

# CHAPTER I

## INTRODUCTION

### 1.0 Introduction

The new millennium has witnessed many changes affected on the requirements of business environment. The competition in global market makes both of the organizations and researchers emphasis on innovation methods to face the new challenges. Total quality management is considered as the greatest innovative methods interested in making competitive advantage. It is the most successful way to face the rapidly changing in the business environment. In fact, total quality management becomes as a famous approach, since it has new methods to assure the successful for organizations in business environment. Total quality management approach was built by quality gurus such as Deming, Grosby, Juran, Feigenbaum, and Ishikawa who made the main structure of total quality management (Dale et al., 2001).

Deming in his approach (1986, 1982) focused on creating an organizational system that adopt the cooperation and learning in order to facilitate the implementation of processes management practices, to enhance the customer satisfaction and firm's survival through continues improvement of processes, product and service and employees fulfilment (Anderson et al., 1995). Juran et al. (1993) considered quality as a system that includes activities acting to achieve delighted customer, empowered employees, higher revenues and lower costs. Crosby (1979) emphasized on methods that lead to prevention rather than- after the event inspection, which doing things right the first time, and he claimed that zero defect reduces the cost of quality. Ishikawa (1985) claimed that the firms' success is based on treating quality improvement as a never-ending quest. That can ensure that the people will never stop learning and improve their skills.

On the other hand, total quality awards (such as the Deming Prize that was established in Japan in 1951, the Malcolm Baldrige National Quality Award that was established in USA in 1987, and the European Quality Award that was established in Europe in 1991) contributed to total quality management theory through their criteria which acts to enhance the implementations of total quality management.

The spotlight on quality management in business environment urged the researchers to focus seriously on the improvement of quality management methods, which enhance the organization activities via the successful of total quality management implementations. Recently, many attempts were made to identify the critical success factors of total quality management from one side, and also to discover the importance of these factors to the implementation of the total quality management from the other side (e.g. Wahid and Corner, 2009; Fotopoulos et al., 2009; Sarma and Kodali, 2008; Antony et al., 2002; Zhang, 2000; Yusof and Aspinwall, 1998; Hesan et al., 1998; Black and Porter, 1996; Tamimi and Gorshon, 1995; Badri et al., 1995; Flynn et al., 1994; Porter and Parker, 1993).

Alongside, some studies were interested in dividing the quality management practices however, they divide the critical factors of quality management into two groups; either hard and soft factors or technical and human factors respectively (e.g. Gadenne and Sharma, 2009; Fotopoulos and Psomas, 2009; Kumar et al., 2009; Abdullah et al., 2008; Tari, 2007; Demirbag et al., 2006; Rahman and Bullock, 2005; Louise, 1996; Flynn et al., 1995; Wilkinson, 1992). According to Wilkinson (1992), there are two aspects of quality management; hard aspect, which focuses on tool and work process, and soft aspect, which interests on human side of quality management. Also, he suggested that the hard aspect has more preoccupation rather than the human aspect when the organizations implement total quality management program. Moreover, Edward and Sohal (2003) suggested that the lack of attention to the human side of total quality management may lead to limited success of total quality management implementation.

Scientifically, literature of quality management suggested that human factors of quality management such as leadership, employee involvement, training and education, customer focus, communication, rewards and recognition, supplier relations, and teamwork have a highly significant impact on organization performance (Gadenne and Sharma, 2009; Fotopoulos and Psomas, 2009; and Kumar et al., 2009; Abdullah et al., 2008; Rahman and Bullock, 2005; Flynn et al., 1995).

Consequently, due to the importance of human factors to the implementations of total quality management and organization performance, this study attempts to examine the impact of human factors of quality management on both of quality improvement practices and organization performance, which contributes to a better understanding of human side of total quality management through context of Yemeni industrial companies.

