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Perception of Leadership Issues Involved in the Implementation of Total Quality Management by Leaders of Business and Academe in Saudi Arabia

Ali Aljodea
West Virginia University

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Perception of Leadership Issues Involved in the Implementation of Total Quality Management
by Leaders of Business and Academe in Saudi Arabia

Ali Aljodea

Dissertation Submitted to the
College of Human Resources and Education
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in partial fulfillment of the requirements for the
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in
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Joy F. Saab, Ed. D., Chair
Steven D. Rinehart, Ed. D.
Ernest R. Goeres, Ph. D.
Patricia Obenauf, Ed. D.
Perry D. Phillips, Ed. D.

Department of Curriculum and Instruction/Literacy Studies

Morgantown, West Virginia

2012

Keywords: Total Quality Management, Saudi Arabia, Leadership

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ABSTRACT

Perception of Leadership Issues Involved in the Implementation of Total Quality Management by Leaders of Business and Academe in Saudi Arabia

Ali Aljodea

The importance of implementing quality management in education and industry is of growing importance in today's world. There is a growing concern in Saudi Arabia with quality and only a few institutions have begun to implement TQM. This study examined two of the major institutions in Saudi Arabia, Saudi Basic Industries Corporation (SABIC), and King Saud University (KSU), where TQM principles had been implemented. The study sought to determine the perceptions of upper and middle managers of the two institutions concerning the implementation of TQM and the factors related to those perceptions.

Little has been done in Saudi Arabia to compare TQM implementation strategies between a leading industrial firm (SABIC) and a leading educational institution (KSU). This research was an exploratory study designed to examine the role of the TQM facilitator in diverse settings. Specifically, the study was an in-depth, two-case research study of TQM implementation in an international manufacturing firm and a regional institution of higher education.

Data were gathered by means of questionnaires and interviews. A questionnaire for faculty and staff and a set of structured questions were used to interview TQM leaders in King Saud University. The questionnaire was randomly given to 150 staff members from three different colleges, 50 each from Pharmacy, Engineering, and Education. Interviews with deans of the three colleges were done. In SABIC, questionnaires were given to 150 staff and unit workers of the three units of the company as well as interviews with the Chief Managers of three units.

For SABIC, it was found that the stimulus for change was due to competition from other companies and the desire to improve the retention rate of employees. For KSU, competition from the other universities for student enrollment and a declining economic situation were the main factors. External pressures were common factors for both of them, but the contexts were different. A major challenge for both organizations was to convince people, both internally and externally, that a change in the work culture was necessary if the major issues were to be addressed and the survival of the organizations ensured.

Leadership commitment was an essential component of TQM implementation that emerged from the interviews of TQM leaders. It required the involvement and support of the Chancellor, President, Managers, members of the faculty, and staff. However, the major challenge was to make the staff aware of TQM and obtain their commitment to TQM training and meetings. It was found that one of the challenges to implementation was to target areas where TQM would lead to improvement in the organization's work climate, productivity, and employee satisfaction.

Keywords: Total Quality Management, Saudi Arabia, Leadership

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CHAPTER I

INTRODUCTION

“Globalization and Quality” has become a slogan for everyone seeking to survive (Ehigie & McAndrew, 2005). The concept in today’s era of competition, “Globalization and Total Quality Management (TQM)” has helped companies and institutions improve their working standards and increase productivity in this competitive age. TQM has also revolutionized the working culture of organizations in the past few decades (Gittell, 2001). The basic principles of TQM can be divided into three groups: a guiding philosophy of customer satisfaction, active participation by all the people involved in the process, and the tools to collect, measure, and analyze the performance of information (Seymour & Collett, 1991). The principles of TQM require that the organization's leadership convey, by word and deed, the message that customer satisfaction is paramount. This satisfaction is accomplished through a systematic process of continuous improvement in the organization's activities and outputs (Deming, 1986). The concept of TQM requires leadership that clearly communicates the organization's vision and goals, empowers people to work toward a shared vision, and trains and educates employees in group processes, quality assessment, and measurement. Finally, it provides an open environment that is conducive to change (Walsh & Ungson, 1991).

Total quality management is a philosophy and process that is used in both business organizations and institutions of higher education (Deming, 1986; Seymour & Collett, 1991). The methods of implementation, however, may differ across different types of organizations. This variety in methodology is due to variations in the characteristics of the organizations, namely, their purpose, culture, structure, and processes.

Seymour (1993a) believes that successful strategies are culture-dependent, and so a particular TQM leadership strategy might not work in a different cultural setting. As a Saudi Arabian student, I was interested in conducting research on TQM strategies within two of the biggest names in industry and education in my country: Saudi Basic Industries Corporation (SABIC) and King Saud University (KSU).

Total quality management is a process that facilitates continuous improvement of a business (or an educational institution) governed by a head of said institution and its employees. TQM is committed to providing good customer service with its quality product of education to its customers (students/parents) as well as a good working environment for its employees. Effective implementation of TQM, as argued by its advocates, can improve organizational performance and effectiveness, boost productivity, reduce operating costs and errors, and ensure future survival (Crosby, 2004, pp. 15-48).

Given the considerable differences between business organizations and institutions of higher education, change agents involved in TQM implementation need to be cognizant of these differences and need to adopt facilitation methods appropriate to the characteristics of the organization undergoing change. Also, depending on the culture and work environment, different leadership strategies may have to be taken into account (Tukiainen, 2001).

The organizational reorientation that will result from the implementation of TQM in industrial and higher education organizations requires an active, committed leadership over a long period of time to overcome organizational resistance (Burns, 1978; Cameron & Ulrich, 1986; Tichy & Devanna, 1986). Tushman and Nadler (1978) observe that organizational change cannot happen without a certain type of executive leadership. Thus, leadership is a critical player in organizational change.

One of the major problems that arose with the application of TQM was a lack of strong leadership (Kravchuk & Leighton, 1993, pp. 70-72). Moreover, organizational culture, underpowered employees, and uncommitted top management were found to be some of the barriers that hinder the application of TQM in an organization (Milakovich, 1990).

According to Bateman and Roberts (1992), TQM initiatives most often fail in the corporate world because of "faulty implementation" (p. 6). Similarly, research has shown that to make the quality of education better in universities and colleges, it is essential that leaders (executive officers, presidents, vice-presidents, deans, heads of departments) adopt certain leadership strategies to implement total quality management in the educational structure (Houston, 2007).

Although the success of implementing TQM practices in an organization depends to a great extent on introducing new processes, such as continuous improvement techniques (Carr & Littman, 1990), systems appreciation (Deming, 1986), and statistical process control (Rosander, 1989), it is also important to understand the role of leaders and managers. For example, their complete attention and involvement in the success of total quality management implementation efforts is viewed as one of the fundamental keys to its success (Reeg, 1992). Nowlin and Hickock (1992) described concerns in many companies involved with TQM regarding the cost associated with poor quality, including what they believed to be the sum cost of a lack of ability in leadership roles. While acknowledging management commitment as a fundamental requirement for initiating any effort or program, Swords (1992) emphasized that genuine leadership is needed to make quality efforts successful.

According to Al-Qahtani (1993), research has shown that in few industrial and educational sectors in Saudi Arabia, the performance of an institution increases due to TQM

implementation. This research was an attempt to analyze the implementation strategies and leadership roles in two different organizational settings in Saudi Arabia: educational institutions (King Saud University) and industrial institutions (SABIC).

Most bureaucratic organizations in third world countries have lost their willingness to change (Al-Qahtani, 1993). The desired change, however, must come in the form of continuous improvement through the adaptation of TQM. Implementation of TQM is perceived to be the most needed and the primary path to survival for the next century. Because TQM promises to help organizations to improve quality and to respond effectively to the public demands through continuous change, some Saudi public sector organizations have with less certainty tried many ways to adopt different TQM programs (Al-Qahtani, 1993).

Because each institution is different in its cultural and work settings, there are always some hurdles depending on the environment. Then the question arises as to how to overcome the “hurdles” to implement TQM in educational settings. No matter what strategies are applied, one cannot ignore the related hurdles. The problem is important because it is related to the quality of higher education. The leaders of the institution must develop management techniques designed to improve the performance of the organization, resulting in increased productivity (Wageman, 1995).

TQM in the Saudi Context

Although the field is not completely void of adoption, few industries or educational institutions have adopted TQM. However, SABIC is one of the industries that fully implements TQM and is one of the leading petroleum products producing companies in the world. The other one, King Saud University (KSU), one of the main universities in Saudi Arabia, has implemented TQM. Some major industrial companies like Saudi Telecom Company, Al-Jubail

Petrochemical Company, and KIMIA, which is another advanced electronics company, have implemented TQM. Furthermore, the Savolla Group has successfully applied TQM, and the results have been encouraging (KAQA, 2008). After these encouraging results were published, the Minister of Health, Dr. Hamad bin Abdullah Almana, stressed that quality is the only strategic option in the application of TQM principles in the health industry (Ministry of Health, MOH, 2008).

Concerning the adoption of TQM in educational institutes in Saudi Arabia, there is no solid evidence that TQM is applied effectively except in the serious attempts made by King Saud University, King Abdul-Aziz University, King Fahd University of petroleum and minerals, and some schools in the region of Al-Ahsa, which received the international quality certificates ISO 9002 ("Quality of Higher Education," 1999). King Saud University, however, has established its own Quality Council responsible for quality improvement and application in all its departments.

Al-Qahtani (1993) suggests that the public sector industrial organizations are faced with conflicting demands for productivity, quality, and service; these demands increased the possibility of failure of any planned improvement. In such conflicting situations, public sector organizations continuously search for a way to help improve their performance through cost-cutting, training, and reorganization. In Saudi Arabia, bureaucratic organizations are not able to respond effectively to public demands and are still perceived as failing. Furthermore, these bureaucratic organizations are always searching for new ways to improve themselves. TQM has emerged as a technique that seems to work for the private sector, especially in reducing waste and overall costs of operations. Therefore, public sector organizations in many developed countries as well as third world countries have started to adopt TQM either because of the

benefits this technique promises or in response to internal and external problems (Tukiainen, 2001).

Many difficulties, problems, and questions arise when implementing TQM throughout industry in Saudi Arabia (Al-Harkan, 2007). Al-Harkan (2007) believes that a possible reason could be that some companies chose the wrong strategy, the wrong tool, or just one tool. This poor implementation results from the absence of strategic planning, a lack of a systemic orientation, poor communication between departments, and the perception of TQM as a fad or campaign rather than a real, working system. Because Saudi industry has increased steadily over the past decades, its quality practices should also grow. Nevertheless, quality issues and techniques were expanded beyond the traditional manufacturing arena. This expansion was accomplished to meet new challenges such as globalization with a requirement of open markets, and the growing competitive environment. To overcome such challenges in Saudi organizations, it became important to assess the implementation of TQM practices. It was believed that substantial improvement would be achieved if TQM were implemented properly.

Al-Qahtani (1993) wrote that some of the other problems facing the application of TQM in Saudi organizations were due to frequent leadership change, ambiguity of training, poor individual performance appraisal, having different customers with different needs, weakness of financial and information systems, a lack of ideal and effective type of organizations in the public sector, and the long period of time needed for the application of TQM (p. 38).

Saudi Arabia is struggling in implementing TQM in most of its educational institutions. Educational institutions in Saudi Arabia are facing many problems today, including

A non-balance between quantitative and qualitative growth;

Weakness of interdependence between the universities and institutions of society;

Lack of faculty members practicing educational and vocational preparation;
 Weak productivity of the scientific academy; and
 Low efficiency in the use of material and human resources (Al-Qahtani & Methheb, 1999).

These problems and others faced by universities require rapid solutions that will chart the course for success, not only for the present, but also for the future (Freed, 1994). It is important to find solutions that can provide direction to increase the productivity and efficiency of the educational organization (Tari, 2005).

Alalawi (1998) attributes the reasons for backwardness of higher educational institutions in Saudi Arabia to the following:

Weaknesses in the role of the working groups and councils;
 Domination of the administrative sector over the academic sector;
 Weaknesses in the efficiency of administrators and academic leaders;
 Unwillingness to change, or even fear followed by a slow implementation of decisions on the matter;
 Education based on memorization, rather than on analysis and conclusion and innovation;
 Scientific research conducted only for the purpose of promotion and authoring only for the purpose of financial gain; and
 Community service only for building public relations, media, and improving the image of the institution, but not for filling the vacuum of the actual needs of society.

Derbas (1994) adds to the foregoing constraints of the problem by suggesting that a weak structure of information systems exists in the educational sector. On the other hand, TQM systems require the availability of data and information accurately and quickly.

Despite all these constraints, the institutions of higher education in Saudi Arabia have the ability to apply total quality management (Obaidi, 1999). Education institutions face many obstacles in practice. Perhaps the most important, as Cyert (1993) points out, are multiple beneficiaries of the university. The inner beneficiaries are students, leaders, faculty members, and staff. In addition, the outside beneficiaries include society, parents, and employers both in the private sector and in the public sector (businessmen, companies). Furthermore, points of public employment include everyone's needs and wishes that were going to be achieved through the quality implementation, which constitutes a major difficulty for the university in meeting the satisfaction of all these beneficiaries. That is possible if the University has made great efforts towards continuous improvement and the application of the principles of total quality (Hardy, Lawrence, & Phillips, 2008).

