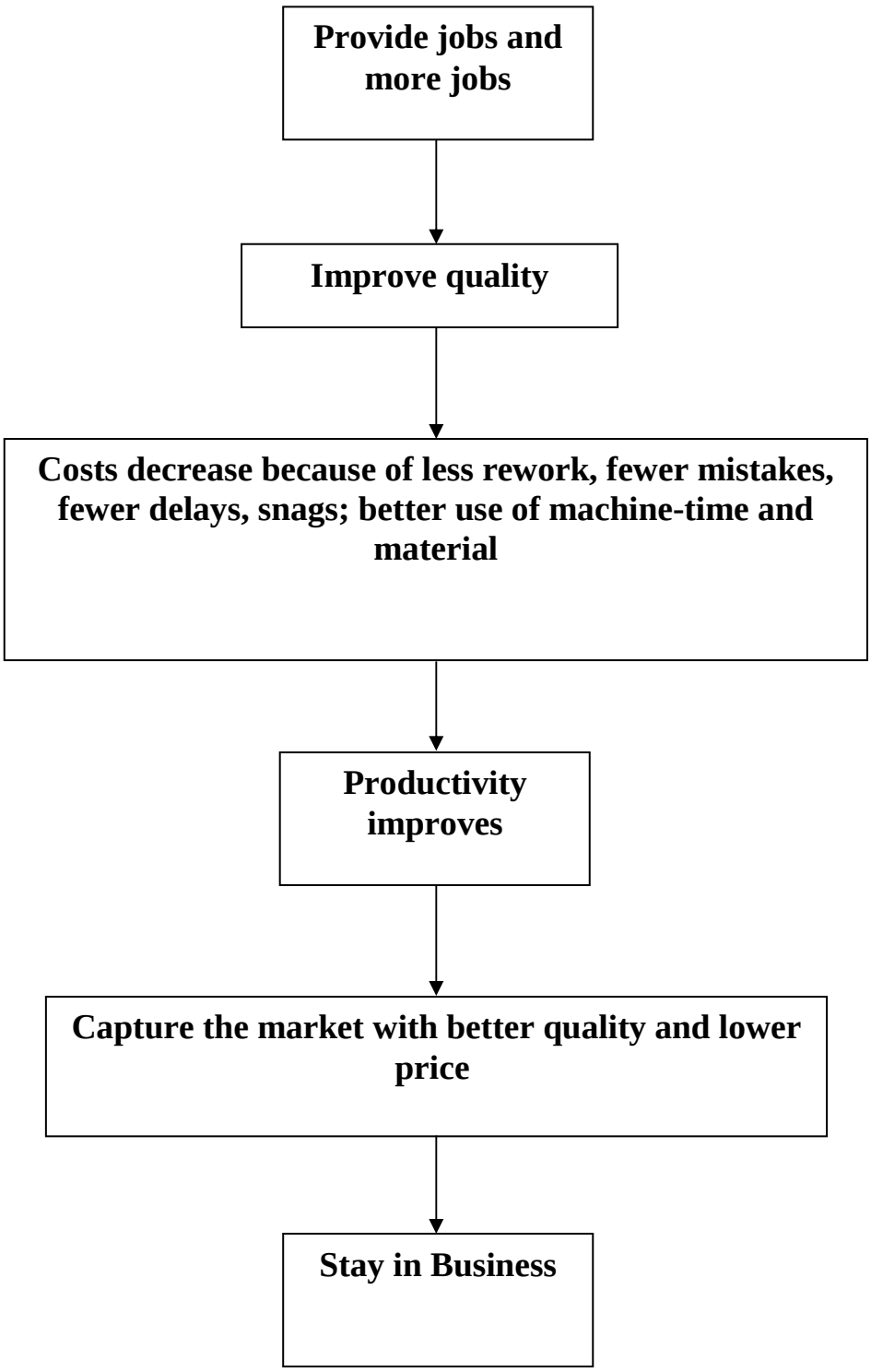

Figure 5.1 Advantages of Quality

Deming (1986, p.3)

However, Juran (1992, p.9) suggests that "Quality is the fitness for use". In his definition, he looks at quality practically because the use of a product or a service is the most important aspect. Bank (1992, p.71) suggests that a dangerous product could conform to all specifications but still be unfit for use.

Crosby in his book *Quality is Free* (1979, p.9) defines quality as "Conformance to requirements; it is precisely measurable; error is not required to fulfil the laws of nature; and people work just as hard now as they ever did". In his definition, he places an emphasis on the requirements of the stakeholder, which must be measured and met by the defined and adopted standards. Crosby also makes a crucial link between quality and leadership and management. He highlights the point that people perform to the standards of their leaders. He explains: "*if management thinks people do not care, then people will not care*". A notable side of Crosby's definition is that management is able to immediately quantify and measure it.

In the field of education, the literature review shows several attempts at defining quality in education. For instance Hoy et.al (2000, p. 10) define quality in education as follows:

> *Quality in education is an evaluation of the process of educating which enhances the need to achieve and develop the talents of the customers of the process, and at the same time meets the accountability standards set by the clients who pay for the process or the outputs from the process of educating.*

Thus, they consider quality as a tool for evaluating the educational process to meet the standards that are set by clients. At the same time, they consider the students to be customers and the parents as clients. Hoy et al add that both customers and clients are interested in the quality of the education provision, in the same way that local education authorities are also concerned about quality.

Murgatrroyd and Morgan(1993, p.45-50) state that there are three basic definitions of quality in education: quality assurance, contract conformance and customer-driven. Quality assurance refers to the determination of standards, appropriate methods and quality requirements by an expert body, accompanied by an inspection process that examines the extent to which practices meet the standards. For example, where a panel of experts on teaching might develop evaluation instruments that seek to itemize the characteristics of effective teachers. Contract conformance is where some quality standards have been specified during the negotiation of forming a contract. For example, the duties and tasks assigned for teachers by schools. However, it is not a simple task to specify the process of teaching in terms that allow for easy definition. Further such attempts would be reductive, limiting opportunities for learning. The customer-driven quality refers to meeting and exceeding the needs and expectations of customers. Students, for instance, can have some needs which must be taken into the schools' account to be satisfied.

From the review of the different definitions of quality, it is notable that quality is defined according to the authors' background and profession. While there is no universally agreement on a definition for quality, there is general accord regarding the concept of quality and how stakeholder satisfaction and the existence of quality in all processes are important to retain customer loyalty, to reduce the cost of the products or services and prevent reworking of the processes. Despite the existence and use of this range of conceptualisation, it is possible to identify two primary themes applicable and useful to the Ministry of Education in Oman:

- Meeting stakeholder requirements and measuring up to specifications: stakeholders' needs and expectations are identified in the form of specification and the services must be meeting these pre-defined specifications.
- The freedom of deficiencies: quality should be built in the Ministry not simply inspected.

It is important to note that quality can be said to exist when products or services meet the pre-defined specifications. "Quality is not the end in itself, but a means by which the end product is judged to be up to standard" (Sallis, 1993, p.23). This study emphasises developing the performance of a service organization which is the Ministry of Education in Oman through implementing TQM. Hence, quality must be the primary goal of any organization wishing to develop in a changing world.

5.3 The Development of TQM

Reviewing literature related to TQM, one could easily notice that this management approach was not invented suddenly or came out of a crisis in a short period. On the contrary, it took long time to develop and take its present shape moving through a sense of steps. There are four steps: inspection, quality control, quality assurance and TQM on the top: this is illustrated by the following figure 5.2.

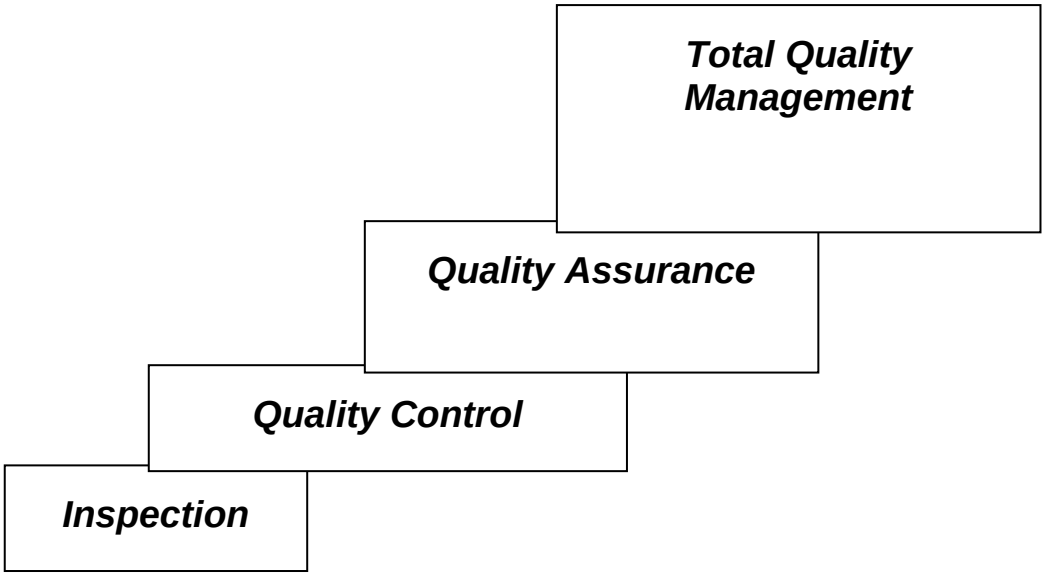

Figure 5.2 The Development Stages of TQM

5.3.1 Inspection

In order to sketch out the historical background of the quality concept, we need to look through the period of industrial revolution which indicates that the pursuit of quality is not new. There has always been a need to ensure the quality of the products but this has not organized. Fredrick Taylor is credited being one of the first to attempt to use new approaches to improve the unskilled workers in industrial organizations. Taylor developed a series of concepts that laid a base for today's ideas of 'quality'. In his book *The Principles of Scientific Management* (1998), Taylor sets out some of his management principles such as the assignment of particular tasks to workers, paying significant rewards for success and applying knowledge to work. However, Taylor separated planning from work improvement and thereby created a separate department of inspectors to monitor the quality of output. Herein, the origins of TQM can be found in inspection. Seymour (1992, p.9) points out that inspection, as a process that existed in industry in the 1930s, was used to guarantee production uniformity. Aguayo (1990, p.136) states that when inspection is done properly, it can detect the defects and prevent them from reaching the customer. However, he adds that inspection is a very limited tool, grossly overused and often misused. It does not guarantee quality and it is not about improvement.

Inspection is then restricted and is a limited management method, and so it might be argued that inspection has become an inappropriate approach for managing complex organizations. This indeed was the starting point of quality control.

5.3.2 Quality Control (QC)

In 1931, Shewhart's *"Economic Control of Quality of Manufactured Products book"* was instrumental in progressing Taylor's scientific management. It is considered as a landmark contribution to the effort to improve the quality of manufactured products. Shewart developed techniques to bring industrial processes into what he called statistical control. There are a series of techniques for removing the sources of variability from industrial processes, in order to enable them to be made more predictable and controllable. In particular, eliminating waste and delay are the outcome (Sallis, 1993, p.15). Juran (1989, p.145) suggests that quality control is a managerial process during which one can:

- evaluate actual quality performance,
- compare actual performance to quality goals and
- take action on the differences.

According to Sallis (1993, p.26) quality control involves detection and elimination of components and final products which are not up to standard. Sallis also adds that quality control is usually carried out by quality professionals called quality controllers. Therefore, quality control is operational techniques and activities that depend on comparing the actual performance to a predefined quality performance and then taking action on the differences. It is more advanced than inspection as the quality controllers use statistical techniques to achieve quality products and services. Nonetheless there are limitations.

5.3.3 Quality Assurance (QA)

Quality assurance is considered the third step in the evolution toward TQM. It is different from quality control. Quality assurance is evident before and during the event process (Sallis, 1993, p.26). Seymour (1992, p.8) points out that QA was applied to manufacturing between 1950s and 1980s. QA concentrated on the entire production process as well as the contribution of all functional groups in order to prevent quality failure.

Sallis (1993, p.26) states that the concern of QA is about preventing faults occurring in the first place. Quality is designed into the process to ensure that the products are produced to a predetermined specification. Sallis argues that the quality of the good or service is assured by there being a system in place, known as a quality assurance system, which lays down exactly how production should take place and to what standards. QA, then, is a managerial process that can be applied to all manufacturing processes and aims to achieve quality through preventing faults. However, quality assurance too has its limitations as it

specifies how things should be done in the current context but is limited in the scope to improve or enhance.

The focus on quality has continued across business and commerce as well as public services such as education and health. There has been a development from a narrow construction as quality control to a more developed understanding of the process of change and improvement. In order to survive in an increasingly global marketplace, the issue of customer satisfaction as part of quality was required. Consequently, TQM was born.

5.4 Total Quality Management (TQM)

After entering World War II in December 1941, the United States government ratified legislation to help gear the national economy to military production. At that time, military contracts were awarded to manufacturers who submitted the lowest competitive bid. Products were inspected to meet requirements upon delivery (ASQ, 2004). During this period, quality was defined in terms of safety. The armed forces inspected virtually every unit of product to ensure its safety for operation. This practices required huge inspection forces and caused problems in recruiting competent inspection personnel. To ease problems without compromising product safety, the armed forces began to utilize sampling inspection with the aid of industry consultants particularly the Bell Laboratories. They adapted sampling tables and published them in military standards. In addition to creating military standards, the armed forces helped their supplier to improve their quality through sponsoring training courses in Shewart's statistical quality control(SQC). While the training courses led to quality improvement in some organizations, most organizations had little motivation to truly integrate the techniques (ASQ, 2004).

W. Edward Deming, a statistician and a student of Shewart, helped engineers and operators in the war years to accomplish tasks such as the bullet production. Unfortunately, his efforts were not appreciated in his home country, the USA, but his ideas were embraced in Japan as part of the massive post war construction (Liston, 1999, p. 8). After the war, major Japanese manufacturers converted from producing military goods to civilian goods for trade. Because at that point Japan's reputation for products was shoddy, Japanese organizations explored new ways of thinking about quality. They welcomed input from foreign companies and lecturers, including American quality experts Deming and Juran, and adopted unprecedented strategies for creating a quality revolution. Japan's strategies represented the new "Total Quality" approach. Rather than relying mainly on product

inspection, TQM focused on improving all organizational processes. As a result, Japan was able to produce higher-quality exports at a lower price (ASQ, 2004)

By the end of 1970s, the American quality crisis attracted attention from national legislators, administrators and the media. Consequently, the chief executive officers of major American corporations came forward to provide personal leadership in the quality movement and have led to the expansion of TQM (ASQ, 2004)

TQM has become the subject of various debates and discussions in various places around the world since the1980s. Managers of organizations have explored TQM in order to provide quality products and services in a competitive era. Consequently, TQM has become a popular approach in the business and manufacturing field and was in the 1990s adapted for use in the field of education. (This will be covered in detail in chapter six).

In summary, the history of TQM may be viewed as a continuing refinement and extension of concepts and practices aimed at developing quality. Its roots can be traced back to simple inspection procedures, then to developing to quality control and quality assurance. From this development TQM has developed as more advanced as quality management principles are applied in all levels of an organization.

5.5 TQM Definition

What is TQM? Total Quality Management (TQM) is a concept that is difficult to define. While TQM is widely practised, there is little agreement on what it actually means. Many academic texts detail the 'history' of TQM, from the post - war quality gurus such as Deming, Juran and Crosby, the Japanese adoption and extension of quality control (QC) principles, to current models such as the Malcolm Baldrige National Quality Award (MBNQA) and the European Quality Award (EQA) without ever addressing the definition of TQM.

This confusion and ambiguity of defining TQM arises for a number of reasons. Firstly, TQM is an evolving concept that is changing as new ideas and methods are developed. Secondly, different organisations are in different stages of developing to TQM. Thirdly, different organisations may require different forms of TQM (AlSabahi, 1999, p.18). Fourthly, there are variety of names and terms used to refer to TQM . It has been known as total quality(TQ), total quality control(TQC), quality improvement(QI) and many more

other names (Seymour, 1992). There have been attempts to define TQM. For example, Oakland and Porter (1994, X) state that "TQM is a comprehensive approach to improving competitiveness, effectiveness and flexibility through planning each individual at each level". Another definition provided by Ghobadian *et al*. (1998. p.10) defines TQM as a structured attempt to re-focus the organization's behavior, planning and practices towards a customer oriented, problem solving and fear free culture. In other definitions, TQM is described as a set of the creation of an organizational culture committed to the continuous improvements of skills, processes and service quality (Kreitner, 1995, p.110). Oakland (2000, p.18-19), describes TQM as an approach to improve competitiveness, efficiency and flexibility for a whole organization. He continues, declaring that:

> *For an organization to be truly effective, each part of it must work properly together towards the same goals, recognizing that each person and each activity affects and in turns is affected by each other…the methods and techniques used in TQM can be applied throughout any organization.*

We can conclude that TQM is a well structured approach for meeting and exceeding customer needs and expectations by creating an organization-wide participation and commitment in the planning and implementation of continuous improvement.

The definition of TQM is one aspect, but anyone who intends to understand TQM fully must understand its principles, tools and techniques, which is the contribution of quality gurus such as Deming, Juran and Crosby. The following sections show the TQM gurus' philosophies and methods. Then a review of TQM principles and tools follows.

5.6 The Gurus of TQM

TQM gurus have emphasized the importance of the theory to effective management. Theory makes it possible to anticipate; and management is anticipation. Thus without understanding the theory, there will not be any effective management. In order to understand the theory of TQM, an understanding of the background of its founders, their philosophies and methods is required. Deming, Crosby, and Juran are considered the most famous gurus of TQM because of their contribution to knowledge and to building TQM principles and methods.

5.6.1 Edward Deming

W. Edward Deming is considered the founding father of the TQM and is perhaps the most famous of quality gurus because of his contribution to the creation of quality principles. Deming held a doctorate in physics from Yale and was a keen statistician. He worked for the US government in the department of Agriculture and the Bureau of Census (Gitlow and Gitlow, 1987, p.7). In the 1950s, the Union of Japanese Scientists and Engineers invited Deming to conduct a course on quality control. The Japanese embraced the notion of quality under Deming's inspiration (Bergman and Klefsjo, 1994, p.55).

5.6.1.1 Deming's Philosophy

Deming's philosophy is based on his background as a statistician. Drawing on the work of his tutor the statistician Walter Shewhart, Deming urged a management focus on causes of variability in manufacturing processes (Beckford, 2002, p.66). Deming's philosophy can be summarized in four main points:

The first point is the extended process. Deming believes that the organization's process expands to include suppliers, customers, investors, and the community (Gitlow and Gitlow, 1987, p.7-8). This point is related to the idea of internal and external customers or stakeholder satisfaction. In order for the organization, educational organization as an example, to offer quality services, the stakeholders and their needs must be clearly identified. The needs of the students, their parents, the market and the educational organization's members must be addressed if not surpassed.

Deming's second strand is continuous improvement. Deming believes that the quality philosophy is achieved through the never-ending improvement of the extended process (Gitlow and Gitlow, 1987, p.8). As well as in education, every day there are new methods, new technology, then there must be a continuous improvement to keep up with the change and achieve quality.

The third point is the common and special variation. Deming suggests that there are common and special causes of quality problems. Common variations are those which arise from the operation of the system itself and are one of the responsibilities of management. Special variations are those relating to particular operators or machines and requiring attention to individual causes (Gitlow and Gitlow, 1987, p.9).

The fourth philosophical strand of Deming is the management and worker's responsibilities. Deming's philosophy necessitates a fundamental change in how organizations are viewed by the people who manage them and by those who work in them (Gitlow and Gitlow, 1987, p.9-10). Managers must stop blaming each other, the workers, the suppliers and the customers. Both management and workers must emerge with total commitment to the change and a renewed sense of purpose.

In summary, Deming believes in continuous improvement. He also believes that the consumer is the most important part of a production line. Meeting and exceeding the customers' requirements is the task that everyone within the organization needs to accomplish with total commitment. Furthermore, Deming believes in the use of statistical process control (SPC) charts as major method for solving problems.

5.6.1.2 Deming's method

Deming's methods incorporate the use of statistical tools and a fundamental change in the corporate culture. Both are important to the successful implementation of his philosophy. Deming outlines his method in his 14 points for management (table 5.1) Deming (1986)

Table 5.1 Deming's 14 points

The Points	The Assumptions
Point one	Create constancy of purpose to improve products and services
Point two	Adopt a new philosophy for the new economic age, with management learning what their responsibilities are and assuming leadership for change
Point three	Cease dependence on mass inspection to achieve quality, by building quality into the product
Point four	End the awarding of business on price; award business on total cost and move towards single suppliers
Point five	Improve constantly and forever the system of production and service
Point six	Institute training on the job
Point seven	Institute leadership with the aim of supervising people to help them to

	do a better job
Point eight	Drive out fear so that everyone can work effectively together for the organization
Point nine	Break down barriers between departments. Encourage research, design, sales and production to work together to foresee difficulties belong to the whole system
Point ten	Eliminate slogans, exhortations and numerical targets for the workforce since they are divisive, given that difficulties belong to the whole system
Point eleven	Eliminate quotas or work standards and management by objectives or numerical goals; leadership should be substituted instead
Point twelve	Remove barriers that rob people of their right to pride in their work
Point thirteen	Encourage education and self-improvement for everyone
Point fourteen	Take action to accomplish the transformation

Deming's fourteen points or principles are essentially straightforward and rely on combination of statistical and human, or cultural aspects. The first three principles clearly focus on the cultural aspects of the organization. The first principle is aimed at creating a cooperative team where all are working towards a common goal. The second principle is about embracing leadership and developing management as a management style and commitment toward change. The third principle requires a dramatic change in the culture by building quality into the product instead of using mass inspection.

The fourth principle focuses on the customer relationship and on the idea that price has no meaning without a measure of the quality of what is being purchased. It also highlights the advantage of a long-term relationship between stakeholder and supplier.

The fifth principle is aimed for continuous improvement. In this step there is movement toward more practical achievement orientation.

The sixth, seventh and eighth principles are related to human relationships and management style in the organization. The sixth principle, on the job training, emphasizes the need to improve competencies and skills in the practical context. The seventh principle, leadership, and eighth, drive out fear, are requirements for moving towards a

more collaborative management style. No one can put in his best performance unless he/she feels secure. This collaborative management with the support of statistical process control (SPC) will focus attention on how to improve the special and common variation and consequently solve problems and improve.

The ninth principle can be seen as linked to principle one, as the constancy of purpose will be a way for breaking down barriers.

The tenth principle, eliminate slogans, exhortation and numerical quotas, is linked with culture and mainly with principle two. Because managers will adopt the new philosophy and will learn their responsibilities, there is no need for these features. Deming sees that these features can vex the staff rather than encouraging them.

In the eleventh principle, Deming sees that the setting of targets and quotas is potentially meaningless and divisive unless accompanied by a specific action plan to improve the process.

In the twelfth principle, Deming suggests giving the work force a chance to work with pride.

The idea of principle thirteen is related to human resource development. He suggests that if an organization is to continuously improve, then the people must continuously improve.

The final principle is to put everyone to work to achieve the transformation. This is linked with the first principle. It suggests that the whole programme cannot be successful unless a total approach is taken. To enable this principle to be implemented, Deming proposed a seven-step action plan (Table 5.2) Deming (1986).

Table 5.2 Deming's Action Plan

The Steps	**The Action plan statements**
Step one	Management must agree on the meaning of the quality programme, its implications and the direction to take
Step two	Top management must accept and adopt the new philosophy
Step three	Top management must communicate the plan and the necessity of it to the people in the organization
Step four	Every activity must be recognized as a step in a process and the customers of that process identified; the customers are responsible for the next stage of the process.
Step five	Each stage must adopt the 'Deming' or 'Shewart' cycle -Plan, Do, Check,

	Action- as the basis of quality improvement
Step six	Team working must be engendered and encouraged to improve inputs and outputs, everyone must be enabled to contribute to this process
Step seven	An organization for quality must be constructed with the support of knowledgeable statisticians

This action plan is about what to do rather than how to do it. The first three steps are about top management's attitude and communication. Step four suggests dividing the work process into stages. Then customers' needs are identified and satisfied. Step five is about constructing continual improvement using Shewart's cycle, (discussed later). Step six encourages the team work which improves the input and the output of any stage. In the last step, Deming suggests the help of statisticians. An organization might go beyond that and be supported with a multidisciplinary quality team.

In step five, Deming mentioned Schewart cycle or Plan-Do-Check-Act (PDCA). Deming, subsequently, replaced "Check" by "Study" as that word reflects the actual meaning more accurately. Therefore an alternative abbreviation for Deming's cycle is PDSA cycle. The Deming cycle is considered a tool for continuous improvement quality as will be seen later in this chapter.

5.6.2 Joseph M. Juran

Joseph Juran commenced his initial career as an engineer in 1924, and then he worked as an executive, civil servant, academic, arbitrator, director and management consultant. His strong professional background supported his first work in the quality field, the *Quality Control Handbook* which led to his international pre-eminence in the field of quality (Beckford, 2002, p.105). Like Deming, Juran worked extensively with the Japanese in the 1950s.

5.6.2.1 Juran's Philosophy

Juran's philosophy is perhaps best summed up in his 'quality trilogy' of quality planning, quality control and quality improvement (Juran, 1992, p.14-15). This trilogy (table5.3) encapsulates the demand for substantial action inherent in Juran's work.

Table 5.3 Juran's Triology

Quality trilogy	**Definition**

Quality planning	The activity of developing the products and processes required to meet customers' needs.
Quality control	This process deals with execution of plans, conducting operations to meet the goals
Quality improvement	This process is the means of raising quality performance to unprecedented level.

Juran's emphasis in this respect is in three main areas: changing management behaviour through adopting quality, training and then spilling down new attitudes to supporting management.

5.6.2.2 Juran's method

Since Juran's trilogy of planning, control and improvement offers the guideline to his philosophy, his overarching methodology for achieving quality are the steps to accomplish each point of the trilogy. This can be clearly described in table (5.4).

Table 5.4 Juran's method

Quality planning	Quality control	Quality improvement
1. Establish quality goals 2. Identify who are the customers 3. Determine the needs of the customers 4. Develop product features which respond to customers' needs 5. Develop processes able to produce the product features 6. Establish process controls; transfer the plans to the operating forces	1. Evaluate actual performance 2. Compare actual performance to quality goals 3. Act on the difference	1. Prove the need 2. Establish the infrastructure 3. Identify the improvement projects 4. Establish project teams 5. Provide the teams with resources, training and motivation to diagnose the cause and stimulate remedies 6. Establish controls to hold the gains.

Juran's quality trilogy and the process of implementation established a new understanding of customers (the internal and external), but he did not recognize the importance of the interaction between people within organization. Beckford (2002, p.114) argues that Juran

seems to be making the assumption that improvement in the separate parts will improve the whole organization.

Juran's philosophy as shown above is carried across practice through three main stages. The first is to establish a quality culture in the organization. The second is to establish goals for quality improvement. Finally, implement the quality in the organization.

Agreeing with Deming, Juran sees management as responsible for quality, having control of 80 per cent of the problems.

To summarize Juran's quality approach there are five key elements :

- A three- step process of planning, control and action is needed.
- Plans and objectives must be measurable.
- Management is responsible for quality.
- Training and education are essential.
- Rewards encouraging quality.

5.6.3 Philip B. Crosby

Philip Crosby is a graduate of the Western Reserve University and has a professional background in quality. After military service, he went into quality control in manufacturing, where he worked his way from line inspector to quality director and corporate vice-president of ITT. Based on many years of practical experience, his first book became a best-seller and led him to establish the consulting organization Philip Crosby Associates Incorporated and the Quality College based in Florida (Beckford, 2002, p.53)

5.6.3.1 Crosby's philosophy

Crosby's philosophy is seen to be encapsulated in some quality management assumptions. Each of these assumptions will be examined to consider its meaning.

The first assumption is Crosby's definition of quality. It suggests that requirements must be clearly stated so that they cannot be misunderstood. Measurement is then taken continually to determine conformance to requirements (Crosby, 1979, p.17). This assumption could be considered as the first fundamental quality beliefs of Croby. Then, quality is measurable and it is to be achieved when requirements or expectations are met.

The second assumption is that quality is measured by the cost of quality. Crosby clearly believes that the cost of quality is measurable and it is equal to the expense of non-conformance- the cost of doing things wrong (Crosby, 1979, p.18). This might generally be considered as a useful practical measurement of quality. Measurement is very important. Crosby justifies this as people liking to see results.

The third main assumption in Crosby's quality philosophy is that there is an economics of quality. It is always cheaper to do it right first time (Crosby, 1979, p.18-19). It is possible to suggest that an educational organization focused on inspection may succeed somehow but the probability of failure is always there. However, if quality is built in an educational organization, for example, in its administration, processes, evaluation etc with no expectation of failure or error, the prevention of error will lead to success.

The fourth assumption is that there is no such thing as a quality problem. Crosby implies that poor management creates the quality problems (Crosby, 1979, p.19-20). In other words, the products are the result of management process, and when that process has built–in quality, t a quality product will then emerge. It could be assumed that management leads workers to a quality outcome. For example, in an education system, the policies, rules and processes are formed at the administrative level and their staffs simply apply these. If quality is inherent in the administrative level, the assumption is that the outcome will be as planned.

Finally, the only performance standard is 'Zero defects' (Crosby, 1979, p20). Crosby believes in prevention rather than cure. Perfection is the standard to aim for through planning, process and continuous improvement.

It is notable that Crosby's perspective on quality is quantitative; this is clear from the first and last assumptions (conformance to requirements and Zero defects). This is maybe because of his professional background. He believes that quality is to be an inherent characteristic of the product not an added extra. He considers that management process is the key driver of quality and he suggests that most of the quality problems are within the control of management. Although he emphasizes management responsibility, he balances the contribution of both management and employees in applying TQM. Crosby teaches us that if work is done correctly the first time, the cost of products and services will be reduced. Crosby offers a somewhat different TQM method from that of Deming and Juran, he moves towards a more holistic view.

5.6.3.2 Crosby's method

Crosby's principal method is his fourteen-step program for quality (table5.5). It relies on a combination of both qualitative and quantitative aspects (Crosby, 1979, p.132-9).

Table 5.5 Crosby's Method

The Steps	The Assumptions
Step one	Establish management commitment. It is vital that the whole management team participate in the programme.
Step two	Form quality improvement team. The emphasis here is on multidisciplinary team effort. An initiative from the quality department will not be successful. It is essential to build team working across arbitrary; and often artificial, organizational boundaries.
Step three	Establish quality measurements. These must apply to every activity throughout the company. A way must found to capture every aspect, design, manufacturing, delivery, and so on. These measurements provide a platform for the next step.
Step four	Evaluate the cost of quality. This evaluation must highlight, using the measures established in the previous step, where quality improvement will be profitable.
Step five	Raise quality awareness. This is normally undertaken through the training of managers and supervisors, through communications such as videos and books, and by displays and posters.
Step six	Take action to correct problems. This involves encouraging staff to identify and rectify defects, or pass them on to higher supervisory levels where they can be addressed.
Step seven	Undertake zero defects planning. This is done by establishing a committee or working group to develop ways to initiate and implement a zero defects programme.
Step eight	Train supervisors and managers. This step is focused on achieving understanding by all managers and supervisors of the steps in the quality improvement programme in order that they can explain these in turn.
Step nine	Hold a 'Zero Defects' day to establish the attitude and expectation within the company. This can be achieved in a celebratory atmosphere.
Step ten	Encourage the setting of goals for improvement. Goals are of course of no value unless they are related to an appropriate timescale for their achievement.
Step eleven	Encourage obstacle reporting, whereby employees advise management of the factors which prevent them achieving error-free work.
Step Twelve	Provide recognition for contributors.
Step thirteen	Establish quality councils. These are essentially forums composed of quality professionals and team leaders allowing them to communicate and determine action plans for further quality improvement.
Step fourteen	Do it all over again. Achievement of quality is an ongoing process. There is always further to go.

Crosby's implementation steps are based on three key stages:

1. Decision to start quality: management support.
2. Preparation: education for management and staff.
3. Implementation: quality is creating as an organizational environment where quality is inherent and rewarded.

The "big three" of the quality label; Deming, Juran and Crosby seem to have more in common than differences. The differences seem to lie in the use of concept and the forms of implementation. For example, while Deming believes in the need for continuous quality improvement action, Crosby suggests a discrete set of activities. Concerning the quality responsibility, Deming agrees with Juran that management is responsible for quality. On the other hand Crosby's work might be interpreted as suggesting that the bulk of the quality responsibility lies with the staff. However, all of them believe in the quality culture and its importance for improvement. They also suggest training as a preparation for shifting. Cooperation was another critical point they agreed on. Moreover, they encourage rewards for motivating staff.

5.7 TQM principles

In view of the evidence that professional and academics disagree about the principles of TQM, it is very tempting to do a 'survey' and simply utilise the most commonly cited elements of TQM as those which define it. However, looking at the work of the three most famous gurus of TQM Deming, Juran and Crosby cited above, it will be clear that TQM principles involve:

1. Customer focus, with emphasis on the customer-supplier relationship, internally and externally
2. The involvement and commitment of everyone to quality improvement, especially managers
3. The vital importance of training and education.
4. The use of teams and teamwork
5. The use of appropriate tools and techniques.
6. Goal-setting, measurement, feedback and rewards for all processes within organization.
7. Continuous improvement as a philosophy.
8. A change in the culture of the organization.
9. The insertion of quality principles into product and service design

5.8 TQM Tools and Techniques

As part of the development of TQM, and the 'TQM Movement', various tools and techniques have been generated that have been used by quality practitioners to aid the quality planning and improvement processes. These tools can be broadly categorized into two groups: tools for planning and tools for improvement. Planning tools include Quality Function Deployment (QFD), the "new seven" management and planning tools and concurrent engineering. Tools for quality improvement include the Deming cycle, tools for data analysis and benchmarking.

5.8.1 Tools for Quality Planning

Customers' needs and expectations drive the planning of the products or services and the systems by which they are produced. Once the customers' expectations are identified, they are translated into product and service specifications. In order to meet the specifications, organizations use several tools to help them focus on external and internal customers.

5.8.1.1 Quality Function Deployment (QFD) (Dean and Evans, 1994, p.768-71)

It is the most famous quality planning tool. It is used to ensure that the customers' requirements are met. Quality function deployment uses a set of matrices to relate the customers' expectations to planning. The basic planning document is called the *customer requirement planning matrix.* Because of its structure, it is always referred to as the *House of Quality* .Building the house of quality requires six basic steps:

1. Identify customer attributes.
2. Identify technical features.
3. Relate the customer attributes to the technical features.
4. Conduct an evaluation of competing products.
5. Evaluate technical features and develop targets.
6. Determine which technical features to deploy in the production process.

5.8.1.2 Concurrent reengineering

This is the concept that all major functions that contribute to getting a product or service to market have continuing product-development and responsibility from beginning to end (Dean and Evans, 1994, p.74)

5.8.1.3 The New Seven Management and Planning Tools

These tools had their roots in post-World War II operations research development in the U.S., but refined by several Japanese companies. They can be used to address problems faced by managers in making strategic plans and organizing and controlling large complex projects (Dean and Evans, 1994, p.76). These tools are:

1. Affinity Diagram.
2. Relations Diagram.
3. Tree Diagram.
4. Matrix Data Analysis.
5. Matrix Diagram.
6. Process Decision Programme Chart.
7. Arrow Diagram.

5.8.2 Tools for quality improvement

Implementation of process improvements is essential. Managers need systematic tools to drive quality continuous improvement. These tools include the Deming cycle, tools for data analysis and benchmarking.

5.8.2.1 The Deming Cycle (Gitlow and Gitlow, 1987, p. 79-80)

Step 1- Plan (P): in this step data is collected to construct a plan for what needs to be accomplished in a given time frame. Then actions for applying the plan are determined.

Step 2- Do (D): actions are taken.

Step 3- Study(S): results of the actions are studied by collecting data to make sure the plan is achieved.

Step 4- Act (A): changes are made to the plan that is needed to better achieve customer satisfaction and to continue the successful actions.

5.8.2.2 Tools for data collection and analysis

There are seven tools used extensively to gather, analyze and interpret data to facilitate the solution of quality problems for continuous improvement. These tools are:

1. Flow charts: A flowchart is a picture of a process that shows the sequence of steps performed. It is useful in visualizing operations and in aiding in planning and coordinating responsibilities of different areas.
2. Check sheets: A check sheet is a form used to collect data about problems, completed tasks, job assignments, etc. It is useful for recording direct observations and helping to gather in facts.
3. Histograms: A histogram is a graphical representation of the variation in a set of data. It is useful in providing valuable information concerning the variability in a process.
4. Pareto analysis: It is a method of separating the most important characteristics of an event from the least important characteristics of an event. It is always used to analyze the attribute data collected in check sheets. It is useful to identify the most promising opportunities for improvement.
5. Fishbone (Cause-and-effect) Diagram: It is a graphical representation of an outline that presents a chain of causes and effects. It is useful in identifying causes of problems through brainstorming.
6. Scatter Diagrams: Scatter diagrams show the relationship between any two characteristics.
7. Control Charts: Control Charts are used to study variation in a process to differentiate between common and special source of variation.