### 1.1 Total Quality Management in Yemen

Yemen is a country situated in the Middle East with a mostly desert climate, there are 2 rainy seasons; March to May and July to September. Yemen is bordered by Saudi Arabia, Oman, the Arabian Sea, the Gulf of Aden and the Red Sea. About 92% of the country is arid, semi-arid or desert. The population is 22,858,238 and the population density is 43.3 people per square kilometre. Sana'a is the capital and the largest city. It has a population of 1.801 mln. The largest sea port and the commercial capital is Aden, whose population is 800,000. The annual population growth rate is 2.9% (National Information Centre NIC, 2009). The time zone is 3 hours ahead of Greenwich Mean Time (GMT). Arabic is the official language. North Yemen became independent from the Ottoman Empire in November 1918; While, South Yemen was a former British colony that became independent on November 30, 1967. However, the two countries merged into a unified state (Republic of Yemen) on May 22<sup>nd</sup>, 1990.

The real economic and management development in most Yemeni organizations started after the unification of South and North parts of Yemen in 1990 to form the Republic of Yemen. Hence, the unification act created the most suitable environment for construction and development (Almotwakil, 1999) in which between the years 1991 and 2004, the Yemeni economy achieved annual levels of growth of 5.1 per cent. That achievement at anyway was considered an excellent achievement in the light of population growth, which was 3.6 per cent in the same period (Economic and Social Council, 2006).

Recently, Yemeni economic sectors are affected by the new rapidly changing in the business environment. In the last decade, Yemen Government made a revolution to face the new challenges through enhances its economic sectors. Actually, the industrial sector received much more emphasis in Yemeni Government effort due to its importance to Yemeni economy (Government report 2007).

Worthy to be mentioned that Yemeni Government plans to join World Trade Organization (WTO) and Gulf Cooperation Council (GCC) in the next few years, which in turn, will urge Yemeni economic to face new big challenges. To make awareness of this changing, Yemen Government made many activities in order to improve its sectors. The government efforts started with the establishment of Yemen Standardization Metrology and Quality Control Organization (YSMQCO) in 2000 (<http://ysmo.org/index.php>), this organization interests on standardization metrology and quality control of Yemen products and services and also give a local quality certifications to Yemeni companies in different sectors. Many companies in Yemen consider it as the roadmap for all the organizations that operating to improve the quality of products, services and business procedures.

Furthermore, Yemeni Government acted to change some economic regulations to create a more competitive environment in the Yemeni market, which stimulated Yemeni companies to improve their competitive advantages. In fact, for long time, many organizations in Yemen as well as in Middle East

have not operated as commercial companies because of their governments' interventions since the local companies have been protected by international competition via government-imposed tariffs and trade barriers. But these barriers are now being removed and trade has become more open for long time (Madu, 1997).

Moreover, Yemeni Government has organized some international conferences and adopted (Made in Yemen) programs not only to improve Yemeni industrial production but also to encourage Yemeni companies to improve their process and enhance their competitive advantage through adopting and enhancing the implementations of total quality management (<http://www.moit.gov.ye/moit/ar>).

Furthermore, total quality management program was adopted by Yemeni industrial companies to advance their processes and improve their production; they aimed to enhance management operations in order to face new challenges and also to enhance competitive advantage ([www.business.ye/](http://www.business.ye/)). In fact, many Yemeni companies have already taken a local quality certificates from Yemen Standardization Metrology and Quality Control Organization, and some companies have received international quality certificates such as European Business Excellence Model (EBEM); ISO 9000; and other international quality awards.

Although the effort that was made by Yemeni Government and companies to improve industrial sector and enhance the competitive advantage of the companies through total quality management program, but the implementation of total quality management is still below the expected (Nashwan Saeed, 2008; Abdullatef Aeed, 2006).

In terms of research and through investigation the literature of quality management it was found that there is an absolute lack of studies interest on total quality management in Yemen as most of the literature found in Yemeni libraries represents a translation of Western books that describe quality management and quality assurance theories. In fact, total quality management within Middle Eastern and Islamic countries is generally lower than in Western

economies, which according to Al Zamany et al. (2002) Middle Eastern countries have been preoccupied with conventional management issues and are not aware of advanced quality system.