According to Al-Najjar (1997), many factors put pressure on Arabic universities to adopt TQM. Furthermore, work is being done to consolidate and strengthen its application to all academic departments and sections by addressing the following points:

1. Increase of social demand for quality education;
2. Increase of the cost of university education compared to the lack of financial resources;
3. Increase of the number of graduates from universities in certain specialties that are not required by the labor market;
4. Low skills of the graduates with respect to the skills required in the labor market;
5. Priority given to personal interests sometimes over the interests of the educational process;
6. Red tape and low levels of performance among staff and university personnel;
7. Low morale and lack of collective cooperation among university staff;

8. Economic change and technological knowledge, which requires rapid response;
9. Lack of control over the performance of faculty members;
10. Lack of effective communication between teachers and students;
11. Poor coordination and cooperation between academic departments and university departments support services;
12. Weakness of the productivity of scientific faculty members;
13. Weakness of the Arabic Universities role in serving the community and meeting its needs;
14. Misuse of material and human resources through the repetition of mistakes and re-work procedures;
15. Problems of admission and registration procedures for classes;
16. Infrastructure problems of the university (university student and faculty housing, laboratories, library, buildings, computers, technology, air conditioning);
17. Inadequate evaluation methods used and the resulting problems of correcting tests and delays in the delivery of results;
18. Poor planning of curriculum with no link between theory and practice;
19. Absence of financial support from businessmen and investors to universities;
20. Need to change and develop the standards for promotion of faculty members;
21. Improvement of central university administration;
22. Failure to address weak managerial efficiency of leaders;
23. Systems of incentives and annual bonuses that give incentive for improving the performance and operations;
24. Lack of manpower planning in academic sections and departments;

25. Absence of a standardized behavior code for students across different locations of universities;
26. Weak capacity of the students to deal with the methods and rules of scientific and social research (pp. 362-407).

The above factors justify the need for applying the principles of TQM in higher education institutions. Babin (1998) adds further reasons:

- (a) Weakening link between secondary education and higher education programs;
- (b) Inadequate link between scientific research and community issues;
- (c) Failure to diversify teaching methods in higher education, and lack of current methods for promoting dialogue and the development of scientific thinking among students;
- (d) Lack of participation of academic departments in the development of universities outlook strategy, plans, and programs (pp. 643-652).

After studying some major institutions in Saudi Arabia, Alsaggaf (1995), concluded that the universities should:

Find effective leadership with informed vision of potential application and to support the promotion of comprehensive quality regarding the processes of TQM through careful selection of leaders, training, and continuing education;

Establish an accurate system of information and data that works to streamline decision-making processes within departments and academic units of university;

Develop its own methodology to apply the principles of TQM in accordance with the strategic objectives and conditions of the internal and external environment surrounding it, not using what is suitable for other universities; and

Do a self-evaluation study to identify the strengths and weaknesses in systems and academic programs. Then, use calendars that provide the reference between Universities of the Arab world that have achieved high levels of quality in their programs and academic planning for the application of TQM. The application of TQM must be preceded by a comprehensive time table of existing conditions (pp. 26-27).

These findings lead to doing actual case studies of two of the premiere institutions in Saudi Arabia, one in an educational setting and the other in an industrial setting. The next section gives a small introduction of the two institutions.

King Saud University (KSU) and Saudi Basic Industries Corporation (SABIC)

King Saud University (KSU) was first launched as Riyadh University, which was renamed King Saud University in 1982. The university was begun to address the serious lack of education and training of employees in Saudi Arabia.

King Saud University today has an enrollment of about 52,000 students of both sexes. The university boasts programs in the natural sciences, the humanities, and expert investigations, for which it charges no tuition. Subjects in the technology and health disciplines are taught in English, with the remainder taught in Arabic.

Saudi Basic Industries Corporation (SABIC) is one of the world's leading manufacturers of chemicals, fertilizers, plastics, and metals. SABIC was founded in September 1976 when King Khalid signed a Royal Decree creating the Saudi Basic Industries Corporation (SABIC). Its task was to set up and operate hydrocarbon and mineral-based industries in the Kingdom of Saudi Arabia with its center located at Riyadh, Saudi Arabia. It has five strategic business units: basic chemicals, polymers, intermediates, fertilizers, and metals. It has research centers in Riyadh and in the United States. The vision of SABIC is to become the preferred world leader in chemical

manufacturing, and its mission is to responsibly provide quality products and services through innovation, learning, and operational excellence while sustaining maximum value for its stakeholders.

Framework for the Study

Each organization has its own political and structural characteristics on TQM implementation which influences the way the TQM leaders and staff form perceptions about it. According to Irvin (1995), the TQM literature suggests that there are five dimensions by which the TQM implementation strategies can be viewed:

- (a) External pressure for change - external and internal triggers of the change process (dimension drawn from the planned change literature);
- (b) Leadership commitment - role of leadership in "driving" TQM planning and implementation (from the planned change and TQM literature and Baldrige criteria);
- (c) Strategic choices - whether the institution seeks institution wide improvement or targets efforts for implementation, administrative support provided, and strategies for building commitment for the change process (from the TQM and planned change literature and Baldrige criteria);
- (d) Evaluative methods - selection of institutional indicators to evaluate progress and support systems to gather and communicate information to organizational members (from the TQM literature and Baldrige criteria); and
- (e) Goal specificity - expressed goal(s) of institutional TQM initiatives (from the TQM literature and Baldrige criteria) (p. 17).

Statement of Purpose

King Saud University (KSU) is one of the premiere institutions in Saudi Arabia that took initiative for the TQM implementation by forming a Deanship of Quality, and SABIC Company is one of the leading companies of Saudi Arabia that implements TQM as part of the procedural, administrative, and working culture of the company. Both organizations are dedicated to implementing a total quality culture as part of evaluation, assessment, and customer satisfaction strategies.

This research will become even more significant in light of the steps taken between the two organizations. The research will deal with the university as well as industry, side by side, making comparisons of their leadership strategies in implementing TQM. Their approaches to TQM implementation were analyzed in terms of similarities and differences.

The research topic of this study assessed the effectiveness of implementation of TQM in a Saudi industry (SABIC) and a Saudi university (King Saud University) through the perception of TQM leaders in both organizations. Recommendations were made on how to effectively implement TQM in both higher education and industry.

The purpose of this study was to identify the reasons, as identified by TQM leaders, leading to the adoption of Total Quality Management in SABIC and KSU and the barriers and challenges encountered in its implementation. The issue of the leadership commitment required and the strategies used in implementation were part of the investigation, as was the type of support leaders expect to receive. Goals and objectives resulting from the TQM initiative were examined, as well as the issues related to measuring progress toward those goals. The study sought to determine the perceptions of upper and middle managers of the two institutions concerning the implementation of TQM and the factors related to those perceptions. Because

leaders and their particular involvement in such introductions and implementations are purported to be pivotal, the focus of this research was at the managerial levels and involved those individuals who had leadership roles and responsibilities.

Little has been done in Saudi Arabia to compare TQM implementation strategies between a leading industrial firm and a leading educational institution. This research was an exploratory study designed to examine the role of the TQM facilitator in diverse settings. Specifically, the study was an in-depth, two-case research study of TQM implementation in an international manufacturing firm and a regional institution of higher education.

To understand the context and complexity of relationships that change agents face in different types of organizations, their roles in facilitating the implementation of TQM in a business and academic setting were examined using a descriptive case study approach. Descriptive research does not fit neatly into the definition of either quantitative or qualitative research methodologies, but instead it can utilize elements of both, often within the same study. The questionnaire survey was developed and distributed to the staffs of both institutions where TQM is applied. Also, a qualitative interview of the managers and deans of the units of the two institutions was conducted. The two case studies examined differences in organizational purposes, cultures, structures, and processes between the two organizations. In the course of the studies, the manner in which change agents adapted different facilitation methods with different groups was investigated and their effectiveness evaluated.

The primary focus of this dissertation was to compare and investigate the differences in context and processes of each organization and to identify barriers involved with TQM implementation in each organization. Also, one of the objectives was to interview selected TQM leaders to analyze how TQM concepts were used to enhance the performance of the institution

and to help to improve the learning environment and customer satisfaction. Therefore, the main overarching research question for this study was as follows:

What are the major issues concerning TQM implementation strategies used in SABIC and KSU as perceived by TQM leaders?

Using the conceptual model developed by Irwin (1995), the main research question was divided into the sub questions that were designed to be used in the interview of TQM leaders.

These are listed below:

- 1a. According to TQM leaders, what were the main reasons for initiating TQM implementation?
- 1b. According to TQM leaders, what challenges and barriers were encountered during the process of TQM implementation?
- 2a. How do the TQM leaders view their leadership commitment and strategies?
- 2b. What kind of support do they expect?
3. What are the goals of the organization derived from the TQM initiative and what efforts are being made to reach those goals?

This study focused on the efforts of SABIC and KSU to implement TQM, and it examined the approaches these organizations took as seen by their TQM leaders and staff. An attempt was made to identify the factors that help or hinder successful implementation of TQM in these two institutions. In general, the efforts of adopting TQM philosophy in the Saudi public sector face some difficulties, mostly related to organizational and social factors.

This research has practical significance that provides firsthand experience of implementing a TQM program in Saudi organizations using snowballing methods to identify organizations that implement TQM and interview and survey methods to interview leaders and

employees involved in implementing such TQM programs. This research sought to discover potential differences among the organizations being researched in terms of the main reasons for applications, level of implementation, units of applications, types of TQM programs adopted, training on TQM, employees' understanding of TQM, leadership commitment, and status of TQM application.

This research was also designed to identify the main obstacles blocking implementation and the priorities necessary to carry out quality assurance and to build on what was learned from this experience that would apply when developing a system of quality assurance and accreditation in academic general education and performance in an industry.

Research Methodology and Questions

Using the conceptual model developed by Irwin (1995), the main research question was divided into the sub questions that were used in the interview of TQM leaders. These questions were as follows:

- 1a. What were the main reasons for initiating TQM implementation?
- 1b. What challenges and barriers were encountered during the process of TQM implementation?
- 2a. How do the TQM leaders view their leadership commitment and strategies?
- 2b. What kind of support do they expect?
3. What are the goals of the organization derived from the TQM initiative and what efforts are being made to reach those goals?

Question one. The first question examined the reason for TQM being selected by the organization as a change process and how it was introduced. It also examined the challenges and barriers encountered by the two organizations during the process of TQM implementation. The

interview questions developed for Question 1 are taken and modified from Irwin (1995) and are the following:

- i. When and how did you first become aware of TQM?
- ii. What factors prompted school or college interest in TQM? (KSU)
- iii. What factors prompted institutional unit interest in TQM? (SABIC)
- iv. What are some of the major challenges facing the institution's school or college?
(KSU)
- v. What are some of the major challenges facing the company's unit? (SABIC)
- vi. How do you believe TQM will help address these challenges?
- vii. Do these challenges facing the institution's unit/ school or college impact it in its entirety or some areas more than others? (KSU)
- viii. Do these challenges facing the company's unit impact its entirety or some areas more than others? (SABIC)

Question two. The second question addressed the organizational context and culture within which TQM facilitation occurred. It covered the TQM leaders' views and perceptions formed from the experiences encountered during implementation process. The interview questions based on Question 2 are taken and/or modified from Irwin (1995) and are as follows:

- i. What is your level of commitment as TQM leader and what kind of support do you expect from the upper management?
- ii. What was the overall strategy used to get the TQM effort underway?
- iii. Are faculty members providing leadership to the effort? (KSU)
- iv. Are other sub unit members providing leadership to the effort? (SABIC)

- v. How do you define "change in culture" required for TQM to be successful within an organization; what does that term mean to you?
- vi. Did you use external consultants? If yes, how effective were they?
- vii. What areas of the institution seem particularly receptive to TQM implementation?
How have staff, faculty and students responded to your initiative? Are the faculty involved? What are you doing in the academic areas of your college (give examples) (KSU)
- vii. What areas of the institution seem particularly receptive to TQM implementation?
How have co-workers and staff in the unit responded to your initiative? (give examples) (SABIC)
- ix. What areas of the institution seem particularly resistant to TQM implementation?
- x. Do you have some specific examples of ways in which they are resisting implementation efforts? What did you do to overcome those?
- xi. How are details about the TQM initiative being communicated to the campus community? (through what sources)
- xii. How are details about the TQM initiative being communicated to your unit members and staff? (through what sources)
- xiii. Do you agree with the statement, "Institutional quality is difficult to define"? How do you define educational quality?

Question three. The third question examined the institution's goals and objectives for the future. The interview questions based on Question 3 are taken and/or modified from Irwin (1995) and are as follows:

- i. Do you have a strategic or long-term planning process in place? Does the institution have a mission and vision?
- ii. Have you established specific objectives which you hope to achieve through your TQM initiative?
- iii. Has an implementation timeline been established?
- iv. How are you measuring the progress of the institution's quality initiative?
- v. How are you measuring your division/unit's progress?
- vi. What specific improvements can you point to as a result of the TQM initiative?
- vii. If I were to come back five years from now, describe to me what I would find.