5.8.2.3 Benchmarking

Benchmarking is a critical facet in TQM. Godfrey and Godfrey (1999, p.40) define benchmarking as a tool or technique for finding and implementing best practices. Liston (1999, p.98) agrees with Godfrey and Godfrey and highlights a main objective behind benchmarking which is customer satisfaction. He defines benchmarking as:

> *A tool used to improve products, services or management processes by analyzing the best practices of other companies or institutions to determine standards or performance, and how to achieve them to increase customer satisfaction.*

In summary, benchmarking is the search for best practices by comparing activities of an organization with those of other excellent organizations to develop and achieve the superior performance. The main aim of benchmarking is to gain a competitive advantage through searching for best practices and adopting them. It is helpful to start from where other organizations end. Benchmarking also helps the organization to identify the quality gap between itself and other organizations. Benchmarking creates realistic improvement objectives as it gives a chance to the organization to better understand its processes and customers' needs. Moreover, it encourages employees to be continuously innovative because it is a process of continuous learning from others.

The benchmarking process has been described by many authors in five steps. They can be summarized as follows:

1. Determine which functions to benchmark.
2. Identify key performance indicators to measure.
3. Identify the best-in-class organizations.
4. Measure the performance of the best-in-class organizations and compare it to the results of the desired organization performance.
5. Implement change to meet or exceed the performance of the best.

(Dean and Evans, 1994, p.93) (Beckforde, 2002,p.239-241)

Benchmarking focuses on the best results which involve understanding how this best result might have been achieved. Changes are implemented on the basis on this understanding, the results continued to be monitored to check the improvement. This process becomes a consistent feature of the organization since TQM assumes that improvement will always be possible.

Benchmarking, as has been shown, is not a difficult process. Each of the five steps is relatively straightforward. The risk with benchmarking is that every organization has its own culture, its own values and what might work perfectly in one organization might fail with another. Consequently, when applying benchmarking, an organization has to be careful about the adaptation of the best practices instead of straight copying from another institution.

5.9 Quality Management Systems and Improvement Awards

Quality management systems comprise formal records of organizations' methods of managing the quality of products and services. Systems enable the organizations to reveal to themselves, their customers and more importantly to independent certification bodies that they have established effective systems for managing the quality of their products and services (Beckford, 2002, p.221).

5.9.1 ISO9000

ISO9000 is one of a series of quality management system standards developed over a long period of time beginning in the defence industry. For example, in the late 1940s, NATO

began developing quality standards to build harmonization between co-operating military forces. Then, these standards were revised and consolidating in Defence Standards between 1951 and 1973 (Beckford, 2002, p.221).

ISO9000 originally published in 1987 by the International Organization for Standardization (ISO), a specialized international agency for standardization composed of the national standards bodies of 90 countries. In 2000, ISO9000 underwent major revision. Now, these series includes ISO 9000:2000 (definitions), ISO9001:2000 (requirements) and ISO9004:2000 (continuous improvement) (ASQ, 2004).

The revised ISO9000:2000 series of standards is based on eight quality management principles that top management can implement for organizational improvement:

1. Customer focus
2. Leadership
3. Involvement of people
4. Process approach
5. System approach to management
6. Continual improvement
7. Factual approach to decision-making
8. Mutually beneficial supplier relationships

5.9.2 BS5750

BS5750 is the British Standards version of the international equivalent ISO9000. BS5750 was first published in 1979 under the title “Quality Systems”. Similar to ISO9000, it has its origins in the Ministry of Defence and NATO systems. It consists of four parts. Part one is applicable to organizations for whom the design and development of products or processes is important for their business. Part two applies to most organizations as it considers production or installation. Part three is for organizations involved in inspecting or testing products. The last part, part four is a guide for the other three parts (Sallis, 1993, p.60)

ISO9000 and BS5750 provide a quality certification focus on the consistency of the production rather than the nature of quality which is driven from stakeholders’ satisfaction. Moreover, they focus on measuring the organizations’ progress in improving continuously the organization.

Although the Quality Management Systems provide discipline and external assessment which lead to a third party accreditation and a quality mark, TQM is a larger enterprise

than establishing a quality system and does not necessarily require the application of external standards (Sallis, 1993, p.65).

5.9.3 Deming Prize

Unlike to the Quality Management Systems, the Improvement Awards such as Deming Prize, the Malcolm Baldridge National Award and The European Quality Award are competitions not standards. They aim to encourage the simulation of excellence exhibited by the award winners.

The oldest Prestigious Award is the Deming Application prize (Deming Prize) of the union of Japanese Scientists and Engineers (JUSE). Initiated in 1951 and named after W. Edwards Deming, the Deming Prize has long been recognized as an indicator of excellence in business (Izadi et al, 1996, p.61). The Deming Prize is not available in the United Kingdom as it is the Japanese national prize for quality. It is applied annually to find the foremost quality company in Japan. The checklist for the Deming Prize covers many areas such as the organization's policy and objectives, its organizational structure, the use of information and education (Sallis, 1993, p.72).

5.9.4 The Malcolm Baldridge National Award

The Malcolm Baldridge National Award is the American equivalent of the prestigious Japanese Deming Prize. The Malcolm Baldridge National Award recognizes quality improvement among manufacturing, service and business. The main goal of the Malcolm Baldridge National Award is customer satisfaction. The award criteria reflect the following seven categories: leadership, information analysis, strategic quality planning, human resource development and management, management of process quality, quality and operational results, and customer focus and satisfaction (Izadi et al, 1996, p.63).

5.9.5 The European Quality Award

The European Quality Award was launched during the 1991 European Quality Management Forum's meeting in Paris. The Award aims to recognize organizations that are paying exceptional attention to total quality, and to encourage others to follow their example. The organization which seeks the Award is assessed on the following four

criteria: customer satisfaction, employee satisfaction, business performance, and the organization's impact on society (Sallis, 1993, p.74-75).

The Quality Management Systems and Improvement Awards are developed in the commercial environment where the market place is seen as determining standards and value for money. In education, the case is a bit different as introducing a quality system is an expensive and time consuming affair, and may be beyond the budget of educational organizations (Sallis, 1993, p.66). Moreover, gaining a quality mark or standard does not guarantee quality. For the purpose of this study, the quality Management Systems and Improvement Awards are beyond its aims as they focus more on accreditation while it focuses on development and managing change.

5.10 Conclusion

This chapter focused on the various definitions of quality and TQM. The main objective of this chapter is not only to provide an overview of these concepts but also to examine the diverse issues involved. The literature reviewed in this chapter has demonstrated that the TQM concept has developed the methods of management from inspection through quality control and quality assurance to TQM. The literature review also showed that there is no universally agreed definition of TQM. Each expert defines it according to the quality concept involved in his field. In this study, TQM is defined according to its principles as will be seen in the proposed model in the next chapter and according to its implementation framework presented in the final chapter.

With regard to the implementation of TQM in the business sectors, it has become accepted as a management approach that helps organization development. The literature review of TQM implementation has shown that there are many educational organizations throughout the world that have benefited from TQM and have improved significantly. A critical feature to emerge is the flexible nature of TQM as it can be adapted to specific contexts and cultures and this will be critical in this study on Omani education and working of the MOE. This is in addition to the holistic nature of TQM which consider the management dimension, the human dimension and the technical dimension of the organization. However, when looking at TQM in the context of change management approaches, it is clear as shown in the previous chapter that TQM's principles and requirement share common concepts with the change management approaches from changing the culture and

the supportive leadership to training and evaluation. It is also clear that TQM requires identifications of problems as in problem-solving approach. TQM also highlights the importance of continuous learning for all involved but further a change in values and understanding to develop the idea and practices related to a learning organization. TQM shares the unfreezing of the problematic assumptions as in the three-step model. This is as it requires culture change. It also requires conducting surveys to identify the needs for development as in the action research model. TQM also includes redesign of some of the processes as in reengineering. Similar to Fullan, TQM believes in the importance of both individualism and collectivism in changing the organization. This is in addition to some other shared concepts such as requires data to be able to take more realistic decision and form planning.

Taken together, each organization is offered a vast number of possibilities of implementing TQM in a way that may best cater to its own needs and requirements. Because of this, each organization may develop its own model of TQM. The next chapter is going to deal with TQM in education and propose a draft model that might be used with Ministry of Education Central Headquarters to meet Oman’s needs and requirements. This model will then form the basis of the main study.

Chapter Six- Total Quality Management in Education

6.1 Introduction

The preceding chapter consisted of a literature review about TQM, the management approach that started in manufacturing and business and then extended over the service sector and particularly education. Research shows that by adapting aspects of the TQM to fit their own needs, education organizations experienced a better ability to manage the process of quality, and maintain and enhance development. Vazzana.et al (2000 p.74), in their study about TQM in business colleges found that most institutions benefit from their attempt at using TQM to improve the quality of their institutions. Similarly, Weller (2000, p.39) in his study of using the TQM tools to identify root causes of school attendance problems concluded that the application of TQM's tools and techniques to solve non-academic problems is as highly promising as it is in academic areas.

The purpose of chapter five was to give a general understanding of the subject. The present chapter is about how TQM has, and can be, conceptualized in an education system, what benefits education can get from implementing TQM, concerns about implementing TQM in education, and case studies of some educational organizations which have implemented TQM and what problems and benefits have been encountered in this context. The chapter concludes with a proposed model for TQM in the Ministry of Education Central Headquarters in the Sultanate of Oman.

6.2 TQM in Education Context

Increasingly, the implementation of TQM has extended over industrial organizations and has turned failing companies into world leaders. Although the origins of TQM are grounded in statistical analysis of performance, with statistical quality control being the principal tool for verifying the success of TQM measures, TQM lays importance on the human element of an organization (Deming, 1986; Juran, 1988). This makes TQM suitable for service sectors in general and particularly education.

Although educational organizations have been slower to see the value of TQM, many of them are now using TQM to improve their administration and to face internal and external challenges. As Mangan (1992, p.A25) notes:

> *Faced with soaring operating costs and persistent public demands for accountability, a growing number of colleges and universities are turning to TQM and its principles of customer satisfaction, teamwork, and employee empowerment as a tool to improve how institutions are managed..*

The literature contains innumerable cases of Total Quality Management principles incorporation in education. The application ranges from school settings (Weller and Hartley, 1994 and Schmoker and Wilson, 1993) to higher education settings (Sahney et.al, 2004 and Wiklund et.al, 2003).

Some studies focus on the feasibility of implementing TQM in educational settings. ALNabhani (2001) investigated in her study how to develop the postgraduate studies administration (PSA) in Sultan Qaboos University (SQU) in Oman using TQM. The research has developed a proposed vision for the TQM system for PSA at SQU. The system consists of three elements: the objectives, the administrative systems and the academic and research programmes. The researcher also defined 5 stages for system application techniques. They are the preparation stage, the planning stage, the formative evaluation stage, the implementation stage and the final evaluation stage.

Similarly, Ngware et.al (2006) investigated the extent to which secondary schools in Kenya practised aspects of Total Quality Management. They found that most schools are not committed to strategy quality planning, though they do promote human resource development initiatives.

Some other studies present the result of TQM implementation in educational organizations. Anderson (1995) reported the results of a case study to evaluate the effectiveness of a TQM programme at the University of Houston, College of Business Administration. She found that the implementation of TQM had some positive results such as increasing the student perceptions of service quality.

Moreover, some studies show that TQM is also used to solve some specific issues. Weller (2000) reported that TQM principles can be used to identify root problem causes for absenteeism. It also can help in identifying realistic solutions which yield positive results in academic and non-academic areas (Further cases will be presented in details later in this chapter).

6.3 Benefits of TQM for Education

As mentioned previously, TQM came into existence because of crises after World War II. As the world is currently undergoing a dramatic change and education is considered the dominant competitive change tool, so TQM as concluded in chapter two and explained in chapter five could be a reasonable approach for developing education. The question to be asked here is what are the benefits of TQM for education? The literature review of TQM in education shows that many writers have encouraged the use of TQM in education. Sallis (1993, p.119-120) argues that an educational organization could benefit from applying the TQM approach both in human and financial terms. Sallis points out that some concepts of TQM like 'right first time' cannot be directly implemented in educational organizations but educational organizations can still benefit from such a notion. He indicates that if an education organization applied TQM, mistakes will be minimized with clear systems and procedures, and good team work through careful and thoughtful planning. In this point, one can notice that although TQM originally started in manufacturing and it has somehow acquired business language, but it is still flexible enough to be adapted by education.

Murgatroyd and Morgan (1993, p.155) highlight the benefit of holistic organization in applying TQM. They mention that TQM is not concerned just with the outcome of schooling, but with the whole nature of schooling as a process for all stakeholders.

Howard (1996, p.18-24) states the following ways in which higher education can benefit from implementing TQM:

1. Stakeholder value through customer focus.
2. Employee commitment and development through involvement.
3. Goal achievement through strategic planning.
4. Services improvement through continuous process improvement.
5. Cost reduction through elimination of unnecessary tasks.

The areas Howard mentions highlight the benefits of TQM for education from three different dimensions: human dimension, financial dimension and planning dimension. In the human dimension, the stakeholders are satisfied and employees are committed; in the financial dimension, money and other resources are saved; and in the planning dimension strategic planning leads to goal achievement.

To summarize therefore, the literature on TQM argues that implementing TQM in education would save time, money and efforts through doing things right first time. TQM will also help education to show greater value for all stakeholders, provide better quality provision and communication and continue seeking innovation and improvement.

6.4 Concerns about TQM in Education

Implementing TQM in education is not easy and the process for achieving success is long and faces some obstacles and problems in preparation and through implementation. To avoid these obstacles or try to minimize them, there is a need to review them. One of the problems associated with the implementation of TQM in education is the commercial undertone of the language, or jargon which is utilized. Kohn (1993, cited in Drennan, 2000, p.179) has suggested that this jargon can have disturbing pedagogical implications. It may invoke fears of increasing managerialism and declining academic autonomy within education. These issues centre around the concepts of the customer, accountability, value of money, fitness for purpose, and 'right first time'.

As far as application of TQM in education is concerned, the identification and satisfaction of customers appears to be a critical problem. Srikanthan (2001, p.551) states that in education customers can variously be students, employers or government. He adds that this creates a considerable lack of focus for the groups involved with the processes. In an effort to identify their customers, the quality council of a university generated a long list including students, parents, alumni, employers society, faculty, local community, academic disciplines, and staff (Sirvanci, 2004, p.383). Although it seems a long list, some seem to be secondary or indirect customers or in a more suitable term in education contexts, stakeholders. However, West-Burnham and Davies (1994, p.10-11) find that the undertone of the language of customers and accountability cause no problem because in education, efforts are placed to help students to find meaning and purpose in their educational lives. This is a way to satisfy customers which Lomax et.al (1996, p.4) called the self-driven quality of the educational managers.

In addition, the main tenet of effective communication required for TQM implementation in educational organizations is rarely reached (Srikanthan, 2001, p.551). However, communication is not only required for TQM implementation but it is essential for the success of any management approach of any organization.

The fact that some of the literature is critical of TQM does not preclude a TQM-based approach from having a valuable role to play in the management of quality in educational settings. As the literature review of TQM in education reveals that much of the negative perception of TQM may be based either on a misunderstanding of its core principles or lack of application requirements. Howard (1996, p.17) states that the staff of an organization may resist change through TQM for various reasons. They might be afraid of the unknown or they might lack time and resources. According to Coate (1993, p.314-318), these were some of the problems that faced the implementation of TQM in Oregon State University.

Similarly, Schmoker and Wilson (1993, p.390) in their book "Total Quality Education: Profiles of Schools that Demonstrate the Power of Deming's Management Principles" note the reason behind the failure of TQM in education settings:

> *If TQM seems to be failing in some settings, the failure can be attributed to what employees in private industry not infrequently tell us: management has adopted the trapping of Deming's work without being willing to redistribute power and place unprecedented levels of trust in employees.*

Freed and Klugman (1997, p. 126) point out that in addition to lack of time and resources, lack of understanding TQM can be another obstacle facing TQM implementation in education or a main cause for its failure.

Murgatroyed and Morgan (1993, p.190-6) investigated the reasons for TQM's failure in education and classified them into two groups: problems related with initiation and problems related with the post-launch. The problems related to the initiation or the start-up of TQM are: the lack of leader commitment, poor plans for TQM deployment, lack of an adequate database on which to develop the TQM initiative and lack of appropriate skills within the organization. On the other hand, the problems that arose after implementation were: problems of team formulation and purpose, problems of paucity of process and performance data, problems of scope of TQM strategy, fixing problems without fixing processes and losing momentum.

According to the previous review of the major obstacles of TQM in education, one can identify some pre-requisites of TQM implementation in education. First, TQM in education, as elsewhere has to be management-led. If senior managers of educational organizations do not commit to the TQM implementation, commitment of other staff will

not be expected. In other words, senior management must be able to believe in the TQM benefit to the organization and effectively convey this to their staff. Moreover, to avoid failure, there must be group work commitment. TQM implementation does not involve only senior management but the total workforce of the organization. In order to achieve this commitment, cultural change is a pre-requisite for TQM implementation in educational organizations. This will not only change beliefs in TQM benefits, but it should also create the momentum for continuous improvement. It may also require a change in the way service provision is perceived. In other words, changing the view to stakeholders and planning to satisfy them will bring other changes. What TQM brings is the idea that a clear purpose of organizational development must be identified and a clear plan is consequently drawn. In addition, data gathering and analysis is important to avoid TQM failure. Educational organizations must use process and performance data effectively to measure their quality and to plan clearly where and how to go in the future. However, data should not be used to fix problems but to fix processes. Another pre-requisite for TQM implementation is training and education. As mentioned above, a cause of the failure of TQM is a lack of understanding about TQM and a lack of appropriate skills. TQM training is required for everyone in the organization whether they are managers or staff. Understanding TQM helps to develop commitment to its application.

6.5 Case Studies of TQM Implementation in Educational Organizations

The purpose of this section is to review the experiences of some educational organizations with TQM in order to gain appreciation from their experiences in proposing the TQM model for the MOE in Oman and in developing the implementation framework. As with benchmarking, it is better to learn from the experiences of others than starting from scratch. While the literature covers many education organizations which have adopted TQM, most of these are in higher education, for the present study's purpose six case studies will be examined.

6.5.1 The Oregon State University (USA)

Oregon State University (OSU) is one of the first universities to endorse TQM as a management approach. OSU adopted TQM to improve its operations and services while downsizing. OSU's top management committed to TQM application and decided to show success on the administrative side before starting to apply it to the academic side. This was achieved through the help of excellent companies with TQM programmes such as Ford

Motor Company, Xerox and Motorola. It has developed a plan that spans three main stages which consist of planning, implementation and appraisal. Coate (1993, p.306) states that the application of this plan took five years to be achieved. However, after three years of starting the plan, OSU's implementation of TQM shows positive improvement in operations and services within the university.

6.5.1.1 Planning For TQM

After deciding to implement TQM, OSU followed the following steps as a planning stage:

- Exploring Total Quality Management through visiting companies with TQM programs, inviting Deming to visit and explain TQM, reading key resources and attending TQM classes.
- Forming a pilot study team which was seen as a learning experience for the OSU's staff and a model for future teams. It consisted of 10 managers and front-line workers, a team leader, and a training officer/ facilitator.
- After the first pilot team experience, they began implementing TQM by focusing top management on strategic planning, including the following steps: defining the mission, understanding customers, identifying the critical processes of the president, developing the vision and identifying breakthrough items.
- Developing a preliminary five-year plan based upon priority breakthrough items and the Malcolm Baldrige National Quality Award criteria.
- Developing a training program, a quality manual and a recognition system.
- Establishing daily management system.
- Establishing standing cross-functional teams.

6.5.1.2 Implementing TQM

According to Coate (1993, p.306) the first stage convinced the management that teams are essential to the TQM implementation. They also realized that TQM should not be applied without a period of research, adaptation, training and pilot testing in the actual setting. This stage consists of the following steps:

- Forming finance and administration daily management teams.
- Improving TQM training.
- Involving new administrative area.
- Developing cross-functional management.
- Recognizing the efforts of TQM teams and celebrating their accomplishment.
- Implementing TQM strategic planning in academic unit.

6.5.1.3 Appraising TQM

Answering the question "Will TQM work in higher education?", Coate(1993, p.312) answered: "yes." OSU has seen results after three years of application, processes have been improved, and there has been saving in terms of time, material and money. TQM also empowered people at all levels and improved morale.

There are six key points to the success of the application in OSU:

1. Support from the top.
2. Just do it!
3. The teams are everything.
4. You need a champion.
5. Breakthrough planning helps.
6. Try service first.

Although TQM succeeded at OSU, there were a number of barriers to implementation (Coate, 1993, p.314-318). The language of TQM comes from industry not education and it is unfamiliar to most middle managers. This is in addition to the time, scepticism and attitudes about any fundamental change process.

6.5.2 University of Bradford Management Centre (UK)

Bradford's Management Centre is one of the most famous business schools in Europe. In 1987 the centre established the European Centre for TQM (ECTQM). It is actively involved in research, teaching, and advisory work in all areas of quality management. During 1990s the centre decided to adopt TQM in order to face the strong challenges of competitiveness (Oakland and Porter, 1995, p.336-337). After holding two strategic planning workshops to examine the feasibility of introducing TQM into the Management Centre, ECTQM developed a TQM model to improve the customer-supplier relationship and the processes that link them as a core value of TQM (Oakland and Porter, 1995, p.337). In implementing the strategy of TQM, it was recognized that TQM implementation requires considerable time and commitment to the culture of continuous improvement. It was also essential that TQM initiatives be fully integrated with the Management Centre's philosophy and system. Hence, the application followed certain steps (Oakland and Porter, 1995, p.337-345):

- The establishment of a quality council (QC), consisting of the director of the centre, two professors, two programme chairs, a lecturer, a secretary and a computer officer (technician). The council responsibilities included: updating the mission statement, identifying the critical success factors, providing overall strategic direction on TQM for ECTQM, establishing plans for TQM implementation, setting up process quality teams, reviewing progress and revising development plans.
- Involvement of teamwork for quality improvement: involvement in quality flowed down through the organization using a structured team method involving Process Quality Teams (PQTs) and Quality Action Teams (QATs). PQTs are responsible for breaking down and describing critical processes and prioritising and selecting processes for improvement. QATs are responsible for defining and improving particular processes assigned by QATs. In addition, they are responsible for identifying stakeholders, measuring and comparing results with requirements and improving the process and documenting it.
- For the purpose of fostering the understanding of the process involved in implementing TQM in the Centre, training for all staff was held in the form of a workshop for the Executive Committee and the professoriate. Tools such as the Myres-Briggs Type Indicators (MBTI) were used to help members to understand themselves and their colleagues and to promote effective teamwork. The action plan for implementation of TQM at the Management Centre was also reviewed. Moreover, all staff had taken part in a one day workshop that was led by the professor of TQM and facilitated by members of his department. The outcome of these workshops was that all staff were encouraged to participate in the TQM process at individual and team level. Further training on process improvement methods was provided to the various teams on an ‘as-needed’ basis. It was expected that academic staff should be familiar with techniques such as flow-charting, brainstorming, cause-and-effect analysis, and the use of data presentation methods.

TQM was successful because of the people’s willingness and the ability to work together effectively. Nevertheless, many areas in teamwork, communication and measurement were highlighted for improvement. As Oakland and Porter (1995, p.346) emphasizes, sharing the values of the programme is also important to achieve the shared goals critical to the future of the Centre.

6.5.3 Aston University (UK)

Aston University applied TQM as a means of ensuring continuous improvement and progress towards Aston’s mission to be a leading technological university and as a means of addressing severe funding reductions. Its strategic plan for improvement hinged on five key elements: academic structure, corporate identity, physical restructuring, advanced academic support services and focus on customer care, and ability to attract and retain high calibre staff and students (Clayton, 1993, p.363).

Total Quality Management has been drip-fed to Aston University over a fairly long period of time. It required the formulation of a mission and an understanding of the processes which interlink to allow the achievement of that mission. The strategic plan for the implementation was rooted with the concepts of identifying the customers, understanding their needs and serving them well. The plan focused on the following steps (Clayton, 1993, p.365- 371):

- The establishment of a quality council comprising the university's most senior academic and non-academic managers. The purpose of the council is to review the university's processes and critical success factors in order to identify key issues for improvement.
- Raising quality awareness through a series of awareness courses. These courses provide early education and training for actual and potential council members. In addition to the awareness courses, there is specific training in quality management tools and techniques.
- Using quality function deployment to ensure the customer satisfaction. This method was applied in the Department of Vision Sciences. There were eight essential areas to consider: students' wants and needs, skills necessary to meet the wants and needs, programme and course content to deliver the skills, organization and assessment of the programme, resources, implementation of the programme, monitoring discrepancies between goals and outcomes, and control of the system in changing circumstances. However, the experience of quality function deployment showed it to be a complex tool.

Aston University did not use a particular TQM model but instead only used the TQM principles, tools and techniques whenever appropriate and possible. As Clayton (1993, p.371) states, because of Aston's quality 'drip-fed' approach, it was difficult to provide an objective assessment to its success or of its cost over the years. He also adds that Aston would only succeed if everyone has enough commitment to address external challenges.

6.5.4 Griffith University (Australia)

Griffith University was established within a period of rapid expansion of higher education. Its aim was to respond vigorously to the imperatives of external accountability while at the same time introducing quality development systems throughout the university (Meade, 1995, cited in Tang and Zairi).

The key principles of Griffith University for quality management are expressed in quality-oriented processes and attitudes across the whole range of activities. The quality management plan can be summarized as follows (Tang and Zairi, 1998, p.545-547):

- The vice-chancellor and senior executive take direct responsibility for leadership of the university's quality plan.
- Quality commitment to all university elements.
- Continuous improvement is everyone's responsibility.
- Deployment of resources to support quality management.
- Quality management responsibility is best handed by operational levels.
- Encouragement of the diversification of quality management forms.
- Development of staff.

From the quality principles and mission statement, critical factors of strategic importance are identified: teaching and learning, research, community service, institutional management, priority resource allocation, enhancing technical and information support, and quality advancement procedures. These factors formed a framework for further actions in the quality plan.

In implementing TQM, each faculty formed its own quality committee to provide leadership and to increase quality improvement at faculty level. Responsible officers (e.g. deans) are charged with ensuring that performance targets are achieved within the specified time. As a part of staff development, brainstorming is used to identify strengths and weaknesses.

Griffith University learned that the commitment of the staff to the quality initiatives and staff development, in addition to the stakeholders' involvement and empowerment are essential to the strengthening of a quality culture.

6.5.5 Red River Community College (Canada)

Red River Community College (RRCC) decided to embrace the concept of Total Quality Management to provide an operational philosophy, enhance programme curricula and establish business opportunities in order to face the change that resulted from moving from being a provincial government department to being a crown corporation (Knowles, 1994, p.3).

RRCC adapted W. Edward Deming's philosophy to create its own TQM approach which focused on (Knowles, 1994, p.4-5):

- The establishment of a clear statement of organizational mission.
- Active commitment of the chief executive officer.

- Employee involvement in planning and implementation.
- Definition and development of the processes to enhance good employee job.
- Identifications of customers and their needs.
- Movement of responsibility and accountability as far down as possible in the organization.
- A teamwork approach that involves the workers in solving problems.
- The use of data and graphical tools in decision making.
- Establishing permanent change through continuous improvement.

The Implementation of TQM at RRCC began with the establishment of 16-member implementation team which acted as a steering committee for the entire institution. An external consultant was used for the first two months as a facilitator and a team builder to work through the initial stages of gaining common understanding. TQM was used to solve common problems such as the difficulties associated with students having multiple student numbers. Other TQM projects focused on Market Driven Training Centre processes, ergonomics in the work environment, production of communication and promotional materials and a divisional approach to management were used.

According to Knowles (1994, p.9) a full implementation of TQM results in a cultural change for the entire organization, a process which should be viewed in terms of years. He adds that the introduction of TQM is most difficult for management; particularly those at the more senior level. He concludes that TQM at RRCC made satisfactory progress and started to reap benefits.

6.5.6 Pinellas County School District (USA)

Pinellas County School District is the seventh largest school district in Florida. Its schools serve communities across a full spectrum of local and urban environments, socio-economic groups and ethnic groups. It adopted TQM as a result of the challenge set by the president of At&T Paradyneto Pinellas management to embrace continuous improvement and the new accountability legislation enacted by the state of Florida (Hutton, 2000, p.1)

The implementation of TQM followed the following steps (Hutton, 2000, p.1-2):

- Senior management began to learn about quality management.
- Developing internal expertise that was required rather than obtain some ready improvement methodology and rely on outsiders to provide the expertise.

- Pinellas Country School District applied for the Florida Governor's Sterling Award. This award was based on the Baldridge Award.
- The management of the transformation became a full-time enterprise for those school district employees who were involved.
- Pinellas Country School District has its own internal Baldrige-based assessment and award system. The Superintendent's Quality Challenge (SQC). This system provided a means for the district's schools to understand quality management and assess their own management systems and create improvement plans.
- The introduction of leadership training and development for principals-to-be. This was to provide this critical group with continuous improvement skills needed in the schools.
- A decision making process at the school level was introduced.
- Classroom Learning System was introduced based on Deming's problem solving Plan-Do-Study-Act cycle.

TQM succeeded at Pinellas Country School District. The most significant indicator is that this district was identified as the top school district in the state of Florida in terms of overall student achievement (Hutton, 2000, p.3).

6.6 Lessons from Case Studies

Learning from other experiences is as old as history. As mentioned previously, the purpose of presenting case studies is to learn how they applied TQM and propose a model that suits the Ministry of Education in Oman. The following paragraphs summarize the lessons learned from the analysis of the six case studies mentioned in this chapter.

All of the six educational organizations began to apply TQM as a means to respond to the great demand for change and improvement. Some used TQM to face the reduction of funding or the challenge of competitiveness. This is the case in the MOE; it faces challenges and needs to encourage improvement, as discussed in chapter three.

In Implementing TQM, educational organizations form or adapt different TQM models according to their needs. Later in this chapter a TQM model which has been generated will be presented. The investigation will examine how such a model should be developed for the MOE in Oman and will identify issues in the implementation process.

TQM requires creativity, responsibility and participation from managers and staffing in an environment of collaboration and open communication. It requires commitment at the top level. It needs strong visionary leadership that will facilitate the cultural change toward

continuous development. TQM also demands the establishment of an environment of teamwork. A structure like the quality council can play a key role in the success of TQM implementation. In the case of the MOE, it can take a form of a directorate attached to the Minister's office.

Another important lesson about implementing TQM is that stakeholders play a major role in planning the organization's processes. The MOE as an educational organization should aim at satisfying stakeholders' needs.

Nevertheless, TQM demands time, effort and a willingness to change. It creates a learning organization where education, training and re-education are essential for TQM success. TQM requires staff at all levels to be motivated to do not only what is better but what is best by the involvement and empowerment of all staff. TQM is about believing that there is always a better way of doing the services of the organization. So, involvement and empowerment, training and education, and continuous improvement are characters of the TQM organization.

The implementation of TQM seems to be more effective if it is gradual and well-planned. It also needs appraisal using quality tools and techniques. This is a very difficult task but not impossible. It just needs time and patience and a view point that says "If they can do it, why can't we"

From the previously discussed case studies, it seems that TQM approach succeeded in educational settings and this success can be translated into the following results:

- Saving time.
- Saving effort in the long term.
- Saving money and resources.
- Establishing a quality culture.
- Identification of strong and weak points.
- Stakeholder empowerment and involvement.
- Communication empowerment.
- Better understanding of stakeholders and their needs.
- Building a positive teamwork environment.
- Raising authority delegation.

A TQM approach is one which human-centred and which takes as its core tenet the notion of continuous quality improvement. It is managerial in the sense that it must be supported and encouraged by senior management. It is instead more akin to the approach of the Ministry of Education in Oman in which each member of staff is valued, both as an individual and as member of the Ministry team. This holistic approach to quality management seeks to involve everyone in the achievement of successful outcomes for the organization as a whole. The emphasis is on innovation and development which are the central aim of the Ministry at the present time. TQM stresses reflection and review-qualities which are essential in an environment such as the environment of the Ministry of Education Central Headquarters in Oman.

6.7 Proposed TQM Tree Model for MOE in Oman

From the review of the context of the Sultanate of Oman (chapter 2), describing the education system there (chapter 3) and discussing the results of the pilot study (chapter 3), it could be said that there are prominent efforts in developing the education system in Oman generally and the Ministry of Education particularly. It seems that all the requirements for development are available. However, there are some issues related to the MOE. These issues might be solved in the context of TQM. Hence, TQM for the MOE is not intended to bring in an alien system but rather to give form and clarity to principles that are already a part of the organizational culture. TQM in the MOE is understood as application of management techniques for continuous improvement with appropriate tools for meeting and exceeding the stakeholders' needs and expectations. The TQM emphasises that the MOE should have a vision of what it wants to be and clearly define its mission compatible with its vision, and then translate this into attainable, specific meaningful goals.

In the light of TQM principles, the successful implementation of TQM in education and the issues arose from the pilot study discussed in chapter three, this study proposes a model of TQM for the Ministry of Education in the Sultanate of Oman. This model consists of seven elements: commitment toward TQM, focus on stakeholders, involvement and empowerment, continuous improvement, training and education, tools and techniques, and rewards. In this model, TQM is considered as a tree with seven branches (the TQM principles). The model will be described later in this chapter and will also at a later stage after the analysis and discussion of the field work be reviewed for its feasibility in the MOE in Oman. The field work is intended to gather the views about the principles

underpinning this proposed TQM Tree Model (Figure 6.1) and the structures and practices associated with this model. The views of staff and stakeholders have been sought.

6.7.1 Commitment toward TQM

Amongst experts on TQM, there is widespread acceptance, that senior managers must demonstrate serious commitment to the implementation of TQM. Moreover, most models of successful TQM implementation emphasize the major and substantive role of the commitment of top management. Thus, the top managers in education organizations must play the role of the model to whom others look to for guidance and help. Murgatroyd and Morgan (1993, p.196) state that it is critical that the top management understand what it is they are getting into, recognize the work they are starting and must commit to achieving their vision through TQM.

Similarly, Seymour(1992, p.15) states that the philosophy of strategic quality management means that the leadership of an organization must convey the message that the continuous improvement satisfies stakeholders and becomes the mission of every member of the organization. It is necessary for senior management in the MOE to clearly demonstrate their commitment to change through TQM by leading others in its implementation.

While Oakland and Porter (1995, p.X) argue that TQM must start at the top level with a serious commitment to quality, they highlight the fact that the middle management has a key role to play in communicating the message. Sallis (1993, p.126) agree with them and emphasizes that middle managers alone cannot ensure success. This points out the importance of cooperation between middle management and the top management by stressing the essential role of top management support.

For MOE, this principle is of a great importance as some of the issues highlighted in chapter three will be solved through this principle. This is in addition to the role that top management plays in legislation and decision making which makes any change impossible without its support.

6.7.2 Focus on stakeholders

There is no doubt that satisfying stakeholders becomes a critical criterion in business competition. Education is no exception when it comes to this criterion. This is clear from

the definition of quality and TQM presented in chapter five. Stakeholders' satisfaction is one of the most important features of TQM.

In achieving this element Sallis (1993, p.126) suggests that there must be a striving to meet internal and external customers' needs and expectations. He adds that it is important to involve the customers in the process because it is their views that count, not those of the organization's management.

In valuing this element Bergman and Klefsjo (1994, p.23) justify that it is more expensive to gain new customers than to keep ones who are satisfied, or even more easily, ones who are delighted with a product. In education, focus on stakeholders deals with the issue of identifying the different stakeholders and their expectations. The stakeholders are internal as well as external. Dahlgaard et al (1995, p.448) state that the external stakeholders are the students, the different organizations where graduates continue their careers and the wider society. The internal stakeholders are the students and the employees.

Thus, the MOE has to seriously consider how to maintain their stakeholders' satisfaction. This requires the development of long-term planning and of a commitment to quality services. This is in addition to the identification of stakeholders and their needs.

6.7.3 Involvement and empowerment

TQM can only progress when it involves every employee in the organization. With each employee practising quality principles and values in work activities, quality services are assured. Most TQM gurus agree that the organization should allow everyone in the organization to share the process of improvement. This participation gives the staff a deep understanding of the quality improvement process. This also gives them the feeling that they are a substantial part of the organization. Moreover, empowerment is necessary to maintain speed in providing quality services. Murgatroyd and Morgan (1993, p.121) explain this in the context of schooling as follows:

> *Empowerment is the ability of an individual or a team within the school to work in their own way within an agreed time and with agreed resources to achieve a goal set by the leadership of the school.*

However, empowerment does not mean that teams have the freedom to determine goals or redirect the goals of the organization independently. Murgatroyd and Morgan (1993,

p.121) point out that empowerment begins when the vision and the goals have already been set by educational organization leader.