Al Zamany et al. (2002) studied the cultural acceptability of the European Business Excellence Model (EBEM); they found that there were not any contradiction between European Business Excellence Model (EBEM) values and Yemeni values. Besides, they provide evidence that values of European Business Excellence Model were very important to Yemeni companies.

Based on the criteria of ISO 9001, Khaleed (2004) investigated the impact of total quality management practices on the performance of Yemeni Industrial Companies; and found that total quality management practices positively impact companies' performance and criteria of ISO 9001 are significant to Yemeni industrial companies.

Thus, due to the importance of human factors of quality management on the success of total quality management implementation the current study found place. Scientifically, this study examines the impact of human factors of quality management on quality improvement practices and organizational performance; it evaluates the direct impact of human factors of quality management on quality improvement practices and organizational performance from one hand, and the indirect impact of human factors of quality management on organizational performance via their impact on quality improvement practices, which contribute and support the effort of Yemeni Government and companies to improve industrial sectors and enhance the competitive advantages of the companies.

## 1.2 Statement of the problem

The human side of quality management plays a central role to the implementation of quality improvement practices and organization performance, which the literature of quality management suggested that the implementation of total quality management program will not be successful

unless a great attention is paid to the human side (Lewis et al., 2006; Motwani et al., 1994; Wilkinson, 1994).

Literature of quality management divided total quality management practices into two groups; first group called technical side and second group named human side. Technical side group focuses on tools and work processes such as product design, process and statistical, benchmarking, just in time, continues improvement and control/feedback. While human side group includes the human or behaviour side of quality management such as leadership, employee involvement, training and education, customer focus, teamwork, communication, supplier relations, and rewards and recognition.

Literature suggested that there is a great lack for studies emphasizing on the human side of total quality management as many studies were carried out to contribute the technical side only; that was due to the technical orientation of total quality management leaders who emphasize technical factors rather than human factors (Lau and Idris, 2001; Wilkinson, 1992). According to Edward and Sohal (2003), the lack of attention to the human side of total quality management may lead to limit the success of total quality management implementation.

Moreover, literature of quality management suggested that when the companies implement total quality management into their processes, there is more emphasis on the technical factors of quality management rather than the human factors (Yang, 2006; Lewis et al., 2006; Wilkinson et al., 1994). Hill (1991) noted that although the solution to the technical issues of designing appropriate system and procedures are fully specified, there are lacunae in the treatment of social factors. Therefore, as a result of the significance impact of human factors of quality management on organization performance and their contribution to the implementation of total quality management, the human factors will need more attention when the organization reengineering its processes to implement total quality management.

Insufficient empirical studies have examined the impact of human factors of quality management on quality improvement practices and organization performance, however, they provided evidence showing the existence of both direct significant impact of human factors on quality improvement practices and organization performance and indirect significant impact of human factors on organization performance through their impact on quality improvement practices (Flynn et al., 1995; Rahman and Bullock, 2005; Abdullah et al., 2008; and Gadenne and Sharma, 2009).

In Yemen, as mentioned earlier, there is a growing governmental interest on industrial sector because of its important role in leading economic changes, in addition to its role in supporting Yemeni Economic (Sura council report, 2008). Furthermore, Yemeni industrial companies have been taken total quality management program as a way to enhance their competitive advantage in order to face new challenges in business environment ([www.yemen-nic.info/](http://www.yemen-nic.info/)). But, the implementation of total quality management is still below the expected level (Nashwan Saeed, 2008; Abdullatef Aeed, 2006)

Literature consider human factors as a vital player to lead the success of total quality management implementation through their direct contribution to the practices of quality improvement and companies' performance, besides indirect contribution to organization performance via creating a suitable environment to the implementation of quality improvement practices (Rahman and Bullock, 2005; Abdullah et al., 2008; and Gadenne and Sharma, 2009). Thus, the current study investigates the human side of quality management in Yemeni industrial companies through examine the direct impact of human factors of quality management on quality improvement practices and organization performance, and also examine the direct impact of quality improvement practice on organization performance. Furthermore, this study evaluates the indirect impact of human factors of quality management on organization performance through their direct impact on quality improvement practices. Thus, this study can contribute to Yemeni Government and companies' effort and enhance the industrial sector through improving the implementations of total quality management.