The above questions were used to explore the main overarching research question that was to explore for similarities and differences in TQM implementation in KSU and SABIC as perceived by the TQM leaders in reference to their strategies and actions. In addition to the interview questions, a quantitative survey was administered to the staff of both SABIC and KSU.

The quantitative survey will be used to triangulate the qualitative data collected from the TQM leaders of the units and colleges of SABIC and KSU respectively. The quantitative question are taken and modified from Irwin (1995) and were used to find the awareness and perception of staff and unit workers who work under those leaders for TQM implementation. The questionnaires for the quantitative survey are as follows:

- i. Are you aware of any challenges related to TQM?
- ii. Are you aware of factors that prompted institutional/college interest in TQM?
- ii. Do you think that TQM can solve the challenges?
- iv. Do you believe you have any initiative role in TQM implementation?

- v. Are you aware of the overall strategy that was used for TQM implementation?
- vi. Are you satisfied with the leadership effort in implementing TQM?
- vii. Are faculty members /unit leaders providing leadership to the effort?
- viii. Have you participated in training about TQM principles?
- ix. Have you identified personnel from your area to support the initiative administratively? (if yes, whom do you consider responsible for TQM implementation)
- x. Do you believe a "change in culture" is desirable?
- xi. How many areas do you think may be most affected by TQM?
- xii. How many hours do you spend per month on TQM related activities?

The above three main categories of questions were divided into semi-structured interviews to get qualitative data from the TQM leaders of SABIC and KSU. There were three TQM leaders from each institution selected for the qualitative interview. From SABIC there were three TQM unit leaders from different manufacturing units that were participating in this study. From KSU, there were three TQM leaders (Deans from the College of Engineering, Pharmacy and Education) who participated in this study. In addition, a quantitative questionnaire survey was created for the staff members in both institutions.

Data Analysis

The research methodology for this study involved descriptive quantitative data taken from the responses to the questionnaire and qualitative data from the interviews. The descriptive qualitative responses and the document analysis, like the annual report of KSU, SABIC, and

journals, were used for triangulation purpose. Inductive data analysis was employed to identify themes for the research questions based on the responses from both sets of participants.

Because the main aim of this research was to conduct case studies of the two organizations (particularly the role of leadership and TQM implementation strategies and ultimately draw in-depth comparisons), it was necessary to divide the questions into sets. The interview questions for Research Question 1 and 2 are taken and modified from Irvin (1995).

Significance of the Study

Recent efforts in the area of effective leadership strategies for TQM implementation in Saudi Arabia point to the need for more research to pave the way for successful implementation of TQM by addressing the issues and barriers that must be considered to lessen the possibility of failure during the planning and implementation process. This need is especially present when the focus is on recent implementation attempts in Saudi industrial and educational organizations. This study reviewed and examined these attempts, presented the strengths and weaknesses of such experiences, and suggested methods designed to foster a successful adaptation of this new technique of management in Saudi Arabian educational and industrial organizations.

There are three areas where this study should be useful to higher education and industry in Saudi Arabia:

- (1) Adopting good leadership strategies and practicing TQM in administrative functions on campuses to ensure continually improving customer services and to reinforce a quality culture in administrative and support services; and
- (2) Adopting good leadership strategies and practicing TQM in administrative functions on a large scale industrial level to ensure continually improving customer services and to reinforce a quality culture in administrative and support services; and

- (3) Using TQM concepts and leadership strategies to enhance relationships between business organizations and institutions of higher education by mutually assisting in TQM research and training in Saudi Arabia.

In addition, the results of this study should be useful to researchers and consultants involved in the emerging field of TQM operations in higher educational institutions and emerging industries of Saudi Arabia. By providing research data that compares leadership strategies and TQM implementation in two diverse work settings (industry and academics), this research should contribute to a better understanding of the process of quality implementation amongst different types of organizations.

Furthermore, additional justification for this research may be enumerated as follows:

1. A study such as this has not been attempted in Saudi Arabia.
2. Exploring the wider concept of TQM as it is understood by the Saudi public sector organizations might produce comparisons or contrasts that would identify productive topics for further investigation.
3. This study is important because it examines different approaches to quality as perceived by Saudi educational and industrial leaders by evaluating the quality concepts, and detecting their application and development in Saudi organizations.
4. This study is important in that it may lead to finding solutions to some of the problems that hinder the application of TQM.
5. This study contributes to the existing body of literature in this area by pursuing the questions coming from current attempts to implement TQM.

6. The possibility of learning, as a result of the process of the research, exists to the extent that new questions might be formulated at the end of the study leading us to new research possibilities.
7. Identifying leadership strategies that are most likely to promote successful implementation of TQM in Saudi organizations would be an important outcome of this investigation.

Limitations of the Study

Case study methods and descriptive research limit the ability to generalize the study's findings. This research used purposeful sampling to select the participants for this study. Despite the research limitations, this research sought to highlight some issues related to strategies for TQM implementation. This research will contribute to the understanding of the implementation process and issues related to implementation from the perspective of TQM leaders who are at the forefront of applying TQM processes and procedures.

CHAPTER II

LITERATURE REVIEW

The eighties, and most certainly the nineties, can be described as an era of heightened concern with the concept of quality in business, industry, and government circles throughout the United States (Carr & Littman, 1990; Stevenson, 1993). The TQM programs span the all-inclusive, organization-wide efforts on one hand, to the smaller, focused ones on the other. Some TQM programs are based on management-oriented quality constructs like the program by Deming (1986), who stressed management commitment, structure and strategy, training, problem identification, measurement, and culture. Some emphasize TQM as conformance to customer requirements (Crosby, 1998), while others are economically based (Taguchi, 1986) or are enterprise wide (Feigenbaum, 1991; Ishikawa, 1982). Still others are focused on statistical control methods (Juran, 1992). The plethora of TQM philosophies is made more confusing by the perception of quality itself. For instance, Crosby focused on conformance to specifications, while Deming (1986) focused on meeting and exceeding customer expectations. Furthermore, Feigenbaum (1991) focused on controlling variance; Deming (1986) focused on the value of quality in terms of excellence and worth; and Juran (1992) focused on quality processes. In general, researchers have supported Juran's and Deming's beliefs that leadership is key to successful quality management implementation (Caudron, 1993a; Chase & Federle, 1992).

History of TQM

For organizations around the world, quality management has become the focus as a process to improve quality in the products and services provided to customers. In the early 1950s, Feigenbaum (1991) coined the phrase "total quality control" as an approach to applying quality management to an organization as a whole. Feigenbaum believed that quality was

directly influenced by nine things: (1) markets, (2) money, (3) management, (4) men and women, (5) motivation, (6) materials, (7) machines, (8) modern information tools and methods, and (9) mounting product requirements (Evans & Lindsay, 1996).

Following World War II, two consultants from the United States, Deming and Juran, traveled to Japan to help in the rebuilding of Japanese industries. They introduced the Japanese to the teachings of statistical quality control. Their focus on quality went beyond statistics. Both Deming and Juran believed that management played an important role in achieving quality. They believed that it was management's true responsibility to ensure quality throughout the organization. As a result of the efforts of Deming, Juran, and other quality leaders such as Crosby, Ishikawa, and Feigenbaum, quality management began to be taught as a philosophy, focusing on organizational behavior including the whole organization rather than focusing just on production (Crabtree & Miller, 2009).

According to Chase (1993), commitment and leadership represent the two basic elements for the structure, and they can be considered the foundation for the TQM structure. Improved communication and teamwork represent the linkage between the foundation and the other elements of the TQM structure. The improved communications element lies below the teamwork element to indicate that improved communication has higher priority than teamwork. Customer satisfaction, process improvement, focuses on employees, and supplier involvement elements are parallel to indicate that they are equal in importance (Figure 1). Continuous improvement lies on the top of the structure as an umbrella that covers the rest of the elements.

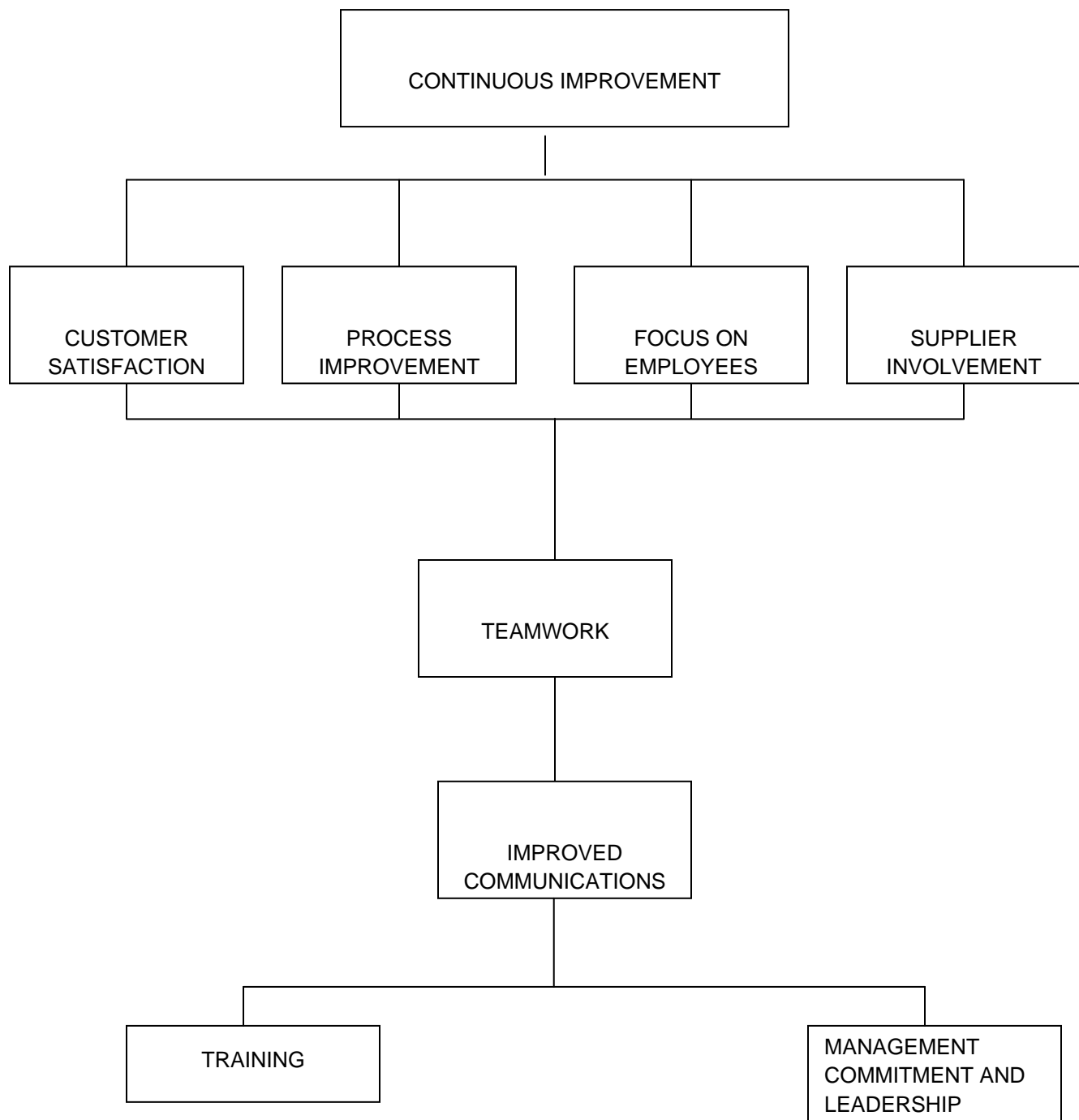


Figure 1. The structure of TQM (modified from Chase, 1993)

Management commitment and leadership are essential for the success of any TQM program. Prior to management commitment, management should have a thorough understanding of TQM. This commitment must be coupled with leadership and support to make it happen. Once management is committed to TQM, it will provide the necessary resources of time and money to permit improvement. Senior management, in the form of a Quality Steering Committee, might need to draft vision and mission statements that summarize the organization's philosophy with emphasis on customer satisfaction and quality.

TQM requires employees to do things differently; therefore, participation by management is essential. To achieve the changed behavior of the staff and improve quality, it is important to change the organizational environment. Without these fundamental cultural changes, an organization's attempt at TQM will fail. This fundamental change requires from management a long-term commitment with quality work and continued improvement (Culp, 1993). Management should learn to deal with challenge (Deetz, 2008). It should bring about changes and not continue to execute policy and cope with existing organizational systems.

TQM in Higher Education

In the early 2000s, following numerous reports criticizing colleges and universities for inadequate responsiveness, a number of higher education leaders began advocating "total quality management" (TQM) principles borrowed from business (Chaffee & Sherr, 1992). Proponents of TQM, the forerunners of which include Deming (1991), Juran (1992), and Crosby (1988), agree on many of its components. These commonalities have been captured by Marchese (1991) in the higher education literature. He posits that TQM is oriented toward 1) focusing on quality, 2) having a customer-driven philosophy, 3) continuously improving an organization, 4) making processes work better, 5) extending the mindset of continuous improvement, 6) using

information for decision making (i.e., management by fact), 7) eliminating rework, 8) subscribing to teamwork, 9) empowering people, 10) training staff and recognizing staff contributions, 11) establishing a vision, and 12) developing a strong leadership.