All staff involvement and empowerment are necessary for organizations that have transactions with a variety of stakeholders and daily stakeholder complaints, such as the MOE. This is especially true as the pilot study results revealed that the MOE has some problems with empowerment.

6.7.4 Continuous improvement

Continuous quality improvement is a process that aims to focus on solving problems during processes and not waiting till the end of the process. Deming (1986, p.49) in his fifth point advises that the success of the organization depends on improving constantly the system of production and service. It is the task of management to ensure that there is a continual process of improvement throughout the organization.

Continuous improvement is central to any TQM organization, educational organizations are no exception. Sallis (1993, p. 36) explains that:

> *As an approach, TQM seeks a permanent shift in an institution's focus away from short-term expediency to the long-term quality improvement. Constant innovation, improvement and change are stressed, and those institutions which practise it lock into a cycle of continuous improvement.*

For an organization such as the MOE which tries to improve regularly and keeps a pace with the demand of globalization, continuous improvement will be an aid to achieve its goals more easily and perhaps more quickly.

6.7.5 Training and Education

In order to achieve the previous elements and to be able to implement TQM in an organization, managers and staff have to be trained to be able to deal with the changes in the organization and not to fear from their involvement. As mentioned previously in this chapter a major cause of the failure of TQM is the lack of training in TQM or the fear of staff from being involved in something they do not know about. Sallis (1993, p.128) states that:

> *Staff development can be seen as an essential tool for building the awareness and knowledge of quality. It can be the key strategic change agent for*

> *developing the quality culture…it is important in the initial stages of implementation that everybody is trained in the basics of TQM.*

Thus training and education are necessary to provide managers and staff with an understanding of the aims of the development. Adopting this process in the MOE in Oman will help in reducing the fear of implementing new methods and will help in identifying the roots of problems. Moreover, it will help the staff to perform their tasks correctly and precisely from the outset.

6.7.6 Tools and Techniques

One of the core concepts of TQM is focusing on facts. This means that TQM involves the belief that measurement is a very significant process in evaluating whether an organization is functioning competently. TQM uses different tools and techniques, mentioned in chapter five, to achieve its aims. These help the organization to have feedback on the quality achievement and at the same time planning for the ongoing improvement. According to Murgatroyd and Morgan (1993, p.155), TQM uses tools and techniques not for the purpose of measurement as an end in itself but measurement to make informed decisions.

> *While the whole strategy is what makes the difference to performance, some aspects of TQM do concern 'hard' data and information, but these are often misunderstood. The critical issue is: how can we collect good information so that we can make good decisions? The focus and emphasis is upon making decisions, not measurement.*

As discussed in the pilot study results in chapter three, MOE suffers from the unrealistic decisions that are not easily applicable in schools. In implementing this principle in the MOE, decisions will be more realistic and applicable.

6.7.7 Rewards

The most important reason behind establishing a reward system in an organization is to encourage staff to work harder and more successfully. Sallis (1993, p.37) believes that to do a good job employees need encouragement and recognition of their achievements and successes. They need leaders who appreciate their achievement and lead them to even greater success.

Rewards have been found to contribute to the success of the implementation of TQM. This principle is strongly advocated by TQM gurus and widely adopted by TQM organizations.

Juran (1989) believes that a reward system is an important issue in encouraging organizational development. He argues for the benefits of the reward system:

> *The reward system not only serves its basic purpose of rewarding human performance; it also serves to inform all concerned of the upper managers' priorities. If goals are revised but the reward system is not, the result as viewed by subordinates is conflicting signals. Most subordinates resolve this conflict by following the priorities indicated by the reward system (p.211).*

While Crosby does not encourage monetary rewards, he advocates recognition as a necessary component of TQM. He states that (1989, p.11)

> *I do not encourage the carrot-and-stick approach. I always thought that was a dumb idea. People are thinking, caring beings, and they can tell whether you respect them or not. They work for appreciation and the sense of accomplishment they get from doing the job well. They do not work for money. They need it, and it is important, but money is a lousy motivator.*

Reward system approved its effectiveness in TQM success in practice. For example, Ab Rahman and Tannock (2005) in their study of TQM best practices in Malysian companies found that rewards and recognition systems are considered one of the TQM implementation's success factors. They state that a well-designed staff and team recognition system is effective in reinforcing and encouraging the desired behaviour and motivating staff involvement. Similarly, Wruck and Jensen (1998, p.414) note the importance of reward system as follows:

> *For TQM to create lasting improvements in efficiency, it is desirable to establish a system of rewards and punishment that complements the new allocation of decision rights and the new performance measurement system. We define rewards broadly to encompass all types of rewards; both monetary and non-monetary including the satisfaction generated by participation in TQM activities…all these rewards are valued by employees and so provide motivations or incentives.*

Theoretically and practically the importance of both monetary and non-monetary rewards was highlighted. In an organization such as MOE a combination of both types of rewards could be used to provide motivation for staff. When staff know that they will be rewarded for their extra efforts they make for MOE development, then, will there be the sense of teamwork and continuous improvement that allows TQM to be implemented effectively in the MOE. This is especially true as the pilot study results revealed that the rewards in the MOE are not systematic and not fairly distributed among staff.

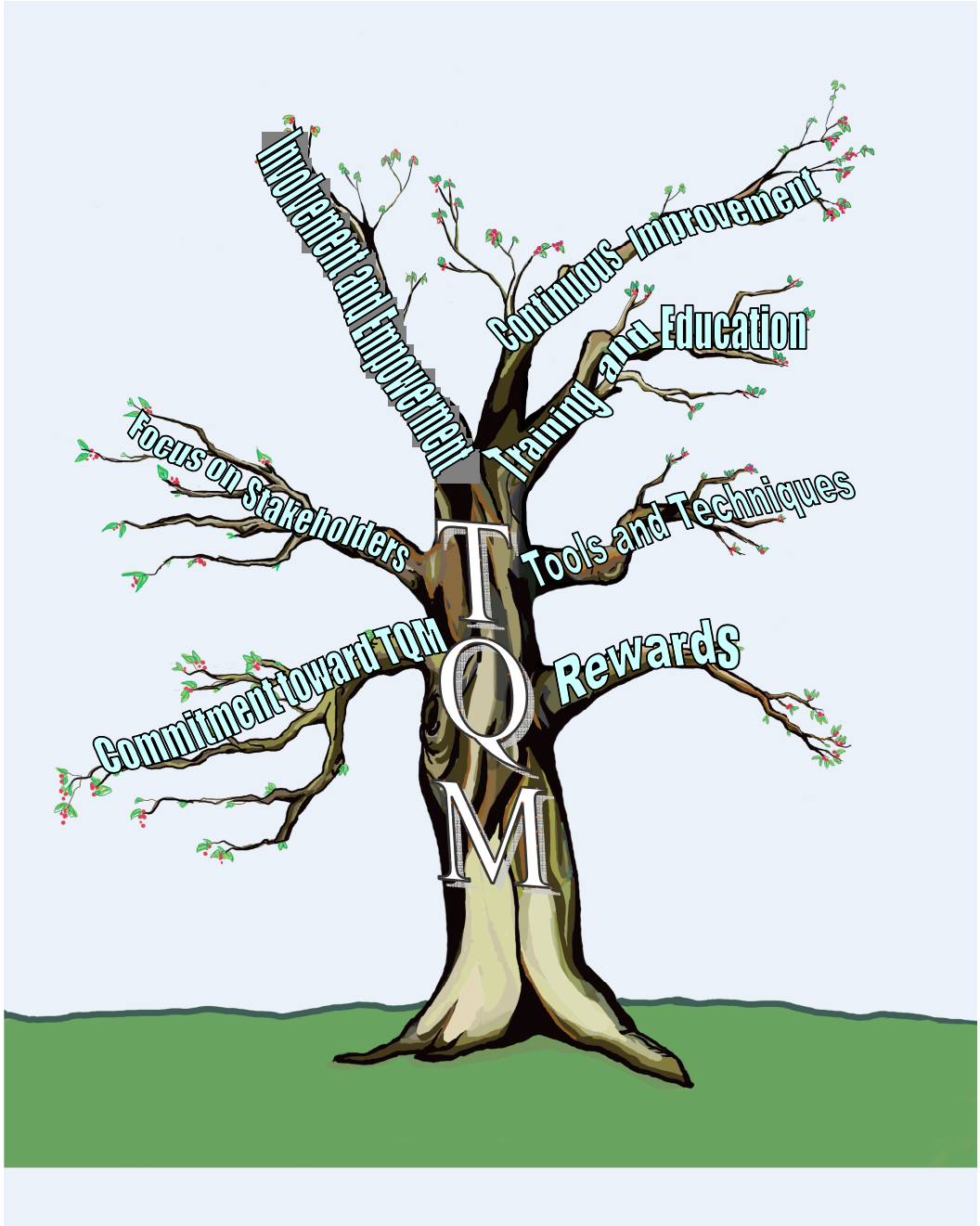

Figure 6.1 The Proposed TQM Tree Model

6.8 Conclusion

The analysis of the literature related to TQM in general and within the educational context and the successful implementation of TQM in educational organizations has raised some important and interesting lessons such as designing or adapting a TQM model that is suitable for the organization's needs. Another lesson that was pointed up is that TQM's implementation requires management support, staff involvement, teamwork and communication. The case studies also highlighted how the TQM implementation demands

time, effort, training and commitment. To propose a TQM Model for the MOE, the lessons learned from the case studies with the TQM principles and the issues arising from the pilot study were considered. The proposed TQM Tree Model consists of seven TQM principles: commitment toward TQM, focus on stakeholders, involvement and empowerment, continuous improvement, training and education, tools and techniques, and rewards. The next chapter describes the methodology used in this study followed by the data analysis chapters.

Part Three
The Methodology, the Data Analysis and the Recommendations

Chapter Seven- Methodology

7.1 Introduction

It was established in the overview that the key focus of this thesis is to explore the use of TQM as the means of developing the MOE. Three main research questions were identified and this chapter will detail the data source chosen to provide an evidence base to address the research questions. Moreover, it is intended to present and explain the procedures and methods used to conduct the data collection and data analysis of the study. This chapter also deals with definitions of such terms as 'research in education'.

Stringer (2004, p.3) states that when we conduct research in relation to education, we collect information about a particular subject. However, Stringer also thinks that research is a form of transformational learning that increases the "stock of knowledge" that helps people to deal with their lives more effectively. Bassey (1999, p.39) was far more specific in defining research in education as:

> *Educational research is critical enquiry aimed at informing educational judgements and decisions in order to improve educational action.*

Additionally, Denscombe (2002, p.27) shows that one of the purposes of research is to develop good practice and enhance existing performance:

> *The aim of the research is to arrive at recommendations for good practice that will tackle a problem or enhance the performance of the organization and individuals through changes to the rules and procedures within which they operate.*

Thus research in education includes collecting information critically in order to solve existing problems and improve educational performance. In this particular study, research is firstly collecting information about the situation in the MOE and the problems facing it. Then, secondly collecting information critically about the possible ways of changing, improving or developing the current state of the MOE. In this research the final stage is to propose a model and draw a framework about how the existing problems could be solved and how to enhance the performance of the MOE.

According to Wiersma and Jurs (2005, p.4) the process of educational research could be summarised in five main steps: identifying the problem, reviewing information, collecting

data, analyzing data and drawing conclusion. In this study, the stages in the research process are described as in figure (7.1):

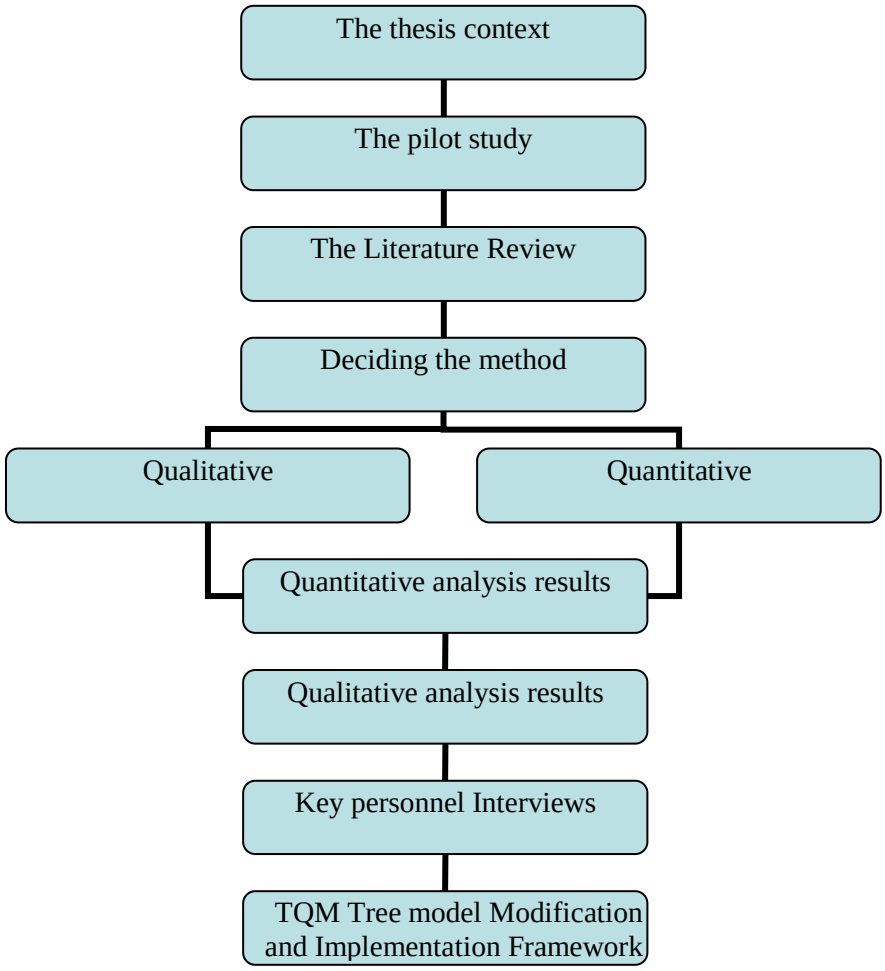

Figure 7.1 The Research Process Stages

7.2 The Literature Review

As the first stage in the research process is the clear identification and formulation of the 'problem', a prior review of literature related to the development of education system in Oman and the challenges facing it and the importance of management of change was undertaken. The research questions were then framed:

1. What are the areas of work in the Ministry of Education in the Sultanate of Oman that need to be developed?
2. How do stakeholders view the principles of Total Quality Management as a tool for ongoing development?
3. What model of Total Quality Management could be applied to the Ministry of Education in the Sultanate of Oman?

The research questions form the basis of the research and the core of what the research is seeking to find. Moreover they help in finding the suitable methodology or methodologies to undertake the research.

In order to derive appropriate remedies for research problems, researchers are expected to employ suitable methodologies. Muijs(2004, p.3) states that while it is important to use the right data analysis tools, it is even more important to use the right research design and data collection tools. At the preliminary stage, before deciding on the methods and after the identification of the problem, the aims and objectives of the research had to be clearly determined and the value of adopting one or more research methodologies had to be assessed. The methodology selected for any research project must be appropriate to the goals of the research and for answering the questions.

It is widely accepted that more than one method in any given study can be used (Cohen et.al, 2000 and Yin, 1984). The reason for choosing to use a number of methods in this study was the distinctive contribution that each particular method could offer in investigating the research questions identified in the overview and previously in this chapter. As this thesis utilizes a number of different approaches, the following sections of this chapter discuss the different methods used in turn, including the reasons behind using each method in this research.

Research methodology can be broadly divided into quantitative and qualitative approaches. In a quantitative approach, the researcher seeks to analyse data which is presented in numerical form. In contrast, a qualitative approach is one which describes data in words (Krathwohl, 1993, p.740). Wiersma and Jurs (2005, p.13-14) go deeper than just considering the way data are presented. They state that quantitative approach is deductive, reasoning from general to specific, theory-based, context-free, and it is done to determine relationships, effects and causes. On the other hand they state that a qualitative approach is more inductive, reasoning from specific to general, does not emphasize a theoretical base, context specific, and it is done to understand social phenomena. They conclude the comparison by highlighting that both approaches are valuable and have relevance for the educational improvement.

The qualitative versus quantitative idea is widely debated in the educational research literature. Some researchers advocate only one of these approaches but others support the

idea of a combination or triangulation (Muijs, 2004; Cohen et.al, 2000 and Yin, 1984). However, these two approaches have different complementary strengths.

Generally, this study utilised the two approaches, qualitative and quantitative and uses more than one method to collect data. Questionnaires and interviews were both used. The combining of both approaches can be used to triangulate data and overcome the weaknesses, biases and limitations of using just one of them. In addition, using both of them helps in the collection of more comprehensive and robust data. Yin (1984, p.92) for example states that:

> *…any finding or conclusion in a case study is likely to be much more convincing and accurate if it is based on several different sources of information…*

Using more than one method of data collection in the study or instrument or more than one source of data to study the same subject is called "Triangulation". It is a "multimethod" approach to conducting research: if the outcomes of two or more different methods produce consistent results, the researcher will be more confident that his findings are valid. (Cohen & Manion, 1994, p. 233-234).

Triangulation is particularly suitable for this study because of the nature of the phenomenon under investigation. In this study, the views of different groups, top management and both internal stakeholders in the MOE and external stakeholders in schools and Regional Directorates are included. Therefore it is very useful to gather rich data in order that the views of different groups may be compared and contrasted. Moreover, triangulation may allow the researcher to improve the accuracy of conclusions. Cohen & Manion (1994, p.239) think that triangulation is suitable when a more holistic view of educational outcomes is sought. The design of the study is intended to provide this. Thus to gain a broad feel for the acceptability of the TQM ideas in the MOE, the questionnaire was used. Then in order to provide more specific detailed information about the problems that might face the application of TQM in the MOE and to identify the facilitating factors that might help the implementation, the interview was used. The results from both sources together provide a more holistic view.

7.3 The pilot Study

It is often very useful to conduct a pilot study before beginning the research study. Pilot study is a stage that enables the researcher to explore in advance any issues that might be problematic in the future. At the same time, it refines practice for the research before its final application. Teijilingen and Hundley (2004, p.1) emphasize the importance of pilot study and claim that it both increases the likelihood of success in the main study and gives advanced warning about where the main research project may fail. The pilot study is especially important in the present research because it aims to collect preliminary data and will help in the refinement of research questions and research plans. Before the researcher made her choice of research methodology, it was necessary to gain sufficient understanding of the background and development of the MOE and the existing problems, in order to consider what methods might be used to address the main focus of the study that is, the issues that need to be addressed in the Ministry of Education. Hence, this pilot stage provided valuable experience and feedback to the researcher. In addition, this pilot study answers the thesis' first research question (What are the areas of work in the Ministry of Education in the Sultanate of Oman that need to be developed?). Moreover, the results of this pilot study helped the researcher to consider the suitable theories of managing change and TQM. This is as the change management model should be able to help in solving existing issues in the MOE and developing the MOE.

The present pilot study used the semi-structured focus group interview because of its suitability to the purpose of the study. There were four focus groups of MOE's central headquarter directors, regional directors, head teachers and teachers. The sample consists of 40 persons, 10 from each group. Teijilingen and Hundley (2004, p.2) point out that the first phase of pilot might involve using focus group interviews to establish the issues to be addressed in a large-scale questionnaire survey. Similarly, Henerson et.al (1987, p.26) say that probing interviews conducted with a representative sample can provide a sound basis upon which to develop a questionnaire for wider distribution. Moreover, focus group interviews are simple and effective tools for collecting data. Denscombe (1998, p.109) states that the interview is an attractive way for a project researcher because it does not involve much technical paraphernalia in order to collect data. He also adds that the most common use of interviews for project researchers is as a source of information and this is exactly what this study needs. Furthermore, the present pilot study used a semi-structured interview format in a group context to let the interviewees develop ideas and speak more widely on the issues and problems in the MOE (See appendix III for the English version of

the pilot study interview and see appendix IV for the Arabic version of the pilot study interview). There were four main questions as follows:

1. What are your aspirations for education in Oman?
2. What do you think you/we should do to achieve these aspirations?
3. What do you see as the barriers to change?
4. What would you identify as major problems in relation to the role of MOE?

Before conducting the pilot study, ethical approval was obtained from Glasgow University. Then a letter outlined the researcher's background, the nature of her study and a copy of the interview questions were sent to the MOE to get permission for the interview implementation (see appendix I for the English version and appendix II for the Arabic version).

All of the interviews took place in the Human Resource Management Department in the MOE and they were conducted by the researcher herself. The researcher had previous contact with the Director of the Department and arranged a contact with the staff who would be willing to be involved and then agreed upon dates and times with each group.

The researcher selected the pilot study sample to be as representative as possible. The Directors in the MOE Central Headquarter play prominent roles in the process of decision making and formulation of the policies. Similarly, the Directors in the regions have major roles in the connection between the field; schools; and the policy makers. Moreover, they are an important part of the decision makers in the regional levels. Head teachers and teachers are the implementers of any development at the school level and usually their contact with the MOE Central Headquarter is through the Regional Directorates.

Every interview was about an hour. The researcher assured the interviewees that their involvement was voluntary and they were free to withdraw their consent at any time. She also mentioned that the information and data obtained would be analysed by the researcher solely for the purpose of this study and would not affect any participants in any way. She also assured participants that the final written thesis would ensure anonymity by not using any actual names or identifying individual characteristics of any participants. These reassurances were particularly important in this study as the researcher had previously been a member of staff as were members from the group of internal stakeholders. However, the researcher was also known in this research role having previously conducted a small scale

study in the MOE. Care was taken to ensure that the focus was on the areas relevant to this current research project.

Thus the pilot study results as presented in chapter three showed that the respondents in the group interviews perceived a number of problems with the management processes in the MOE Central Headquarters and further that they could see possibilities in the TQM approach as a means of resolving some of these issues.

7.4 The Main Study

In order to answer question two of this study "How do stakeholders view the principles of Total Quality Management as a tool for ongoing development?" the following purposes must be achieved:

1. To examine the attitudes of MOE top management and different groups of stakeholders.
2. To identify barriers to the implementation to the TQM.
3. To identify facilitating factors to support implementation.

For the aim of achieving these purposes, a questionnaire to examine the feasibility of applying TQM principles in the MOE from the point of view of MOE's top management and stakeholders was developed. Moreover, face-to-face semi-structured interviews with key groups in the MOE were conducted.

Issues of access and co-operation followed a routine process. After ethical approval from the Glasgow University was obtained, an approach was made to the MOE by a letter outlining the researcher's background, the nature of the investigation and the areas which would be covered in the questionnaires and interviews (see appendix V for the English version and appendix VI for the Arabic version). After gaining the permission from the MOE, the researcher arranged for the implementation of the study using the questionnaire and the interviews. These are now discussed in the following sections.

7.5 The questionnaire

The present study aims to assess the potential feasibility of applying TQM principles and practices in the leadership and management of the MOE Central Headquarters from the point of view of the top management in the MOE Central Headquarters, the internal stakeholders (staff in the MOE Central Headquarters) and the external stakeholders

(managers, staff and head teachers in the regional general directorates). The questionnaire is one of the tools used to achieve the aims of this study.

Henerson et.al (1987, p.27-29) argue that the questionnaire is one of the most appropriate and useful data gathering instruments with which to survey attitudes. They state that the questionnaire is advantageous in many ways. It is anonymous and therefore can encourage greater honesty of response. Moreover, questionnaires can be more economical in terms of time and money and can be given to many people simultaneously. This is in addition to the greater uniformity a questionnaire can provide in gathering information. Every person responds to exactly the same question. In general, the data the questionnaire provides can be easily analyzed and interpreted.

Although the questionnaire has several advantages, it also has some limitations. Henerson et al. (1987, p.29) state that the questionnaire is not flexible; it cannot explore further any ideas or comments that a respondent makes. Henerson .et al (1987, p.29) also argue that written responses may be limiting for some people who might express themselves more easily orally.

In this research, in order to benefit from the advantages of the questionnaire and to avoid its limitations, the researcher designed the questionnaire in a way to achieve its aim which was to gather the views from a large number of respondents in three identifiable groupings. To enhance the usefulness of the questionnaire, it was combined with an interview.

The main purpose of the questionnaire of this study is to gain a broad feel for the acceptability of the TQM ideas and to establish a broad baseline. The questionnaire was designed in three sections (see appendix VII for the English version of the questionnaire and appendix VIII for the Arabic version of the questionnaire). The first section is about personal information; occupation and place of work. The second section includes 39 items related to the seven proposed principles of the proposed TQM tree model in chapter six. Groups of positive statements were prepared relating to each of the proposed model principles:

1. Commitment toward TQM (5 statements)
2. Focus on stakeholders (4 statements)
3. Continuous Improvement (7 statements)
4. Involvement and Empowerment (8 statements)

5. Training and Education (6 statements)
6. Tools and Techniques (5 statements)
7. Rewards. (4 statements)

Wiersma and Jurs(2005, p.169) argue that closed statements in a questionnaire enhance consistency of response across respondents; data tabulation is generally straightforward and less time consuming than open-ended questions. The questionnaire used closed statements to limit respondents to selecting one item among five (strongly agree, agree, uncertain, strongly disagree and disagree) based on the Likert scale. The Likert scale was developed by the American educator and organizational psychologist Rensis Likert in 1932 to improve the level of measurement in social research (Infosurve, 2007). In research conducted by Infosurve, the online survey professionals in 2006, they found that most modern researchers agree that the 5-point scale is more common than the 6- point scale and the neutral rating in a 5-point scale is needed when conducting survey research. A Likert Scale allows a participant to provide feedback that is a little more expansive than a simple close-ended question, but at the same time it is much easier to measure than a completely open-ended response (Idea, 2007).

The questionnaire was first written in English, and then translated into Arabic ensuring the same sense as far as possible from English to Arabic. The Arabic version was trialled using other Arabic postgraduate students at Glasgow University to ensure the sense of the items had not been lost in translation. Some items were not clear in Arabic and needed modifications as seen below:

1. The word order of item 2. Instead of being “it is critical for management to understand the process of change” it became “Management understanding of the process of change is critical”
2. The word order in item 3. Instead of “ open communication between managers and staff must be encouraged” it became “ there must be encouragement of open communication between managers and staff”
3. Sentence form of item 7 instead of “MOE development could be measured through stakeholders’ satisfactions it became “MOE development could be measured through knowing Stakeholders’ satisfaction.
4. Word order of item 36 instead of “using other similar organizations’ experiences for planning MOE’s development is useful” it became “it is useful to use similar organizations to plan MOE’s development.

Though the closed items demanded a specific response based on the Likert scale, there is always the possibility that the individual respondents become patterned or that they have specific views not fully reflected in the responses. Therefore, the inclusion of open ended

questions was essential. Although open-ended questions might require more time than closed statements, they allow the individual more freedom of response because certain feelings or information may be revealed that would not be forthcoming with the closed statements (Wiersma and Jurs, 2005, p.169) The third part of the questionnaire is four open-ended questions related to the implementation of the TQM model in the MOE. These questions are intended to gather data on the respondents' views on the obstacles and the solutions for these obstacles. This section then was intended to balance the earlier closed questions by providing opportunities for respondents to articulate the particular views.

7.5.1 The Population and Samples for the Questionnaire

The population consists of three main groups:

1. Top or Senior Managers: the Directors General, the Assistant Directors General and consultants.
2. Internal stakeholders: Directors, Assistant Directors, other staff in MOE Central Headquarters.
3. External stakeholders: the Directors General, the Assistant Directors General, Directors, Assistant Directors and head teachers in Regional Directorates.

Table 7.1 The Population and Sample of the Questionnaire

Categories	Total number	Sample Number	Percentage	Sample Returned	Percentage of the return	Discarded	Sample used
Top management	26	20	77%	16	80%	0	16
Internal stakeholders	789	150	19%	137	91.3%	3	134
External stakeholders	799	150	18.8%	138	92%	2	136

In selecting the sample for the questionnaire the researcher firstly applied for an ethical approval letter which then sent to the MOE in Oman. Later the MOE sent letters to the concerned directors to get volunteers. After that, the questionnaires were randomly distributed among the volunteers making sure these were sent to all the regional directorates in addition to the MOE Central Headquarters. This is to try to make the sample

as representative as possible. The main reason behind asking for volunteers is to get more reliable data as the sample of participants are not forced to respond. So, they should provide more accurate answers. Moreover, this is more ethically accepted.

The percentage of the top management was high for two main reasons. Firstly, the top management numerically is a much smaller group. Consequently, high percentage is inevitable if a reasonable sized sample of this subgroup is to be used. Secondly, as senior managers they would be key in any decisions regarding the change and implementation process. The internal and external stakeholders groups were selected because of their importance and their essential position in the development and TQM implementation as explained in chapter six.

Wiersma and Jurs (2005, p.175) state that one of the persistent problems with questionnaire studies is the possibility of a high rate of non-response. To try to avoid this common problem, the researcher distributed the questionnaires randomly herself except for the far regions where they were sent by the Ministry's mail to ensure quick returns. As shown in the table above the return of the sample was high, which was good. Three of the internal stakeholders' questionnaires and 2 of the external stakeholders' questionnaires were discarded because they had either no responses to open-ended questions or there were double ticks or no ticks at all in some items of the second section.

The first and second sections were analysed using SPSS. The third section was translated back into English but rather than the word by word translation, 'the sense' of these responses was translated. This is because direct translation would not make sense for some of the sentences. Semiotic analysis was used: the ideas were gathered, sorted into themes and then related to the proposed TQM Tree Model in chapter six. The preliminary analysis of the questionnaire served to point further avenues for the interview. For example, during the conduct of the interviews the researcher tried to raise some of the problems that were highlighted in the open-ended questions of the questionnaires for discussion.

7.6 The Interview

The principal purpose of the interview was to gather information on what the interviewees know, think or like. The opportunity to go deeper into responses is one of the main advantages of the interviews. Further it allows the probing of specific issues or ideas that arise. The interview is also flexible in a way that the interviewer can clarify the questions

and ensure that the interviewees understand them (Henreson et.al, 1987, p.25). In contrast with the open-ended questions, the interview in this study gives the chance to the interviewer to ask for clarification for some points and the reasons behind some other points.

Having decided on the interview, as a method of data collection, the next step to be addressed related to the format of the interview itself in particular, and whether the interview would be structured or unstructured. Between these two extremes lies the semi-structured (Reid, 2006, p. 29). Drever (1995, p.1) points out that in the semi-structured interview, the interviewer sets up a general structure by deciding what ground is to be covered and what main questions are to be asked. This was the most convenient to the present study as a balance between ensuring that all the information needed is collected and still there is a chance to probe deeper into respondents' answers and seek clarification or justification.

The interviews in this study are semi-structured interviews with four individuals from the top management and two focus groups from the internal stakeholders and two focus groups from external stakeholders. Each group consisted of five people. The primary goal of the interview was not so much to receive standard answers to set questions, but rather to elicit in-depth information about the opinions and view points of the interviewees. Hence, what was of greatest importance in the interviews, was to gain an understanding of the obstacles that might face the implementation of TQM in the MOE, from the perspectives of the interviewers, or in other words to enter their "assumptive world".

Individual interviews were thought to be more appropriate for top management for two reasons. Firstly, there are a smaller number in this group and secondly each member of top management has a particular area of responsibility. The size of the groups of internal stakeholders and external stakeholders are much larger and within these two groups there are shared responsibilities and similar experiences in relation to the workings of the MOE Central Headquarters. Therefore, focus interviews were seen as appropriate.

In designing a semi-structured interview, care must be taken to phrase questions so as to ensure that the respondents can say what they want rather than using leading questions (Stringer, 2004, p.66). Three main questions were carefully structured to achieve the interview aims. (See appendix IX for the English version of the interview and appendix X for the Arabic version). In addition, there was a final "catch all" question that asked the

respondents to highlight any other issues which they considered significant in the context of the research focus:

1. What is your initial response to TQM?
2. What are the barriers to implement TQM in the MOE?
3. What do you see as facilitating factors in the implementation of TQM in the MOE?
4. Are there any other issues you would like to raise?

The individual interviews allowed individuals to express their own views of the issues. The principal rationale of choosing a face to face interview includes the size of the group of the available interviewers, their in-depth knowledge of interviewing skills. Walford (1994, p.3) agrees that one of the reasons behind the increased number of policy studies which involve elites is clearly linked with the increasing lack of consensus and the rapid pace of change in education. In this context, interviewing offered a number of advantages. Interviews with individuals actively engaged in the policy process often provide the only access to information not otherwise available. The principal advantage of 'Elite respondents' in the specific context of this research project lay in the fact that interviewees aided in the real preferences and criteria related to decision making. Their views are very important as without their support, it would be difficult for the proposed TQM tree model to take place. As shown in chapter six the first principle of the proposed TQM Tree Model is the commitment to TQM by top management (more details about Elite interviews are to be found in chapter 10).

On the other hand the focus group interviews were more likely to be 'group think' and gathering collective ideas from the different groups of the stakeholders. Someone suggests an idea and this is a way of elaborated by other respondents and so richer ideas are generated. The format and approach chosen for these interviews was therefore aimed at facilitating a dynamic dialogue with a group of professionals, though they are not the principal decision makers, nevertheless have a prominent role of influence. Vaughn et.al (1999, p.5) summarize the core elements of focus group interviews as follows:

1. The group is an informal assembly of target persons whose points of view are requested to deal with a selected subject. In the case of this study the focus groups' views about the implementation of TQM in the MOE were sought.
2. The group is small and is relatively homogeneous. In this study every group consists of 5 members and each group was homogenous; either internal or external stakeholders.

3. A trained moderator with prepared questions and probes sets the stage and induces the participants' responses. The researcher conducted the interviews herself. She had the previously prepared open-ended questions with some probes from the preliminary analysis of the questionnaire.
4. The goal is to elicit perceptions, feelings, attitudes, and ideas of participants about selected topic. The interviews in this study are aimed to find the participants' attitudes toward TQM and to elicit their ideas regarding the facilitating factors and obstacles to implementation.
5. Focus groups do not generate quantitative information that can be projected to a larger population. The aim in this study is to generate qualitative data.

While a semi-structured interview technique was applied, open-ended questions were used to follow leads and introduce new questions. Open-ended questions allow flexibility into the interview situation: deeper probing of answers, clarification of misunderstandings and testing of what the respondents truly believe.

One of the most appropriate steps in conducting an interview is the method of recording the responses. The choice lies between note taking, either during or after the interview, or tape-recording and transcription (Reid, 2006, p.30-31). The researcher used note-taking in order to give interviewees a sense of ease and encourage them to talk freely. This is especially because of the previous experience of the researcher with interviews with similar participants[2]. When note taking is used in the interview, it is more natural and flows smoothly. However, when the interviews are recorded it becomes more formal and participants think deeply before speaking and keep their eyes attached with the tape-recorder. Reid (2006, p.30) points out that it is important to ensure that note taking is as unobtrusive as possible and does not hinder the flow of the interview. The researcher allowed about 30 to 50 minutes after each interview to complete the notes.

The atmosphere in the interview was fairly relaxed and comfortable with minimal distractions from phone calls or interruptions. Building up a sense of trust and rapport between the interviewer/researcher and the respondent is a necessary part of the interview process. Through good eye contact, nods of assent and murmurs of agreement, the researcher encouraged the respondents to express themselves freely. Moreover, the interviewer made sure that she controlled the interview carefully and flexibly. In other words, the researcher assured that the agenda was covered without duplication or omission

[2] The researcher conducted an earlier study in the MOE which involved interviews with staff from these groupings.

of main elements. The researcher had to keep an eye on the time and move naturally from one question to the next, listening carefully to the answers, seeking explanation or clarification when necessary.

The interviewees were cooperative with the researcher, believing that the findings would provide valuable input into MOE's future development. They had a clear understanding of the researcher's task and were willing to give time and assistance. Most of the people who were contacted agreed to participate in the study and gave freely of their time. An interview schedule was drawn up and slight changes made according to the interviewees' diaries. Then interviews were carried out during visits to each respondent.

Each interview lasted between30 to 50 minutes. Five to ten minutes were spent in outlining the background of the study and discussing how the data would be used.

As the interviewer was herself a member of the internal stakeholders, she shares some background with some participants. However, the researcher was as fair as possible and used her experience only in the planning for the data collection. Moreover, it was clear in the covering letter the aim of the study and how the data will be used.