Finally, the framework of this study consists of six factors represent the human side of quality management; they are leadership, customer focus, supplier relation, employee involvement, training and education, and reward and recognition. Also, quality improvement practices involve both human and technical sides of quality management, and organization performance that was represented by five dimensions. It is hoped that this model to be a very useful to investigate the objectives of this study.

### 1.3 Objectives of the study

Literature of quality management suggested that human factors of quality management have direct impact on quality improvement practices and organization performance from one side, and indirect impact on organization performance through their impact on quality improvement practices from the other side. According to Wilkinson et al. (1994), human factors of quality management need more attention when the organizations reengineering their processes to implement total quality management.

Therefore, the present study aims to examine the impact of human side of quality management on both of quality improvement practices and organization performance in Yemeni industrial companies. In order to achieve these aims, the following objectives were suggested to be investigated:

1. To determine the impact of human factors of quality management on organization performance.
2. To identify the impact of human factors of quality management on quality improvement practices.
3. To evaluate the impact of quality improvement practices on organization performance.

4. To examine the role of quality improvement practices as a mediator factor for the relationship between human factors of quality management and organization performance.

#### 1.4 Research questions

Based on the previously mentioned objectives of the current study, the following research questions were posited:

1. Is there direct impact for human factors of quality management on organization performance?
2. Is there direct impact for human factors of quality management on quality improvement practices?
3. Is there direct impact for quality improvement practices on organization performance?
4. Is there indirect impact for human factors of quality management on organization performance through their impact on quality improvement practices?

#### 1.5 Significance of the study

The importance of this study is based on the importance of total quality management program since it has considered as the most important program in the business environment that can put the companies in the right way to encounter rapid changes in the business market and enhance the competitive advantage as well.

Based on past theories and research related to the implementation of total quality management, the framework of this study was developed to investigate, define, and clarify the contribution of the human factors to both quality improvement practices and organization performance. Human factors represented by the most important factors of human side that cited in literature

they are; leadership, customer focus, supplier relation, employee involvement, training and education, and rewards and recognition. Additionally, the framework also includes quality improvement practices, which were represented by both human and technical sides, and also the organization performance, which was represented by five dimensions, all of them are related to quality performance.

It is important to note here that the relationship between total quality management practices and organization performance has been concentrated by researchers, but there was less attention paid to the human side of quality management, which most of the studies that found in literature of quality management emphasis on technical side rather than the human side. Therefore, this study is considered as one of a fewer studies that interest in the human side of quality management. Furthermore, this study is the first to report in Yemen and in Middle East countries as well. Thus, this study has become significant since it took action to the call for more research in total quality management in the international context, especially in the Middle East countries (Dale et al., 2001).

Therefore, the current study attempts to contribute in terms of the scarcity of research and provide enough knowledge regarding the domain of total quality management. Moreover, this study may also contribute to the existing knowledge regarding the effective aspects of human factors, which was needed to create a suitable environment to the implementation of quality improvement practices and increase organization performance.

Yemeni Government has planned to enhance the industry sector via total quality management implementations (Yemen News Agency, 2009). In recent years, industry sector has been spotlighted as an important source in Yemeni Economy (Yemeni Government Report, 2007). Therefore, the current research attempts to support the efforts to improve industrial sector within empirical investigation, specifically, it evaluates the direct and indirect impact of human factors of quality management on quality improvement practices and

organization performance toward improving industry sector as planned by the Yemeni Government.