Marchese (1991) describes TQM at one level as an approach to management and a set of tools, a coalescing of new and old ideas--from systems thinking and statistical process control, from theories and human behavior, leadership, and planning, all brought together in a new orthodoxy (p. 4).

Seymour's book (1993b) on TQM in higher education outlines the principles as including the following components: 1) commitment to exceeding customer needs, 2) continuous improvement, 3) leadership, 4) human resource development, 5) systems approach to organizational behavior, 6) reduction of fear, 7) recognition and rewards, 8) teamwork, 9) measurement, and 10) systematic problem-solving.

Cornesky (1992) used TQM principles to develop an alternative model of the education market. Using the principles of Deming (a founder of TQM) and others, he developed a TQM approach for the classroom. In this model, students are simultaneously "products," "customers," and "workers." Cornesky also considered other "customers"-parents, alumni, businesses, and graduate schools. Cornesky's approach incorporates each of Deming's (1991) and Crosby's (1998) major points and interprets them for the classroom.

TQM as a pragmatic model, however, focuses on service to others (Spanbauer, 1995). The key principles of a particular version of TQM in education are leadership, scientific methods and tools, and problem-solving through teamwork. These three specific features are part of an integrated system that contributes to the organizational climate, education and training, and provision of meaningful data with customer service at the center of it all (Figure 2).

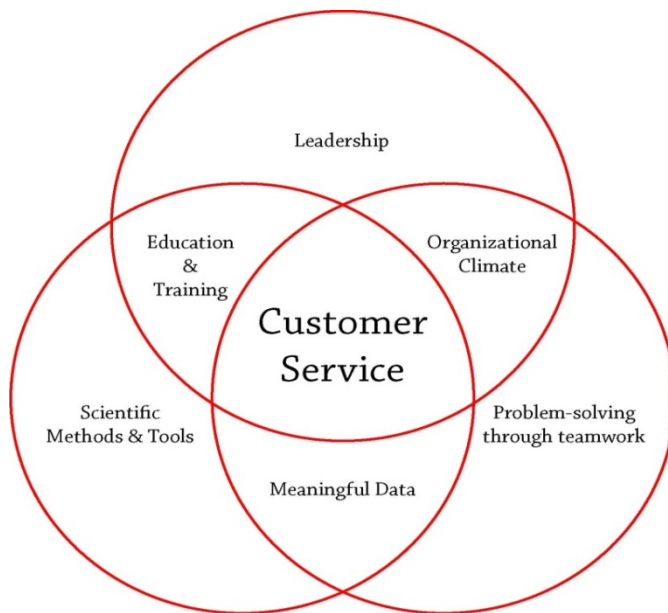


Figure 2. Model of total quality management (Spanbauer, 1995)

Education is a service with customers, and those customers express satisfaction about the institution's services and the instruction offered (Spanbauer, 1995). Teamwork is important, because lasting and significant changes will not occur unless educators and the other staff are directly and actively involved in the planning and development of desired changes. These teams will address problems by applying the correct tools and scientific approaches in a shared decision-making atmosphere (Spanbauer, 1995).

Furthermore, each institution, as a learning organization, focuses on the individual development of the learner. TQM embraces the principle that organizations should listen to their customers, continually evaluate how well they are responding to their needs, and initiate change to meet or exceed the expectations of the customers (Yudof & Busch-Vishniac, 1996). Input from employers and professional bodies should, therefore, feed decision-making.

Furthermore, TQM consists of continuous improvement activities, involving everyone in the organization in a totally integrated effort towards improving performance at every level (Goetsch & Davis, 1994). Adding to this, Kanji, quoted by Dahlgaard, Larsen, and Norgaard (1997), mentioned that TQM is a tool for leaders who strongly support continuous change in the organization. This is because organizations working with it unceasingly strive towards their own improvement, rendering it a dynamic system (DeSanctis & Poole, 1994).

According to Zhu and Scheuermann (1999), TQM is a totally integrated effort to gain a competitive advantage by continuously improving every facet of the organizational culture. TQM focuses externally on meeting customer requirements and internally on management commitment and employee training and education. Adding to the internal situation, Oakland (1995) said that TQM is concerned with moving the focus of control from outside the individual to within. The objective is to make everyone accountable for his own performance and to get everyone to commit to attaining quality in a highly motivated fashion (Eisenberg & Riley, 2008).

Because TQM is proactive in nature, its aim is to build quality into the product, service, and design of the process and then to continually improve it (Short & Rahim, 1995). Hadgraft and Holecek (1995) mentioned that Deming stressed the importance of cultural change to achieve a shift in focus on quality. The focus must be on doing the right things right, instead of worrying about doing things right (Youssef, Boyd, & Williams, 1996). Kolb and Green, quoted by Harvey (1995), mentioned that it is important to realize that higher education is not about getting it right the first time, but about developing ideas and abilities through a process of reflection. Furthermore, each institution should be a learning organization focused on the individual development of the learner, as well as the empowerment of all staff (Spanbauer, 1992).

TQM is a recent initiative in higher education beginning around 2000 (Rubach & Stratton, 1994). In the 2000s, higher education started to experiment with TQM, but there was a dearth of cases and literature defining "best practice." In fact, only about 25 institutions pioneered the TQM movement (Coate, 1990). The practice of TQM has gained popularity rapidly among higher education institutions in recent years as evidenced by the American Society for Quality Control's Quarterly Progress annual survey of institutions practicing TQM (Rubach, 1994). Although TQM has been used successfully by industries for over 50 years, it is still considered to be a fad by many higher education faculty, staff, and administrators (Sashkin & Kiser, 1992). Chaffee (1991) offers a description of TQM in higher education which includes

- (1) Customer focus;
- (2) Systematic improvement of operations;
- (3) Human resource development;
- (4) Long-term thinking; and
- (5) Commitment to quality.

Seymour (1991) lays out several benefits to embracing the concepts of TQM on university campuses. His article is based on a survey of twenty-two colleges and universities engaged in TQM.

First, one of the greatest benefits is that TQM gives people a voice. Such empowerment enhances the institution's accountability to its constituents by driving "responsibility and accountability to the lowest practical level of the organization" (p. 10).

Second, he argues that TQM's "focus on customers rather than self-satisfaction has caused staff to stop spending so much time explaining and start listening to what customers

want" (p. 10). Such an orientation shifts the focus of faculty and staff from policies and rules to customer requirements.

Third, TQM's focus on core processes increases efficiency by eliminating steps that are not critical to quality. This focus, in turn, minimizes the need for inspections, such as multiple signatures on travel forms or purchase orders. The result is a shortened turnaround time and a better-served "customer."

Fourth, TQM changes the climate of an institution from one in which cynicism and the mentality of "we've always done it this way" prevails to one of high morale.

Fifth, TQM focuses on decisions based upon fact rather than upon tradition or intuition.

Sixth, TQM's focus on core processes brings individuals together from across the campus rather than "pigeon-holing" faculty and staff in their respective departments and offices.

Seymour (1993b) refers to this outcome as "barrier busting" (p. 11).

Seventh, TQM stresses the importance of vision in giving faculty and staff an understanding of what the institution is about.

Finally, TQM can result in both direct and indirect cost savings by increasing efficiency and effectiveness. Chaffee (1991) outlines six potential benefits from the application of TQM in academic institutions:

- (a) Continuously improved quality of services and products;
- (b) More satisfied students, faculty, staff, and external supporters;
- (c) Greater productivity, with more pay-off per hour of effort;
- (d) More and better services for the same or less money;
- (e) New ways to cope with economic difficulties; and
- (f) Slower increases in tuition and state funding (p. 3).

The majority of the quality management programs in higher education have been directly focused on non-academic administrative functions. Many of the results reported focus on productivity improvements in copy centers, billing and collections services, and admissions (Evans & Lindsay, 1996; Koch & Fisher, 1998; Vazzana, Bachmann, & Elfrink, 1997). These quality improvements are important to the education sector, as resources have been released from these non-academic areas for use in academic departments. The improvements have also increased student satisfaction, a key goal of quality management (Koch & Fisher, 1998).

TQM Implementation Strategies

Gaining commitment from top management is the critical first step in the implementation of TQM. TQM requires a substantial change in organization and management philosophy. Simply understanding TQM does not change management systems. Management must take concerted action to select a plan and TQM strategy, restructure work teams that are empowered to make changes in the system, and teach teams how to use statistical and analytical tools to continuously improve quality (Fairhurst & Wendt, 2003).

GOAL / QPC (1990), a leading non-profit organization dedicated to TQM training and education, identified five implementation strategies used by organizations:

Strategy 1. The TQM strategy element takes key elements of systems, organizations, and TQM tools and works on the parts individually. It uses elements such as quality circles, statistical process control, and quality function deployment rather than full implementation of TQM.

Strategy 2. The strategy guru takes the teachings and writings of one of the leading quality thinkers and uses them as a benchmark to determine where the

organization is deficient, and then makes appropriate changes to remedy the deficiencies.

Strategy 3. The company uses organizational model strategy teams that visit American companies that have successfully integrated TQM to learn how they accomplished their successes.

Strategy 4. The Japanese total quality management studies detailed implementation techniques employed by Japanese Deming Prize winning companies and uses their learning to develop a five-year master plan for in-house use.

Strategy 5. The prize criteria strategy uses the Deming Prize or the Baldrige Award to identify areas for benchmarking standards and improving them (pp. 8-9).

Several authors have identified and categorized different steps associated with quality improvement (Mitra, 1993). Cummings and Worley (1993), for example, use five discrete stages:

Stage 1: Gaining senior management support and commitment to provide direction throughout the change process. TQM requires large investments in training and often causes significant changes in company policies, both of which need management support.

Stage 2: Conducting training throughout the organization in continuous improvement methods. Training includes learning problem-solving skills, statistical process control techniques, and knowledge to understand organizational process and to monitor effects of change.

Stage 3: Identifying and working on quality improvement projects that involve individuals and work groups applying quality methods to improve organizational processes;

Stage 4: Measuring progress by benchmarking or comparing organizational processes against quality standards in other organizations;

Stage 5: Reward accomplishments of employees by linking the award to improvement in quality and to the use quality management processes (pp. 328-331).

TQM Facilitation

TQM facilitation is an important aspect of the organizational culture and interpersonal processes within an organization where TQM is being implemented. This process includes communications, the role and functions of group members, problem-solving, decision-making, leadership and authority influences, and group norm development. The TQM facilitator, as a change agent, will use a variety of organizational development techniques, such as process interventions, diagnostic interventions feedback, coaching and counseling, group and task analysis, and improvement recommendations. These are intended to align organizational members and groups with the TQM culture.

Cummings and Worley (1993) described five major activities that need a change agent to manage:

1. Motivate for change. This creates a readiness for change among organizational members by sensitizing organizations to the need for change and overcoming resistance to change.
2. Create a vision. This includes developing a representation of the desired future of the organization that will provide direction for change and a way of measuring progress. It also facilitates clarification of mission, values, conditions, outcomes, and goals with organizational members.

3. Develop political support for change. This includes identifying and influencing key stakeholders and gaining support of powerful and influential organization members.
4. Manage the transition. Because this is a plan for change, TQM activities will involve such strategies as how to gain commitment for the change.
5. Sustain the momentum for change. This includes providing resources, creating a support system for change agents, and developing new competencies and skills to reinforce new behaviors (pp. 144-160). However, if not implemented correctly, TQM can create frustration and failure. The underlying cause of TQM failure is that managers do not clearly understand what quality is and do not recognize its strategic importance (Boden, 2004). Top managers fail to require a customer-focused vision or personal commitment and, therefore, do not achieve cultural transformation. No matter what TQM strategy is chosen by an organization, successful implementation requires managing the change effort at each stage of the process.

Facilitation Barriers

Internal or external facilitators face barriers simply because they are not familiar with the organization or, conversely, they are too familiar with the organization. Barriers that affect facilitation are an ongoing challenge to TQM facilitators. Barriers may occur for many reasons. Seven reasons were identified by Green (1993) as "non-supportive attitudes (culture); a report of poor leadership; lack of knowledge about quality improvement processes or tools; lack of fiscal, human, and informational resources; non-supportive organizational structures and reward systems; inappropriate organizational mission or vision statements; and a hostile external environment " (p. 2). In addition, Seymour (1993a) noted that change does not occur unless there is significant dissatisfaction with the status quo. Seymour (1993a) also observed that attitudes

and expectations establish what gets done and what does not get done. Therefore, “the ability to cause quality depends upon an attitude that makes ‘do-it-right-the-first-time’ service an integral part of the everyday lives of administrators, staff persons, and faculty members” (p. 127). In other words, if the attitude is not right, it will be a barrier to change.

Another factor contributing to the facilitator's effectiveness is the degree of flexibility in group interactions (Kelley, 1991). Strong group norms, including how the group views problems and interacts with other groups or the environment, can make the facilitation process easier and/or more difficult.