7.7 Validity and Reliability

Validity or the indication that the questionnaire and the interview are measuring what they supposed to measure is face validity. This means that the instruments were judged by those interested in the subject as being valid. The comments of these judges were incorporated in the improvement of the instruments. The reliability of the study was achieved through using various methods in data collection. For example, the study used two main tools the questionnaire and the interview. The questionnaire used both closed statements and open ended questions to ensure more valid answers. Moreover, there were three different groups: top management, the internal stakeholders and the external stakeholders. Moreover, the reliability of the questionnaire of this study used internal consistency reliability using coefficient alpha. It was .8 which could be considered as internally consistent.

7.8 Statistical Analysis

For the questionnaire: the Statistical Package for the Social Sciences (SPSS version 14) was utilized to analyse the data. Frequencies and percentages were used.

For the Interview: a content analysis was undertaken notes of each interview for broad trends and semiotically analysed for identifying key themes and issues (Further details are to be found in chapter 8 and 9).

7.9 Key Personnel Interviews

The main aim of the last part of the field work was to explore the views of some of the key personnel in the MOE regarding a version of the TQM Tree Model designed for the MOE in the Sultanate of Oman (see appendix XII for the English version and appendix XIII for the Arabic version). Six key personnel with knowledge of policy and practice in the Central Headquarters were interviewed. These included one Under Secretary, one Director General, two experts and two consultants. All of the interviews were conducted face to face and notes taken. These lasted between 30 to 50 minutes.

The purpose of these interviews was to establish the degree to which those who influence policy share the same perceptions as other stakeholders and to make sure that the TQM model is applicable to the MOE in Oman. It was also hoped that some informants would be able to indicate their perceptions of the facilitating factors that might help in the implementation and any obstacles that might be faced. Moreover, the interviews aimed to find out the interviewees' impressions of future trends in MOE development, since the majority has been involved to some degree in policy making at national level.

7.10 Conclusion

The key focus of this thesis is the development of the MOE using TQM. The literature review of the Sultanate of Oman and its education system, in addition to the pilot study was essential to frame the research questions. The pilot study highlighted the existing issues in the MOE. After reviewing the literature related to managing change, it was found that Total Quality Management seems to be a possible approach for managing change in the MOE. Thus the literature related to the Total Quality Management and its implementation in the education context was reviewed. Consequently, the researcher proposed a TQM model for the MOE. A questionnaire was distributed and interviews were conducted to consider the views of staff and stakeholders on the extent to which the proposed model, TQM Tree Model, is suitable to the Ministry of Education in the Sultanate of Oman. The last step in the field work of this study was interviews with the key personnel in the MOE to gather the views of the decision makers as to the possibilities of

the TQM Tree Model in the MOE and to gain more information for the implementation framework. Finally, the proposed TQM Tree Model was modified according to the results of the data analysis and from which also an implementation framework was suggested.

As mentioned earlier in this chapter, it is widely accepted that more than one approach and data collection method can be used. In fact, many discussions of research including specifically in educational research (Cohen and Mannion, 1994 and Yin, 1984) support the use of triangulation in research. The reason for choosing to use a number of methodologies, pilot study interviews; a questionnaire with closed statements and open-ended questions; individual interviews; focus–group interviews; and key personnel interviews, in this particular study was the distinctive contribution that each method could make towards investigating the research questions identified in the overview and to produce more comprehensive and complementary data.

The following three Chapters eight, nine and ten report the findings and subsequently discuss the data that was collected through the two main approaches, the quantitative and qualitative.

Chapter Eight- Quantitative Data

8.1 Introduction

The key focus of this chapter was established in the overview as being concerned with examining the feasibility of implementing TQM in the MOE in Oman in order to develop the national education system. Consequently, various methods were used to achieve this aim. One of these was a questionnaire, which was conducted, as explained in detail in the previous chapter, to explore the views of the management and the stakeholders of the Ministry of Education in Oman (MOE) and to get their opinions regarding the feasibility of implementing the TQM Tree Model in the MOE. The questionnaire played a prominent role in collecting data from 286 participants. The quantitative data analysis helped in establishing a broad feel of the stakeholders' attitudes. Moreover, this data analysis established a baseline for the overall trends and a sense of their general responses. The data was also analysed to explore the differences and similarities between the three groups of the participants. In addition, the results highlighted some issues for further investigation and consideration such as issues related to training and work overloaded. In order to gather deeper information about the implementation, interviews with the top management, internal stakeholders and external stakeholders were also conducted. This chapter concentrates on reporting the results of the quantitative data, the closed statements of the questionnaire. The qualitative data, the open-ended questions of the questionnaire and the interviews, will be discussed in the next chapter.

8.2 The Questionnaire

The general aim of the questionnaire was to gain a general view of the feasibility of implementing TQM in the MOE from the point of view of the top management, the internal stakeholders and the external stakeholders. The questionnaire given to the participants in this study consisted of three parts (appendix VII). The first one was demographic information, to find out the classification of the participants into the three groups. The second one contains 39 closed statements covered the following seven domains, which form the main TQM principles in the proposed TQM Tree Model (see chapter six):

1. Commitment Toward TQM (5 statements)
2. Focus on stakeholders (4 statements)

3. Continuous Improvement (7 statements)
4. Involvement and Empowerment (8 statements)
5. Training and Education (6 statements)
6. Tools and Techniques (5 statements)
7. Rewards. (4 statements)

The third part consisted of four open-ended questions:

1. What do you see as some of the obstacles?
2. How might these be overcome?
3. What do you see as some of the facilitating factors?
4. How might these be enhanced?

The data collected from the first and second parts of the questionnaire were analyzed using SPSS. Based upon the ratings given by respondents, the frequency and percentage for each statement was identified, the mean value for each statement was also determined, and a rank order was assigned to each statement according to its mean value. It should be noted that a 5-point Likert-type scale, from "strongly agree" to "strongly disagree", was used to distinguish between the respondents. Statistics were rounded up, for the purpose of analysing mean values, the means of the attitudes of the three groups are represented using the following scheme: from 0.00 to 1.00 = strongly disagree, from 1.01 to 2.00 = disagree, from 2.01 to 3.00 = uncertain, from 3.01 to 4.00 = agree and from 4.01 to 5.00 = strongly agree.

This analysis was planned to be followed by ANOVA test to determine where there were statistically significant differences between the attitudes of sample groups according to their occupational levels. However, because the sample of the first group “the top management” was much smaller than the other two groups, the use of ANOVA would not be appropriate, so the researcher decided to use the Kruskal-Wallis test. The Kruskal-Wallis Test (sometimes referred to as the Kruskal-Wallis H test) is the non-parametric alternative to ANOVA. It allows comparisons between three or more groups. It does not require the samples to be the same size as ANOVA does (Pallant, 2005, p.294).

The quantitative analysis was also used to find out if there are any differences between the three groups. The probability level of 0.01 was considered to be the minimum level of significant differences between the means of groups: the top management, the internal stakeholders and the external stakeholders.

The results are presented in tables containing several statements grouped together to test respondents' attitude on one of the different seven domains of the questionnaire in order. These domains are based on the central principles of TQM Tree Model proposed in chapter six. Tables 8.1 to 8.7 show the statements of each principle, the frequencies (Percentages) for each statement. The tables 8.1 to 8.7 also present the rank order according to mean rating for the agreement with each statement in every principle. It is clear from the tables that there is a common agreement on the importance of the principles of TQM; most participants from the top management, the internal stakeholders and the external stakeholders saw these principles on which to base leadership and management practice desirable. This agreement could provide a basis for the implementation. Generally, respondents deal with these questions in the light of the current practices and experiences which have been considered in chapters five and six. In considering the responses, references will be made to this previous analysis.

8.3 Full Sample: combined results

8.3.1 Commitment toward TQM

Table 8.1 includes five statements that were grouped to examine the attitudes of the three groups of respondents regarding the first domain “Commitment Toward TQM”. The table reports the frequencies, the percentage of the frequencies, the means for the 5 statements included and the rank, to show the strength of the agreement with each statement.

Table 8.1 Commitment toward TQM

NO.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q1	Management must ensure consistency between MOE mission and actual performance.	53.8	44.1	1.7	.3	0	4.51	1
Q2	It is critical for management to understand the change process.	47.9	42.3	9.8	0	0	4.38	3
Q3	Open communication between managers and staff must be encouraged and rewarded.	53.1	35.3	11.5	0	0	4.42	2
Q4	Development needs support from management.	50.3	28.0	21.3	.3	0	4.28	4
Q5	Management must act as a role model in the development.	34.3	36.7	28.3	.7	0	4.05	5

It was clear that participants’ attitudes towards the principles of TQM were generally positive. Just under 1% (0.7% and 0.3%) disagreed with some statements: 1, 3 and 5 which is very minor. The participants agree mostly with statement 1: “Management must ensure

consistency between MOE mission and actual performance". On the other hand, the least ranked statement was statement 5: "Management must act as a role model in the development". What is also interesting about the least ranked statement is that it got a quite high percentage of uncertainty "28.3%", more than the quarter of participants. This might be caused by the lack of clear responsibilities and the 'top-down approach' of top management. The clarity of the role and remit of top management is then an issue to be addressed in an implementation process. If the top management does not have specified work responsibilities, they might not be sure what their exact role in development is nor will other staff be clear what is expected. A participant from the top management in the open-ended questions claimed that the lack of clear responsibilities formed a barrier to implementing TQM. Another, in the interview with top management added that the training should exactly match the staff's responsibilities and roles in the development. However, stakeholders who believe that some of the top management use autocratic approaches in management might be doubtful that it was possible for them to play this role in development. One of the internal stakeholders in the open-ended questions mentioned that a considerable obstacle that might face TQM implementation is the use by top management of their power in arbitrary way. Another one stated that top management uses ineffective administrative processes.

8.3.2 Focus on Stakeholders

Table 8.2 includes four statements that were grouped to examine the attitudes of the three groups of respondents regarding "Focus on Stakeholders". It reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.2 Focus On Stakeholders

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q6	Planning development requires stakeholders' opinions.	42.3	50.7	5.2	1.7	0	4.34	3
Q7	MOE development could be measured through stakeholders' satisfactions.	52.1	39.5	7.7	.7	0	4.43	2
Q8	It is important to survey regularly stakeholders' needs and expectations.	36.0	36.0	27.3	.7	0	4.07	4
Q9	MOE plans should consider internal and external stakeholders' attitude.	63.3	26.9	9.8	0	0	4.53	1

As shown in table (8.2) dealing with the four statements of the second principle "Focus on Stakeholders, statement 9 "MOE plans should consider internal and external stakeholders' attitude" was the highest rated statement. This high level of agreement was also obvious as in the open-ended questions; the three groups highlighted the issue of ignoring the stakeholders' opinions as a major obstacle in implementing TQM. In contrast, they agreed least with statement 8 "It is important to survey regularly stakeholders' needs and expectations". Although 36% strongly agreed and another 36% agreed with this statement, it also had very minor disagreement ".7%" and a quite high percentage of uncertainty, "27.3%". It is interesting to have this quite high percentage of uncertainty because in statement "9", they agreed that the MOE should consider both the internal and the external stakeholders' needs but still some are not sure if this should be carried out regularly. Addressing this element of uncertainty will be an important issue in developing strategies for implementation with clear approaches developed and agreed regarding consultation with different stakeholders. This might be so because some of the participants, as observed from the open-ended questions and the interview, had been exposed to difficult experiences related to regular development or regular surveys. In an interview with a focus-group of external stakeholders, they explained that a cause of the failure of some development programs is the starting of the programs without the participation of the implementers concerned.

8.3.3 Continuous Improvement

Table (8.3) includes seven statements that were grouped to examine the attitudes of the three groups of respondents regarding "Continuous Improvement", and reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.3 Continuous Improvement

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q10	Never ending process of improvement is critical to MOE development.	73.1	26.2	.7	0	0	4.72	1
Q11	Planning in MOE should be in long term.	45.1	32.5	10.5	11.9	0	4.11	4
Q12	Plans in MOE must be flexible.	30.8	49.7	10.8	8.7	0	4.02	5
Q13	Plans in MOE should usually be renewed and updated.	46.5	53.5	0	0	0	4.47	2
Q14	Defect prevention should replace defect detection.	32.2	40.2	22.7	4.9	0	4.00	6

Q15	It is important to solve day to day problem immediately.	**38.1**	**50.7**	**11.2**	**0**	**0**	**4.27**	**3**
Q16	Elements of MOE should be evaluated regularly.	**14.7**	**35.0**	**14.7**	**35.7**	**0**	**3.29**	**7**

It can be observed from table (8.3) that there is a general agreement for the principle "Continuous Improvement". Participants: top management, the internal stakeholders and the external stakeholders strongly agreed "73.1%" and agreed "26.2%" with statement 10, "Never ending process of improvement is critical to MOE development". There was just "0.7%" uncertainty and no disagreement. This might be a result of their feeling of the need for development, but at the same time their tiredness with new improvement projects starting and then being discontinued. However, this is a small percentage.

On the other hand, participants least agreed with statement 16, "Elements of MOE should be evaluated regularly", with a mean of "3.29". What can also be noted here is that there is a quite high percentage of disagreement "35.7%" and this is almost equal to the percentage of agreement, which is "35%". Moreover, there is a somewhat considerable level of uncertainty "14.7%". In looking back at statement 8, we find that there is some similarity between these two statements with regard to the regular evaluation and surveying. As a result, the uncertainty and disagreement might have the same reason, which is some of the participants may have had difficult experiences related to regular evaluations. There may be some concern about evaluation as a mean of putting individuals under close scrutiny and further pressure and indeed this is an issue which, as we will see later on, emerged from the open-ended questions and the interviews. Therefore, the issue of evaluation, its focus and use would need to be considered in an implementation process.

Another statement that had high agreement but some considerable uncertainty, "22.7%", is statement 14 "Defect prevention should replace defect detection". A possible reason of this is the lack of knowledge about TQM and how prevention could replace detection and may signal the need for development here. It should be noted that this result highlights the importance of training and the need for spreading the quality culture within the ministry.

8.3.4 Involvement and Empowerment

Table (8.4) includes seven statements that were grouped to examine the attitudes of the three groups of respondents regarding "Involvement and Empowerment". It reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.4 Involvement and Empowerment

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q17	Development should be carried by all members of MOE.	42.0	35.3	22.7	0	0	4.19	7
Q18	MOE staff should share in decision making in the MOE.	55.2	36.0	8.7	0	0	4.47	5
Q19	External stakeholders should share in decision making in the MOE	46.2	46.2	7.7	0	0	4.38	6
Q20	Teamwork should be emphasized.	37.4	26.9	35.7	0	0	4.02	8
Q21	Responsibility, authority and accountability must be delegated as closely as possible to those performing the work.	64.3	26.9	8.7	0	0	4.56	2
Q22	Feedback should be encouraged from the stakeholders.	60.5	31.8	7.7	0	0	4.53	4
Q23	MOE's goals and policies must be communicated regularly to staff.	63.3	36.7	0	0	0	4.63	1
Q24	Management must make every effort to any staff's ideas, opinion, questions or concerns.	59.8	38.8	1.4	0	0	4.58	3

Table (8.4) illustrates a high percentage of agreement influencing responses in relation to "Involvement and Empowerment". It is noticeable also that there is no single response towards disagreement or strong disagreement. Statement 23 "MOE's goals and policies must be communicated regularly to staff" had a strongly agree percentage of "63.3%" and an agreement percentage of "36.7%". This could be a result of the failure in the past of many projects because of either the lack of communication or the lack of information, goals and policies and so the respondents now look to being about involved and being able to take an active role. In the open-ended questions, participants stated that most development projects being discontinued was a negative fact in the actual development process in the ministry. In an interview with one of the top management, it was mentioned that:

> *Lack of communication is a real barrier in the implementation of any development program. If some of the staff of MOE who should be a part of improvement program they don't have enough information about it, how can they work effectively to achieve its aims.*

In contrast the statement 20 "Teamwork should be emphasized" received the least rank with a mean of "4.02". This could still be considered a statement that the respondents

agreed with it highly. This slightly higher degree of uncertainty may again be the result of the respondents' previous experiences. The extant management structures and approaches tend to be 'top-down' and so respondents have had limited direct experience of teamwork.

8.3.5 Training and Education

Table (8.5) includes six statements that were grouped to examine the attitudes of the three groups of respondents regarding "Training and Education". It reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.5 Training and Education

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q25	Training is essential for managers as well as staff.	19.9	36.7	7.7	35.7	0	3.41	6
Q26	Training is a continual process for all staff.	30.1	46.5	21.7	1.7	0	4.05	4
Q27	Staff should understand the development process.	44.1	54.9	1.0	0	0	4.43	2
Q28	Staff must have their roles identified clearly.	54.5	42.7	2.8	0	0	4.52	1
Q29	Training must be planned according to MOE's mission.	50.7	24.1	25.2	0	0	4.26	3
Q30	Training must be provided equally to all MOE staff.	28.0	37.1	33.2	1.7	0	3.91	5

As shown on table (8.5) there is a general agreement with the statements related to the principle "Training and Education". Statement 28, "Staff must have their roles identified clearly", had the highest level of agreement. This is an issue, as we will see later, that also emerges in the responses in the open-ended questions and the interviews where a lot of problems and failures in the MOE were highlighted, many of which were a result of the unclear role identification.

Surprisingly, statement 25 has the highest percentage in terms of disagreement (35.7%). This may be the result of previous experience where training and development was largely directed at top management and so staff were not involved. It may be there is a need to redress this but also to ensure all staff, including managers, have access to the development they need.

8.3.6 Tools and Techniques

Table (8.6) includes five statements that were grouped to examine the attitudes of the three groups of respondents regarding tools and techniques and reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.6 Tools and Techniques

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q31	Decisions in the MOE must be based on data.	41.6	49.0	8.7	.7	0	4.31	2
Q32	Statistical tools must be used to collect data about MOE problems.	32.5	60.5	7.0	0	0	4.26	3
Q33	Statistical tools must be used to collect data for planning improvement.	43.7	52.1	4.2	0	0	4.40	1
Q34	Different tools and techniques must be used to measure development.	26.2	22.0	22.4	29.4	0	3.45	5
Q35	Using other similar organizations experiences for planning MOE's plans is useful.	34.6	34.3	31.1	0	0	4.03	4

Table (8.6) shows the results for principle "Tools and Techniques". Similar to the previous principles there is a general agreement for this principle. Statement 33 "Statistical tools must be used to collect data for planning improvement" had the highest agreement with this principle. This was not surprising because many participants in the interviews and open-ended questions mentioned the inappropriateness of some of improvement projects of the past because they were not based on accurate data.

In contrast, statement 34, "Different tools and techniques must be used to measure development", was the least agreed with statement. It had a mean of "3.45"and 22.4% uncertainty and 29.4% disagreement. Although participants highly agreed that statistical tools must be used, they are quite unsure of the use of different tools and techniques. There may be concerns about the significant range of tools and projects to be applied in the field which give extra work to staff. This is especially noteworthy because they mentioned in the open-ended questions that the overloaded routine paperwork was an obstacle for implementing TQM. Also there may be concerns about what these tools may entail.

8.3.7 Rewards

Table (8.7) includes four statements that were grouped to examine the attitudes of the three groups of respondents regarding "Rewards". It reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.7 Rewards

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q36	There must be clear reward system in the MOE.	71.3	28.7	0	0	0	4.71	4
Q37	Rewards can encourage staff to work without fail.	72.4	27.6	0	0	0	4.72	3
Q38	Rewards should be established according to staff's needs.	79.4	20.6	0	0	0	4.79	2
Q39	Rewards can encourage innovation.	80.4	19.6	0	0	0	4.80	1

Not surprisingly, principle 7 "Rewards" was the most highly agreed principle. There were no uncertainty responses, or strongly disagree or disagree. This is possibly because of the role rewards play in encouraging more development and job satisfaction and that all staff would have access to these where appropriate. In an interview with one of the top management, it was raised that there is a relationship between rewards and job satisfaction.

From table (8.1) to (8.7), it was observed that there were no responses in the strongly disagree category in any of the statements. This might be due to a positive attitude toward TQM. We also have to acknowledge the possibility of respondents being reluctant to respond negatively. It should be noted that there is nothing in the MOE regulations or in the culture prohibiting them from expressing their opinions freely.

In the next three sections the data for the questionnaire for each of the three groups, top management, internal stakeholders, external stakeholders, is presented. We begin with top management.

8.4 Top management

Tables (8.8) to (8.14) show the statements of each principle, the frequencies (Percentages) for each statement. The tables (8.7) to (8.14) also presents the rank order according to mean rating for the agreement of the top management with each statement in every principle.

8.4.1 Commitment toward TQM:

Table (8.8) includes five statements that were grouped to examine the attitudes of the top management respondents regarding commitment toward TQM, reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.8 Top Management (Commitment toward TQM)

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q1	Management must ensure consistency between MOE mission and actual performance.	100.0	0	0	0	0	5.00	1
Q2	It is critical for management to understand change process.	18.8	43.8	37.5	0	0	3.81	2
Q3	Open communication between managers and staff must be encouraged and rewarded.	0	81.3	18.8	0	0	3.81	3
Q4	Development needs support from management.	0	56.3	37.5	6.3	0	3.50	4
Q5	Management must act as a role model in the development.	0	50.0	37.5	12.5	0	3.38	5

Table (8.8) illustrates that the top management generally agreed with the principle "commitment toward TQM" with a mean ranging between 3.50 and 5.00. Not surprisingly, the response rate to statement 1 was 100% strongly agree. In contrast, statement 5 was the least agreed with statement with a mean of 3.38.Whereas top management were clear about the purpose in ensuring direction and performance, there seems to be some concern with the specific role in bringing about change. This might due to the top management's role in planning more than implementation. Although the majority of top management agreed with statements 2, 4, and 5, 37.5% of them were uncertain. This quite high uncertainty can lead to a dilemma in TQM implementation where it is not possible to start implementation without top management support and belief in TQM.

8.4.2 Focus on Stakeholders

Table (8.9) includes four statements that were grouped to examine the attitudes of the top management respondents regarding "Focus on Stakeholders". It reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.9 Top management (Focus On Stakeholders)

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q6	Planning development requires stakeholders' opinions.	18.8	18.8	31.3	31.3	0	3.25	4
Q7	MOE development could be measured through stakeholders' satisfactions.	0	75.0	12.5	12.5	0	3.63	3
Q8	It is important to survey regularly stakeholders' needs and expectations.	18.8	56.3	12.5	12.5	0	3.81	2
Q9	MOE plans should consider internal and external stakeholders' attitudes.	31.3	50.0	18.8	0	0	4.13	1

From table (8.9), it appears that the top management agreed with the need to take into account stakeholders' attitudes with a mean ranging between 3.25 and 4.13. However, this principle had more uncertainty and disagreement responses than other principles. There is an inconsistency here in some of the responses: whereas top management mostly agreed with statement 9, "MOE plans should consider internal and external stakeholders' attitudes," they seem less certain in relation to perhaps actively involving stakeholders in this development, as suggested by the level of uncertainty 31.3% and of the level of disagreement, 31.3%. This might be because the extant management structures, as indicated previously in this chapter, tend to be top-down with less focus on stakeholders.

8.4.3 Continuous Improvement

Table (8.10) includes seven statements that were grouped to examine the attitudes of the top management respondents regarding "Continuous Improvement". It reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.10 Top Management (Continuous Improvement)

No.	Statements	Percent					Mean	Rank
		S.A.	A	U	D	SD		
Q10	Never ending process of improvement is critical to MOE development.	31.3	56.3	12.5	0	0	4.19	7
Q11	Planning in MOE should be in long term.	87.5	12.5	0	0	0	4.88	1
Q12	Plans in MOE must be flexible.	50.0	50.0	0	0	0	4.50	5
Q13	Plans in MOE should usually be renewed and updated.	68.8	31.3	0	0	0	4.69	3
Q14	Defect prevention should replace defect detection.	81.3	18.8	0	0	0	4.81	2

Q15	It is important to solve day to day problem immediately.	**56.3**	**43.8**	**0**	**0**	**0**	4.56	**4**
Q16	Elements of MOE should be evaluated regularly.	**31.3**	**68.8**	**0**	**0**	**0**	4.31	**6**

From table (8.10), it was clear that top management's attitude toward continuous improvement was generally positive with a mean range between 4.31 and 4.88. Just 12.5% of them stated their uncertainty statement 10. Apart from this, all of them agreed completely with the rest of the statements in this principle. They agreed most with the long-term planning (statement 11) and least with the criticality of the never-ending process of improvement in MOE (statement10). A possible reason behind this is that they had been exposed to individual development projects which were not necessarily linked together. There is considerable challenge for a manager in the idea of "Continuous Improvement". Again this emerges, as we will see, from the open-ended questions as well as from the interviews.

8.4.4 Involvement and Empowerment

Table (8.11) includes seven statements that were grouped to examine the attitudes of the top management respondents regarding "Involvement and Empowerment" and reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.11 Top Management (Involvement and Empowerment)

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q17	Development should be carried by all members of MOE.	**0**	**100.0**	**0**	**0**	**0**	4.00	**6**
Q18	MOE staff should share in decision making in the MOE.	**56.3**	**43.8**	**0**	**0**	**0**	4.56	**3**
Q19	External stakeholders should share in decision making in the MOE	**0**	**87.5**	**12.5**	**0**	**0**	3.88	**7**
Q20	Teamwork should be emphasized.	**0**	**56.3**	**43.8**	**0**	**0**	3.56	**8**
Q21	Responsibility, authority and accountability must be delegated as closely as possible to those performing the work.	**100.0**	**0**	**0**	**0**	**0**	5.00	**1**
Q22	Feedback should be encouraged from the stakeholders.	**31.3**	**50.0**	**18.8**	**0**	**0**	4.13	**5**
Q23	MOE's goals and policies must be communicated regularly to staff .	**37.5**	**62.5**	**0**	**0**	**0**	4.38	**4**

Q24	Management must make every effort to any staff's ideas, opinion, questions or concerns.	**87.5**	**12.5**	**0**	**0**	**0**	4.88	**2**

From table (8.11), it appeared that the majority of top management group agreed with "Involvement and Empowerment" principle with a mean range between 3.56 and 5.00. The participants agreed mostly with statement 21 "responsibility, authority and accountability must be delegated as closely as possible to those performing the work" with 100% strongly agreeing. However, responsibility, authority and accountability seem to be in relation to individual staff rather than collectively as there was less certainty about teamwork. On the other hand, statement 20 ranked the least with a frequency percentage of 56.3% for agreement and a frequency percentage of 43.8% for uncertainty and no strongly disagree response. One of the reasons might be the previous experience of the participants as they had limited direct experience of teamwork. However, in the interview one of the top management stated that teamwork is a possible solution for some of TQM implementation obstacles.

8.4.5 Training and Education

Table (8.12) includes six statements that were grouped to examine the attitudes of the top management respondents regarding "Training and Education" and reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.12 Top Management (Training and Education)

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q25	Training is essential for managers as well as staff.	**12.5**	**87.5**	**0**	**0**	**0**	4.13	**5**
Q26	Training is a continual process for all staff.	**37.5**	**25.0**	**37.5**	**0**	**0**	4.00	**4**
Q27	Staff should understand the development process.	**37.5**	**62.5**	**0**	**0**	**0**	4.38	**3**
Q28	Staff must have their roles identified clearly.	**68.8**	**31.3**	**0**	**0**	**0**	4.69	**2**
Q29	Training must be planned according to MOE's mission.	**100**	**0**	**0**	**0**	**0**	5.00	**1**
Q30	Training must be provided equally to all MOE staff.	**12.5**	**37.5**	**18.8**	**31.3**	**0**	3.31	**6**

As shown in table (8.12), for the training and education principle, there was a common agreement with this principle. It can be observed that the participants considered statement 29 as a central issue with a "100%" strongly agree. However, how this training is to be implemented appears to be an issue with more dispersed results. This is a critical issue in the MOE as the results of the open-ended questions revealed that one of TQM

implementation obstacles will arise if training is not fairly distributed across staff. This is in addition to the results of the interview as one of the top management mentioned that this is central:

> *Training, training and training about how to think and work in teams about how to accept new ideas and accountability*

Notably, although almost a quarter of the top management agreed with statement 26 and 37.5 % strongly agreed with the same statement, still 37.5% were uncertain. This could be related to the result of statement 30. Some of the top management disagreed and some others were uncertain about providing training to all the staff. Consequently, they must be uncertain about the continuity of training to all staff. An important point here to be considered in TQM implementation is the provision of training to everyone.

8.4.6 Tools and Techniques

Table (8.13) includes five statements that were grouped to examine the attitudes of the top management respondents regarding "Tools and Techniques" and reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.13 Top Management (Tools and Techniques)

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q31	Decisions in the MOE must be based on data.	50.0	37.5	12.5	0	0	4.25	4
Q32	Statistical tools must be used to collect data about MOE problems.	31.3	68.8	0	0	0	4.31	3
Q33	Statistical tools must be used to collect data for planning improvement.	18.8	81.3	0	0	0	4.19	5
Q34	Different tools and techniques must be used to measure development.	100.0	0	0	0	0	5.00	1
Q35	Using other similar organizations experiences for planning MOE's plans is useful.	50.0	50.0	0	0	0	4.50	2

It is clear from table (8.13) that the participants generally agreed with the tools and techniques principle. It can be observed that the participants considered statement 34 as the most agreed with 100% strongly agreeing. This result could be a consequence of the failure of many development programs resulting from the lack of accurate measurement as

reported in the interviews. On the other hand, statement 33 was considered as the least agreed with. However, it is still 'strongly agreed' with and has a mean of 4.19.

8.4.7 Rewards

Table (8.14) includes four statements that were grouped to examine the attitudes of the top management respondents regarding "Rewards" and reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.14 Top Management (Reward)

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q36	There must be clear reward system in the MOE.	100.0	0	0	0	0	5.00	1
Q37	Rewards can encourage staff to work without fail.	68.8	31.3	0	0	0	4.69	4
Q38	Rewards should be established according to staff's needs.	81.3	18.8	0	0	0	4.81	3
Q39	Rewards can encourage innovation.	100.0	0	0	0	0	5.00	2

As shown in table 8.14, there was strong agreement with this principle with a mean range between 4.69 and 5.00.There is not any disagreement or uncertainty responses. They strongly agreed with a mean of 5.00 with both statements 36 and 39. This might due to the prominent role rewards play in encouraging development.

8.5 Internal Stakeholders

Tables (8.15) to (8.21) show the statements of each principle and the frequencies for each statement. The tables (8.15) to (8.21) also present the rank order according to mean rating for the agreement of internal stakeholders with each statement in every principle.

8.5.1 Commitment toward TQM

Table (8.15) includes five statements that were grouped to examine the attitudes of the internal stakeholders regarding "Commitment toward TQM" and reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.15 Internal Stakeholders (Commitment toward TQM)

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q1	Management must ensure consistency between MOE mission and actual performance.	38.2	57.4	3.7	.7	0	4.33	3
Q2	It is critical for management to understand change process.	55.1	44.9	0	0	0	4.55	1
Q3	Open communication between managers and staff must be encouraged and rewarded.	61.8	23.5	14.7	0	0	4.47	2
Q4	Development needs support from management.	33.1	26.5	40.4	0	0	3.93	5
Q5	Management must act as a role model in the development.	47.8	24.3	27.9	0	0	4.20	4

Table (8.15) shows that the internal stakeholders' attitude toward "Commitment Toward TQM" principle was positive with a mean ranging between 3.93 and 4.55. They agreed mostly with statement 2 with a mean of 4.55. On the other hand, they agreed least with statement 4 with a mean of 3.93. Although for statement 4 most either strongly agreed or agreed with it, there was a considerable high percentage of uncertainty (40.4%). There is a concern that top management may be overly directive thus limiting the role and contribution of staff. This might be so because the internal stakeholders feel that they need more participation in decision making and planning, so they are uncertain about how much support the top management should pay to development because of possible pressure. Another statement that has quite high uncertainty is statement 5. This could be a result of, as mentioned previously in this chapter, the doubts of stakeholders about the ability of some of the top management to act as a role model. In other words, stakeholders who believe that some of the top management use ‘top-down’ approaches in management doubt that acting as a role model in development will be a good idea

8.5.2 Focus on Stakeholders

Table (8.16) includes four statements that were grouped to examine the attitudes of the internal stakeholders of respondents regarding “Focus on Stakeholders” and reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.16 Internal Stakeholders (Focus on Stakeholders)

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q6	Planning development requires stakeholders' opinions.	52.2	47.8	0	0	0	4.52	2
Q7	MOE development could be measured through stakeholders' satisfactions.	40.4	44.9	14.7	0	0	4.26	3
Q8	It is important to survey regularly stakeholders' needs and expectations.	50.0	16.9	33.1	0	0	4.17	4
Q9	MOE plans should consider internal and external stakeholders' attitude.	71.3	10.3	18.4	0	0	4.53	1

As shown in table (8.16), it was clear that the internal stakeholders' attitude toward the "Focus on Stakeholder" principle was generally positive with a mean ranging between 4.17 and 4.53. They agreed mostly with statement 9 with a mean of 4.53. On the other hand, they agreed least with statement 8. Although this statement has a high degree of agreement across the strongly agree and agree categories, it has a quite high frequency of uncertainty, 33.1%. This might be because of the previous bad experience of stakeholders of getting involved in regular projects or surveys.

8.5.3 Continuous Improvement

Table (8.17) includes seven statements that were grouped to examine the attitudes of the internal stakeholder respondents regarding "Continuous Improvement" and reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.17 Internal Stakeholders (Continuous Improvement)

No.	Statements	Percent					Mean	Rank
		S.A.	A	U	D	SD		
Q10	Never ending process of improvement is critical to MOE development.	91.2	8.8	0	0	0	4.91	1
Q11	Planning in MOE should be in long term.	68.4	16.9	14.7	0	0	4.39	2
Q12	Plans in MOE must be flexible.	42.6	39.0	18.4	0	0	4.06	7
Q13	Plans in MOE should usually be renewed and updated.	34.6	65.4	0	0	0	4.35	3
Q14	Defect prevention should replace defect detection.	38.2	47.1	14.7	0	0	4.24	5
Q15	It is important to solve day to day problem immediately.	43.4	40.4	16.2	0	0	4.27	4
Q16	Elements of MOE should be evaluated regularly.	27.2	58.1	14.7	0	0	4.13	6

Table (8.17) illustrates a high mean of agreement of internal stakeholders toward the "Continuous Improvement" principle with a mean range between 4.06 and 4.91. There was highest agreement with statement 10. In contrast, they agreed least with statement 12 though the differences are not substantial. The uncertainty being expressed though would need to be addressed.

8.5.4 Involvement and Empowerment

Table (8.18) includes seven statements that were grouped to examine the attitudes of the internal stakeholder respondents regarding “Involvement and Empowerment” and reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.18 Internal Stakeholders (Involvement and Empowerment)

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q17	Development should be carried by all members of MOE.	31.6	35.3	33.1	0	0	3.99	8
Q18	MOE staff should share in decision making in the MOE.	41.9	39.7	18.4	0	0	4.24	6
Q19	External stakeholders should share in decision making in the MOE	41.2	44.1	14.7	0	0	4.26	5
Q20	Teamwork should be emphasized.	49.3	17.6	33.1	0	0	4.16	7
Q21	Responsibility, authority and accountability must be delegated as closely as possible to those performing the work.	64.7	16.9	18.4	0	0	4.46	4
Q22	Feedback should be encouraged from the stakeholders.	68.4	31.6	0	0	0	4.68	1
Q23	MOE’s goals and policies must be communicated regularly to staff.	64.0	36.0	0	0	0	4.64	2
Q24	Management must make every effort to any staff’s ideas, opinion, questions or concerns.	61.0	39.0	0	0	0	4.61	3

As shown in table (8.18), it was clear that the internal stakeholders generally agreed with the "Involvement and Empowerment" principle with a mean range between 3.99 and 4.68. They agreed mostly with statement 22. On the other hand, they agreed least with statement 17. 33.1% of the internal stakeholders were uncertain about carrying the development by all members of MOE. This might be due to the current practices in the MOE which do not involve completely all of the ministry staff members.

8.5.5 Training and Education

Table (8.19) includes six statements that were grouped to examine the attitudes of the internal stakeholder respondents regarding "Training and Education" and reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.19 Internal Stakeholders (Training and Education)

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q25	Training is essential for managers as well as staff.	40.4	59.6	0	0	0	4.40	3
Q26	Training is a continual process for all staff.	28.7	71.3	0	0	0	4.29	4
Q27	Staff should understand the development process.	22.8	77.2	0	0	0	4.23	5
Q28	Staff must have their roles identified clearly.	55.9	43.4	.7	0	0	4.55	2
Q29	Training must be planned according to MOE's mission.	65.4	34.6	0	0	0	4.65	1
Q30	Training must be provided equally to all MOE staff.	53.3	32.0	14.7	0	0	4.21	6

Table (8.19) shows that the internal stakeholders strongly agreed generally with the "training and education" principle with a mean range between 4.21 and 4.65. They agreed most with statement 29. In contrast, they agreed least with statement 30. These responses provide a positive starting point with internal stakeholders regarding training as important and the level of agreement for statement 30 is an interesting contrast to the response of top management.