In fact, Yemeni industrial sector is in the need to an empirical investigation into the extent of total quality management practices especially in the human side of quality management in order to provide a sufficient knowledge to Yemeni Government and companies, which in turn provide heightened awareness of the important role of human factors to the practices of quality improvement and organization performance.

Moreover, the results of this study may help researchers to develop quality management model that are specific to the Yemeni context. Practitioners might also use the results of this study to evaluate the state of their total quality management through better understanding to human factors of quality management.

#### 1.6 Scope of the study

The domain of this research in terms of subjects concentrates on human side of total quality management such as leadership, employee involvement, training and education, customer focus, supplier relations, and rewards and recognitions) via evaluating the relationship of these factors with quality improvement practices and organization performance.

More specifically, the study was intended to determine the direct and indirect impact of human factors on quality improvement practices and organization performance. Thus, this study has been carried out due to the importance of those human factors to the implementation of total quality management and organization performance.

In regards to the scope of research location, it emphasizes on companies of Yemeni industrial sector, which are interested on total quality management implementation and have had local and international quality certifications. This study drew from sample of 87 industrial companies in different sizes (small,

medium and large), and they were divided into five industrial cities; they are Alhudaidah (21 companies), Hadramout (20 companies), Sana'a (18 companies), Taiz (17 companies), and Aden (11 companies).

The particular companies that reflect the population of this study includes all Yemeni industrial companies, which have a local and international certification. These industrial companies were selected due to their interest and familiarity to the implementation of total quality management and due to their implication to local and international quality criteria in their operations as well.

The scope of the study is therefore enhances the implementation of total quality management in Yemeni industrial companies through investigating and enhancing the contribution of human factors for quality improvement practices and organization performance.

### 1.7 Structure of thesis

The structure of the current study was constructed to investigate the aims of this study, which conducted to evaluate the human side of total quality management in Yemeni industrial sector via examining the direct and indirect impact of human factors of quality management on quality improvement practices and organization performance.

Chapter one provides a brief overview of the current study. It gives overview of total quality management philosophy and shows the situation of total quality management in Yemeni industrial sector, and also, explains the problem statement of the study. Moreover, it identifies the objectives of the study, the research questions, the significant of the study, and the scope of the present study.

Chapter two includes five sections; first and second sections discuss definitions, theory, and the concepts of total quality management based on literature review from quality leaders. These sections also show and discuss the results of empirical studies that carried out in total quality management field.

Third section shows and discusses total quality management award model such as Deming Prize, Malcolm Baldrige National Quality, and European Quality Award.

Forth section discusses the human side of quality management through: firstly, discussing the critical factors of total quality management implementations that were identified by a set of empirical studies. Secondly, discussing human factors of total quality management and their importance to total quality management implementations, it identified a set of them as they appeared in total quality management literature.

Fifth and sixth sections discuss organization performance understanding and measurement as well as the relationship between human factors and organization performance. While the seventh section presents quality improvement philosophy and the relationship of quality improvement practices and human factors was discussed in section eighth. Finally, section nine summarizes the literature review chapter.

Chapter three presents the framework of study and hypotheses. Then show the research design of study. Next identifies population and sample of study. Furthermore, this chapter includes the methods sections; it provides detailed explanation of the instruments, pre-test of questionnaire, data collection methods, in addition to data analysis of the study.

Chapter four reveals the findings and discussion of this study, which shows the demographic information of study and the descriptive statics, in addition to the factor analysis and reliability analysis. Moreover this chapter provides the results of correlations analysis. Furthermore, it reveals the interpreting statistics from Structural Equation Mode (SEM), which shows the results of Amos analysis that examines hypotheses of study, which were generated to explain the direct and indirect impact of human factors of quality management on quality improvement practices and organization performance.

Chapter five provides summary, conclusion, limitations, implications and recommendations of the study it is firstly shows a summary and conclusion of study, next reveals limitations, implications and suggestions for future research.

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