There are a number of barriers to implementation of TQM in higher education. Dr. Daniel Seymour (1993a) did research for GOAL QPC and found ten important barriers. These barriers are listed in rank order:

1. People are already so overloaded that they cannot contemplate taking on additional time commitments and responsibilities of TQM.
2. The approach continues as something that may work for the janitorial and housing staffs, but the academic applications are limited.
3. It has been difficult to overcome many people's perception that it is just another fad.
4. How do we keep the leadership of the institution repeatedly and consistently focused on quality issues?
5. One sticking point has been the language. It seems that words like “customer” and “total” evoke a knee jerk reaction from a lot of people.
6. This requires a lot of extra effort and people want to know, “what's in it for me?” Often the rewards are not clear or strong enough to generate real “buy-in.”

7. There has been impatience with the process. We're working harder, putting in more time, but we haven't seen any real changes.
8. We have had serious political problems. There are a few people who not only don't agree with TQM, but have been working to "talk it down."
9. It is too difficult to find the right level of visibility.
10. Supervisors/administrators have been reluctant to "let go" of decision-making power because of a need to be in control (Seymour, 1993a).

In spite of these barriers, many higher education institutions are continuing to experiment with various models for TQM in higher education.

Organizational Differences Between Universities and Industry

Although universities and business organizations have similar systems and subsystems and common variables, there are many differences in how they fit together. Weisbord (1978) differentiated output-input-focused and focused organizational systems, based upon where evaluation occurs. Weisbord's concepts are useful in highlighting the differences between businesses and universities. Output systems are used to evaluate products or services. For instance, output-focused private sector organizations have focused systems around customer requirements (Gittell, 2002). These determine productivity for the organization as a whole. There is a close relationship between the customer and producer. The employees in the organization know what they have to do to survive. Output can be measured and evaluated quickly through consumer feedback. When problems occur, people become involved and are open to discussion because they have a common understanding of the goal, they agree on performance and evaluation standards, and there is usually some correlation between performance and rewards.

Work processes require close cooperation and integration of many people doing a variety of tasks.

Universities, on the other hand, are often evaluated at the end of input (e.g., credentialing of professors and students screening). These organizations usually have multiple goals that are unclear and difficult to measure; evaluation is often a controversial issue; and administration action, or the use of authority, is often seen as irrelevant. Professors' frequent rewards and self-esteem are derived from sources external to the university. Their work is done independently. That means that collaboration is possible but not essential. Meetings are typically viewed as wasted time (Goodstein, 1978).

Seymour (1993b) argued that attitudes about service differ between business and education. He noted that in colleges and universities, administrators, staff, and professors feel they are "somehow exempt from the conventions that generally apply to services industries because their services are much different and more complex" (p. 128). Academicians generally view competition among educational institutions as less threatening to their institution's survival than business executive's view competition to theirs (Marchese, 1991). Faculty members see themselves as emphasizing diversity of ideas, while the term "service" suggests uniformity and quality control measures not commonly used in institutions of higher education. Quality in universities is usually gauged through tenure and promotion processes, whereas quality in business is measured by predetermined standards for products and services and by customer satisfaction. Academic freedom, professionalism, and the tradition of the individualism of the scholar interfere with the acceptance of common quality standards in the academic community (Coates, 1990; Hull, 1991).

TQM and Leadership

Ebel (1991) realized the importance of leadership while implementing TQM as he says, Leadership is the key to excellence. The aim of management must be to help people to perform and improve their job. Leaders focus on improving the process, inform the management of potential problems and act to correct problems. Leadership eliminates the need for production quotas which, by their very nature, focuses attention away from quality. Leadership also means that fundamental changes in culture and actions occur first at the top of the organization (p. 13).

Houghton (1992) attributed failure of TQM efforts in many companies to basic disregard for elements of the quality process. Chief among them is leadership. According to Durant and Wilson's (1993) propositions, in order to implement TQM, there appears to be a need to attempt to identify and analyze leader attitudes, perceptions, and descriptions of organizational processes, leader perceptions, and leadership style influences on success or failure in operational areas.

TQM proponents (Carr & Littman, 1990) have repeatedly called upon leaders in organizations to rally behind and carry the mantle of TQM principles within their organizations (Deming, 1991). However, the elements of leadership be they style, philosophy, or approach, are most suitable and essential to carrying an organization through the period of transition. Furthermore, the successful implementation of total quality management methods and processes remains to be identified and studied. The study of this problem in a state government agency not traditionally associated with modern management techniques will also provide an opportunity for exploring private and public distinctions in implementing total quality management.

Fiedler (1967) promoted the Contingency Model on the premise that managers' effectiveness largely depends on their success in adapting to the style of any particular situation and the needs of their followers. Fiedler maintained that leaders may be either task-oriented or relationship-oriented. He further asserted that in order to be effective, leaders cannot be both types or be in between and must recognize where they fit.

A precise definition of leadership in a total quality management environment may be difficult to formulate, but its importance and presence would be hard to ignore. In discussing strategies for managers implementing TQM principles, Scholtes and Hacqueberd (1988) focused on the specifics of the essential roles that managers are expected to perform in a TQM environment. These roles are enumerated below:

1. Top managers learn to become leaders, exemplars, and teachers of quality.
2. Managers establish improvement projects that are carefully selected and guided by managers. Then, they are conducted by cross-divisional teams using the scientific approach, and coached by technical advisers.
3. Top managers engage in quality transformation planning with a two-year blueprint for preparation, start-up, and early expansion.
4. Managers establish processes for the internal coordination, oversight, and technical training and assistance needed to support all quality improvement efforts.
5. Managers undertake specific efforts to change the organization's culture to support more total quality.
6. Quality begins with education and ends with education (pp. 44-47).

Scholtes and Hacqueberd (1988) proposed two areas of emphasis for leaders. They claimed "first, they should study Deming's techniques and Second, leadership studies should

focus on variation" (p. 48). They also emphasized that "managers who do not understand variation cannot manage effectively" (p. 48).

A variation of the term, Total Quality Management, is used by Joiner and Scholtes (1985) to discuss its implication for TQM leaders: *Total Quality Leadership* (TQL). According to Joiner and Scholtes (1985), the focus in TQL includes a deep understanding of the Deming and Juran teachings, with the requirement for leaders to educate and reeducate managers, become leaders instead of bosses, and coaches instead of enforcers. They further argued that leaders must focus on solving problems and on constantly improving rather than on blaming and controlling, communicate a clear vision of the organization's future, form and develop a true management team, and finally target implementation efforts and an overall strategy. They also stated that:

Leadership participation oversight by managers begins at the top. This is an absolute essential being that the most frequent cause of failure of any quality improvement effort is the non-involvement of top and middle management. Also, passive support is not enough. Total Quality Leadership must involve everyone (pp. 7-8).

With respect to TQM leadership, Senge (1990) argued, "The old model (the top thinks and the local acts), must now give way to integrating thinking and acting at all levels" (p. 14). The "new roles" purported by Senge (1990) for leaders in a TQM environment include leaders as designers. He added that "the first task of organization design concerns designing the governing ideas of purpose, vision, and core values by which people will live" (p. 10). Senge (1990) also described the leader's role as that of a teacher who engages in "helping people achieve more accurate, more insightful, and more empowering views of reality" (p. 11).

Normann (1991) elaborated on the role of total quality management leaders as motivators of their personnel and as change agents, who positively act to set standards, promote role models,

and set codes of conduct through personal behavior. Talley (1991) expounded on similar concepts in calling for leaders to become visionary, dynamic, open, caring, available, and, above all, charismatic, rather than skilled managers to ensure their organizations' economic survival. The role and importance of leadership in organizational survival in today's global competition was also echoed by Arnold and Plas (1993).

As West, Berman, and Milakovich (1993) observed, successful implementation of TQM involves leadership challenges. The scope of change is large, especially for departments that have been steeped in traditional styles of top-down management, management by objectives, and procedural rather than goal-oriented processes that include fear-based styles of employee management (pp. 176-177). West et al. (1993) viewed leadership as an "organizational phenomenon" (p. 177), which they described as "a set of strategies public managers undertake to implement change, rather than as the activities or characteristics of leaders who help implement TQM" (p. 177).

They further elaborated on these strategies as three distinct leadership task areas. The leadership tasks described as "transformational" (p. 177) revolve around analyzing and implementing new goals and processes unique to total quality management (Behn, 1989), or "the process of formulating and communicating new, visionary goals that respond to fundamental and often currently unmet human and organizational needs, desires, and expectations" (West et al., p. 177).

Transformational leadership and the change ideas involved are based on "structural-rational theories of organizations" (West et al., 1993, p. 177). Transformational tasks also involve structures, communications, goals, and boundaries of the organization (Kotter, 1990). The transformational tasks, in turn, create systems for identifying customer needs, using new

techniques in measuring performance and training and empowering techniques for employees (Grady, 1992).

The leadership tasks associated with "transactional leaders" (West et al., 1993, p. 177) are geared towards an insistence and persistence in the adoption of newly introduced (e.g., TQM) principles by the organization (Burns, 1978). According to West et al. (1993), transformational leadership involves "the process of obtaining commitment from organizations and individuals for new programs and policies. Transactional leadership involves either voluntary acceptance (achieved through processes of mutual accommodation and exchange, often involving present or future benefits and promises), or coercion (involving manipulation, deceit, or threats)" (p. 177). The process of achieving success is further described by West et al. (1993) as one of developing small "pockets of commitment" (p. 178) and gradually attempting to expand to other parts of the organization.

The acceptance of the changes introduced within the organization by outside groups such as other professionals, politicians, and community groups, is described as the primary focus of "representational leadership" (West et al., 1993, p. 178). They involve "the process of obtaining legitimacy and support from stakeholders of the organization for its results, objectives, and processes. With that said, representation involves substantial educational efforts and political boundary-spanning" (p. 178). Efforts in these areas are expected to secure survival and acceptance of changes by ensuring continuity in the face of managerial changes that might take place during the process.

Leadership Strategies in Industry

The implementation of TQM demands leadership (Aalbrektse, Hejka, & McNeley, 1991). Any study of leadership as a concept has to find its roots in the context of the organization,

management methods and practices, and the dynamic of the interactions among people.

According to Yukl (1981), leadership includes influence processes involving the determination of a group's or organization's objectives, motivating task-oriented behavior to accomplish these objectives, and influencing group maintenance and culture. These processes parallel the role of management in the pursuit of total quality management (Waldman, 1993). Management is responsible for developing the philosophy, policies, and procedures to shift the organization's emphasis toward quality-oriented goals and process improvements. In addition, leadership can help create a culture that fosters the philosophies of TQM (Waldman, 1993). The leadership style defines "how" a manager will lead the company through the different levels of TQM implementation (Gould, Lerman, & Grein, 2009). The research of Hersey and Blanchard describes different leadership styles for different situations (Babcock, 1991; Hersey & Blanchard, 1988). To use only one leadership style during TQM implementation seems like a limited and idealistic view. Implementing TQM is a challenging task, and it may vary from organization to organization.

However, according to Mahbashi (2007), there are few common steps that should be taken:

The first step in any attempt to implement TQM is to determine where to begin.

Determining where to begin is a very difficult step. Successful TQM implementation requires a systematic, pragmatic, and well-structured approach. There have been many different approaches suggested for TQM implementation. Those different approaches complement each other. Prior to TQM implementation, an organization might need to benchmark its current position. This can be accomplished in several different ways, such as a literature review to identify the state-of-the art for TQM implementation. A second benchmarking technique is to

hire experts from outside the organization to review and assess current work process and recommend the best way for the tentative implementation. A third strategy is to visit other organizations that have successfully deployed TQM and take their accomplishments as a benchmark (p. 10).

Lakhe and Mohanty (1994) also suggest that organizations hire a TQM consultant to provide the resources, experience, and discipline necessary for the process to start. According to Mahbashi (2007) the consultant should be perceived neither as an initiator of TQM and the improvement process nor as the “TQM champion” or the organization expert on TQM:

The role of the consultant should be limited to the transfer of skills and knowledge; when the task is completed, the training and the knowledge provided by the consultant must remain within the organization in order for the process of improvement to progress and develop autonomously. The organization must select the consultant carefully to ensure that its choice is best suited for its needs (p. 12).

Lakhe and Mohanty (1994) propose a framework for implementing TQM:

1. Identify the degree of commitment and area of key interest, and list the long-term changes required.
2. Define the objective of TQM.
3. Identify resources available and develop understanding of the organizational system with the quality system.
4. Specify top management commitment through quality policies, procedures and processes.
5. Create company-wide awareness and a participative work environment by emphasizing customer-oriented value. Encourage quality commitment.

6. Design action plans. Develop specifics about the future.
7. Identify key issues and constraints on implementation. Develop strategies for implementation.
8. Identify and allocate resources. Execute plans. Build momentum for change.
9. Implement and monitor.
10. Measure benefits in terms of achievement (adopted from Mahbashi (2007)).

Besides the above suggestions, many others have proposed models for the implementation of TQM, including Burati, Farrington, and Ledbetter (1992), Longenecker and Scazzero (1993), and Oakland (1995). But none of them can be called a universal handbook for TQM implementation, and it may vary from industry to university.