8.5.6 Tools and Techniques

Table (8.20) includes five statements that were grouped to examine the attitudes of the three groups of respondents regarding "Tools and Techniques". It reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.20 Internal Stakeholders (Tools and Techniques)

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q31	Decisions in the MOE must be based on data.	26.5	55.1	18.4	0	0	4.08	5
Q32	Statistical tools must be used to collect data about MOE problems.	42.6	57.4	0	0	0	4.43	1
Q33	Statistical tools must be used to collect data for planning improvement.	41.9	58.1	0	0	0	4.42	2

Q34	Different tools and techniques must be used to measure development.	**43.4**	**38.2**	**18.4**	**0**	**0**	**4.25**	**4**
Q35	Using other similar organizations experiences for planning MOE's plans is useful.	**44.9**	**42.6**	**12.5**	**0**	**0**	**4.32**	**3**

As shown in table 8.20, the internal stakeholders strongly agreed with "Tools and Techniques" principle with a mean range between 4.08 and 4.43. They agreed most with statement 32. In contrast they agreed least with statement 31. There was some uncertainty here perhaps reflecting concerns about how data might be used.

8.5.7 Rewards

Table (8.21) includes four statements that were grouped to examine the attitudes of the internal stakeholder respondents regarding "Rewards" and report the means of respondents in the sample regarding this matter and the rank order.

Table 8.21 Internal Stakeholders (Rewards)

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q36	There must be clear reward system in the MOE.	**72.1**	**27.9**	**0**	**0**	**0**	**4.72**	**3**
Q37	Rewards can encourage staff to work without fail.	**77.2**	**22.8**	**0**	**0**	**0**	**4.77**	**2**
Q38	Rewards should be established according to staff's needs.	**66.2**	**33.8**	**0**	**0**	**0**	**4.66**	**4**
Q39	Rewards can encourage innovation.	**83.1**	**16.9**	**0**	**0**	**0**	**4.83**	**1**

Table (8.21) shows that there was a strong agreement of internal stakeholders toward "Reward" principle with a mean range between 4.66 and 4.83. They agreed mostly with statement 39. On the other hand, they agreed least with statement 38. However, there is overwhelming support for this idea.

8.6 External Stakeholders

Tables (8.22) to (8.28) show the statements of each principle and the frequencies (Percentages) for each statement. The tables (8.22) to (8.28) also present the rank order according to mean rating for the agreement of external stakeholders with each statement in every principle.

8.6.1 Commitment toward TQM

Table (8.22) includes five statements that were grouped to examine the attitudes of the external stakeholder respondents regarding “Commitment toward TQM” and reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.22 External Stakeholders (Commitment toward TQM)

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q1	Management must ensure consistency between MOE mission and actual performance.	64.2	35.8	0	0	0	4.64	2
Q2	It is critical for management to understand change process.	44.0	39.6	16.4	0	0	4.28	4
Q3	Open communication between managers and staff must be encouraged and rewarded.	50.7	41.8	7.5	0	0	4.43	3
Q4	Development needs support from management.	73.9	26.1	0	0	0	4.74	1
Q5	Management must act as a role model in the development.	24.6	47.8	27.6	0	0	3.97	5

Table (8.22) shows that the external stakeholders agreed with "Commitment toward TQM" principle with a mean range between 3.97 and 4.74. They agreed most with statement 4. In contrast, they agreed least with statement 5.Here there was over a quarter expressing uncertainty which will need to be considered in relation to feasibility. Nevertheless, there is significant support.

8.6.2 Focus on Stakeholders

Table (8.23) includes four statements that were grouped to examine the attitudes of the external stakeholder respondents regarding “Focus on Stakeholders” and reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.23 External Stakeholders (Focus on Stakeholders)

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q6	Planning development requires stakeholders’ opinions.	35.1	57.5	7.5	0	0	4.28	3
Q7	MOE development could be measured through stakeholders’ satisfactions.	70.1	29.9	0	0	0	4.70	1
Q8	It is important to survey regularly stakeholders’ needs and expectations.	23.9	53.0	23.1	0	0	4.01	4

Q9	MOE plans should consider internal and external stakeholders' attitude.	**59.0**	**41.0**	**0**	**0**	**0**	**4.59**	**2**

As shown in table (8.23), external stakeholders strongly agreed with "Focus on Stakeholders" principle. They agreed mostly with statement 7. On the other hand, they agreed least with statement 8. Here again there was a degree of uncertainty being expressed with surveys of needs which will need to be explained in relation to the question of feasibility and implementation.

8.6.3 Continuous Improvement

Table (8.24) includes seven statements that were grouped to examine the attitudes of the external stakeholder respondents regarding "Continuous Improvement" and reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.24 External Stakeholders (Continuous Improvement)

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q10	Never ending process of improvement is critical to MOE development.	**59.7**	**40.3**	**0**	**0**	**0**	**4.60**	**1**
Q11	Planning in MOE should be in long term.	**16.4**	**50.7**	**22.4**	**10.4**	**0**	**3.73**	**5**
Q12	Plans in MOE must be flexible.	**16.4**	**60.4**	**23.1**	**0**	**0**	**3.93**	**4**
Q13	Plans in MOE should usually be renewed and updated.	**56.0**	**44.0**	**0**	**0**	**0**	**4.56**	**2**
Q14	Defect prevention should replace defect detection.	**20.1**	**35.8**	**33.6**	**10.4**	**0**	**3.66**	**6**
Q15	It is important to solve day to day problem immediately.	**30.6**	**61.9**	**7.5**	**0**	**0**	**4.23**	**3**
Q16	Elements of MOE should be evaluated regularly.	**20.1**	**31.3**	**15.7**	**32.8**	**0**	**2.31**	**7**

Table (8.24) illustrates that, apart from statement 16, the external stakeholders agreed generally with "Continuous Improvement" principle. They agreed most with statement 10 about the criticality of the never-ending process of improvement in MOE development. In contrast, they were uncertain (a mean of 2.31) about statement 16. The reason behind this might due to the overload for the external stakeholders of the regular development programs and evaluations and also possibly a perception of additional pressure.

8.6.4 Involvement and Empowerment

Table (8.25) includes seven statements that were grouped to examine the attitudes of the external stakeholder respondents regarding “Involvement and Empowerment” and reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.25 External Stakeholders (Involvement and Empowerment)

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q17	Development should be carried by all members of MOE.	57.5	27.6	14.9	0	0	4.43	6
Q18	MOE staff should share in decision making in the MOE.	68.7	31.3	0	0	0	4.69	4
Q19	External stakeholders should share in decision making in the MOE	56.7	43.3	0	0	0	4.57	5
Q20	Teamwork should be emphasized.	29.9	32.8	37.3	0	0	3.93	8
Q21	Responsibility, authority and accountability must be delegated as closely as possible to those performing the work.	59.7	40.3	0	0	0	4.60	2
Q22	Feedback should be encouraged from the stakeholders.	56.0	29.9	14.2	0	0	4.42	7
Q23	MOE’s goals and policies must be communicated regularly to staff.	65.7	34.3	0	0	0	4.66	1
Q24	Management must make every effort to any staff’s ideas, opinion, questions or concerns.	55.2	41.8	3.0	0	0	4.52	3

Table (8.25) shows that the external stakeholders generally agreed with "Involvement and empowerment" Principle with a mean range between 3.93 and 4.66. They agreed most with statement 23. In contrast, they agreed least with statement 20. This might be because of their limited experience with teamwork. Teamwork is an area where uncertainty is being expressed. This is an issue that is supported in the interviews which are explored in chapter nine.

8.6.5 Training and Education

Table (8.26) includes six statements that were grouped to examine the attitudes of the external stakeholder respondents regarding “Training and Education” and reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.26 External Stakeholders (Training and Education)

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q25	Training is essential for managers as well as staff.	0	7.5	16.4	76.1	0	2.31	6
Q26	Training is a continual process for all staff.	30.6	23.9	41.8	3.7	0	3.81	3
Q27	Staff should understand the development process.	66.4	31.3	2.2	0	0	4.64	1
Q28	Staff must have their roles identified clearly.	51.5	43.3	5.2	0	0	4.46	2
Q29	Training must be planned according to MOE's mission.	29.9	16.4	53.7	0	0	3.76	4
Q30	Training must be provided equally to all MOE staff.	22.4	23.9	53.7	0	0	3.69	5

Table (8.26) shows that with the exception of statement 25, the external stakeholders agreed with "Training and Education" principle. They agreed most with statement 27. In contrast, they were uncertain about statement 25 with a mean of 2.31 and a percentage of disagreement of 76.1%. Once again, this might due to previous experience where training and development was largely directed at top management and so staff were not involved and there is less certainty about what that entails. Questions 29 and 30 raise issues about the provision and allocation of training which will be examined further in chapter nine.

8.6.6 Tools and Techniques

Table (8.27) includes five statements that were grouped to examine the attitudes of the external stakeholder respondents regarding "Tools and Techniques" and reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.27 External Stakeholders (Tools and Techniques)

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q31	Decisions in the MOE must be based on data.	56.0	44.0	0	0	0	4.56	1
Q32	Statistical tools must be used to collect data about MOE problems.	22.4	62.7	14.9	0	0	4.07	3
Q33	Statistical tools must be used to collect data for planning improvement.	48.5	42.5	9.0	0	0	4.40	2
Q34	Different tools and techniques must be used to measure development.	0	8.2	29.1	62.7	0	2.46	5

Q35	Using other similar organizations experiences for planning MOE's plans is useful.	**22.4**	**23.9**	**53.7**	**0**	**0**	**3.69**	**4**

As shown in table (8.27), apart from statement 34, the external stakeholders generally agreed with "Tools and Techniques" principle. They agreed mostly with statement 31 with a mean of 4.56. On the other hand, they were uncertain about statement 34 with a mean of 2.46 and 62.7% of disagreement. Once again, this might be because of their concerns about the significant range of tools and projects to be applied in the field which give extra work to staff and create unforeseen demands.

8.6.7 Rewards

Table (8.28) includes four statements that were grouped to examine the attitudes of the external stakeholder respondents regarding "Rewards" and reports the means of respondents in the sample regarding this matter and the rank order.

Table 8.28 External Stakeholders (Rewards)

No.	Statements	Percent					Mean	Rank
		SA	A	U	D	SD		
Q36	There must be clear reward system in the MOE.	**67.2**	**32.8**	**0**	**0**	**0**	**4.67**	**4**
Q37	Rewards can encourage staff to work without fail.	**67.9**	**32.1**	**0**	**0**	**0**	**4.68**	**3**
Q38	Rewards should be established according to staff's needs.	**92.5**	**7.5**	**0**	**0**	**0**	**4.93**	**1**
Q39	Rewards can encourage innovation.	**75.4**	**24.6**	**0**	**0**	**0**	**4.75**	**2**

Table (8.28) illustrates the strong agreement of the external stakeholders with the "Rewards" principle. They agreed mostly with statement 38 with a mean of 4.93. On the other hand, they agreed least with statement 36 with a mean of 4.67. Here unlike other domains there is no uncertainty which emphasizes the view that "rewards" is a critical aspect.

8.7 Differences between the Three Groups:

In order to determine whether there were any differences between the attitudes of the full sample of top management, internal and external stakeholders regarding the TQM principles to develop MOE, the Kruskal-Wallis test was conducted on the 39 statements of the seven proposed TQM Tree Model principles.

8.7.1 Commitment toward TQM

Table 8.29 Differences Regarding Commitment toward TQM

Statement	Chi-Square	df	Asymp. Sig.
Q1	34.260	2	.000
Q2	18.901	2	.000
Q3	17.010	2	.000
Q4	80.655	2	.000

Table (8.29) shows that there is a difference in the agreement level toward the implementation of TQM in the MOE in Oman between the three groups at the significant level of ($p \leq .01$) in all of the statements related to principle one "Commitment toward TQM".

8.7.2 Focus on Stakeholders

Table 8.30 Differences Regard Focus on Stakeholders

Statement	Chi-Square	df	Asymp. Sig.
Q5	15.768	2	.000
Q6	29.604	2	.000
Q7	49.905	2	.000
Q8	4.663	2	.097
Q9	7.771	2	.021

Table (8.30) shows that there is a difference in the agreement level toward the implementation of TQM in the MOE in Oman between the three groups at the significant level of ($p \leq .01$) in most of the statements related to principle two "Focus on Stakeholders"

8.7.3 Continuous Improvement

Table 8.31 Differences Regard Continuous Improvement

Statement	Chi-Square	df	Asymp. Sig.
Q10	50.430	2	.000
Q11	63.447	2	.000
Q12	14.930	2	.001
Q13	15.754	2	.000
Q14	43.648	2	.000
Q15	4.189	2	.123
Q16	197.064	2	.000

Table (8.31) shows that there is a difference in the agreement level toward the implementation of TQM in the MOE in Oman between the three groups at the significant level of ($p \leq .01$) in most of the statements related to principle three "Continuous Improvement".

8.7.4 Involvement and Empowerment

Table 8.32 Differences regard Involvement and Empowerment

Statement	Chi-Square	df	Asymp. Sig.
Q17	23.738	2	.000
Q18	27.560	2	.000
Q19	25.344	2	.000
Q20	10.106	2	.006
Q21	9.144	2	.010
Q22	14.551	2	.001
Q23	4.917	2	.086
Q24	6.742	2	.034

Table (8.32) shows that there is a difference in the agreement level toward the implementation of TQM in the MOE in Oman between the three groups at the significant level of ($p \leq .01$) in most of the statements related to principle four "Involvement and Empowerment.

8.7.5 Training and Education

Table 8.33 Differences regard Training and Education

Statement	Chi-Square	df	Asymp. Sig.
Q25	216.974	2	.000
Q26	21.763	2	.000
Q27	47.559	2	.000
Q28	2.572	2	.276
Q29	82.475	2	.000
Q30	34.520	2	.000

Table (8.33) shows that there is a difference in the agreement level toward the implementation of TQM in the MOE in Oman between the three groups at the significant level of ($p \leq .01$) in most of the statements related to principle five "Training and Education".

8.7.6 Tools and Techniques

Table 8.34 Differences Regard Tools and Techniques

Statement	Chi-Square	df	Asymp. Sig.
Q31	34.835	2	.000
Q32	22.761	2	.000
Q33	3.078	2	.215
Q34	189.047	2	.000
Q35	46.370	2	.000

Table (8.34) shows that there is a difference in the agreement level toward the implementation of TQM in the MOE in Oman between the three groups at the significant level of ($p \leq .01$) in most of the statements related to principle six "Tools and Techniques"

8.7.7 Rewards

Table 8.35 Differences regard Rewards

Statement	Chi-Square	df	Asymp. Sig.
Q36	7.577	2	.023
Q37	3.018	2	.221
Q38	28.582	2	.000
Q39	6.655	2	.036

Table (8.35) shows that there is a difference in the agreement level toward the implementation of TQM in the MOE in Oman between the three groups at the significant level of ($p \leq .01$) in most of the statements related to principle seven "Reward".

In order to find to which group the significant difference is favouring, the mean rank is used as shown in appendix (XI). It is important to point out that the differences between the three groups are mostly in the emphasis rather than in the agreement level. The significant preferences are discussed in relation to the summary of data analysis as follows. In addition some more differences will be highlighted from the qualitative data analysis in chapter nine.

8.8 Summary of data analysis of the questionnaire

In this chapter we have explored the attitudes of the staff members of MOE: the top management, the internal stakeholders and the external stakeholders regarding the implementation of TQM. The survey devised for this purpose included 39 statements. These statements were grouped into 7 categories forming principles of TQM, as stated at the beginning of this chapter and presented in details in chapter six. Most participants expressed positive attitudes toward TQM implementation. However, some of them, especially the internal and external stakeholders seemed to be uncertain about some statements. There was limited disagreement, there was no strong disagreement and no statements were rejected completely. From the responses of the three groups: the top management, the internal stakeholders and the external stakeholders to the 39 statements we can draw the following conclusions.

8.8.1 Commitment toward TQM

The results revealed that the three groups of the sample agreed that the commitment toward TQM would help MOE to improve and reduce the existing problems. Data also showed that although the three groups agree that management must ensure consistency between MOE's mission and its actual performance, the top management and internal stakeholders

seemed uncertain about the role of management in supporting a development or developments in education.

For the five statements in this principle "Commitment toward TQM", there were some significant differences between the three groups. Some of the prominent issue arose is regarding Q4 which is about the need for management support in development. Surprisingly, while the top management ranked it as the fifth most agreed with item, the internal stakeholders ranked it the fourth and the external stakeholders ranked it as the first. This might be expected as each group plays a different role, has a different level of power and responsibilities in MOE as an organization. As a consequence, they have different attitudes and opinions about TQM implementation and the amount of management support needed.

The results regarding the focus on stakeholders indicated that there was general agreement about the importance of listening to stakeholders and considering their attitudes. However, a quite high percentage of top management (31.3%) disagrees with the need to relate development planning to stakeholders' opinions. The same percentage (31.3%) of the top management was also uncertain about this statement. In addition, both the internal and external stakeholders were uncertain about the importance of surveying stakeholders' needs and expectations regularly.

In the comparison between the three groups, responses to half of the statements in this principle were significantly different (two statements) and the other two were not significant. It is noticeable that the significant statements were "Planning development requires stakeholders' opinions" and "MOE development could be measured through stakeholders' satisfactions" which focus deeply on the role of stakeholders in the development. On the other hand, the other two statements "It is important to survey regularly stakeholders' needs and expectations" and "MOE plans should consider internal and external stakeholders' attitude" are related to considering stakeholders' attitudes and expectations but the work is done mostly by management. This is highlighting the issue of the usage of power and the top-down management. Developing the more connected and open approach suggested by these statements does imply a change in the existing hierarchical approaches which are based on top-management having the power to direct planning without necessarily taking into account the views of stakeholders.

8.8.2 Continuous Improvement

The data related to the continuous improvement revealed that there was general agreement about the need for constant improvement in order to develop the MOE. However, the top management respondents had some uncertainty (12.5%) regarding the criticality of never-ending process of improvement to the MOE development.

Both internal and external stakeholders were uncertain about five of the statements. Moreover, the external stakeholders had a minor disagreement with three statements. These three statements covered long term planning, defect prevention and regular evaluation.

In the comparison of the three groups, results for six out of the seven statements were significantly different. It seemed that the top management were more in agreement with the statements than the other two groups; the internal stakeholders expressed more uncertainty on that than the external stakeholders and the external stakeholders expressed more disagreement and uncertainty than the two other groups. This might be because of the different responsibility level and the load of work this might create for the different groups.

8.8.3 Involvement and Empowerment

The data regarding this principle revealed that there was general agreement that the MOE should enable its staff members to participate more in order to achieve the intended development. In this principle, there were some uncertainties about some statements. The three groups were uncertain about statement 20 “Teamwork should be emphasized”. This might be due to, as mentioned early in this chapter, the respondents’ previous experiences and the extant management structures and approaches which tend to be ‘top-down’, so that respondents have had limited direct experience of teamwork.

In the comparison of the three groups regarding the fourth principle “Involvement and Empowerment”, there are significant differences in almost half of the statements which consider the participation of the stakeholders in MOE decision making, development and giving feedback. These differences are in the strength of the agreement level rather than disagreement. From the mean rank table (appendix XI), it is clear that the external stakeholders have more agreement than the internal stakeholders. Both internal stakeholders and external stakeholders have more agreement than the top management.

8.8.4 Training and Education

The response data from the three groups indicated that the sample as a whole generally agreed that the training and education principle is essential for MOE development. However, they disagreed with "Training is essential for managers as well as staff" and were uncertain about the following statements 26, 29 and 30: "Training is a continual process for all staff.", "Training must be planned according to MOE's mission" and "Training must be provided equally to all MOE staff". While the three groups showed uncertainty about statements 26 and 30, 76.1% of the external stakeholders disagreed with statement 25 in which training for managers as well as staff is essential.

In the comparison between the three groups, statement 28 "Staff must have their roles identified clearly" was the only non-significant statement. This illustrates the need for identification and clarification of responsibilities.

8.8.5 Tools and Techniques

The findings on using quality tools and techniques showed that the three group sample generally agreed that using quality statistical tools and techniques is essential for MOE's planning and measuring development. While top management and the internal stakeholders expressed some uncertainty to statement 31 "Decisions in the MOE must be based on data", the internal stakeholders disagree with statement 34 "Different tools and techniques must be used to measure development". Both internal and external stakeholders expressed uncertainty in relation to statements 34 and 35 "Different tools and techniques must be used to measure development" and "Using other similar organizations' experiences for planning MOE's plans is useful." The fact that the top management showed uncertainty about one statement, the internal stakeholders showed uncertainty about three statements and the external stakeholders showed uncertainty about four statements highlights an important point relating to those in the more powerful positions seeming to express greater confidence in relation to the use of tools. Top management and the internal stakeholders were uncertain about decision making based on data which may be because decision-making tends to be centralized. They might be concerned about lessening their power. On the other hand, the internal and external stakeholders were more uncertain about statements that might have implications for their workloads in implementing the change.

In the comparison of the three groups, there were significant differences between the three groups in all of the statements except statement 33 (statistical tools must be used to collect

data for planning improvement). The entire sample agreed that statistical tools must be used to collect data for planning improvement.

8.8.6 Rewards

This finding indicated that the sample as a whole agreed that reward is important in MOE development. They agreed that reward system must be clear and established according to the staff's needs. They also agreed that rewards play a prominent role in encouraging staff to work and in encouraging innovation.

In the comparison of the three groups, there were no significant differences except in statement 38 "Rewards should be established according to staff's needs". This small difference in the strength of agreement again might be due to the different positions and roles each group plays currently. From the mean rank table (appendix XI), it is clear that the external stakeholders have a higher agreement level than the other two groups. This is again a very slight difference.

8.9 Conclusion

The data analysed in this chapter was gathered from three groups, top management, internal stakeholders and external stakeholders. The questionnaire asked each participant to agree/ disagree on 1-5 scale with 39 closed items related to the seven principles of the proposed TQM Tree Model; commitment to TQM, focus on stakeholders, involvement and empowerment, continuous improvement, training and education, tools and techniques, and rewards. The data were analysed and presented as percentages in frequency tables. It was clear from the discussion of the quantitative data that there a general agreement between the three groups; top management, internal stakeholders and external stakeholders regarding the TQM Tree Model principles. Although there are some significant differences between the three groups regarding some issues such as training, the role of the top management and regular evaluation and continuous improvement, these are in relation to the strength of the agreement level. These results give a broad view about the feasibility of implementing TQM in the MOE. The next chapter discusses the results of the qualitative data collected by the questionnaire's open-ended questions and the main interviews to gain further information about the implementation of the proposed model of TQM in the MOE.

Chapter Nine- Qualitative Data Analysis

9.1 Introduction

Although from the quantitative data the majority of the participants appeared to have positives attitude toward the implementation of TQM in the MOE, this result just gave a broad feeling for the acceptability of the TQM Tree Model and established a broad baseline as appeared in chapter eight.

In order to gather further information on what the participants of the three groups, top management, internal stakeholders and external stakeholders, see as the way forward in taking TQM principles as the basis for developing the MOE, two qualitative studies were carried out: the open-ended questions as a part of the questionnaire and the semi-structured interviews. The following discussion of the major themes draws together this data. The major themes reflect the seven principles of the TQM Tree Model:

1. Commitment Toward TQM
2. Focus on Stakeholders
3. Continuous Improvement
4. Involvement and Empowerment
5. Training and Education
6. Tools and Techniques
7. Rewards

The main aim of this chapter is to present the analysis and the interpretations of the qualitative data collected. Ary et al. (2006, p.489) state that, "*the challenge facing the researcher at this stage is to make sense of copious amounts of data and to construct a framework for communicating the essence of what the data reveal*". As explained in chapter seven, the methodology, a semiotic analysis, was used to analyse both the open-ended questions and the interviews. The following diagram summarises the method followed in analysing the qualitative data.

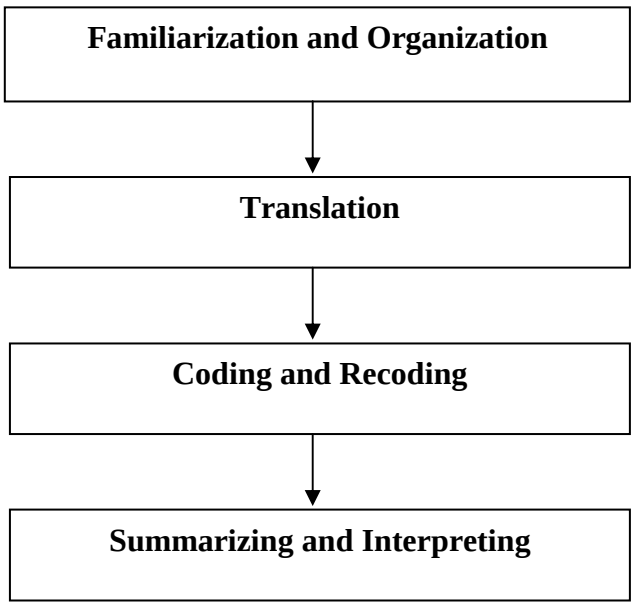

Figure 9.1 Steps of Analysing the Qualitative Data

9.2 Stages of Qualitative Data Analysis

Data analysis in the qualitative research involves three main stages: familiarization and organization, coding and recoding and summarizing and interpreting (Ary et al, 2006, p.490). However in this particular research in addition to the three main steps, the researcher added one more step which is translation. The following paragraphs discuss briefly how the four stages of qualitative data were achieved.

9.2.1 Stage One: Familiarization and Organization

Familiarization and organization was the first stage in qualitative data analysis. In this stage, the researcher read and reread notes in order to become familiar with the data. Then, the researcher put the open-ended questions into an organized form and completed the notes of the interviews. Next, the researcher read and reread again and took notes while reading.

9.2.2 Stage Two: Translation

This stage was an important stage as the researcher tried her best to translate the data from Arabic into English without changing the meaning (discussed in detail in chapter seven).

9.2.3 Stage Three: Coding and Recoding

In this stage, the researcher identified the main categories and themes. As she became familiar with the data and the issues arose from the open-ended questions and the

interviews, she found that the obstacles and the facilitating factors could be themed into the seven main principles of the TQM Tree Model. Moreover, while reading and rereading, translating, coding and recoding, the researcher separated the responses of the three groups the top management, the internal stakeholders and the external stakeholders. However, the researcher discovered that there are no significant differences between the three groups in the open-ended questions, so she decided to present them together as a whole. In the interviews, there were slight differences, so they are presented separately.

9.2.4 Stage Four: Summarizing and Interpreting Data

The last but most important of all stages was summarizing and interpreting data. In this stage, the researcher had to present the massive amount of data in a well-organized, easy to read and understandable way. Thus, a table to put the summary of the key issues according to the seven themes of the TQM Tree Model was selected, as will be seen later in this chapter. Later, the researcher reflected on the data presented in the table trying to understand and interpret it.

9.3 The Open-ended Questions

The third part of the questionnaire consisted of four open-ended questions regarding the obstacles that might face the implementation of TQM in the MOE in Oman and the solutions to them:

If we are to implement TQM in the MOE:

1. What do you see as some of the obstacles?
2. How might these be overcome?
3. What do you see as some of the facilitating factors?
4. How might these be enhanced?

The answers to these questions were analysed, categorised and summarised in the following tables. From the tables below, it was obvious that most participants surveyed tended to see some obstacles in implementing TQM in the Ministry of Education in Oman. These obstacles can be categorized according to the seven principles of the TQM Tree Model presented in chapter six. In addition, the participants surveyed suggested some solutions to help in overcoming these obstacles, helping in implementing TQM in the Ministry of Education Central Headquarters and enhancing the facilitating factors.

9.3.1 Commitment toward TQM

Table 9.1 Commitment toward TQM

The TQM proposed model principle	The Obstacles	The Solutions
Commitment toward TQM	• No accurate time management. • Different directorates are responsible for one single project which causes contradiction and failure. • Caring for appearance more than the content. • The use by top management of their power in an unjust way. • The lack of knowledge about TQM. • The disbelief in TQM. • Lack of top management support. • Slow and ineffective communication • Using traditional ineffective administrative processes. • Inconsistency between MOE aims and field needs. • Overloaded routine paper work. • Autocracy. • Budget. • Lack of tools and media needed	• Adopt TQM completely. • Care for content more than appearance. • Justice. • Support development administratively. • Equality between all staff. • Support development financially. • Open communication and the use of internet as a communicative tool. • There must be consistency between aims of the MOE, development projects and the actual performance. • Time management. • Managers should use their authorities to support not to threaten.

Most of participants believed that management could be an obstacle in implementing TQM in the sense of management behaviour such as using traditional administrative processes or using power in a top-down approach. Some participants expressed their concerns about the autocratic management which might form an obstacle in implementing TQM in the MOE. One of them stated; "*the use of power by top management in an unjust way*" as one of the obstacles, another participant said "*using traditional ineffective administrative processes*" as another obstacle and a third one highlighted how "*autocracy plays a prominent role in prohibiting the development of the ministry*".

The present practices of management were also mentioned as another management obstacle with paperwork creating overload, the lack of having a responsible body to deal with development programs and the inconsistency between MOE aims and field needs. One of the participants commented that:

> *The overloaded routine paperwork which is unnecessary takes all the time and discourages the staff from trying to improve themselves or their work*

Another participant commented that:

> *The gap between the Ministry Central Headquarters and the Regional Directorates causes inconsistency between the Ministry's developmental aims and the actual field needs*

A participant stated that:

> *The different bodies responsible for a single development programme cause contradiction and failure in the development programmes as there is no responsible body to coordinate between the different efforts of those implementing*

The above comments highlight the reality of what participants believe in the management behaviours and practices that can prohibit TQM implementation. Moreover, participants also believe that those management processes which might be facilitators would, in the current setting, act as obstacles in the implementation of TQM. One of the participants highlighted weak communication as a main obstacle to limit improvements "*not only between directorates but also within a single directorate, a department and a section*". Along with the weak and slow communication another participant reported that one of the obstacles is "*budget, whether there are not enough budgets or they are not well-planned*".

The participants in this study also suggested that adopting TQM with its knowledge, beliefs and support could overcome the obstacles. One of the participants suggested;

> *Adopting TQM completely, spreading its culture all over the Ministry, would support and simplify the implementation process*

Other suggestions related to management behaviour such as management practice based on justice and equality between staff were also raised. One of the participants stated that:

> *Management should use the authority to support and help staff to do their work and improve it, not to use their power to threaten the staff*

The participants also proposed some facilitator factors which would support the implementation of TQM such as open communication, time management and the availability of a suitable budget. One of the participants commented;

> *Open communication within and between different directorates and use of the internet as a quick communicative tool might help in the success of TQM implementation*

These comments and suggestions highlight that there are some obstacles regarding management in relation to TQM implementation in the MOE and there are some solutions that can be considered to tackle the problems and enhance the implementation process.

9.3.2 Focus on Stakeholders

Table 9.2 Focus on Stakeholders

The TQM proposed model principle	The Obstacles	The Solutions
Focus on Stakeholders	• The centralization in decision making. • Ignorance of stakeholders' opinions.	• Consider stakeholders' needs. • Consider stakeholders' aspirations. • Consider stakeholders' abilities.

Nearly all of the participants from the three groups made comments that referred to a focus on stakeholders regarding the importance of their opinions and needs. They considered centralization in decision making as an obstacle for implementing TQM. One of the participants stated that one of the obstacles is:

> *The great level of centralization especially in decision-making and keeping most of the authority in the hands of the Central Headquarters staff*

In addition to the obstacle mentioned above, there is another main obstacle which is the ignorance of stakeholders’ opinions. This obstacle is a consequence of the first one; as there is a high level of centralization in decision-making through the Central Headquarters, the logical result there is ignorance of stakeholders’ opinions. One of the participants said:

The decision makers in the MOE ignore the field's opinions which broadens the gap between the MOE Central Headquarters and the implementers of their decisions

In trying to anticipate solutions for the problems the participants suggested, the management should consider the stakeholders' needs, aspirations and abilities. One of the participants suggested;

The management should give a chance to the different staff in the Ministry to discover their unused abilities

Another participant said;

In starting a development programme in the Ministry, the stakeholders' needs should be considered.

9.3.3 Involvement and Empowerment

Table 9.3 Involvement and Empowerment

The TQM proposed model principle	The Obstacles	The Solutions
Involvement and Empowerment	• No shared vision. • Shared responsibilities with weak communication. • Middle management refuses to listen to their staff or share their decisions with them. • Delegation of authority.	• Distribute responsibilities fairly. • Give more responsibilities to regions. • All staff must share in TQM development. • Team work. • All staff share in decision making.

Many respondents noted that the delegation of authority and the techniques of sharing vision, responsibilities and opinions may form a barrier to TQM implementation. Although managers might share some responsibilities with their staff, they do not share a vision; they work with separate aims. One of the participants said that;

There is a gap between managers and staffs in the Ministry, managers rarely delegate authority

Another participant stated;

Some managers refuse to listen to their staff and share their decisions with them

They suggested the fair distribution of responsibilities between and within directorates, sharing in decision making and delegating authority effectively.

9.3.4 Continuous improvement

Table 9.4 Continuous Improvement

The TQM proposed model principle	The Obstacles	The Solutions
Continuous improvement	• No feedback about the improvement programs. • Most development projects discontinue. • Quick implementation without enough accurate planning. • Geographical distribution. • Lack of enough staff. • No clear plans. • No clear responsibilities. • Lack of preparation.	• Plan carefully for the spread of quality culture. • Flexible plans. • Preparation for TQM application. • Frequent feedback.

Some of the participants stated that there would be difficulties in implementing TQM because of certain repeated aspects related to typical development programmes such as planning, resources and evaluation. Most of the development programmes discontinue or fail because of the rush into the implementation without accurate planning, training and preparation. One of the participants stated that;

> Development programmes start quickly without enough planning or preparation for staff and resources needed.

Another obstacle regarding continuous improvement is the lack of evaluation of development programmes and feedback after implementation. This is because continuous evaluation and continuous feedback leads to continuous improvement. One of the participants commented about the failure behind development programmes; *"there is no feedback about development programmes"*.

The participants suggested some facilitating factors such as flexible planning, proper preparation, spreading the quality culture and continuous feedback. One of the participants suggested;

> *Plans must be flexible to be updated and adapted according to the implementers' abilities and available resources.*

Well planned programmes with continuous feedback and flexibility for updating and adapting to changing circumstances might help in successful implementation.

9.3.5 Training and Education

Table 9.5 Training and Education

The TQM proposed model principle	The Obstacles	The Solutions
Training and Education	• Lack of TQM background. • Lack of qualified staff and supervisors. • Unqualified management. • Shortage of training centres. • Shortage of training programs. • Training is not fair for everyone.	• Train all staff fairly. • Qualify managers for their specific jobs. • Lectures and seminars about TQM. • Specific courses on TQM. • Continuous training.

With regard to training and education, some problems were stated by participants. Some of them are clear from the table where two main issues are referred to: the content of training and the resources available for training. Regarding the content of training, one of the participants stated; "*there are not enough qualified staff and supervisors*". This participant indicated that the content of training that staff and supervisors receive does not match the requirements of their responsibilities. Another participant said; "*there is a shortage in training centres and training programmes*". In summary, the problems that might face TQM implementation in the MOE are concerned with providing enough suitable fair training to the implementers.

The participants noted that offering fair training, planning the content carefully and making all the needed resources available are facilitating factors to current obstacles in relation to training and education. One of the participants highlighted;

> *Training must be continuous through seminars, lectures and workshops to all TQM implementers*

9.3.6 Tools and Techniques

Table 9.6 Tools and Techniques

The TQM proposed model principle	The Obstacles	The Solutions
Tools and Techniques	• No clear criterion for evaluation. • No specified ways for collecting data for improvement. • No accurate data base. • The lack of clear development techniques.	• Create data base. • Use statistical tools to collect data for frequent evaluation and measuring development. • Specify evaluation criterion

Most of the participants indicated that the obstacles in implementing TQM related to tools and techniques. One of these obstacles was the lack of an evaluation criterion. Many of the participants stated that; *"there are no specified ways for collecting data for improvement"*. They also mentioned the lack of accurate databases and the unclear development techniques could be considerable obstacles.

However, they suggested some solutions such as creating effective databases, the specification of evaluation criteria and the use of statistical tools to collect data. One of the participants suggested the *"Use of specified statistical tools to collect data for frequent evaluation and measuring development"*.

9.3.7 Rewards

Table 9.7 Rewards

The TQM proposed model principle	The Obstacles	The Solutions
Rewards	• Rewards depend on personal relationships. • Lack of rewards and promotions. • Rewards are not given according to the amount of work • No objective evaluation. • Unfair rewards	• Give more rewards. • Promotions must depend on clear standards. • Fair rewards to all.

Finally, many respondents made reference to the limited rewards available and the unfair way these could be distributed as obstacles. One of the participants highlighted the point about unfair rewards between different directorates of the ministry*; "No justice between Central Headquarters rewards and regional rewards"*. Another participant added; *rewards are often not appropriate to the work, especially for hard workers"*. This participant stated the problem that the rewards are not given as a bonus for hard work. This leads to another important issue which is clear criteria for a reward system.

The participants pointed out some facilitating factors such as giving rewards more fairly and establishing clear standards for a reward system. One of the participants highlighted an important issue; "*promotion must depend on clear standards*". Promotion could be considered one of the most important forms of rewards as it could be considered both a financial and prestigious reward. Thus having clear standards for promotion might encourage more performance improvement and successful TQM implementation.

9.4 The Interview

The interviews in this study consisted of four individual interviews with members from top management and two focus groups of five people each for firstly the internal stakeholders and then the external stakeholders. The purpose of these interviews was to collect the views of the three groups regarding the implementation of TQM. To achieve this goal, the researcher carried out eight face to face semi-structured interviews as explained in detail in chapter seven. The interview consisted mainly of the following four questions:

1. What is your initial response to TQM?
2. What are the barriers to implementing TQM in the MOE?
3. What do you see as facilitator factors in the implementation of TQM in the MOE?
4. Are there any other issues you would like to raise?

In light of the interview, the opinions of the three groups could be summarized as in the following tables.

Table 9.8 Interview Analysis

Theme	Top Management	Internal Stakeholder	External Stakeholder
General view	Generally agree with improvement	Efficient way for managing change	Good approach to enhance the MOE's efforts in improvement.
Possibilities in Oman	Can be used to develop education	Can be used to solve existing problems	Can be used to achieve the ministry's aims
Obstacles	• Centralization in decision making and planning • Lack of funds • Lack of time • Weak communication between the Ministry Central Headquarters and directorates • Culture of resisting change • Lack of patience • Lack of training • Lack of clear responsibilities • Lack of clear standards	• Support from top management • Centralization • Cooperation from Regional Directorates. • Lack of funding • Lack of training • Beliefs in TQM and culture change • Lack of clear improvement plans and standards • Lack of preparation • Weak communication	• Management support and belief. • Lack of communication within and between the directorates. • Cooperation between directorates. • Ignoring stakeholders' needs. • Participation in decision making • Rewards • Funding • Lack of trained and qualified staff. • Lack of clear development plans • Lack of time for application.

The above table illustrates that the three groups of participants had generally positive attitudes toward the implementation of TQM within the Ministry of Education in Oman. They generally believe in TQM as an important management approach in developing education generally and MOE in Oman specifically.

However, there are some subtle differences in each group's approach which seem to be different according to each group's position and amount of power they have. While the top management look at TQM as a solution to develop education in general, the internal

stakeholders see it as a solution for existing problems and the external stakeholders look at it as a means to achieve the Ministry's aims. One of the interviewees commented;

> *I think it is a good approach and widely used nowadays in developing education institutions all over the world (Interviewee one).*

Although most of the interviewees had a positive attitude toward the importance of TQM implementation in the MOE, a few of them raised doubts about its suitability as it comes from the business sector. As one of the interviewees said;

> *I think TQM will not work very efficiently in the MOE because it came from factories (group interview one- external stakeholders).*

However, another interviewee added;

> *The idea is good but the implementation is always the problem (group interview one- external stakeholders)*

Another interviewee agreed with this idea;

> *So, TQM might be a solution if it is as it seems, in other words, if it is applied correctly (group interview one- internal stakeholders)*

To summarize these ideas, TQM might be suitable for developing the MOE in Oman if it is implemented properly. This might be achieved through removing the obstacles the interviewees suggested and consolidating the facilitating factors. The implementation process is discussed in chapter eleven.

Regarding obstacles, the three groups pointed out almost the same obstacles. They highlighted obstacles that are related to planning, such as the preparation for development programmes, unclear responsibilities and unclear standards. One of the interviewees pointed out; *"the lack of clear improvement plans and standards" (group interview one- internal stakeholders)* as an obstacle that might confront TQM implementation. Another interviewee stated; "*The quick implementation without enough preparation (group interview two- internal stakeholders).* Another interviewee commented about the speed of the implementation without enough planning and preparation;

> *They start the program and suddenly stop because they do not have enough knowledge about it and after the implementation they discover that it is not*

> *suitable, waste of time, money and efforts (group interview one- external stakeholders)*

Time management was another obstacle that is connected with the planning and preparation point. It also forms a real development barrier in many facets concerning the time needed for planning or for implementation and evaluation. One of the interviewees stated that;

> *Time can play an important role in the implementation of any changing approach, no doubt in TQM too. This means that time and patience are required to the success of TQM (interviewee one).*

The three groups agreed that centralization might form an obstacle for TQM implementation. One of the interviewee stated;

> *… centralization in decision making sometimes causes wastage of time, effort and money. This is because some of the decisions are not suitable for us (group interview two- external stakeholders).*

However, they still believe that centralization is important in a flexible way that supports change but provides opportunities for sharing in decision making. One of the interviewees stated;

> *Although centralization might form a type of implementation barrier, commitment of the management and their support for development facilitates change (interviewee four).*

They also agreed that communication can be an obstacle that might face TQM implementation in the MOE in Oman. Weak and slow communication might cause a misunderstanding in the messages flowing from the Central Headquarters to the Regional Directorates or vice versa. Moreover, weak communication might cause a problem not only between directorates but also inside one single directorate. One of the interviewees highlighted how weak communication affects the effectiveness of the work;

> *Communication is a real barrier in the implementation of any development program. If some of the staff of MOE should be a part of improvement program and they don't have enough information about it, how can they work effectively to achieve its aims (interviewee two).*

Training was one of the most highlighted obstacles. Training can be a problem in many ways; whether the training is not enough or it is not matching the required skills. One of the interviewees said;

> *Lack of training of both people in the Central Headquarters and in the Regional Directorates (group interview one- internal stakeholders)*

The lack of cooperation and the teamwork is another obstacle. As one of the interviewees highlighted;

> *Cooperation is another barrier. We cannot implement TQM in an atmosphere full of competition rather than cooperation. Many directorates within the Central Headquarters and in the regions are trying their best to improve quality but separately. They do not cooperate to improve the MOE as a whole. This sometimes causes contradictions between the Regional Directorates and schools; which program to follow and what are the criteria for assessment (group interview one- external stakeholders).*

Although the three groups agreed upon many obstacles, each group highlighted obstacles created in the view of other groups. For example, top management mentioned the culture of resisting change and the lack of patience related to both internal and external stakeholders' roles and attitudes. One of the top management interviewees said;

> *…culture is a main obstacle and it needs patience and takes ages to be changed. The culture of resisting new ideas and ways of doing things is the most difficult to change (interviewee three).*

On the other hand, the internal and external stakeholders cited obstacles that are related to top management's roles. One of the external stakeholders stated;

> *It is not as everybody in the Central Headquarters says that Regional Directorates feel afraid of modern approaches or they are too traditional to change but it is the mass of development programs that start without the participation of those who would implement this (group interview one- external stakeholders).*

Moreover, one of the internal stakeholders blamed the external stakeholders for resisting change;

> *The first barrier will be the cooperation from the Regional Directorates. Most of the Regional Directorates refuse change especially at the beginning (group interview one- external stakeholders).*

This connects the problem of culture change resistance with another obstacle which is the stakeholders' empowerment. This point also draws an anticipation of TQM implementation success in the MOE. This is because one of TQM Tree Model's main principles is stakeholder empowerment. This will be a significant area to be developed and will demand changes in attitude and practice by all involved.

However, top management was more confident to state some obstacles that are related to their own roles such as funding and centralisation. This is may be because they feel more secure as they have more power. One of the top management interviewees stated;

> *Lack of funds stands on the top of not only delaying but stopping ambitious programs (interviewee two).*

Although funds and most budget related issues are the top management responsibilities, they are still confident enough to say it. This is a positive point which highlights their willingness to improve.

Table 9.9 Overcome Obstacles

Theme	Top Management	Internal Stakeholder	External Stakeholder
Overcome Obstacles	• Widespread awareness of development • Training • Participation in effective decision making • More efficient by more authority and less centralization. • Giving responsibility and trusting. • Spread quality culture and TQM. • Team work. and accountability	• Spread the quality culture • Train all participants • Activate the communication between the Central Headquarters and the Regional Directorates. • Use modern techniques in planning and evaluation • Funding • Decentralization	• Stakeholders' participation and empowerment. • Clear and Precise training to all participants • Planning for implementation, collecting data and evaluation • continuous evaluation • Continuous improvement

In suggesting ways to overcome obstacles, top management seems more concerned not only about solving existing problems but also about changing the causes of such obstacles. Internal stakeholders suggested different solutions, some that are somewhat general like continuous improvement and some others which are more precise solutions to existing obstacles. External stakeholders suggested more specific solutions to the obstacles. This exactly matches with the three groups' actual roles as the top management deals with general issues, the internal stakeholders deal with both general and specific issues and the external stakeholders deal with more specific issues.

However, the three groups suggested related solutions to overcome the obstacles that might face the TQM implementation in the MOE in Oman. They suggested solutions that are related to preparation, planning, top management commitment and culture change such as spreading the quality culture, stakeholders' empowerment in decision making and collecting data for implementation. One of the interviewees suggested;

> *First of all, the top management's belief in TQM and its complete support for its implementation. Moreover, giving all staff a chance to share in planning and decision making is also an important facilitating factor (interviewee three)*

Another interviewee suggested;

> *Decision making must depend on data collected from the field using statistical modern tools. This is in addition to the establishment of accurate data bases that can help in the development (group interview two- internal stakeholders).*

Another suggested solution to overcome obstacles was decentralization. As pointed earlier in this chapter the type of decentralization needed is not absolute decentralization but rather flexible centralization that gives the stakeholders the opportunity to participate in decision making and implement the development plans while the main themes and support comes from the Central Headquarters. An interviewee stated;

> *Both internal and external stakeholders' participation is essential (group interview one- external stakeholders).*

Another interviewee added;

> *I think the MOE already asks internal stakeholders to participate but not yet the external stakeholders. For the field of education, there are a lot of external stakeholders and their opinions are important (group interview one- external stakeholders).*

Training was highlighted as essential and should be matched with needed skills. One of the interviewees pointed out; *"train all participants in the ideas of TQM, its benefits and how it can be implemented in the MOE". (group interview one- external stakeholders).* Another related issue is the training of all the participants whether top managers, internal or external stakeholders. Training should also be continuous. This suggestion is well-related to continuous improvement as one of the TQM Tree Model principles. One of the interviewees justified the reason behind the continuity of training as follows;

> *Continuous training, even after the beginning of implementation, is essential. This is because new employees join the ministry and staff movement between departments is active all over the year (group interview one- internal stakeholders).*

Table 9.10 Facilitating Factors

Theme	Top Management	Internal Stakeholder	External Stakeholder
Facilitating factors	• Time • Patience • Communication • Clear and precise standards • funds • Continuous evaluation • Top management's belief and support: funds, reinforcement and rewards. • Staff share in decision making and planning. • Flexibility in organizational structures	• Encouragement, support and rewards for internal and external stakeholders. • Use other successful organization as a model • Budget	• Connection between TQM's plan and MOE's mission. • Rewards • Long -term flexible plans • Budget

Regarding facilitating factors the three groups suggested some facilitating factors that consider existing problems in the MOE or problems that might face implementation in the MOE. The three groups suggested rewards as a facilitating factor which would encourage improvement and raise job satisfaction. One of interviewees stated;

> *Rewards are essential for the success of all projects. Rewards help in encouraging staff to work harder and feel more satisfied (group interview two- internal stakeholders).*

Moreover, they highlighted the issue of the connection between planning and implementation. One of the interviewee commented;

> *I want to stress the point that there must be a strong connection between the TQM plan and the MOE mission. Then, there must be stronger connection between the TQM plan and the actions followed (group interview one- external stakeholders).*

Another facilitating factor is funding or having a suitable budget for TQM implementation. One of the interviewee highlighted this issue;

> *Within my directorate I feel that there is continuous improvement as a result of the MOE's improvement plan. However, some of the quality requirements are delayed because of the lack of funds (interviewee one).*

Another interviewee suggested;

> *Support the improvement with enough funding. Planning a suitable budget for TQM is essential before the start of the implementation (group interview one- internal stakeholders).*

In addition to the facilitating factors that are about solving the expected obstacles such as the time, patience, rewards and communication, they suggested much deeper and general suggestions that might work as a framework for facilitating the implementation. For example, top management suggested flexibility in organizational structures;

> *…a very supportive factor is the flexibility in the organizational framework (interviewee three).*

While the external stakeholders suggested long-term flexible plans;

> *There must be a long-term flexible plan. It could be adjusted according to any sudden events rather than stopping and failing (group interview one- external stakeholders).*

The internal stakeholders suggested looking to another organizational pattern as a model. This is very similar to the idea of benchmarking. One of the interviewee suggested;

Using an other successful organization as a model. Not copying but use their successful strategies and processes and adapt them to our ministry's environment (group interview two- internal stakeholders).

Table 9.11 Aspirations

Theme	Top Management	Internal Stakeholder	External Stakeholder
Aspirations	• Sufficient funding • Rewards • Continuous improvement • Training • Culture and attitude • Internal and external stakeholders involvement • Tools for data collection • Decisions must based on facts • MOE needs organized responsible body for development.	• Internal stakeholders already participate and similarly external stakeholders must participate • Open communication between managers in Central Headquarters and Regional Directorates. • Regional Directorate must participate in planning and decision making about the development programs. • Consistency between time available and actions of the plan • Feedback from all participants	• Continuous training • Considering differences in personal abilities and financial resources between directorates • Geographical differences must be considered • Rewards are essential

Finally, the attitude of the three groups in stating principles whether current or aspirational tended to be optimistic and practical as they seem to summarize the previously mentioned suggestions and add some issues that support the TQM implementation. For example, top management stated the necessity for a specific body to organize the development process;

…regarding the organization of the development efforts. I think there must be a certain body in the ministry to be responsible for all development programs

> *whether in the Central Headquarters or in the Regional Directorates (interviewee two)*

Moreover, the tone of the three groups tends to consider the improvement of others. The internal stakeholders suggested consideration of the communication between the Central Headquarters and the Regional Directorates and the consistency between the time available and the action plan. One of the interviewee stated;

> *Open communication between managers in the Ministry's Central Headquarters and staff in Regional Directorates is important. Messages lose their actual meaning from moving through too many channels (group interview one- external stakeholders).*

The external stakeholders highlighted the need for considering geographical differences. One of the interviewee said;

> *The geographical differences should also be considered as these cause problems for many remote areas (group interview two- external stakeholders)*

9.5 Issues arising from qualitative data

Although the results from the open-ended questions and interviews appeared to support the idea of a TQM Tree Model, some of the issues that emerged that warrant further consideration. They are presented as follows:

9.5.1 The clarity and demands of roles

The roles and remits of top management need to be reconsidered and clarified especially in the sense of as a role model in the development. Moreover, the roles of the internal and external stakeholders need to be considered in relation to their participation in the development as a whole and in decision-making specifically.

9.5.2 Training

Training was highlighted as an important issue for all staff. Some related issues were also mentioned such as the fairness of supplying training, the quality and suitability of training. Moreover, special training for TQM is required.

9.5.3 Evaluation and Tools

The purpose and means of evaluation need to be specified and clarified. There must be clear criterion for evaluation. The ways of collecting data including statistical data for

frequent evaluation and measuring development must be specified as well as the evaluation techniques.

9.5.4 Resources

Resources are an issue to consider while dealing with the MOE development. The budget could be a critical factor in the success or failure of the development program. In starting TQM implementation, a suitable budget should be planned and available for development.

9.5.5 Communication

The weak communication between the Central Headquarters and the Regional Directorates or the communication within the directorates could be a critical issue to consider for the failure or the unsuccessful development programme.

9.5.6 Teamwork

The building of teamwork is an issue to consider while dealing with the MOE development. The issue of weak cooperation and high competition that arose from the results of the data analysis should be facilitated. This is because teamwork is critical in the success of TQM implementation.

These issues and the results from the analysis of both quantitative and qualitative data lead to important questions to be answered through the TQM Tree Model and the implementation process:

1. How will the MOE, in practice, create and sustain the TQM culture within the Ministry?
2. How will the data about the implementation of TQM collected, how often and by whom?
3. How will staff's training be actually carried out?
4. What the mechanisms the MOE will use to evaluate the TQM implementation?

9.6 Conclusion

The data analysed in this chapter were gathered from three groups, top management, internal stakeholders and external stakeholders by two means; the questionnaire's open-ended questions and semi-structured interviews. A semiotic analysis was used to analyse the data collected. The analysis followed four main stages: familiarization and organization; translation; coding and recoding; and summarizing and interpreting. The

summary of the data analysis of the open-ended questions was displayed in tables according to the principles of the proposed TQM Tree Model; commitment to TQM, focus on stakeholders, involvement and empowerment, continuous improvement, training and education, tools and techniques, and rewards. This was followed by a discussion of the analysis supported by some quotations from the open-ended questions to illustrate key findings. The summary of the interviews was displayed in tables according to the three groups' general views, the possibilities of implementing TQM in the MOE, the obstacles that might face the implementation, how to overcome the obstacles, the implementation, facilitating factors, and the participants' aspirations. This was again followed by more detailed discussion supported by some quotations from the interviews.

The qualitative data results appeared to support the idea of the proposed TQM Tree Model, some issues emerged that need further consideration such as the clarity and demands of roles, training, evaluation and tools, resources, and communication.

In conclusion, in drawing up the implementation process for the TQM Tree Model, the researcher should take into consideration the issues that arose from both the quantitative data and qualitative data. Countering different perceptions regarding the existing management system and TQM implementation is an important issue. Moreover, reconstructing roles, perceptions and expectations of top management, internal stakeholders and external stakeholders is essential. In addition, clarity in ideas such as teamwork, training and continuous improvement must be highlighted. Furthermore, the role that rewards play in motivation and development should be practically considered.

In order to gather the views of the decision makers in the MOE as the possibilities of the TQM Tree Model and to get more information regarding the TQM Implementation, key personnel interviews were conducted. The next chapter, chapter ten, will discuss the key personnel interview analysis.

Chapter Ten- The Key Personnel Interview

10.1 Introduction

The main aim of the last part of the field work of this study was to explore the views of some key personnel in the MOE regarding the TQM Tree Model designed for the MOE in the Sultanate of Oman. Six key personnel with knowledge of policy and practice in the Central Headquarters were interviewed. These included one Under Secretary, one Director General, two experts and two consultants. All of the interviews were conducted face to face and notes were taken of the responses. These interviews lasted between 30 to 50 minutes.

In chapter eight, it was stated that stakeholders, internal and external, were consistent in some respects regarding their views on the principles underpinning the TQM Tree Model with minor variations in the emphasis. In chapter nine, it was also revealed that there were likely to be some variations in stakeholders' perceptions of the principles related to their positions. However, top management and decision makers have been considered by stakeholders as the most important group in supporting the implementation process of the TQM Tree Model.

Key personnel, key informant or elite interviewing is, as Holloway (1997, p.53) defines it:" *an interview with particularly powerful, wealthy or high status people"*. Generally, the key personnel interviews are very important as the interviewees are guides to insider understanding within an organization (Holloway, 1997, p.97). In this particular study, the purpose of these final interviews was to establish the degree to which those who influence policy and decisions in the Ministry of Education in Oman share the same perceptions as other stakeholders and to make sure that the TQM Tree Model is applicable to the MOE in Oman. It was also hoped that the key personnel would be able to indicate their perceptions of the facilitating factors that might help in the implementation and highlight any of the obstacles that might arise. Moreover, the interviews aimed to find out the interviewees' impressions of future trends in MOE development, since the majority has been involved to some degree in policy making at national level.

The interviewer started the interview with brief description of the TQM Tree Model and its principles (see appendix XII for the English version and appendix XIII for the Arabic version). Then the researcher asked the following main questions:

1. What do you think of the model?
2. Is it suitable for implementation in the MOE in Oman?
3. What are the facilitating factors that might help in the implementation?
4. What are the obstacles it might face?
5. Do you have any further comments?

10.2 The Interviewees' View toward the TQM Tree Model

When asked about their opinions regarding the TQM Tree Model, key personnel offered a mixture of responses supporting the model and indicating their agreement with it. All of the key personnel interviewed, perhaps with the exception of one, were well informed about TQM. They considered the model as a very influential one. They pointed out that there is a great need in the Ministry of Education in Oman to focus on quality as an integrated part of all of the processes. One of the interviewee stated that:

> *It is very important that we focus on quality in the MOE but it is very difficult. We will never achieve our aim without organizing our quality efforts into a well-planned approach such as the TQM Tree Model (Interviewee two).*

Another interviewee, who indicated a strong appreciation of the TQM Tree Model, criticized the nature of the process of dealing with quality in the MOE.

> *There are prominent efforts trying to improve quality in the MOE, most of which are regarded as unhelpful and unsatisfactory because of the way in which quality is treated as separate system in the Ministry (Interviewee one).*

This comment also addresses to some extent, the question of whether new thinking and perspectives on quality have made little impact beyond the theoretical plans. From the point of view of the interviewees, it was clear that, in both policy and practice, MOE is not a long way from quality. The idea is there as is the will and even considerable effort to achieve it, but there is a need for a well-organized and planned quality model. In general, however, key personnel responses also revealed that there are fairly significant high expectations of and confidence in the TQM Tree Model.

10.3 TQM Suitability for Application in the MOE in Oman

Regarding the suitability of the seven principles, all of the interviewees considered them important and essential for the development and improvement of the MOE. One of the interviewees agreed with these ideas and added a major comment:

> *It is hard to separate these principles out. I think they may all merge into one another to help the development. However, the commitment should not be only from the top management but from all of the participants (Interviewee one).*

This is exactly what the TQM Tree Model is trying to achieve. However, in order to implement TQM in the MOE the belief, the support and particularly the commitment of top management is essential. No doubt that the commitment of all of the stakeholders is essential but this can be achieved through their participation. When stakeholders participate in decision making, planning and implementation, they feel that this is their own work, their own production not something imposed on them from above, so they make a commitment. That is why the second principle of the TQM Tree Model is Focus on Stakeholders.

According to the interviewees, caring about stakeholders and trying to satisfy them is one of the MOE's priorities, there is also continuing encouragement of those who offer suggestions that help in development or decision-making. Moreover, as the interviewees clarified, there are serious efforts from the top management to enable everybody concerned in participating in the suggestion of ideas and decision making, whether at regional level or in the Ministry. Sometimes special committees are formed each specializing in certain matters to help in making everybody participate. One of the interviewees commented:

> *The MOE tries to allow everybody to participate in decision-making when the decision concerns everybody. However, when the decision relates to a particular work, only those members concerned with that work will participate in the decision-making (interview four).*

Although the MOE usually continues to review its policies and plans, there is still a need to make it a continuous process for all the work in the MOE and this is what most of the interviewees referred to. This reflects the idea of the importance and suitability of implementing the principle of continuous improvement in the MOE.

Therefore, comments of the interviewees indicated that this model is suitable for implementation in the MOE in Oman and it will establish an environment in which improvement and change are encouraged and nurtured.

10.4 The Facilitating Factors that Might Help in the Implementation of TQM Tree Model

Key personnel see that as top management have the most influence on policy and practice, their commitment is essential. This is in addition to the field acceptance which is a key issue in the success of any development. One of the interviewees pointed out:

> *The will is at the top of the facilitating factors. This will have to stem from the decision makers, since, if the implementation decision originates with stakeholders, the implementation will not take root and will certainly be discontinued. The idea of adopting TQM is great as long as it is understood by all participants (Interviewee six).*

A parallel idea with this and connected with the next area is the desire for learning and training. After having the commitment to adopt the TQM TreeModel, participants must have the desire to have training, and then training must be offered for all of the participants. One of the participants commented that;

> *It is not enough only to have the will to adopt TQM but what is more important is to have the will to be trained on what TQM is and how to implement it. Moreover, TQM training must be for all of the participants whether decision makers or stakeholders (Interviewee five).*

There was a general agreement that training is considered an important facilitating factor. One of the key personnel contended that: *"TQM Tree Model will be very difficult to be implemented without formal training for all of the participants." (Interviewee three)*

In addition to training, the interviewees stated that it is also important to spread the TQM culture and its main ideas and philosophy such as accountability, clarity of vision and mission and to learn from the previous experiences and avoid mistakes.

Similar to what top management and stakeholders mentioned in the interviews discussed in chapter nine, key personnel think that time management is a supportive factor for implementing TQM and they found that many projects may fail because of poor time management.

Communication between different departments or directorates and within the department or the directorate is also an important facilitating factor. It makes the information flow smoothly and the work isachieved accurately and within the specified time.

10.5 The Obstacles that Might Face the Implementation of the TQM Tree Model

Some of the interviewees think that the distinct nature of the management system in the Central Headquarters in relation to the centralization associated with weak communication had caused some confusion for the Regional Directorates. As one of the interviewee pointed out:

> *I think probably because of the centralization of the MOE's Central Headquarters and the fact that most of the resources are focused in the Central Headquarters rather than distributed among the Regional Directorates (Interviewee three).*

This view was also supported by another participant who stated that although there is a high amount of authority delegated to the regions, the centralization of many areas is still causing a main barrier to development and change.

Associated with the obstacles of centralization and weak communication, the problem of mistranslating policy and guidelines into practice is another obstacle. An interviewee explained the failure of some of the development projects said that:

> *One reason why this may have occurred is that in order to set targets within a development project, staff responsible need to be able to monitor and implement the short and long term targets of the project where there are large numbers of targets related to the region. Many responsible people in regions may have found it easier ignore the targets of the project and focus on the day to day needs to maximize support to their region and increase the chance of its development. (Interviewee two)*

The identified responsibilities were also thought to be vague and complex by one of the interviewees who felt that these responsibilities need to be clearly identified. This interviewee pointed out:

> *Unclear responsibilities identification cause many problems and form a barrier at the beginning of a development. For example, the Director General and the deputy can have the same responsibilities. Both can attend the same meeting but nevertheless miss another because both were busy doing the same job at the same time (Interviewee four).*

The key personnel as a whole agreed that finance might form a barrier in front of the development. One of them felt that part of the budget problem arose from contradictions between how funding is allocated for development projects and how it is actually spent. She also added her concerns that many projects were lacking in planning or had no clear budget vision.

> *Every improvement faces obstacles, which may be serious or easy to be solved. However, at MOE one of the main obstacles that face some ambitious projects is the lack of funds. Sometimes these projects can be implemented within a limited budget if those behind them have high aspirations and patience. (Interviewee one).*

Key personnel criticized highly complex issues in development implementation. This was mainly the result of poor training, lack of staff development and awareness rising. If the people responsible for implementation are not qualified or well-trained, surely they will not be able to implement the TQM successfully.

10.6 Further Comments and Future Trends

It can be noticed that all of the interviewee' responses reflect their positive attitude towards the TQM Tree Model and its suitability for implementation in the MOE Central Headquarters in Oman. Their comments on facilitating factors and obstacles will help in the implementation process. Thus in order to do more investigation about their understanding of quality and what are their future trends, the participants were asked the last question simply "do you have any further comments?".

The responses to this question formed a summary of what was discussed in the previous four questions where the participants tried to summarise their opinions. In general the model is not only acceptable but the key personnel feel that there is a need for it. This is partly because of a willingness to pursue this but further, the experience of non-planned efforts to try and achieve quality which have not had the desired outcomes had led to the view that alternatives are needed. There is a confidence in and expectations of TQM Tree Model. One of the interviewee commented;

> *Using TQM in the Ministry of Education will give a chance to unify the scattered efforts of improvement in the different directorates in the Central Headquarters and the Regional Directorates. It might also create an environment for creativity and continuous improvement. I think the Ministry should start quickly adopting this model (Interviewee two).*

10.7 Summary of the quantitative, qualitative and the key personnel interviews results

The prominent issues arising from this research can be summed up as follows:

10.7.1 Commitment toward TQM

The quantitative results revealed that the three groups of the sample agreed that commitment toward TQM would help MOE to improve and reduce the problems. Although there were some significant differences between the three groups regarding this principle, this might due to the different roles they play and the different levels of power and responsibilities they have of the MOE. A critical question then will be the building of commitment toward TQM across all groups.

10.7.2 Focus on Stakeholders

The quantitative results regarding the focus on stakeholders indicated that there was a general agreement about the importance of considering the needs and attitudes of the stakeholders. The results also showed significant differences between the three groups regarding the items that related to the role of stakeholders in the development. This reflects the hesitation in the MOE in taking this major change of practices. Consequently, there is a serious need to now consider and plan for an increase in focusing on stakeholders in the development.

10.7.3 Continuous improvement

The quantitative data regarding the matter of continuous improvement revealed that there is a general agreement about the MOE's need for continuous improvement. Although there are some significant differences in detail between the three groups, the need for continuous improvement as a principle was agreed though this top management is stronger in their support than internal stakeholders. Part of the task will be to develop an understanding of what continuous improvement means to all involved and the implications for their practice and how they can support this.

10.7.4 Involvement and Empowerment

The quantitative data revealed that there is a general agreement that the MOE has to enable its staff members to participate more actively in achieving development aims. There are some other issues arising from the analysis such as the high degree of uncertainty expressed about the emphasis on teamwork. This point should be put into consideration in

planning the implementation steps to support team development. The importance of the participation of all stakeholders will be something that will need to be constantly highlighted.

10.7.5 Training and Education

The quantitative responses to this principle indicated a general agreement about the importance of training. However, there is some disagreement with regard to equality of access to training for all of the staff. There is also some uncertainty about some other statements which indicate the confusion about issues related to training and education. Consequently, attention should be paid to training, education and responsibilities identification for all staff.

10.7.6 Tools and Techniques

The quantitative findings regarding the use of quality tools and techniques showed that all of the participants agree that using quality tools is essential for the MOE's planning and measuring development. There is also some uncertainty which may be due to the confusion in using quality tools recently. This must be considered in planning the use of quality tools and techniques in MOE development.

10.7.7 Rewards

This principle has complete agreement from the whole sample. They agree that a reward system is important in the MOE development. They also agree about the clarity of the reward system and its relationship to the staff's needs. Therefore, a strategy related to rewards will need to be developed as part of the implementation process. However, what these rewards are to be will still need to be considered.

The following chart shows the quantitative and qualitative data results and their importance in designing the TQM Tree Model and its implementation steps.

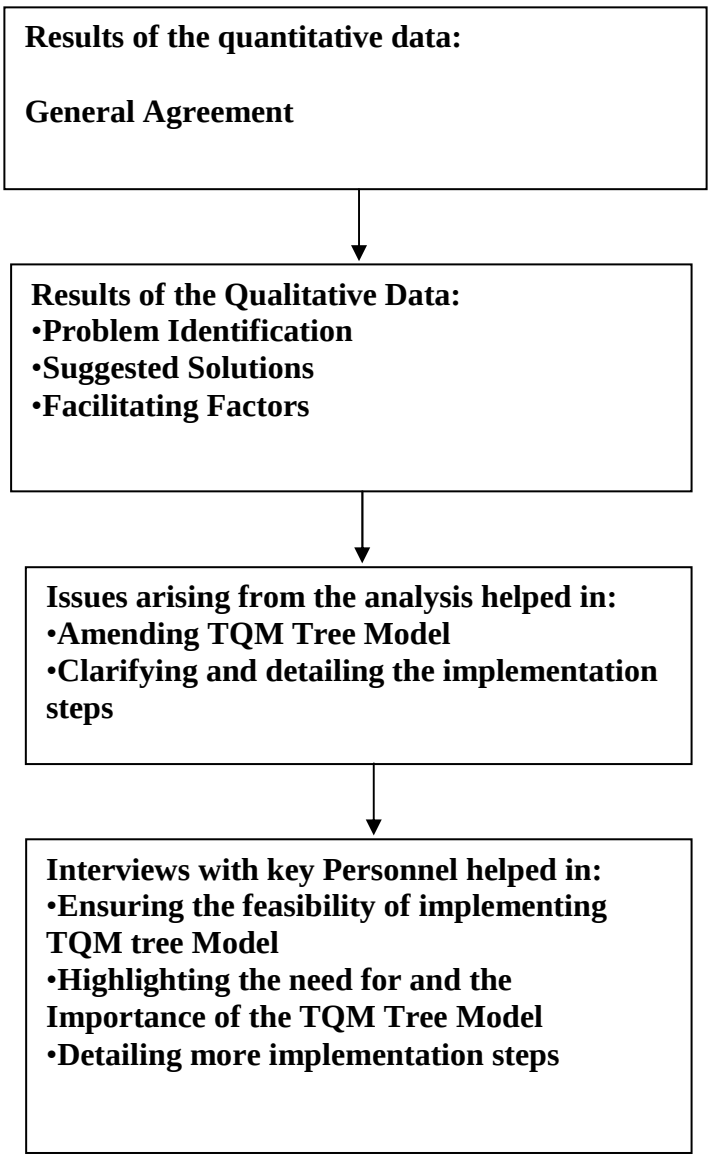

Figure 10.1 Influence on TQM Tree Model

10.8 Conclusion

This chapter discussed the analysis of the interviews with six key personnel with knowledge of policy and practice in the Central Headquarters in the MOE regarding the TQM Tree Model. These included one Under Secretary, one Director General, two experts and two consultants. Their responses were predominantly positive. Their attitude towards the proposed TQM Tree Model implementation reflected their sense of needing such a model to develop the MOE Central Headquarters and to reorganize its scattered quality efforts. They highlighted some issues such as needing a systematic approach, communication, involvement in decision making, training, funds and clarification of responsibilities.

The quantitative and qualitative data along with the key personnel interviews points to the feasibility of implementing the TQM Tree Model in the MOE in Oman. Moreover, these respondents provide some information that will help to modify the TQM Tree Model and its implementation framework. For example, the importance of budget as a critical issue in developing the Ministry was emphasized. In addition, the teamwork and communication were highlighted as essential for supporting the TQM implementation. Thus using this last set of data the final chapter discusses the final TQM Tree Model and its implementation framework. In addition, chapter eleven includes some recommendations for education development, for implementing TQM in the MOE and for further research and studies.

Chapter Eleven- TQM Tree Model, its Implementation Framework and Recommendations

11.1 Introduction

As has been emphasised throughout this thesis the main concern has been with developing the Ministry of Education in Oman through implementing Total Quality Management. Chapter one pointed out the internal and external challenges that face the Ministry of Education. Chapter two gave a clear view of the Sultanate of Oman's location, climate economy, economic planning, employment, population, language and religion, and international relationships, and how these affect education and point to the need to bring about fundamental change. The third chapter described the educational system in the Sultanate of Oman with a discussion of the educational development. Chapter three concluded with a discussion of the pilot study, which highlighted the existing issues in the MOE. Then, chapter four reviewed the change management literature to find out a possible change management approach to develop the Ministry of Education to be able to face the internal and external challenges; to play its roles properly and to solve the existing issues. TQM, it was argued, provided a possible approach for the MOE Central Headquarters.

After reviewing the TQM literature in chapter five and TQM in education in chapter six, the researcher proposed a TQM model that might be suitable for the MOE structure and might solve the existing issues that arose from the pilot study. Then, the feasibility of implementing TQM in the MOE was examined through a questionnaire with both closed and open-ended questions. This was followed by interviews with different levels of staff in the Ministry of Education; top management, internal stakeholders and external stakeholders. The main aim of the interviews was to gain more information about the obstacles and the facilitating factors that might face TQM implementation. Chapter seven is a description of the thesis' methodology. The quantitative data was discussed in chapter eight and the qualitative data was discussed in chapter nine. After that, key personnel interviews were carried out to explore the views of some decision makers in the MOE regarding the TQM Tree Model designed for the MOE Central Headquarters in the Sultanate of Oman. Moreover, the key personnel interviews were conducted to gather the views of the decision makers as to the possibilities of the TQM model and gain some more information for the implementation framework.

Before discussing the implementation framework of TQM Tree Model, this chapter begins with a brief discussion of the most prominent issues that have emerged from the data analysis and how they have helped in amending the TQM Tree Model. Then a detailed framework for the implementation of the TQM Tree Model is discussed. This will be followed by some discussion of the limitations of this study. The chapter concludes with some broad recommendations for developing education in Oman, recommendations for the Ministry of Education in Oman and finally recommendations for further research and studies.