Leadership Strategies for TQM in Education

Higher education has looked to quality management as outlined by experts such as Deming, Juran, and Feigenbaum to improve instruction and service on college and university campuses around the world. Higher education leaders have "borrowed" ideas from the corporate world before (Dill, 1992), like strategic planning and other types of planning, programming, and budgeting systems (PPBS). The adoption of a customer-focused management approach, however, calls for the "participation of all members" of a college or university, and presents a unique challenge to leaders who wish to transform their institutions.

Since the early 2000s, higher educational institutions have been looking for ways to implement quality practices in every area of their business. Almost half of the institutions surveyed indicated that quality management is being used in administrative functions that support academic departments directly or indirectly. Researchers were surprised, expecting to see a higher number of administrative departments practicing quality management due to the

similarities between sections of higher education and those found in traditional business industries (Vazzana, Bachmann, & Elfrink, 1997).

Owlia and Aspinwall (1997) found in their research that most educational institutions focus quality management implementation efforts on administrative areas first. Owlia and Aspinwall (1997) believe this is true due to the similarities between industry and higher educational administrative duties such as strategic planning, training, and the needed commitment from top management for successful quality management implementation. Likins (1993) noted in his evaluation of Lehigh University's implementation of quality management that without top management support and the total inclusion of all persons at the university, quality management stands a small chance to succeed. Koch and Fisher (2008), Owlia and Aspinwall (1997), and Likins (1993) all pointed out in their research that inspirational leadership (value driven) from the top is required to successfully implement quality management in higher education.

Kanja and Tambi (1999) as well as Kanja, Tambi, and Wallace (1999) completed a study investigating the practice of quality management in the United States, Malaysia, and the United Kingdom (UK). During their investigation, they identified nine critical success factors for quality management based upon the perceptions of those higher educational institutions surveyed. It was found that leadership topped the list in both the United States and Malaysia and was a close second in the UK.

A number of implementation strategies are identified by Deming, Juran, and Crosby. Robert Cornesky, editor of TQM in Higher Education, adapts Deming's 14 points to improve quality in colleges and universities (Cornesky, 1992). Crosby points out that these

implementation plans are listed consecutively, but that they also can be done concurrently (Crosby, 1984).

Stanley Spanbauer, former President of Fox Valley Technical College (FVTC), conveys that FVTC started out using Crosby's model and then developed an in house 16 point implementation plan:

1. Demonstrate management commitment.
2. Establish a quality leadership council.
3. Determine the cost of quality.
4. Provide education and training.
5. Identify roles and establish performance requirements.
6. Implement a quality communications system.
7. Set goals and measure them.
8. Identify and eliminate problems.
9. Research and develop new initiatives.
10. Involve employees.
11. Establish accountability.
12. Launch a customer revolution.
13. Recognize, reward, and celebrate.
14. Conduct audits.
15. Link to the community.
16. Continue improvement (Spanbauer, 1992).

Most educational institutions use long-range and strategic planning synonymously, though they differ in their approach. Strategic planning identifies issues and resolves issues,

while long-range planning focuses more on goals and objectives. Strategic planning focuses on the external environment, while long-range planning keeps its focus inside the institution. Strategic planners visualize the ideal state for the institution and look for alternate ways to get to that state. Strategic planning is action oriented (Bryson, 1988; Kauffman & Herman, 1991).

Lorange (1980) argues that any strategic planning system must address four fundamental questions:

1. Where are we going? (Mission)
2. How do we get there? (Strategies)
3. What is our blueprint for action? (Budgets)
4. How do we know we are on track? (Control) (30-32)

Strategic planning is not one idea, one procedure, or one tool. It incorporates a range of approaches that vary in their applicability to public and nonprofit sectors. Because they design every planning process to fit the organization, every process in practice will be a hybrid (Bryson, 1988).

Barriers

Because total quality management programs affect the entire organization, the organization must adopt a culture that accepts and supports TQM (Johnson, 1993). Management must create a pattern of shared values and beliefs that is aimed at continuous quality improvement and customer satisfaction and that encourages the commitment of all organization members to that end (Sashkin & Kiser, 1993). To create this new quality culture, the management must promote and foster organizational change. This change can be difficult to accomplish (Hollander, 1975; Johnson, 1993). The leaders of a company are important

facilitators of this change (Hollander, 1975). There may be several hurdles to be overcome in implementing such change.

The implementation of TQM into an organization requires fundamental organizational culture change. Changing an organization's culture is a difficult task due to often encountered resistance. The challenge of implementing TQM results from the fact that TQM is not a slogan, nor a tool, nor a program. Actually, it is an organization paradigm. The concept of TQM is broad enough to be the framework or foundation of an organization's culture. Therefore, implementing TQM might deal with not only replacing, but also modifying the organization's culture. Furthermore, the transformation from the traditional western paradigm to the TQM paradigm is a radical change.

Lakhe and Mohanty (1994) discussed the case of a TQM implementation in a company located in Bombay, India. The analysis of their case study demonstrated the major obstacles in implementing TQM, specifically in developing nations:

- Inadequate knowledge and information about TQM;

- Doubts of employees about management's intentions;

- Failure of management to maintain interest and commitment over a long period of time;

- Difficulty in measuring the effectiveness of TQM;

- Poor internal communication;

- Difficulty in assessing customer expectations and satisfaction; and

- Insufficient training resources;

Furthermore, some individuals actually enjoy problems resulting from poor planning or poor performance. Thus, those personalities are not motivated by the assurance that TQM will

make their daily activities more rational and predictable. Special attention should be paid to those individuals, for they might be handling the TQM implementation process.

Among the other difficulties in implementing TQM is the failure to have some means of monitoring and managing the overall progress of the TQM implementation. In addition, the failure to provide training skills immediately before TQM is to be applied can create serious problems for the implementation process. Finally, regarding TQM only as an internal process and thus failing to involve suppliers, subcontractors, and others in the process chain creates a major difficulty in implementing TQM.

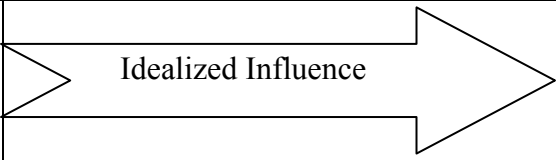
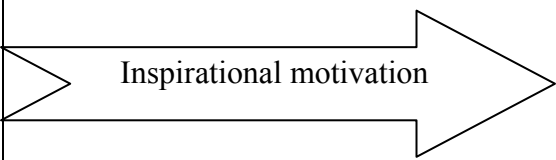
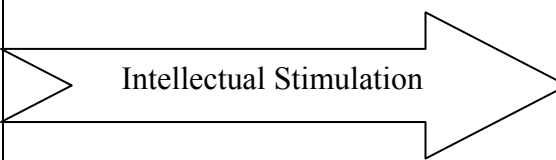
Leadership Characteristics

Several researchers working in the field of leadership have defined characteristic styles of leadership. Hersey and Blanchard (1974) developed a popular model called Situational Leadership, which focused on the life cycle of a leader. Blake and Mouton (1961) developed the Managerial Grid for identifying styles of management and leadership based on a leader's concern for people and production. Fiedler (1967) classified the likelihood of a leader's effectiveness using specific situations with his Leadership Contingency Model. Bass and Avolio (1999) developed the Full Range Model of Leadership that breaks down a leader's transformational and transactional styles of leadership.

The model developed by Bass in 1985 identified three general styles of leadership: transformational, transactional, and non-transactional. Since that time, Bass and Avolio (1999) further refined the original model that they now refer to as the Full Range Leadership Model. This model looks beyond specific situations such as removing production as a factor in evaluating the average leadership characteristics of an individual. The model assumes that

transformational styles of leadership are independent of transactional styles as well as non-transactional styles. In this way, a leader is surveyed on three independent scales.

Bass and Avolio (1999) have defined transformational leadership (Figure 3) as four leader behaviors: (1) Idealized Influence, (2) Inspirational Motivation, (3) Intellectual Stimulation, and (4) Individualized Consideration. Transformational leadership behaviors support the pursuit of change that brings about improvement and the attainment of organizational goals. This positive force of change or transformation is achieved through the team of followers that surround the leader. According to the model, through the personal growth of each follower, the leader is able to achieve performance that goes beyond normal expectations often resulting in higher quality organizational performance.

Leader Actions	Transformational Behaviors	Follower Reactions
Displays dedication and persistence in achieving objectives	 Idealized Influence	A desire to emulate the leader by adopting the leader's sense of purpose
Communicates the visions of attractive attainable possibilities	 Inspirational motivation	Arouses a positive emotional response accepting the identifiable visions
Challenges the status quo by questioning common assumptions	 Intellectual Stimulation	Develops willingness to seek new perspectives to old methods

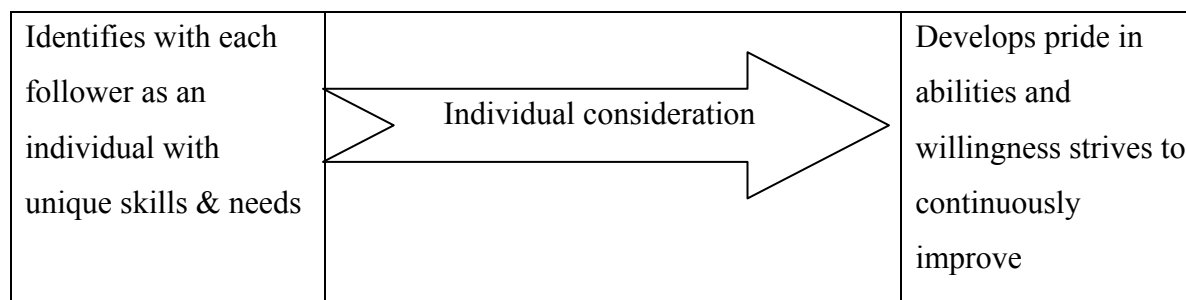


Figure 3. Transformational leadership behaviors

Transformational leaders have been credited for organizational performances that go beyond normal expectations (Bass, 1985). Bass and Avolio (1999) have been promoting the "Full Range of Leadership Model" that developed out of Bass's (1995) original work on transformational and transactional leadership. The Full Range of Leadership Model (Figure 4) is a collection of five transformational styles, three transactional styles, and one non-transactional style of leadership. The model is described below:

Transformational Leadership

Idealized Influence (Attributes and Behaviors)	The leader's displayed behavior is associated with organizational goals. It is a measure of faith and trust in the organization and the rater's willingness to emulate the general behavior expressed by the leadership as a whole.
Inspirational Motivation	The leader provides an environment that represents the energy and perseverance that separates exceptional followers who are willing to go beyond to accomplish organizational goals from average followers.

Intellectual Stimulation	The leader provides an environment that encourages followers to challenge the status quo in the quest to continually improve the overall organization. Leader and followers openly exchange high expectations creating a vision that demands higher standards.
Individualized Consideration	The leader recognizes that each follower is an individual with individual needs for development within the organization. Followers are provided the opportunity for personal attention and learning opportunities to develop higher levels of potential that will positively affect the organization.

Transactional Leadership

Contingent Reward	The interaction of the leader and follower focuses on the exchange of what is expected and what is desired. Exchanges include acknowledgement of completed tasks and additional responsibilities within the organization. Generally exchanges are positive, but may be negative in the form of punishment.
Management- by-Exception Active	The leader monitors activities for irregularities and failures that have or may occur. Attention is placed on discovery of mistakes.
Management- by-Exception Passive	The leader allows the status quo to continue without addressing weakness within the organization. Reinforcement, when used, is in the form of criticism and negative feedback.

Non-Transactional Leadership

Laissez-faire	The leader generally avoids any leadership role and/or avoids intervention between groups within the organization in critical activities.
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Figure 4. Full model of leadership (Bass & Avolio, 1999)

The Importance of Leadership

The role of the leader is crucial to TQM (Deming, 1986; George, 1992; Ishikawa, 1982). Schlotes (1988) asserted that the shortcomings of leadership were the main reasons TQM programs failed. Virtually all of the literature (Deming, 1986; George, 1992; Ishikawa, 1982; Lawler, Mohrman, & Ledford, 1992; Scholtes, 1988) reviewed on total quality emphasized the critical role of the leader. Leaders direct the strategic quality planning and ensure that it is integrated with a strategic plan. They must ensure that human resource development planning includes training, development, and employee involvement activities that are consistent with the company's quality goals and plans. Strong leadership is essential to overcoming resistance to change and innovation (Schein, 1992). Other employee involvement efforts such as quality circles sometimes failed due to a lack of senior management commitment and middle management support (Crocker, Chiu, & Charney, 1984).

One of the most important factors in successful TQM implementation is top management leadership (Caudron, 1993b). Researchers and industry leaders alike have discovered the importance of leadership commitment to a TQM program (Chase & Federle, 1992). However, few people have studied the effects of top management's leadership styles and strategies during

TQM implementation. My investigation will be based on studying various leadership strategies in the Saudi Arabian context.

TQM implementation can be divided into four basic levels. In level one, the employees gain awareness about TQM, its philosophies, and their importance in maintaining competitiveness and satisfying customer expectations. In level two, the employees are trained in the tools and techniques that aid the organization's pursuit of quality. These tools include but are not limited to flow charts, statistical process control charts, and the design of experiments. In level three, the employees are fully trained and begin to use their new tools to understand and improve their processes. In level four, the employees are confident with their new skills and can use them effectively for process improvement (Johnson, 1993).

In all of the above processes, the key importance of leadership cannot be ignored. Leaders play a pivotal role in TQM implementation, and therefore their views and perception should be given prime importance to understand any case study of any organization. This research is one such attempt.

CHAPTER III

METHODOLOGY

The purpose of this study was to identify the reasons, as identified by TQM leaders, leading to the adoption of Total Quality Management in SABIC and KSU and the barriers and challenges encountered in its implementation. The issue of the leadership commitment required and the strategies used in implementation were part of the investigation, as was the type of support leaders expect to receive. Goals and objectives resulting from the TQM initiative were examined, as well as the issues related to measuring progress toward those goals. The study sought to determine the perceptions of upper and middle managers of the two institutions concerning the implementation of TQM and the factors related to those perceptions. Because leaders and their particular involvement in such introductions and implementations are purported to be pivotal, the focus of this research was at the managerial levels and involved those individuals who had leadership roles and responsibilities.

Research Design

Research designs should incorporate methods most appropriate to the questions under investigation. Quantitative methods are generally associated with research from a variance perspective (Pfeffer, 1982), while qualitative research methods are typically used in process research (Pfeffer, 1982). In variance perspective, the research focus is on the degree of change over time, while a process perspective has a focus on descriptions of a change process.

Because the research study asked questions about the TQM implementation and planning process, qualitative methods were most appropriate. Further, because institutional planning and implementation process differences were compared, the research design was based on a comparative case study analysis (Yin, 1984).

This study was a comparison of the TQM implementation factors and leadership strategies; therefore, a comparative case study approach was used. The comparative approach provided a rich data set from multiple perspectives both in industry in academia.

Participants in the Case Studies

There were two case studies. One was conducted at SABIC, which is located in Riyadh, Saudi Arabia. SABIC is one of the largest industrial enterprises in the entire Middle East. SABIC and its affiliates initiated total quality management programs in 2002 and became the first companies in the entire Middle East to get ISO 9002 certification.

The other case study was conducted at King Saud University (KSU). KSU is a regional university that started TQM implementation in selected colleges in the early 2000s.

The Applicability of Qualitative Research to the Study

Qualitative inquiry enabled the researcher to investigate the complexities and multiple perspectives that shape realities rather than to isolate specific variables as often is the case in the quantitative, scientific method of data collection and analysis. Lincoln and Guba (1985) described five beliefs upon which qualitative inquiry is based. The first belief is that an event or events are interpreted by different people in different ways, depending upon their values and experience. These realities must be considered and become integrated into a holistic viewpoint. In this study, selected participants who had significant knowledge of their respective organization's TQM implementation process represented both horizontal (cross-functional) and vertical (hierarchical) levels.

The second belief considers the relationship between the researcher and what is being investigated. Personal contacts and interactions occurred during qualitative interviews, involving the researcher in the research process itself. Furthermore, as the primary data gatherer throughout

the qualitative process, the researcher might have been biased data because of his relationship with the interviewees.

The third belief addresses the fact that qualitative studies are particular and are not intended to be generalized to the larger population. However, the data gathered through structured and unstructured interviews, from training materials and other files, and from observation can lead to inductive reasoning. Therefore, the study might be useful in generating hypotheses, forming new questions, providing support (or refuting) theories, or gaining insight into a particular area of interest.

The fourth belief is that no one event or variable will be directly related to cause and effect. With events intertwined and occurring simultaneously, it was possible to identify some patterns of relationships, but it was not possible to separate the direct effect of one variable upon another.

The fifth belief is related to values in research. The investigator recognized that personal values influenced his data collection and analysis. Specifically, the investigator believes that TQM is based on sound management principles and practices; he is interested in using those concepts in teaching and facilitating learning.

Merriam (1991) considered the importance of researcher characteristics during her case study research. She recommended that the case study researcher have an "enormous tolerance for ambiguity," be sensitive to the context of the study, and be a good communicator (p. 37). Because the research design, data collection, and data analysis have no rigid procedures, the researcher must be able to "enjoy searching for pieces to the puzzle and tolerate uncertainty for an indefinite period of time" (p. 37).

Qualitative inquiry "can capture whatever significant outcomes occur because the design is not locked into looking at only predetermined variables and outcomes" (Patton, 1967, p. 14). The inquiry considers processes, variations, and individual differences between those being investigated and the outcomes. Certain advantages are associated with qualitative research methodology. For instance, a distinguishing feature of qualitative research is that it emphasizes the context of a total situation by employing a detailed and extensive investigation from multiple perspectives. The descriptive nature of the study allows for data that are thick, rich, and holistic (Merriam, 1991). Because of the detailed description, other researchers may be able to draw their own conclusions based on experience and research.

The Qualitative Research Case Method

The qualitative research case method is an in-depth analysis of a "total situation" (Rummel & Ballaine, 1963). It is described by a sequence of events leading to a particular organizational behavior. Goals of a research case study are to permit an in-depth study of an organizational process, to clarify those events relevant to the problem that may permit a greater understanding of causality, and to examine a situation in more depth than is permitted by standardized measurement procedures (McClintock, Brannon, & Maynard-Moody, 1979).

Yin (1987) observed that a case study is not a data point that represents only a single observation, but should be regarded as a whole experiment that provides insight by cross analysis. He recommended three ways to conduct meaningful case study analysis: to organize narrative accounts around substantive topics, such as specified propositions, questions, or activities; to tabulate meaningful events by using a quantitative approach to data collection; or to build explanations for a phenomenon by providing an accurate rendition of the facts, by considering alternative explanations of the facts, and by drawing conclusions based on

explanations that are most congruent with the facts. The researcher chose to organize narrative accounts around topics related to organizational variables and facilitation methods.

McClintock et al. (1979) further contended that qualitative analyses are possible both for the entire case and at the level of the unit of analysis and, indeed, are strengthened by the use of different data sources for each unit of analysis. By forcing different perspectives on the same phenomenon, the researcher qualitatively portrays divergent images that might emerge from each perspective. Although the investigation began with units of analysis (SABIC training department and the King Saud University's TQM departmental implementation), the study encompassed perspectives from cross-functional areas and varying levels of management at each organization.

The Applicability of Research Case Method to the Study

The research case method was selected as the study design for three reasons. First, it was important to understand the complexities of the facilitator's role. Moreover, the facilitator, at different points in time, was a different person. Sometimes the facilitator was internal, sometimes external to the group studied. This phenomenon occurs frequently, especially in larger organizations. A quantitative study would not be well suited to identifying the multiple actors, situations, and time frames undertaken in the study.

Second, events were multidimensional. TQM approaches are not static; they are evolving. Although there are number of universal techniques with respect to implementation, especially training in measurement skills and team building activities, not all organizations have the same degree of commitment to TQM, nor do they implement it in the same manner. It was important to gather viewpoints from various organizational levels and across functions to gain a good cross analysis.

Third, not many institutions of higher education were involved in TQM in 2004 when the researcher began to explore the topic, although the number is now increasing. When the study was initially undertaken, it was unlikely that a significant sample size could be located. In summary, the research case method study is an in-depth analysis of multiple variables from various perspectives over a period of time. The research case method not only allowed an in-depth study into the organizational processes, but also clarified elements that were particular to the two organizations being studied. The goal of the case study was to provide an in-depth examination that provided the rich data necessary and desirable in the research case methodology. The study involved analysis of narrative accounts of the facilitator's role in two different organizational contexts. It was organized around a set of semi-structured questions, participant observation, and examination of artifacts and training documents. Qualitative data were gathered during visits to the two sites selected for the study. The next section describes the data sources for this study.

Data Collection

Permission to conduct this study was secured from the SABIC and KSU authorities. Formal permission was obtained from the training manager at SABIC and from the deans of Engineering, Pharmacy, and Education at KSU. A necessary condition of the study was that the researcher could communicate with organizational members who had experience with TQM facilitation.

The survey questions cited in Chapter One of this research dissertation served as a guide in collecting data around specific topics and issues. Participants in the study were told that the general purpose of the interview was to obtain information about their involvement in TQM projects. Open-ended interviews were conducted in a way that permitted information to emerge,

either without prompting or, in some cases, by probing for insightful information. The research questions are repeated here. The questions from interview and survey which help answer them are presented.

Using the conceptual model developed by Irwin (1995), the main research question was divided into the sub questions that were used in the interview of TQM leaders. These questions were as follows:

- 1a. What were the main reasons for initiating TQM implementation?
- 1b. What challenges and barriers were encountered during the process of TQM implementation?
- 2a. How do the TQM leaders view their leadership commitment and strategies?
- 2b. What kind of support do they expect?
3. What are the goals of the organization derived from the TQM initiative and what efforts are being made to reach those goals?

The first question examined the reason for TQM being selected by the organization as a change process and how it was introduced. It also examined the challenges and barriers encountered by the two organizations during the process of TQM implementation. The interview questions developed for Question 1 are taken and modified from Irwin (1995) and are the following:

- i. When and how did you first become aware of TQM?
- ii. What factors prompted school or college interest in TQM? (KSU)
- iii. What factors prompted institutional unit interest in TQM? (SABIC)
- iv. What are some of the major challenges facing the institution's school or college?
(KSU)

- v. What are some of the major challenges facing the company's unit? (SABIC)
- vi. How do you believe TQM will help address these challenges?
- vii. Do these challenges facing the institution's unit/ school or college impact it in its entirety or some areas more than others? (KSU)
- viii. Do these challenges facing the company's unit impact its entirety or some areas more than others? (SABIC)

The second question addressed the organizational context and culture within which TQM facilitation occurred. It covered the TQM leaders' views and perceptions formed from the experiences encountered during implementation process. The interview questions based on Question 2 are taken and/or modified from Irwin (1995) and are as follows:

- i. What is your level of commitment as TQM leader and what kind of support do you expect from the upper management?
- ii. What was the overall strategy used to get the TQM effort underway?
- iii. Are faculty members providing leadership to the effort? (KSU)
- iv. Are other sub unit members providing leadership to the effort? (SABIC)
- v. How do you define "change in culture" required for TQM to be successful within an organization; what does that term mean to you?
- vi. Did you use external consultants? If yes, how effective were they?
- vii. What areas of the institution seem particularly receptive to TQM implementation?

How have staff, faculty and students responded to your initiative? Are the faculty involved? What are you doing in the academic areas of your college (give examples) (KSU)

viii. What areas of the institution seem particularly receptive to TQM implementation?

How have co-workers and staff in the unit responded to your initiative? (give examples) (SABIC)

ix. What areas of the institution seem particularly resistant to TQM implementation?

x. Do you have some specific examples of ways in which they are resisting implementation efforts? What did you do to overcome those?

xi. How are details about the TQM initiative being communicated to the campus community? (through what sources)

xii. How are details about the TQM initiative being communicated to your unit members and staff? (through what sources)

xiii. Do you agree with the statement, "Institutional quality is difficult to define"? How do you define educational quality?

The third question examined the institution's goals and objectives for the future. The interview questions based on Question 3 are taken and/or modified from Irwin (1995) and are as follows:

i. Do you have a strategic or long-term planning process in place? Does the institution have a mission and vision?

ii. Have you established specific objectives which you hope to achieve through your TQM initiative?

iii. Has an implementation timeline been established?

iv. How are you measuring the progress of the institution's quality initiative?

v. How are you measuring your division/unit's progress?

- vi. What specific improvements can you point to as a result of the TQM initiative?
- vii. If I were to come back five years from now, describe to me what I would find.

The questions for the quantitative survey are as follows:

- i. Are you aware of any challenges related to TQM?
- ii. Are you aware of factors that prompted institutional/college interest in TQM?
- iii. Do you think that TQM can solve the challenges?
- iv. Do you believe you have any initiative role in TQM implementation?
- v. Are you aware of the overall strategy that was used for TQM implementation?
- vi. Are you satisfied with the leadership effort in implementing TQM?
- vii. Are faculty members /unit leaders providing leadership to the effort?
- viii. Have you participated in training about TQM principles?
- ix. Have you identified personnel from your area to support the initiative administratively? (if yes, whom do you consider responsible for TQM implementation)
- x. Do you believe a "change in culture" is desirable?
- xi. How many areas do you think may be most affected by TQM?
- xii. How many hours do you spend per month on TQM related activities?

Table 1

Research Question 1 Interview and Survey Questions

Research Question	Interview Question	Survey
1a. What were the main reasons for initiating TQM implementation?	i, ii, iii	i , ii
1b. What challenges and barriers were encountered during the process of TQM implementation?	iv, v, vi	iii, iv, v

Table 2

Research Questions 2 Interview and Survey Questions

Research Question:	Interview Question	Survey
2a. How do the TQM leaders view their leadership commitment and strategies?	ii, v, ix, x, xi, xii, xiii	vi, vii
2b. What kind of support do they expect?	i, iii, iv, vi, vii, viii,	viii, ix

Interviews were audio taped by the researcher and transcribed, or written questions were submitted to the participants for their response. In addition to the interviews, minutes of meetings, policy and training documents, company newsletters, and other organizational literature were examined. Facilitators were observed in several TQM training sessions and strategic planning meetings at the university site.