11.2 TQM Tree Model

Why should the TQM Tree Model be adopted in the MOE Central Headquarters? The answer is because the MOE believes in quality and needs such a model to reorganize its quality efforts. The results of this study revealed that there are aspirations in the MOE for quality and one of the key personnel states:

> *"It is very important that we focus on quality in the MOE but it is very difficult. We will never achieve our aim without organizing our quality efforts into a well-planned approach such as the TQM Tree Model".*

Moreover, TQM Tree Model is an important means to tackle the existing issues such as the lack of training, weak communication and the lack of constancy of purpose. In addition, the TQM Tree Model in the MOE Central Headquarters is a means of addressing the internal and external challenges discussed in chapter one; globalization, advancement of knowledge, population growth, finance and remote areas. Additionally, the TQM Tree Model in the MOE Central Headquarters is important to plant the culture for development. The TQM Tree Model generated from this research is a comprehensive model to improve the effectiveness and the flexibility of the MOE Central Headquarters through planning, reorganizing and understanding its processes and involving all staff in all levels. The TQM Tree Model and its implementation framework would ensure that top management adopts the model, focuses on prevention rather than detection of the problems and making decisions that are based on facts.

Furthermore, the issues and the results from the analysis of both quantitative and qualitative data lead to important questions, as shown in chapter nine, to be answered through the TQM Tree Model and its implementation framework. These questions are:

1. How will the MOE, in practice, create and sustain the TQM culture within the Ministry?
2. How will the data about the implementation of TQM collected, how often and by whom?
3. How will the staff's training be actually carried?
4. What the mechanisms will the MOE will use to evaluate the TQM implementation?

Reviewing the results of the quantitative and qualitative data, and the key personnel interviews shows that there is a general agreement from the three groups; the top management, the internal stakeholders and the external stakeholders regarding the implementation of the TQM Tree Model in the MOE, there are also though some concerns that should be taking into consideration. From the research it is argued that these concerns can be solved through the TQM Tree Model which has been developed specifically for the context of the MOE by including three facilitating factors. These facilitating factors should be added to the TQM Tree Model as roots to both support and feed the seven branches and principles. The three roots are; teamwork, budget and communication.

11.2.1 Teamwork

Murgatroyd and Morgan (1993, p.142) claim that there are three main reasons for seeking the development of teamwork for implementing TQM in an educational organization. They state that teams are more powerful learning entities than individuals seeking to learn on their own. Moreover, teams are self managing; they are able to determine their own goals and ways of working. Teams also can examine cross-functional issues more effectively than individuals acting on their own initiative. They also highlight a prominent benefit behind using teamwork in a TQM educational organization; the TQM process does not belong to any particular individual: it has to belong to the whole organization and to groups within it as it is based on involvement of all stakeholders. Sallis (1993, p.91) argues for the importance of teamwork in providing educational institutions with a strong platform from which to build a TQM culture. Furthermore, one of the reasons behind the success of the TQM implementation in the Bradford Management Centre was the people's willingness and the ability to work together effectively. The use of teamwork during the implementation of TQM in the Ministry of Education in Oman is therefore of major importance.

Teamwork among the staff of the MOE is a unifying force in ensuring the success of the TQM Tree Model. Teamwork is present when there is total cooperation, total

empowerment and total commitment and from the research this has emerged as a key issue in the MOE Central Headquarters. The results of the data analysis in this study revealed that there is weak cooperation and an atmosphere full of competition and low sense of teamwork. Thus, teamwork will tackle more easily and effectively the problems which cross directorate and departmental boundaries through exchanging ideas and information. It will also enhance the level of job satisfaction and morale of staff as they are given the chance to solve problems together. Moreover, teamwork will likely improve the communication within directorates and between the directorates

11.2.2 Budget

Although the TQM gurus do not use the word budget as a main issue in TQM implementation they do state the importance of the quality cost and the provision of the needed resources. In the data analysis of this study the financial supplement and the provision of needed resources for change implementation were highlighted. Moreover, the data analysis revealed that planning a suitable budget for TQM implementation is essential. Stakeholders highlighted issues about some ambitious projects that in the past had been delayed or stopped because of the lack of funds. Thus having an adequate budget for supporting TQM implementation and to cover the expenses of the training, materials preparation, site visits and hiring TQM experts is essential.

11.2.3 Communication

Most of the TQM literature stresses the importance of communication in TQM implementation. In addition, the data from this study revealed that there are various problems in the MOE due to the lack of communication particularly given the complex nature of its task in administering education nationally. Oakland (1995, p.29) points out that communication is a necessary means to eliminate barriers around departments in an organisation. Improving communication in the MOE Central Headquarters will probably help in tackling the issues that arose from weak communication such as the misunderstanding of some projects' objectives or delay in the flow of information within and between directorates. Moreover, effective communication will help in implementing the TQM Tree Model in the MOE Central Headquarters.

After discussing the importance of adding the three roots; teamwork, budget and communication to the TQM Tree Model, the TQM Tree Model will be in its final version as shown in figure (11.1)

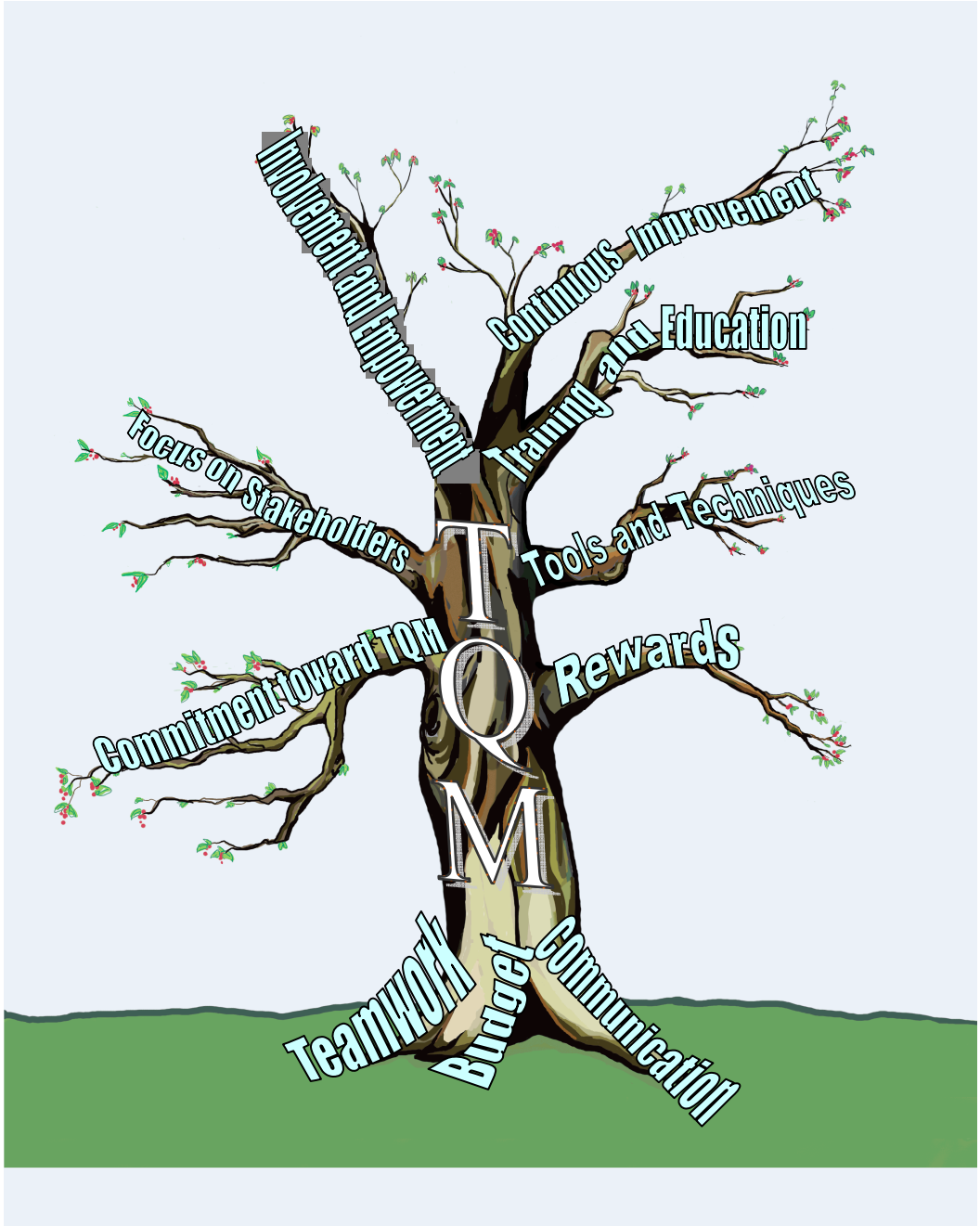

Figure 11.1 TQM Tree Model

11.3 TQM Tree Model Implementation Framework

Most TQM research agrees that the most difficult thing about applying TQM is the implementation process because of the need for all stakeholders to be actively involved. Therefore, all MOE staff, starting with the top management, needs to accept a fundamental change and commit to it. The survey of TQM literature, chapter five, revealed that the TQM gurus provided only guidelines and did not offer a specific framework for implementing the TQM principles. Moreover, the literature review of TQM in education, chapter six, showed that there is no one model or specific framework for implementing

TQM in educational organizations. Thus the TQM Tree Model's implementation framework generated in this research aims at making the TQM Tree Model meaningful within the MOE Central Headquarters context and translating the model into working actions. Moreover, the framework means to incorporate many initiatives that address the TQM Tree Model principles in a way that helps to nurture a willingness to develop and create positive attitudes. This is to with the help of combining some ideas of change management theories and the TQM literature review. In addition, the framework tries to tackle the issues that arose from the quantitative and qualitative data and the key personnel interviews. Moreover, the framework considers the suggested solutions and facilitating factors from the participants.

When considering the stages of implementing the TQM Tree Model in the MOE Central Headquarters, five stages could be suggested (figure 11.2) as follows:

11.3.1 Stage One: The Decision

In this stage the top management has to decide that the MOE Central Headquarters will implement TQM. Then it has to commit to the implementation. All successful TQM implementations revealed from the case studies in the literature review (chapter six) require substantive top management commitment. Top management must commit to the implementation, not only be ready to implement and support the change but also be ready to implement changes proposed by their staff and also be willing to delegate authority to improve quality and stakeholders satisfaction. This can be achieved through a deep understanding of all key ideas contained in the TQM Tree Model. This emerged as important in the final element of the research with the executive decision-makers. As one of the key personnel stated

> *The TQM Implementation will have to stem from the decision makers, since, if the implementation decision originates with stakeholders, the implementation will not take root and will certainly discontinued. The idea of adopting TQM is great as long as it is understood by all participants.*

The Implementation of TQM as Fullan (1993) argues is about introducing a new mindset about educational change rather than introducing innovation. External consultants can be used to train and raise the top management's enthusiasm for TQM. In addition, the top management can perform benchmarking. This should take the form of reading, discussion and site visits to similar organizations that have adopted TQM. This stage could be

considered like the unfreezing level in the three step model. It focuses on highlighting the issue that the existing practices are no longer effective and stressing the importance of TQM. This might help in widening the top management's vision about TQM – the current position of the MOE Central Headquarters and where it should be. Moreover, it could help in developing the mission quality. Throughout the implementation, His Excellency the Minister and the Undersecretaries should give emphasis to quality in official speeches and meetings. In the interviews, one of the participant groups points out that an existing issue in the Ministry of Education is that the top management support the change projects only at the beginning and then switch to another change project.

After that, the vision which reflects the desired state that the MOE Central Headquarters seek is determined. Moreover, the mission which represents the discrete objectives allied to vision is also determined. At this stage, the top management has to make concrete actions such as formulating a quality policy. The quality policy which includes the vision and mission is the statement on the directions and the quality aims to be achieved by the MOE Central Headquarters. The quality policy also connects the MOE's existing vision and mission with the Total Quality Management Tree Model. Quality was a central issue from the research.

It was revealed from the data analysis that some prominent quality efforts failed because they were treated as a separate system in the Ministry. The results also revealed that many problems related to the ambiguity of the development purpose. The quality policy functions as a main guide as well as a general reference for the MOE. Thus the quality policy should be clearly defined and be easily understood so as not to cause any confusion among implementers. To avoid some of the problems revealed from the data analysis; such as misunderstanding of the change purpose, the quality policy has to be communicated as widely as possible throughout the whole ministry. The quality policy should focus on three main big issues: the aims, the requirements and the ways to attain them. It could be something like the one in the table below.

Table 11.1 MOE Quality Policy

The Aims	The Requirements	The ways of Achievement
• The MOE Central Headquarters	• Top management commitment.	• Continuous improvement. • Training and

Implement TQM Tree Model. • The MOE Central Headquarters focus on both internal and external stakeholders' needs and expectations. • The MOE Central Headquarters solve the existing problems. • The MOE Central Headquarters replacing problem detection by problem prevention strategy.	• Total involvement of all employees. • Using TQM tools and techniques to collect data. • Establishment of reward system. • Provision of suitable budget. • Accurate time management. • Patience.	education. • Teamwork. • Effective communication • Clear and systematic planning. • Decisions based on data

Furthermore, to implement a change management model, such as the TQM Tree Model, the MOE requires some organizational change. In order to have continual improvement in the MOE Central Headquarters in the Sultanate of Oman, there must be a quality management structure. This study revealed that there is no responsible body in the Ministry to coordinate the various quality efforts. Moreover, again the research revealed that some projects are supervised by various directorates which cause contradictions and confusion to the implementers. From the conclusions of this research it is proposed that a TQM Directorate attached to His Excellency the Minister's office to be responsible for implementing the TQM Tree Model through a well defined framework. The TQM Directorate would work as a quality council and it would aim to facilitate the development and institutionalization of the MOE's Total Quality Management process infrastructure. Its main aim is to ensure that the quality policy is understood and implemented. One of the issues from the research was a need for co-ordination and so the TQM Directorate is responsible for establishing a system of stakeholders' feedback and involvement, coordinating the benchmark process, soliciting problems for study and improvement, establishing quality improvement teams and coordinating the inclusion of quality

improvement goals into development plans. At this stage, the TQM Directorate must be established with clearly defined roles and responsibilities. The TQM Directorate ensures the reconciling of line management at an adequate degree of flexibility and more local decision making.

From the outcomes of this study it is recommended that the quality directorate takes the form shown in figure (11. 3). The quality directorate consists of:

1. **Planning committee**. This committee is responsible for planning quality improvement efforts for the whole MOE Central Headquarters. Its main role is to drive and support the TQM plans. It creates the ideas and initiates the plans. It must have representatives from the top management to provide more support.
2. **Evaluation committee**. This committee is responsible for determining the strategy and techniques of implementing and evaluating the quality plans.
3. **Continuous Improvement Committee** which works with the quality teams through a facilitator. This committee focuses on the stakeholders' satisfactions and following up the quality practices. It also provides feedback to the quality teams through the facilitator. Moreover, this committee ensures that the plans are continuously updated and evaluated by the planning and evaluation committees. It is also responsible for co-ordinating and monitoring the quality implementation plans and assigning the adequate budget.
4. **Quality Teams**. There should be a quality team in every Central Headquarters directorate and regional directorate. The heads of the departments should be members in the quality teams. The Directors Generals should be the heads of the teams for additional support. Quality teams are selected groups of internal and external stakeholders who are concerned about the implementation plans. The formulation of quality teams should be flexible. This means that when TQM plans change, quality teams might change according to the responsibilities and the qualifications necessary to achieve the plans. This is as the data from this study revealed, there is a need to a flexible organizational structure. These teams receive intensive training on TQM. These teams are responsible for monitoring the progress of quality plans implementation. They also should be responsible for solving existing and emerging issues. This is in addition to their main role which is providing training and guidance to the rest of the quality plans implementers. These teams should solve the problems that arose from the data analysis which are related to communication.
5. **Quality facilitator**. The Quality facilitator should be an experienced, top manager and risk-taker. In addition, the facilitator should also be the chairman of the continuous improvement committee. The facilitator should be responsible for coordinating the quality plans implemented by the quality teams. The facilitator also must assist, lead and guide quality teams in discovering new ways to solve issues.

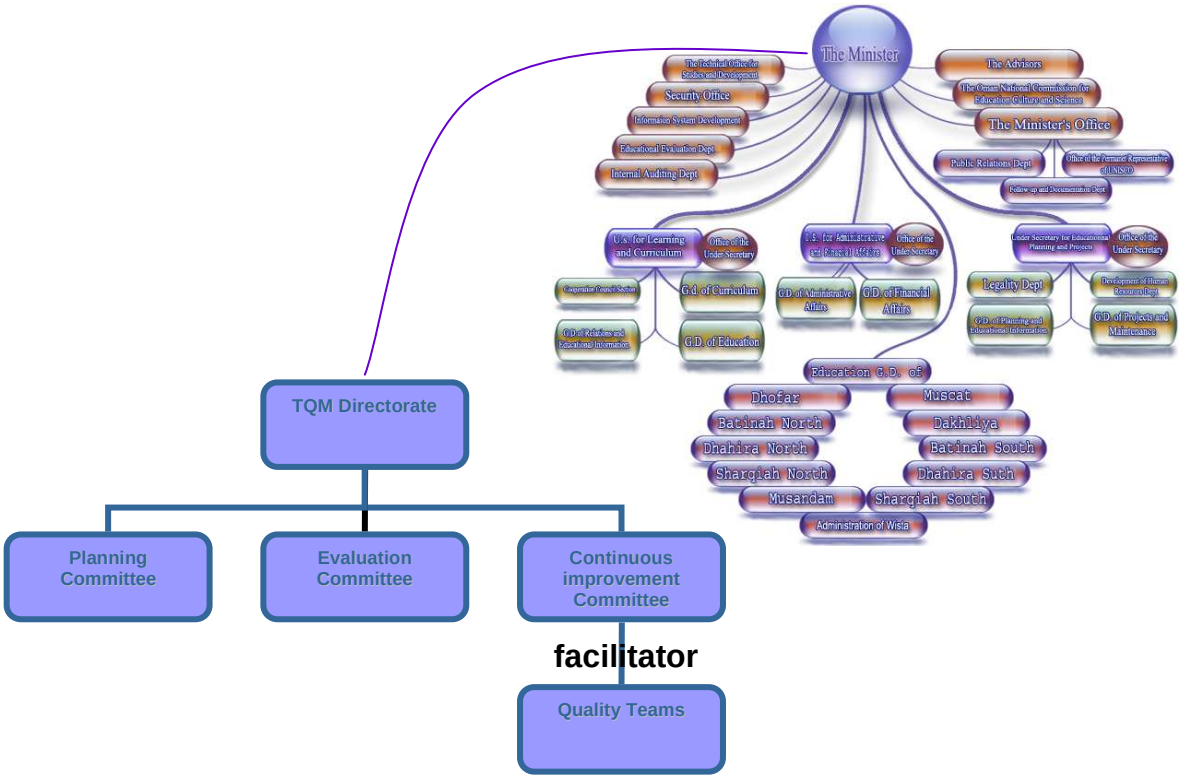

Figure 11.2 The Proposed TQM Directorate

11.3.2 Stage Two: Preparation

A key issue emerging from the research was that of training and development. The data indicated that training provision was not coherent or related specifically to the work of the MOE. At this stage, education and training is provided for all TQM Directorate members and special intensive training for the quality teams by experts in TQM. Education and training is one of the main principles of TQM Tree Model. It is a prerequisite towards achieving the success of the TQM implementation. This is because the TQM implementation requires the support of the skilled and well-trained implementers. Moreover, an understanding of the TQM will increase the commitment of the implementers and reduce opposition to the changes brought about by the implementation.

At this stage, the TQM Directorate should identify and collect information about the main areas where improvement will have most impact on MOE Central Headquarters' performance. The data from this study revealed that there is a gap between planning and the improvement needs. Thus, the plans should be based on the surveys of existing issues. The planning committee prepares the basic plan for the improvement of all the Central Headquarters' directorates. At this stage, stakeholders' needs and expectations must be identified (internal and external) by conducting a stakeholder survey. Again this was an issue that came out in the research where it was reported that this was not conducted

consistently. This should be carried out by the continuous improvement committee. This should make the decisions more realistic and based on data collected from the field. In addition, specifying the objectives and goals is essential in this point. This is an integration of stakeholders' expectations with the translation of the quality policy formulated in the first stage. Then the evaluation committee should use the information provided by the planning committee to develop a more detailed action plan with a description of the needed tools and techniques. The aim of collecting the stakeholders' survey at this stage is to make sure that the plans are going to meet their needs and solve the existing issues rather than having some plans that are not suitable for the MOE Central Headquarters. This should help in solving the problem of unrealistic decisions and plans which was revealed from the data analysis.

Finally and before moving towards implementation, a documented implementation plan is designed. At this stage, the total involvement of all MOE staff at all level is essential. This is because TQM can only progress when it involves every employee in the MOE Central Headquarters. Some of the data indicated that for stakeholders this was not always the case. With every employee sharing in designing and deciding about the implementation plan, their attitude will be more positive toward the plan and its implementation. This is in addition to ensuring the cooperation and empowerment of all levels as a team. This would possibly lead to inspiring confidence among internal and external stakeholders toward TQM and increase their commitment. This stage of TQM implementation is similar to the double-loop learning of Argyris and Schon (1996), it includes change in values besides change in strategies.

In order to design the implementation plan, it should be integrated into the strategy of the MOE. One of the TQM Directorate's responsibilities is to ensure the consistency of the TQM plan with the MOE objectives and strategy. Again the data analysis revealed that one of the reasons behind the failure of quality efforts in the MOE is due to treating it as a separate system. In planning, integrating the TQM into the strategy of the MOE Central Headquarters ensures its consistency with the MOE Central Headquarters' objectives, the and Ministry will avoid the problem that makes stakeholders unsure about the new approach which they consider as extra work, which were key findings from the data analysis in this research. In the documented plan, there must be a comprehensive training plan which makes the roles for employees involved in the TQM implementation clear. Moreover, it includes concrete actions to overcome the barriers to quality improvements.

The data analysis of this study revealed that training in the MOE is unsystematic and sometimes does not meet the trainees' needs and responsibilities. Thus, the training plan must be systematic and in line with the quality policy. It should follow the following steps:

1. Outline training objectives. All implementers need knowledge of some basic tools including teamwork, evaluation methods, problem-solving, collecting data and decision making techniques. These are connected to the content of the training and will be used to evaluate the training.
2. Formulate and organize the training program. This should include the content of the training. For example, it includes the key elements of TQM Tree Model, the need for its implication, the areas for improvement, the quality tools and techniques and the roles of the implementers and the need for their commitment. It should also identify the timing and the place of training.
3. Assign specific training roles to specific members of the quality teams.
4. Organize materials within the suitable available budget.
5. Evaluate the effectiveness of training by checking the achievements of the objectives and the opinions of the trainees.

As the TQM Tree Model includes continuous improvement as a main principle, training must be an on-going process to ensure that the implementers are well-qualified to carry on the change.

As the implementation of TQM in the MOE Central Headquarters will result in changes in the existing work processes, some conflicts, tensions or confusion might happen. In order to overcome this, the plan must be flexible enough to adapt to any emerging issues. The plan should be comprehensive in nature. In the documented plan, quality standards against the identified objectives are set and measures to ensure compliance with the objectives are established. Moreover, the training program and materials are specified.

Involvement of stakeholders and the linking of different aspects of the organisation were key issues from the research where there was reported by some a feeling of not being fully involved. Every quality team should formulate a quality vision for their Directorate within the wider vision of the MOE Central Headquarters. This is to ensure less centralization in the implementation and an increase of the involvement and empowerment of the stakeholders as suggested in the data analysis. It is essential in this stage to point out that staff empowerment begins when the vision and the goals have already been set by top management (Murgatroyd and Morgan, 1993, p.121). The directorate's vision should reflect the aspirations and the general direction that will ensure the success of the

directorate and the MOE central Headquarters and the whole ministry. Every member of the directorate should share in the formulation of the vision. According to the vision they start to formulate objectives and action plans. They should also establish a daily management system. They should make use of the TQM tools such as the Quality Function Deployment, the Deming Cycle, the check sheet, the fish bone or the Pareto analysis. Training on these should be included in the training plan.

11.3.3 Stage Three: Implementation

This could be considered the critical stage of the implementation framework. Again drawing from the research it is proposed that the following steps must be followed:

- The data analysis revealed that the existing training is not systematic and it is not fair for all staff. Thus, after educating and training the top management and the TQM Directorate members, education and training of all implementers is necessary. The training should be carried by the quality teams who should encourage the implementers to start implementing TQM and design their own plans in their own directorates with the help of the quality teams and the other TQM Directorate members as needed. Without providing adequate training to all levels, implementers will not be empowered to implement the TQM Tree Model and the implementation might fail as some program did as revealed from the data analysis. As TQM can only progress when it involves every employee in the ministry, the top management must inspire quality confidence among employees and assign clear roles and responsibilities to them. To inspire all levels to implement TQM, they must have clear understanding of what TQM is. As revealed from the data analysis in this study, many change project in the MOE failed because there were misunderstandings or were not about clear purpose of the change. The clarification of the TQM Tree Model implementation should always be considered throughout the implementation by reviewing the quality policy and the implementation objectives. This can be achieved through having sufficient training and an emphasis on quality's importance in official speeches, meetings and workshops. In assigning clear roles and responsibilities, implementers should be informed about the limits of their responsibilities so that there is no confusion over the issue of who should do what. As revealed from the data analysis of this study, there is existing overlapping of responsibilities in the MOE Central Headquarters. Making all responsibilities clear should likely solve this problem and the related ones.
- Communication emerged as an important issue from the data gathered. In implementing TQM, it is imperative that there is a wide sharing of information and knowledge among all of the implementers. Effective communication plays an essential role in the success of the implementation. This can be done through newsletters, reports and regular meetings. The types of information that need to be communicated effectively include: the roles and activities of the Quality Directorate's

committees, the Quality Teams' roles and efforts and the regular achievements reports.

- One of the issues that emerged was the view that developments were begun but not planned or completed. Therefore it is recommended that a detailed schedule be drawn up for all the activities and their related actions, including what exactly will be done, by whom and what and the methodology to be used (tools and techniques).
- Again related to previous developments, one of the issues to emerge was the lack of focus on quality. Therefore it would be important to establish measurements, criteria and quality indicators; through which errors made by employees can be eliminated.

11.3.4 Stage Four: Evaluation and Rewards

In this stage the implementation plans are evaluated by the evaluation committee through accurate tools according to the quality standards and the responsibilities assigned to different quality teams. This step focuses on data collection and the achievement of the quality policy objectives in general and plan objectives in specific. At this stage, it is important to obtain information about successes and weaknesses. This will help to review the achievements and obtain better understanding about the requirements for the continuous improvement. The problems and obstacles are identified. After that, problems are reviewed to be solved and success is rewarded. As the TQM gurus point out, both monetary and non-monetary rewards are important for helping staff to improve the work because they know it will directly affect them. This is also was revealed from the data analysis.

The MOE Central Headquarters should establish an appropriate reward system in accordance with its needs. Although all of the participants agreed that rewards are very important in job satisfaction, none of them defined what rewards mean to them. As revealed from the data analysis the existing reward procedure is not clear to everyone and it is thought to be not fair. There must be clear criteria for rewards and these criteria should be known to all staff members. Rewards should be given in various forms, monetary or non-monetary. They can take a form of a letter of appreciation, additional leave, and opportunity to attend training course, some money, gifts, prizes or whatever the implementers will appreciate.

The summary of the achievement and the celebration of the success can be held in a specific day at the end of the first year of implementation and can be held annually afterwards. It can be called the quality day. On this day, it is important that everyone gets

feedback on success and prominent quality efforts should be rewarded. This quality day could also be an opportunity to strengthen the quality values in the ministry. It could also be a good chance to exchange ideas between directorates as each directorate can present their experiences with TQM and its journey's obstacles and successes. Successfully motivated implementers will encourage others to pursue the same route.

11.3.5 Stage Five: Continuous Improvement

The data from the study suggested that change programmes were neither coherent nor sustained over a period of time. Participants indicated that projects were not completed. At this stage the successful processes are repeated and the obstacles are avoided. The whole programme is assessed and evaluated. The scheme of continuous planning and evaluation is a very important aspect at this stage. This allows the continuous improvement to become a basic operating concept of the MOE Central Headquarters. This un-ending process of improvement will help in narrowing the gap between the current situation and the proposed one. Moreover, the TQM directorate should be refocusing and reinvigorating the quality principles actions. The data analysis showed that many of the improvement programmes did not provide regular feed back or regular evaluation so it failed and stopped.

These five stages of the TQM Tree Model implementation framework place emphasis on the seven principles of the TQM Tree Model: commitment toward TQM, focus on stakeholders, continuous improvement, involvement and empowerment, training and education, tools and techniques, and rewards. These are in addition to the three facilitating roots: teamwork, budget and communication.

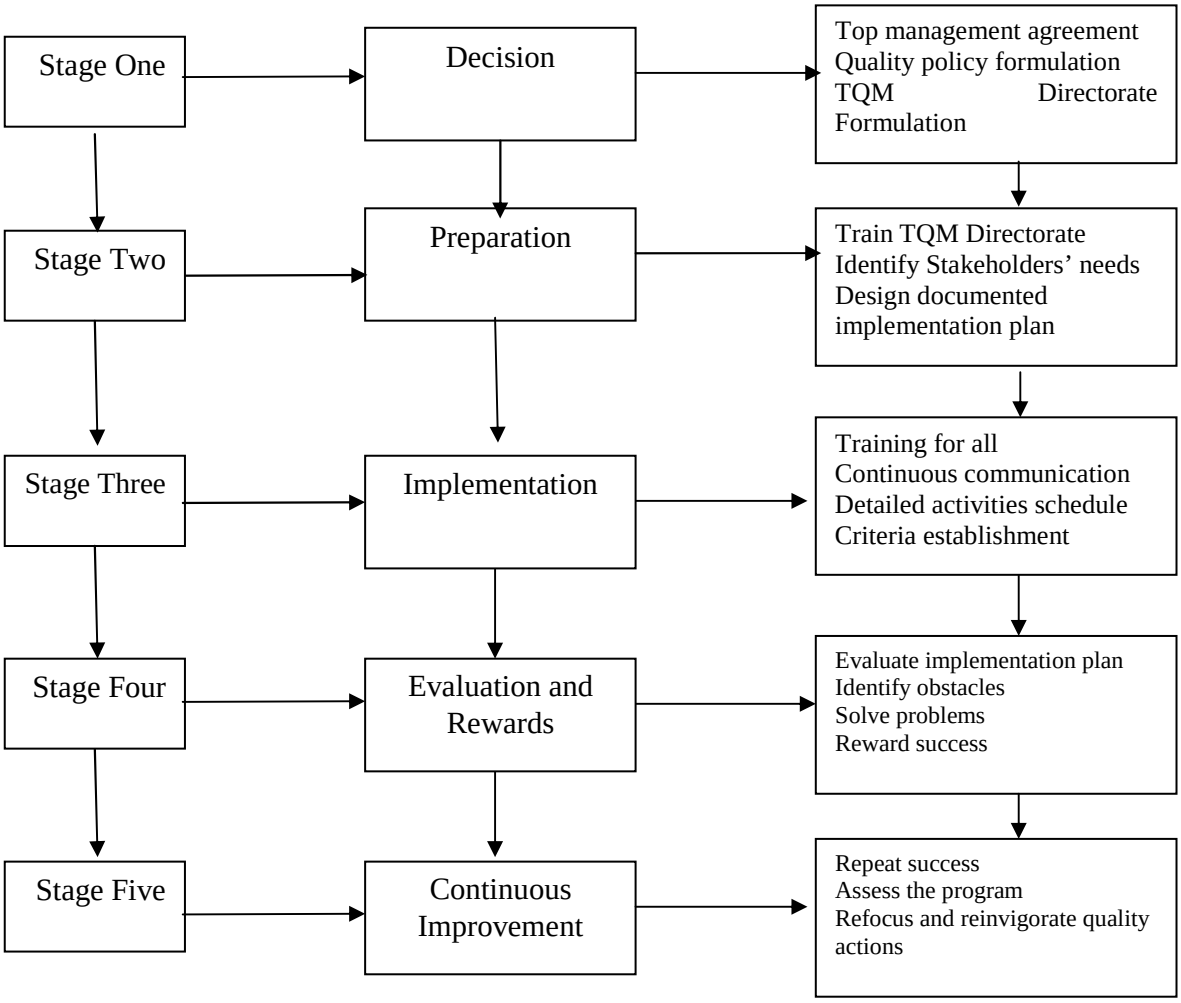

Figure 11.3 TQM Tree Model Implementation Framework

11.3.6 Limitations of the study

This was a ground-breaking study into the development of education system in Oman. It is not only investigated the feasibility of implementing a change management approach which is Total Quality Management but also how to implement it according to the TQM literature review with the respect of the existing issues that arose from the pilot study, the data analysis of the main study and the suggestions of the participants. There are of course, some limitations.

One major limitation to this study is that it was carried out only in the Sultanate of Oman, though this is in some ways a strength as it has allowed the development of a model of TQM to meet the needs of the MOE in Oman. Nevertheless, it would be interesting to know whether the findings from this study would be similar if conducted in other countries such as United Kingdom and other countries in the Middle East facing similar issues to Oman.

Another limitation regarding this study is that it was only applied in the Ministry of Education. It would be interesting to find out whether the results would be similar in other educational organizations in Oman such as the Ministry of Higher Education.

As the pilot study showed that most of the issues that arose were connected with the MOE Central Headquarters' roles, the proposed model was concerned with the MOE Central Headquarters. Thus, a longitudinal study on the Ministry of Education as a whole might provide useful information about the development of the whole ministry.

11.4 Recommendations

The present study aimed to examine the extent to which the Total Quality Management is applicable to the Ministry of Education in Oman and then to propose a TQM model to develop the Ministry of Education. The findings of this study showed that the Total Quality Management is a suitable Model for solving the existing issues that arose from the pilot study. The participants in the study; the top management, the internal stakeholders, the external stakeholders and the key personnel agreed that the specific TQM Tree Model is suitable for developing the Ministry of Education. The participants also highlighted some obstacles that might face the implementation and suggested some facilitating factors for the TQM implementation in the Ministry of Education such as having careful planning before starting implementation; provide stakeholders with feedback, stakeholder involvement and empowerment; provide suitable budget to the implementation; and provide training to all. Based on the conclusions reached, the following recommendations are brought to the reader's attention.

11.4.1 General Recommendations

One of the points that were highlighted in this study is that the development of education is increasing rapidly in Oman and all over the world. This study recommends the following improvements with the respect of TQM.

1. Before introducing any change into an educational organization, management has to first obtain an agreement of those affected by the change.
2. This thesis proposes a TQM Model for the MOE Central Headquarters, but every educational organization can design its own model according to its own circumstances. It is important to ensure that any model used is realistic, workable and affordable.

3. The involvement and empowerment of all staff in developing the educational organizations can increase their level of support and commitment.
4. The implementation of any development needs time and preparation to be introduced to an educational organization, as any sudden change may end in failure as a result of strong opposition.
5. A flexible management planning is essential in managing change and development.
6. All implementers should have the necessary training. This is to enable them to acquire the new knowledge and implement the development effectively.

11.4.2 Recommendation to the MOE

If the Ministry of Education Central Headquarters plans to implement the proposed TQM Tree Model, the following suggestions should be considered:

1. TQM is a long-term commitment not an instant activity. The process of implementation can take three to five years to be fully implemented and culturally accepted as shown in similar educational organizations' implementation. Thus the allocation of time and patience is necessary.
2. The implementation of TQM need careful and full planning to do the things right first time.
3. Successful implementation of TQM requires a quality culture to be implemented in the MOE Central Headquarters through education, training and support from the top.
4. TQM needs continuous training to have knowledgeable implementers and supporters.
5. Implementation of TQM needs provision of sufficient resources with suitable budget. So, it can be implemented fully and properly.
6. Regular feedback is essential to both correct unwanted results and to encourage successful implementation.
7. Plans for TQM should be simple to avoid over loaded paperwork and should concentrate more on content rather than appearances.
8. The MOE Central Headquarters decisions should be based on data. Thus the creation of regularly updated data bases is recommended.
9. Activation of fast and effective communication channels such as internet networks all over the MOE Central Headquarters is recommended.
10. After the implementation of TQM in the MOE Central Headquarters has been successfully completed, the implementation can be expanded through the whole ministry and the schools.

11.4.3 Recommendation for further research and studies

There are many areas that could be derived from this study, in which further work might be carried out. In addition, the present study is just the beginning and should be considered as an invitation to other researchers to join in the investigation in the field of change management and Total Quality Management. The scope and potential for future research are great, and necessary to improve education management and development. Some future studies that could be considered include:

1. Rewards, their concepts and benefits in education development in general and in the Ministry of Education in specific.
2. The role of communication in making the work environment in the Ministry of Education more effective.
3. An investigation into the feasibility of implementing Total Quality Management in Omani schools.
4. An investigation into the training needs of the MOE employees.
5. Authority delegation in the Ministry of Education and how to make it more effective.
6. The importance of time management in change management programs.

11.5 Conclusion

The analysis of the questionnaire and the interviews of the main study and the key personnel interviews revealed that there is a general agreement from the participants toward implementing the TQM Tree Model. The data also provided some information for implementation, and highlighted some key issues that need to be considered through the implementation. This chapter presented a modified TQM Tree Model based on the results of the research. The modification included adding three roots: teamwork, budget and communication to support the implementation of the main seven principles of the proposed TQM Tree Model. The study has also provided data to shape the implementation framework for the TQM Tree Model. The proposed framework included five stages; the decision, the preparation, the implementation, the evaluation and rewards, and continuous improvement. The chapter concludes with some recommendation for education development in general in lights of TQM principles, some recommendations to the Ministry of Education regarding TQM implementation and finally recommendations for further research and studies.

Hopefully, this suggested work can be carried in the near future not only in the Ministry of Education in Oman but also in other educational organizations. This is in order to make quality a cultural value in education systems.

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Appendices

Appendix I
The Pilot Study Letter (English)

03/03/2004
To whom it may concern,

I am Maryam AlNabhani, a Ph.D student, in the Department of Educational Studies, Faculty of Education, University of Glasgow and I am doing a pilot study assessing the problems and issues in the Ministry of Education in the Sultanate of Oman (MOE).

As part of the process, the views of the MOE and regional directors, head teachers and teachers will be sought in separate small focus group interviews. Involvement is voluntary and participants are free to withdraw their consent at any time. Information and data obtained will be analysed by Maryam ALNabhani solely for the purpose of this study and will not affect any participants anyhow. The final written thesis will ensure anonymity by not using any actual names or identifying characteristics of any participants. This letter seeks your permission to be involved in the pilot Ph.D research. Please indicate this in the section at the end of this letter.

If you have any concerns about the conduct of this pilot study, please contact Professor Rex Whitehead, Ethics Officer, Faculty of Education, University of Glasgow, 11 Eldon Street, Glasgow, G3 6NH or phone him on 0141-330-6565.

Yours sincerely

Maryam ALNabhani
Ph.D student
Ph: 0141-330-3475
Email: belarab2000@hotmail.com

Please indicate approval for your participation in the study by deleting as applicable.
I wish/ I do not wish to participate in the study titled: Assessing problems and issues in the MOE in the Sultanate of Oman.

Signature:----------

Appendix II
The Pilot Study Letter (Arabic)

إلى من يهمه الأمر

أن مريم بنت بلعرب النبهاني طالبة دكتوراة بقسم الدراسات التربوية بكلية التربية بجامعة جلاسكوفي أجازة دراسية من وزارة التربية والتعليم، وتقوم بدراسة استطلاعية لتقييم المشكلات والأمور المرتبطة بوزارة التربية والتعليم في سلطنة عمان.

سوف تتضمن الدراسة الاستطلاعية إجراء مقابلات جماعية للتعرف على آراء بعض المديرين بوزارة التربية والتعليم والمناطق التعليمية، ومديري المدارس، والمعلمين كل مجموعة على حدة، علماً بأن المشاركة اختيارية ومن الممكن انسحاب أي مشارك في أي وقت يرغب فيه بذلك، وسوف يتم تحليل البيانات بواسطة مريم النبهاني لغرض البحث العلمي في هذه الدراسة فقط ، كما أن ذلك لن يؤثر على أي مشارك بأي شكل من الأشكال، ولن يتم الاشارة إلى أسماء أو صفات المشاركين في الرسالة النهائية.

و قد جاءت هذه الرسالة لطلب موافقتكم في المشاركة في هذه الدراسة الاستطلاعية لرسالة الدكتوراة، فالرجاء التكرم بالإشارة إلى ذلك في الجزء الأخير من الرسالة.

في حالة الرغبة في المزيد من الاستفسارات حول الدراسة الاستطلاعية، الرجاء الاتصال بالأستاذ الدكتور ريكس وايتهيد Rex Whitehead مسؤول أخلاقيات البحث العلمي بكلية التربية، جامعة جلاسكو. 11 Eldon Street, Glasgow, G3 6NH، أو الاتصال به على هاتف 0141-330-6565.

و تفضلوا بقبول فائق الاحترام و التقدير

مريم بنت بلعرب النبهاني
طالبة دكتوراة
هاتف: 0141-330-3475
بريد الكتروني: belarab2000@hotmail.com

الرجاء الاشارة إلى موافقتكم بالمشاركة في الدراسة عن طريق الاشارة لما هو مناسب و التوقيع أدناه.

أرغب/لا أرغب في المشاركة في الدراسة التي عنوانها: تقييم المشكلات والأمور المرتبطة بوزارة التربية والتعليم في سلطنة عمان.

التوقيع:----------

Appendix III
The pilot Study Interview (English)

Interviewee:
Position:
Date:
Length of the Interview:

Question One:
What are your aspirations for education in Oman?

Question Two:
What do you think you/we should do to achieve these aspirations?

Question Three:
What do you see as the barriers to change?

Question Four:
What would you identify as major problems in relations to the role of MOE?

Appendix IV
The Pilot Study Interview (Arabic)

العينة:
الوظيفة:
التاريخ:
المكان:

1- ما هي طموحاتك للتعليم في سلطنة عمان؟

2- ماذا يجب أ ن تفعل\ نفعل كي تتحقق تلك الطموحات؟

3- ما أهم معوقات التغيير؟

4- ما أبرز المشكلات المرتبطة بدور وزارة التربية والتعليم؟

Appendix V
The Main Study Letter (English)

UNIVERSITY
of
GLASGOW

To whom it may concern,

Project Title: Assessing the problems and issues in the Ministry of Education in the Sultanate of Oman.

Investigator: Maryam ALNabhani
Ph D student
Department of Educational Studies
Faculty of Education
University of Glasgow

Outline of Project: the present study aims to measure the feasibility of applying Total Quality Management (TQM) in the Ministry of Education (MOE) Central Headquarter in Oman. TQM is an approach to organization and management of institutions. This study will gather views from senior management in the MOE Central Headquarter, the internal stakeholders (staff in the MOE central headquarter) and the external stakeholders (managers, staff and head teachers in the Regional General Directorates). The outcome of the study will be to identify factors in the process of change within the organization and to develop a model of TQM that fits the needs of the MOE.

Confidentiality:all data collected will be handled confidentially and any reference to it will be made anonymously. A copy of the final thesis will be provided to the MOE. In circumstances where data is requested for legal reasons.
Any queries relating to this research should be addressed to:
Professor Rex Whitehead
Faculty of Education Ethics Officer
Centre for Science Education
St Andrew's Building
11 Eldon Street
Glasgow, G3 6NH
Tel: 0141-330-6565

Appendix VI
The Main Study Letter (Arabic)

بسم الله الرحمن الرحيم

الفاضلة/ د. سناء بنت سبيل البلوشي

مدير المكتب الفني للتخطيط والدراسات بوزارة التربية والتعليم المحترمة

الموضوع: تطبيق دراسة حول إمكانية تطبيق إدارة الجودة الشاملة بديوان عام وزارة التربية والتعليم

يسرني أن أرفق لكم طيه نسخة من مخطط وأدوات الدراسة التي أود القيام بتطبيقها في ديوان عام الوزارة وجميع المناطق التعليمية، وذلك كجزء من متطلبات دراسة الدكتوراه التي أقوم بها في كلية التربية بجامعة جلاسكو بالمملكة المتحدة.

كما أود أن أؤكد تعهدي باستخدام البيانات والمعلومات لغرض البحث العلمي وسوف يتم التعامل معها ضمنياً كإحصاءات عامة، بدون التصريح المباشر لأسماء الأشخاص أو الجهات المتضمنة بالدراسة.

أرجو التكرم بالموافقة على تطبيق هذه الدراسة بديوان عام الوزارة وجميع المناطق التعليمية، ومخاطبة الجهات المعنية لتسهيل مهمتي لإتمام هذه الدراسة الميدانية، مع العلم أن عينة الدراسة تتألف من التالي:

1. الإدارة العليا: ممثلة في كل من مديري العموم ونوابهم والمستشارين بديوان عام الوزارة.
2. المستفيدون الداخليون: ممثلة في كل من مديرو الدوائر ونوابهم والموظفين الآخرين بديوان عام الوزارة.
3. المستفيدون الخارجيون: ممثلة في كل من مديرو العموم ونوابهم ومديرو الدوائر ونوابهم و مديرو المدارس بالمناطق التعليمية.

و تفضلوا بقبول فائق الاحترام...

مريم بنت بلعرب النبهاني
طالبة دكتوراه
كلية التربية- جامعة جلاسكو- المملكة المتحدة

المرفقات:
1- شهادة لمن يهمه الأمر من جهة الدراسة.
2- خطة الدراسة.
3- أدوات الدراسة: استبيان ومقابلة شبه مقننة.

Appendix VII
The Main Study Questionnaire (English)

To managers and staff in the Ministry of Education Central Headquarters and the Regional General Directorates:

After Regards,

I am a PhD candidate student at the University of Glasgow. I am currently working on my thesis which a part of its requirement is the enclosed questionnaire.

The Ministry of Education (MOE) is facing dramatic changes and development as it struggles to meet the requirements of the current century. These circumstances compel MOE to take adopt a new management approach such as Total Quality Management (TQM) that will enable it to deal with these challenges and pressures. The aim of the enclosed questionnaire is to collect data regarding the attitude of senior management, staff in the central headquarters and the managers, staff and head teachers in the regional general directorates toward the suitability of implementing TQM principles in the MOE.

Please note that for the purpose of this research, TQM is an approach that is characterized by the following:

1- Commitment and support from the top management.
2- Focus on internal stakeholders (staff in the central headquarters) and external stakeholders (managers, staff and head teachers in the regional general directorates).
3- Involvement and empowerment of all MOE members in the development implementation and in decision making.
4- Continuous improvement.
5- Training and education to everybody in the MOE.
6- Tools and techniques are used to collect data for decision making, planning and improvement.
7- Reward system is essential to encourage improvement.

Your help would be greatly appreciated in completing this questionnaire and returning it as soon as you can. Estimate time to read and answer the questions of this questionnaire will be 20 minutes.

Yours Sincerely
Maryam Bint Belarab Bin Mohammed ALNabhani
PhD Candidate

Section One: Personal Information:
Please put(X) next to the appropriate response:

1. Occupation: General Director ☐ General Director Deputy ☐ Consultant ☐

Director ☐ Director Deputy ☐ Head teacher ☐ Other ☐ Please specify…….

2. Place of work: Central Headquarter ☐ Regional Directorate ☐

Section Two: Identifying the Attitudes toward TQM implementation
To what extent do you agree with the following statements?
Please put (X) in the appropriate box.

No.	The Item	Strongly agree	agree	Uncertain	disagree	Strongly disagree
.1	**Commitment toward TQM** Management must ensure consistency between MOE mission and actual performance.					
.2	It is critical for management to understand change process.					
.3	Open communication between managers and staff must be encouraged and rewarded.					
.4	Development needs support from management.					
.5	Management must act as a role model in the development.					
.6	**Focus on stakeholders** Planning development requires stakeholders' opinions.					
.7	MOE development could be measured through stakeholders' satisfactions.					
.8	It is important to survey regularly stakeholders' needs and expectations.					
.9	MOE plans should consider internal and external stakeholders' attitude.					
.10	**Continuous Improvement** Never ending process of improvement is critical to MOE development.					
.11	Planning in MOE should be in					

	long term.					
.12	Plans in MOE must be flexible.					
.13	Plans in MOE should usually be renewed and updated.					
.14	Defect prevention should replace defect detection.					
.15	It is important to solve day to day problem immediately.					
.16	Elements of MOE should be evaluated regularly.					
.17	**Involvement and empowerment** Development should be carried by all members of MOE.					
.18	MOE staff should share in decision making in the MOE.					
.19	External stakeholders should share in decision making in the MOE					
.20	Teamwork should be emphasized.					
.21	Responsibility, authority and accountability must be delegated as closely as possible to those performing the work.					
.22	Feedback should be encouraged from the stakeholders.					
.23	MOE's goals and policies must be communicated regularly to staff .					
.24	Management must make every effort to any staff's ideas, opinion, questions or concerns.					
.25	**Training and education:** Training is essential for managers as well as staff.					
.26	Training is a continual process for all staff.					
.27	Staff should understand the development process.					
.28	Staff must have their roles identified clearly.					
.29	Training must be planned according to MOE's mission.					
.30	Training must be provided equally to all MOE staff.					
.31	**Tools and Techniques:** Decisions in the MOE must be based on data.					
.32	Statistical tools must be used to					

	collect data about MOE problems.					
.33	Statistical tools must be used to collect data for planning improvement.					
.34	Different tools and techniques must be used to measure development.					
.35	Using other similar organizations experiences for planning MOE's plans is useful.					
.36	**Rewards** There must be clear reward system in the MOE.					
.37	Rewards can encourage staff to work without fail.					
.38	Rewards should be established according to staff's needs.					
.39	Rewards can encourage innovation.					

If we are to implement TQM in the MOE:

1- what do you see as some of the obstacles?

……
……
…….

2- how might these be overcome?

……
……
…….

3- what do you see as some of the facilitating factors?

……
……
…….

4- how might theses be enhanced?

……
……
……

Appendix VIII
The Main Study Questionnaire (Arabic)

الأفاضل مديرو وموظفو ديوان عام وزارة التربية و التعليم والمناطق التعليمية:

تحية طيبة وبعد

تواجه وزارة التربية والتعليم بسلطنة عمان تغييرات وتطورات هائلة حتى تعمل على الإيفاء بمتطلبات القرن الحالي. حيث تلزم هذه الظروف وزارة التربية والتعليم بتبني اتجاه إداري حديث مثل إدارة الجودة الشاملة والذي سوف يساعدها في التعامل مع هذه التحديات والضغوط. وبناء على ما سبق تقوم مريم بنت بلعرب النبهاني طالبة الدكتوراه في جامعة جلاسكو بالمملكة المتحدة بدراسة إمكانية تطبيق مثل هذا الاتجاه. و يهدف الاستبيان المرفق إلى جمع بيانات متعلقة باتجاهات كل من الفئات التالية حول إمكانية تطبيق مبادئ إدارة الجودة الشاملة بديوان عام وزارة التربية و التعليم:

1. الإدارة العليا: ممثلة في كل من مديري العموم ونوابهم والمستشارين بديوان عام الوزارة.
2. المستفيدون الداخليون:ممثلة في كل من مديرو الدوائر ونوابهم والموظفين الآخرين بديوان عام الوزارة.
3. المستفيدون الخارجيون:ممثلة في كل من مديرو العموم ونوابهم ومديرو الدوائر ونوابهم و مديرو المدارس بالمناطق التعليمية.

وتمشياً مع أهداف البحث الحالي، فإن إدارة الجودة الشاملة تتسم بالتالي:

1. الالتزام والدعم من الإدارة العليا.
2. التركيز على المستفيدين الداخليين و الخارجيين.
3. مشاركة وتفويض جميع أعضاء وزارة التربية و التعليم في التطوير و التحسين واتخاذ القرارات.
4. التحسين المستمر.
5. التدريب والتعليم لجميع أعضاء وزارة التربية و التعليم.
6. استخدام الأدوات و التقنيات لجمع البيانات اللازمة لاتخاذ القرارات والتخطيط والتحسين.
7. أهمية نظام المكافآت لتشجيع التحسين.

يسرني أن أتقدم لكم بجزيل وفائق التقدير على جهدكم المبذول في تعبئة الاستبيان وأرجو التكرم بإرجاعه في أقرب وقت ممكن. مع العلم بأن جميع البيانات لن تستخدم إلا لأغراض البحث العلمي.

وتفضلوا بقبول فائق الاحترام...

مريم بنت بلعرب بن محمد النبهاني
طالبة دكتوراه

ملاحظة: الوقت المقدر لقراءة وتعبئة الاستبيان خمسة وأربعون دقيقة.

أولاً: البيانات الشخصية:

الرجاء وضع علامة (x) أمام الاختيار المناسب:

1. **الوظيفة: مدير عاماً نائب مدير عاماً مستشاراً مديراً نائب مديراً مدير مدرسة غير ذلك الرجاء التوضيح.....**
2. **مركز العمل: ديوان عام الوزارة المناطق التعليمية**

ثانياً: التعرف على الاتجاهات نحو تطبيق إدارة الجودة الشاملة:

الرجاء وضع علامة (x) أمام الاختيار المناسب:

1. الإلتزام نحو إدارة الجودة الشاملة

م	الفقرة	أوافق بشدة	أوافق	غير متأكد	أرفض	أرفض بشدة
1.	على الإدارة العليا بديوان عام وزارة التربية والتعليم التأكد من التوافق بين أهداف الوزارة والممارسات الفعلية.					
2.	يُعد فهم الإدارة العليا لآلية التطوير من الأمور المهمة جداً.					
3.	يجب تشجيع الاتصال المفتوح بين المديرين والموظفين					
4.	يحتاج التطوير إلى مساندة الإدارة العليا.					
5.	يجب على المديرين أن يكونوا مثال يحتذى به في التطوير.					
2.التركيز على المستفيدين						
6.	يحتاج تخطيط التطوير إلى ألأخذ بآراء المستفيدين الداخليين و الخارجيين.					
7.	يمكن قياس التطوير بوزارة التربية والتعليم عن طريق معرفة واستقراء رضا المستفيدين.					
8.	من المهم جداً التعرف على حاجات وتوقعات المستفيدين بصورة دائمة ومستمرة.					
9.	على خطط وزارة التربية والتعليم أن تأخذ في الاعتبار اتجاهات المستفيدين الداخليين نحو موضوع التطوير.					
10	على خطط وزارة التربية والتعليم أن تأخذ في الاعتبار اتجاهات المستفيدين الخارجيين نحو موضوع التطوير.					
3.التحسين المستمر						
11	تُعد عملية التحسين المستمرة أمراً ضرورياً لتطوير وزارة التربية و التعليم.					
12	يجب أن يكون التخطيط في وزارة التربية والتعليم طويل الأمد.					
13	مراعاة المرونة عند وضع خطط وزارة التربية والتعليم من الأمور المهمة.					
14	تحتاج الخطط بالوزارة إلى التجديد المستمر.					
15	يجب إحلال إستراتيجية منع الأخطاء بدلاً من إستراتيجية كشف الأخطاء.					
16	من المهم حل المشكلات اليومية مباشرة.					
17	يجب تقويم عناصر وزارة التربية والتعليم بانتظام(الأهداف،السياسات،الخطط،البرامج،...)					
4.المشاركة و التفويض						
18	على جميع العاملين بوزارة التربية والتعليم المشاركة في التطوير.					
19	يجب أن يشارك موظفي وزارة التربية والتعليم في اتخاذ القرارات.					
20	يجب أن يشارك المستفيدون الخارجيون في اتخاذ القرارات بوزارة التربية والتعليم.					

م	الفقرة	أوافق بشدة	أوافق	غير متأكد	أرفض	أرفض بشدة
21	ممارسة العمل كفريق من الأمور المهمة.					
22	يجب تفويض المسؤولية والسلطة والمحاسبية لأقرب مسئول من الموظف.					
23	يجب تشجيع التغذية الراجعة من المستفيدين.					
24	يعد اطلاع الموظفين على أهداف وسياسات الوزارة أمراً أساسياً.					
5.التعليم و التدريب						
25	يجب اهتمام الإدارة بأفكار الموظفين ومقترحاتهم وتساؤلاتهم .					
26	يعدُ التدريب أمراً أساسياً لكل من الإدارة والموظفين.					
27	يجب التشجيع على استمرارية التدريب لكل الموظفين.					
28	يجب أن يتفهم الموظفون عملية التطوير.					
29	إيضاح أدوار الموظفين يسهم في زيادة فعالية التطوير .					
30	يجب أن يتوافق التدريب مع أهداف وزارة التربية والتعليم.					
6.الأدوات و التقنيات						
31	يجب الحرص على أن تتساوى فرص التدريب للجميع.					
32	يجب أن تعتمد القرارات في وزارة التربية والتعليم على النتائج المستخلصة من البيانات.					
33	يجب الاستعانة بأدوات دقيقة منها الأدوات الإحصائية لجمع البيانات حول المشكلات التي تواجه وزارة التربية و التعليم.					
34	يجب الاستعانة بأدوات دقيقة منها الأدوات الإحصائية لجمع البيانات لتخطيط التطوير.					
35	استخدام العديد من الأدوات والآليات لقياس التطوير أمر مهم.					
7.المكافآت						
36	يجب وجود نظام مكافآت واضح في وزارة التربية والتعليم.					
37	تشجع المكافآت الأفراد على العمل بنجاح.					
38	يجب أن تكون المكافآت متوافقة مع احتياجات الموظفين.					
39	تشجع المكافآت على التجديد والابتكار.					

ثالثاً: أسئلة مفتوحة:

لو كنا بصدد تطبيق إدارة الجودة الشاملة في وزارة التربية و التعليم بسلطنة عمان:

1- فما هي أهم معوقات التطبيق من وجهة نظركم؟

2- كيف يمكن التغلب عليها؟

3- ما هي أهم العوامل المساعدة على نجاح التطبيق؟

4- كيف يمكن تعزيز هذه العوامل؟

Appendix IX
The Main Study Interview (English)

Interviewee:
Position:
Number of interviewee:
Location of the interview:
Date:
Length of the interview:

Question One:
What is your initial response to TQM?

Question Two:
What are the barriers to implement TQM in the MOE?

Question Three:
What do you see as facilitator factors to the implementation of TQM in the MOE?

Question Four:
Are there any other issues you would like to raise?

Appendix X
The Main study Interview (Arabic)

مقابلة شبه مقننه للتعرف على إمكانية تطبيق إدارة الجودة الشاملة بوزارة التربية والتعليم

العينة:
الوظيفة:
العدد:
التاريخ:
المكان:
زمن المقابلة:

1- ما هو اتجاهك الأولي نحو إدارة الجودة الشاملة؟

2- ما هي معوقات تطبيق إدارة الجودة الشاملة؟

3- ماهي العوامل المساندة لتطبيق إدارة الجودة الشاملة بوزارة التربية والتعليم؟

4- هل هناك أمور أخرى تود التحدث عنها؟

Appendix XI
The Mean Rank Table

	occupation	N	Mean Rank
Q1	top management	16	209.50
	internal stakeholder	136	120.12
	external stakeholder	134	159.35
	Total	286	
Q2	top management	16	85.25
	internal stakeholder	136	160.14
	external stakeholder	134	133.57
	Total	286	
Q3	top management	16	71.44
	internal stakeholder	136	152.28
	external stakeholder	134	143.19
	Total	286	
Q4	top management	16	69.72
	internal stakeholder	136	111.05
	external stakeholder	134	185.25
	Total	286	
Q5	top management	16	84.31
	internal stakeholder	136	158.53
	external stakeholder	134	135.32
	Total	286	
Q6	top management	16	64.81
	internal stakeholder	136	162.43
	external stakeholder	134	133.68
	Total	286	
Q7	top management	16	62.63
	internal stakeholder	136	124.05
	external stakeholder	134	172.90
	Total	286	
Q8	top management	16	123.69
	internal stakeholder	136	153.56
	external stakeholder	134	135.66
	Total	286	
Q9	top management	16	97.47
	internal stakeholder	136	149.36
	external stakeholder	134	143.05
	Total	286	
Q10	top management	16	79.56
	internal stakeholder	136	169.47
	external stakeholder	134	124.78
	Total	286	
Q11	top management	16	208.13
	internal stakeholder	136	173.15
	external stakeholder	134	105.69
	Total	286	
Q12	top management	16	185.00
	internal stakeholder	136	155.50
	external stakeholder	134	126.37

	Total	286	
Q13	top management	16	175.31
	internal stakeholder	136	126.42
	external stakeholder	134	157.04
	Total	286	
Q14	top management	16	221.09
	internal stakeholder	136	163.34
	external stakeholder	134	114.10
	Total	286	
Q15	top management	16	176.44
	internal stakeholder	136	145.78
	external stakeholder	134	137.25
	Total	286	
Q16	top management	16	216.69
	internal stakeholder	136	203.38
	external stakeholder	134	73.99
	Total	286	
Q17	top management	16	116.00
	internal stakeholder	136	123.47
	external stakeholder	134	167.11
	Total	286	
Q18	top management	16	150.41
	internal stakeholder	136	119.93
	external stakeholder	134	166.60
	Total	286	
Q19	top management	16	78.88
	internal stakeholder	136	131.53
	external stakeholder	134	163.37
	Total	286	
Q20	top management	16	101.84
	internal stakeholder	136	156.71
	external stakeholder	134	135.07
	Total	286	
Q21	top management	16	194.50
	internal stakeholder	136	139.07
	external stakeholder	134	141.91
	Total	286	
Q22	top management	16	98.66
	internal stakeholder	136	158.26
	external stakeholder	134	133.87
	Total	286	
Q23	top management	16	106.63
	internal stakeholder	136	144.48
	external stakeholder	134	146.91
	Total	286	
Q24	top management	16	183.38
	internal stakeholder	136	146.05
	external stakeholder	134	136.15
	Total	286	
Q25	top management	16	187.13
	internal stakeholder	136	209.76
	external stakeholder	134	71.04
	Total	286	

Q26	top management	16	138.50
	internal stakeholder	136	165.40
	external stakeholder	134	121.87
	Total	286	
Q27	top management	16	135.06
	internal stakeholder	136	114.25
	external stakeholder	134	174.19
	Total	286	
Q28	top management	16	165.06
	internal stakeholder	136	146.70
	external stakeholder	134	137.68
	Total	286	
Q29	top management	16	214.00
	internal stakeholder	136	177.02
	external stakeholder	134	101.06
	Total	286	
Q30	top management	16	99.25
	internal stakeholder	136	171.54
	external stakeholder	134	120.32
	Total	286	
Q31	top management	16	150.25
	internal stakeholder	136	116.61
	external stakeholder	134	169.98
	Total	286	
Q32	top management	16	148.56
	internal stakeholder	136	163.72
	external stakeholder	134	122.37
	Total	286	
Q33	top management	16	112.69
	internal stakeholder	136	144.42
	external stakeholder	134	146.25
	Total	286	
Q34	top management	16	249.00
	internal stakeholder	136	198.26
	external stakeholder	134	75.32
	Total	286	
Q35	top management	16	187.75
	internal stakeholder	136	170.99
	external stakeholder	134	110.31
	Total	286	
Q36	top management	16	184.50
	internal stakeholder	136	144.54
	external stakeholder	134	137.54
	Total	286	
Q37	top management	16	138.31
	internal stakeholder	136	150.40
	external stakeholder	134	137.11
	Total	286	
Q38	top management	16	146.19
	internal stakeholder	136	124.63
	external stakeholder	134	162.33
	Total	286	
Q39	top management	16	171.50

	internal stakeholder	136	147.32
	external stakeholder	134	136.28
	Total	286	

Appendix XII
The Key Personnel Interview (English)

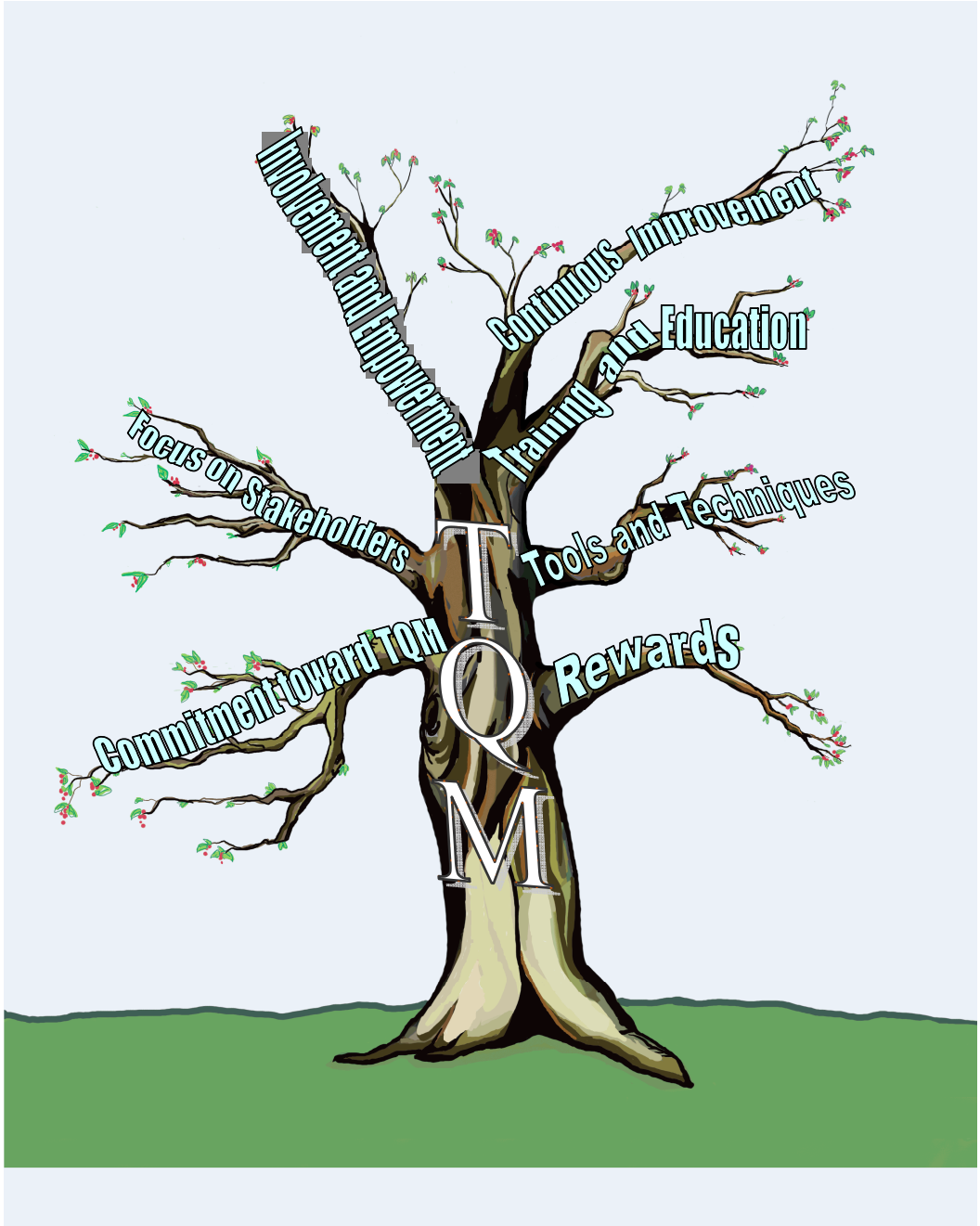
Interviewee:
Position of the Interviewee:
Location of the Interview:
Date of the Interview:
Length of the interview:

1. **Show a diagram of the TQM Tree Model and explain briefly the idea of the model and its principles.**

The Philosophy of TQM is based on a number of principles, the most prominent of which are commitment and support from the top management, focus on internal stakeholders (staff in the central headquarters) and external stakeholders (managers, staff and head teachers in the regional general directorates), involvement and empowerment of all MOE members in the development implementation and in decision making, continuous improvement, training and education for everybody in the MOE, tools and techniques are used to collect data for decision making, planning and improvement and reward system is essential to encourage improvement.

2. **Ask the following questions:**

- What do you think of the model?
- Is it suitable for implementation in the MOE in Oman?
- What are the facilitator factors that might help in the implementation?
- What are the obstacles it might face?
- Do you have any further comments?


Involvement and Empowerment
Continuous Improvement
Training and Education
Focus on Stakeholders
Tools and Techniques
TQM
Commitment toward TQM
Rewards

Appendix XIII

The Key Personnel Interview (Arabic)

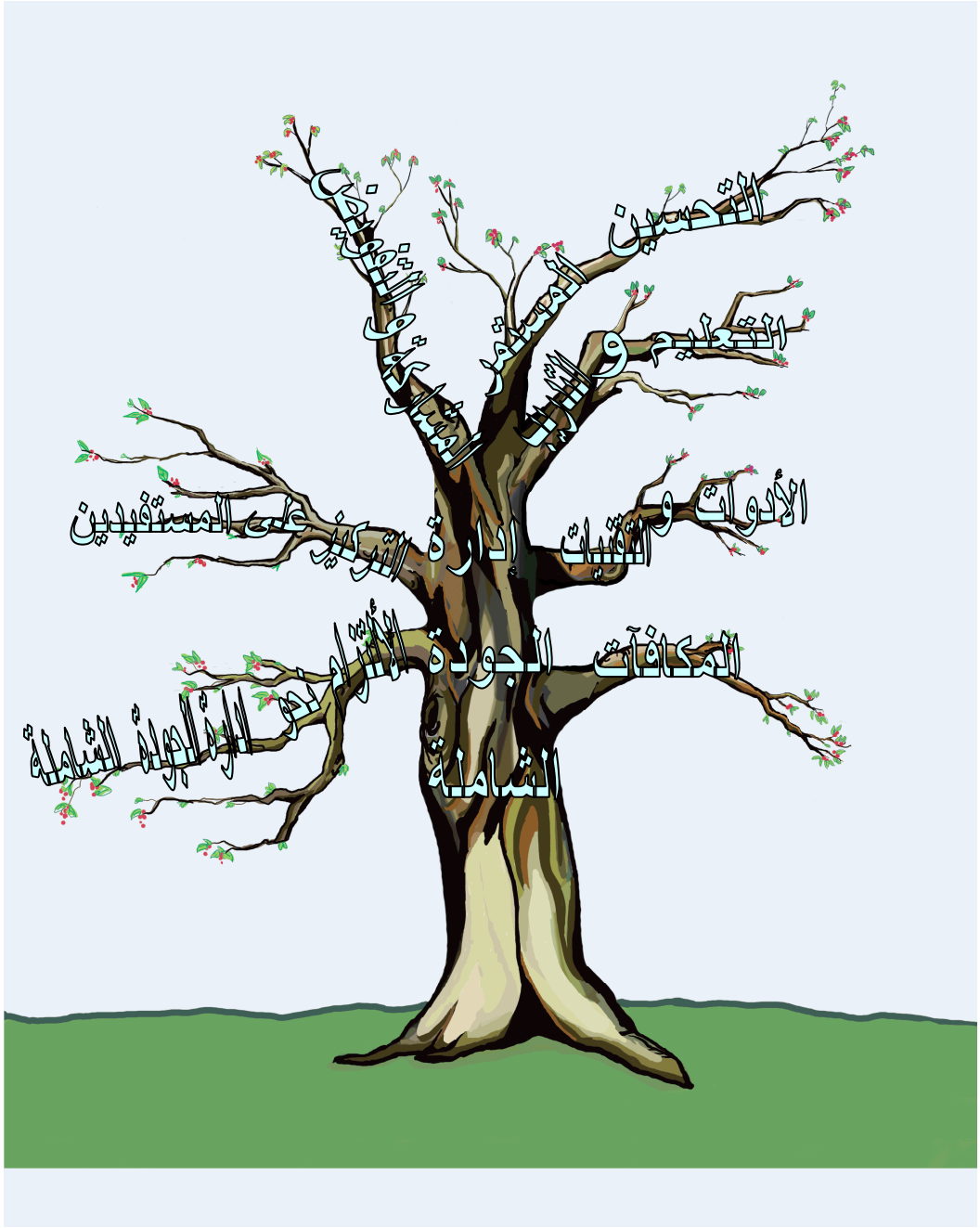
العينة:
الوظيفة:
التاريخ:
المكان:
زمن المقابلة:

1- تقوم الباحثة بعرض نموذج الشجرة للجودة الشاملة، وبعد ذلك يتم تقديم شرح مختصر لفكرة النموذج ومبادئه:

أن فلسفة إدارة الجودة الشاملة تتبنى عدد من المبادئ من أبرزها دعم الإدارة العليا، و التركيز على المستفيدين الداخليين (موظفي ديوان عام الوزارة)، والمستفيدين الخارجيين (مديري وموظفي ومديري مدارس المناطق التعليمية). يعتمد النموذج كذلك على مشاركة وتفويض جميع أعضاء وزارة التربية والتعليم في تطبيق التطوير وصنع القرارات. هذا بالإضافة إلى التحسن المستمر، والتدريب و التعليم لجميع موظفي وزارة التربية والتعليم، واستخدام الأدوات والتقنيات لجمع البيانات اللازمة لاتخاذ القرارات والتخطيط و التحسين. كما أنه من الضروري في تطبيق الجودة الشاملة إيجاد نظام للمكافآت لتشجيع التحسين.

2- بعد عرض النموذج يتم سؤال الأسئلة التالية:

- ما رأيك في النموذج؟
- هل هو مناسب للتطبيق في وزارة التربية والتعليم في سلطنة عمان؟
- ما هي العوامل التي قد تساهم في تسهيل عملية التطبيق؟
- ما هي المعوقات التي قد تواجه التطبيق؟
- هل لديك أي تعليقات أخرى تود إضافتها؟


التحسين المستمر
التعليم و التدريب
الأدوات و التقنيات
إدارة التركيز على المستفيدين
المكافآت الجودة الالتزام
الشاملة