This descriptive analytical study reviewed the TQM concept. Furthermore, snowballing sampling was used, a method employed when members of a population cannot easily be located

by random sampling. In this method, an ever-increasing set of sample observations was developed, where the researcher asked one participant in the event under study to recommend others for interviewing and so on (Babbie, 1989, p. 289). Interviews were also used to solicit data from a sample of managers to study these organization's efforts and to explain their experiences. The meta-plan method, a powerful technique for running a constructive group interview, was used in this study. This meta-plan enabled the researcher to ask the employees to identify and analyze factors that obstruct or foster the adaptation of TQM in Saudi organizations and that might, from their point of view, impact other organizations that have not yet introduced any TQM programs.

Data sources primarily were interviewees representing various levels and functions in the organization, including top management, facilitators, TQM team members, customers, and others who were affiliated with TQM projects, particularly during the implementation process. Key interviewees were selected initially because of their leadership or their facilitator roles. Additional interviewees were added as they were identified; that is, people identified by others who knew they could contribute to information-rich interviews (snowball method). To counter biased effects, interviewees were selected who may have both positive and negative viewpoints. Interviews were conducted until information patterns became repetitive and no new information was forthcoming.

Two main instruments were employed in this study. First, individual interviews were conducted with leaders (managers) at supervisory levels in a pre-set appointment. Second, a survey was used for employees involved in the application of the TQM program at the same organization. The survey was designed so that it would not exert pressure on the participating

members to disclose opinions or evaluations of specific experiences. This survey methodology was designed to ensure that the participants express their opinions anonymously.

The sample of employees for the study consisted of those involved with applying TQM. Managers were interviewed, and the survey questionnaire was used to sample employees in groups of at least 50. Each group attended a prescheduled meeting where the plan was explained to them first. Then data collection was started by discussing their understanding of and experience with TQM implementation.

Through open-ended interviews, a series of semi-structured questions allowed information to emerge, either without prompting or, in some cases, by probing for insightful information. To gain an understanding of the organizational context and complexity of relationships that facilitators face, interview questions addressed some of the following issues:

- (1) Why TQM was selected as a change intervention;
- (2) What the organizational climate was before, during, and after TQM facilitation;
- (3) What insights TQM leaders had towards TQM implementation; and
- (4) What organizational support and barriers they experienced that helped or hindered effective TQM implementation.

The recorded data were clustered around organizational variables and facilitation methods. A final comparison was made between the two types of organizations. The process of triangulation was employed to provide structure and credibility to isolate major categories developed from the data. Most of the triangulation was based on document analysis (like the annual report of the industry and university); quantitative results based on surveys, and on the qualitative data generated by the interviews.

The research tools of this study were a questionnaire and structural questions for interviewers. In King Saud University, a questionnaire was randomly given to 150 members from three different colleges, 50 each for (Pharmacy, Engineering and Education). In addition, the deans of the three colleges were interviewed. For purposes of this research, the three colleges are referred to as College I, II, and III.

In SABIC, data were also gathered from questionnaires and interviews. Questionnaires were given to 150 staff and unit workers of three units of the company, as well as interviews with the Chief Managers of the three units. For purposes of this research, the three units are referred to as Unit I, II, and III.

The data were summarized and presented in the form of proportions, means, and tables (see appendix). Data collected were analyzed using a simple descriptive statistical method, i.e., frequency tables and percentages for the response of the respondents to each of the seventeen items on the questionnaire. The collected data were analyzed and interpreted in line with the aims of the study, namely to determine the extent to which quality management was applied in King Saud University and SABIC, to establish the quality management practices used, and to determine the challenges faced in quality management implementation.

CHAPTER IV

RESULTS and FINDINGS for KING SAUD UNIVERSITY

This chapter presents the analysis of the data collected from the interview protocol and from the administration of a questionnaire to 150 staff members from three different colleges at King Saud University, 50 for each (Pharmacy, Engineering, and Education). Themes are identified for each research question based on the qualitative data generated by the interview. For the purposes of triangulation, the survey questionnaire data from the staff of the colleges were used along with data from college annual reports and research journals. The data are summarized and presented in the form of proportions, means, and tables. The data collected were analyzed using a simple descriptive statistical method. Frequency tables and percentages for the responses were provided for each of the seventeen items on the questionnaire. The collected data were analyzed and interpreted in line with the aims of the study, namely, to determine the extent to which quality management was applied in KSU, to establish the quality management practices used, and to determine the challenges faced in TQM implementation in KSU.

Overview of King Saud University

King Saud University is one of the premiere universities of Saudi Arabia, established in 1957 (formerly known as Riyadh University) and housing major colleges such as medicine, information sciences, arts, science, business, pharmacy, and agriculture. However, only three colleges (Pharmacy, Engineering, and Education) are involved with TQM and their deans took the initiative for the TQM implementation.

King Saud University has around 5000 faculty staff (including 1529 internationals), 34,028 undergrads (including 899 internationals), and 4136 graduate students (including 203 internationals). According to the 2010 Webometrics Ranking of World Universities, KSU is the

top ranking university in the Arab world. KSU is ranked 164th globally, an improvement of 35 spots since the 2009 rankings (KSU, 2010).

KSU is one of the premier academic institutions in Saudi Arabia that has taken initiative for the application of TQM in the academic field. KSU (2010) has started a joint cooperative research contract with the European Center for Top Quality Management (ECT and the TQM department at the University of Bradford, UK). This agreement will provide KSU with academic consultation in quality management and evaluation and will support its endeavor to achieve excellence and leadership through top quality academic evaluation and the development of strategic planning (KSU, 2010). As a leading academic institution, King Saud University (KSU) is committed to continual improvements in its performance, on all fronts, in order to better serve its customers and maintain its responsiveness to societal needs (El-Kady et al., 2009). In this respect, KSU has embarked on a recent vigorous initiative to promote quality in all planning and operational functions within its campus with direct impact on engineering, education, and research.

In any organization, some factors play a significant role in the successful implementation of TQM practices. Those factors include top management commitment, organizational culture, leadership, continuous improvement, quality goals and policy, resources, value addition process, and benchmarking.

To satisfy the university's objective in respect of quality and academic accreditation issues, the university has formed what it has coined the "Deanship of Quality," which emphasizes the continuous improvement of quality in all units of the University through application of modern quality systems to disseminate the University's message and to achieve its strategic objectives (KSU, 2010).

The university appointed Deputy Heads of Quality in its three colleges, with their main responsibility to supervise the implementation of the quality program in the college or deanship. They also play a major role in identifying difficulties or problems facing the development of quality programs and in suggesting solutions to them that may include identifying the specialized training needs of faculty members in the academic departments in the college. They were charged with creating a Deanship of Skills Development to coordinate their implementation plans and to urge and encourage faculty members to attend training programs, courses, and workshops offered by the Deanship of Skills Development (KSU, 2010).

The structure of the Quality Council of the University, which works under the Deanship of Quality, consists of the following members (KSU, 2010):

- (a) Rector of the University (Chairman);
- (b) The Deputy Rector of the University for Studies, Development and Follow-up (Deputy Chairman);
- (c) Deputy Rectors of the University (members);
- (d) Dean of the Quality Deanship (Secretary of the Council and TQM leaders);
- (e) Two students of graduate studies (members);
- (f) Two representatives from the Women Section (members); and
- (g) Three representatives of outside parties (members).

Also, there are six main units that work under the Deanship of Quality (KSU, 2010):

- (a) The Measurement and Evaluation unit;
- (b) The Academic Accreditation Unit;
- (c) The Strategic Planning Unit;

- (d) The Excellence Awards Unit;
- (e) The Quality Support Unit; and
- (f) The Quality Planning Unit.

All of the above mentioned units focus on spreading the culture of quality in the university by preparing plans to improve quality and by providing support and advice to the various units. These units also contribute to the establishment of experiences in the area of quality applications and in training of human resources within the university for quality assurance (KSU, 2010).

Results and Discussion

1-A. According to the TQM leaders, what were the reasons for initiating TQM implementation?

Reason 1: International competition and the economy. The management's adoption of TQM as a business survival strategy was influenced by the homeland's financial position. The financial situation was a vital component behind the employees' collaboration with the university/college's and its successful implementation of TQM. In 2007, Saudi Arabia faced a critical financial situation which had a direct influence on private universities and colleges. During the economic downturn, the number of students enrolling in these universities and colleges dropped substantially. While the public university/college sought to expand (Waters, Saadah, & Pradhan, 2003), for those students who still came to use the services of personal university/colleges, there was a change in their buying behavior. The Dean of College II, in discussing a change in buying behavior, recalled, "This encompassed declining discretionary admission and a shortened extent of residence that comes from expanded cost sensitivity."

Besides declining enrollment, there were opinions that the colleges (pharmacy, engineering, and education) were not on par with other schools of the Middle East and the West (Europe and USA). Furthermore, the students were leaving the institutions after several of semesters for better prospects. The management of the university/college studied saw TQM as a way to advance the quality of its programs so that they were in a position to compete in foreign markets as a way of insuring the university/college's long-term survival (The University/College's Annual Report, 2008). The funding for the university essentially comes from the department of higher education; it also receives gifts and donations from alumni and business men. KSU has decided to not only graduate the best students but also contribute to the country's knowledge based economy. The Dean of College I said,

There is a growing realization that the Arabian economy should be looked as not only based on natural resources but also in terms of knowledge resources. There is a growing demand for researchers and specialized people in higher education in order to attract students from the international arena. These eventually will help the economy of not only the university but also the nation.

Because of this, the university/college had taken up TQM for reasons of its business turnaround strategy. This did not just occur in order to be consistent with the Saudi Arabian government's value enhancement design. This business turnaround strategy was probably the reason behind the university/college's management promise to adopt TQM and its achievement outcomes.

The Colleges of Pharmacy, Engineering, and Education play a major role in attracting students from all over the country, and these colleges have the maximum number of students.

Decreases in enrollment were high in the three colleges, which led the university management to adopt TQM practices in those colleges. As a result, the deans of those three colleges initiated TQM implementation by taking TQM leadership roles. The Dean of College III says,

Production of highly educated professionals and researchers is seen today as the basic survival strategy in today's highly global, competitive economy. Besides traditional subjects, there is a growing concern to help our graduates to improve their skills in English language skills, computer skills, and communication skills. Our efforts have shown some results. Now we have several patents through research activities of faculty within the college which has created research centers of excellence.

Seeing TQM as a vehicle for the survival of the university/college, TQM was initiated through a top-down method with a sense of the importance of getting every individual involved. Although the top-down method often generates opposition amidst organizational constituents (Hackman & Wageman, 2005), for the university/college studied, TQM was met and sustained by the university/college's employees.

Reason 2: Need for accountability and continuous improvement. All three of the participants in this research emphasized the need for accountability and change in work culture as the primary reason to attract more customers (students) in their colleges and university. The Dean of College II said,

Even though the top management of the university is trying to implement the TQM model in all the colleges, so far it has been implemented in three colleges. They felt that everything related to college, from hiring new faculties, to budget

management, to record keeping management, everything needs to be examined and made efficient.

According to the Dean of College III, lack of proper planning and management commitment were the key areas addressed to improve the quality of customers and quality of services given to them. According to the dean, most important area to be addressed was the ineffective measurement techniques being used to identify areas where improvement needed to be made. He adds,

We believe that ineffective measurement techniques are the main challenge to be addressed by TQM. A well-designed quality measurement system is characterized by an ability to detect critical defects.

All three participants agreed to the policy of accountability of the performance of all the stakeholders which included faculty, staff, and management of the colleges. In order to evaluate the progress, they implemented the following criteria:

1. Number of research publication in high impact journals;
2. The student performance and their feedback as a part of evaluation process for overall service;
3. Education and training achievements which include organizing various seminars and international meetings for graduate students; and
4. Collaboration with different companies for the placement of the students after graduation;

Also, in order to improve the image of university in the society, it was realized that TQM implementation can help the university attract more students and can ensure parent's trust in the university. A socially responsible image is then projected, says the dean of College I, which is believed to be a very uplifting factor in order to increase the respect among masses of the society.

1- B. According to TQM leaders, what challenges and barriers were encountered during the process of TQM implementation?

Challenges and barriers 1: Fear and resistance to change. Studies have reported that the primary stage of inserting TQM into organizations is critical to TQM achievement due to the potential for employee opposition to the effort. To effectively insert TQM, management needs to spend time, effort, and assets to teach (Oakland, 1995) and convince its employees to examine the advantages of TQM (Fairhurst & Wendt, 2003). This method is similar to Latour's (2005) idea of using discussion methods to explore the explicit concerns of the enrolled (e.g., the employee) with the goal being that in the end, they become synonymous with the concerns of the enrollers (e.g., the management). However, in the case of the university/college studied, the methods used in building support for TQM may not have been essential, for the university/college employees, particularly those from the operational grade, appeared to share the concern for "survival" with the management. To them, the advantage of adopting TQM lay in providing them with job security.

Apart from sharing the identical concern, the economic component was found to be of assistance in charting the university/college's TQM success. Although the university/college had its economic adversities due to its foreign borrowings, the family who owns one of the biggest banks in Saudi Arabia (The University/college's Annual Report, 2007) supplied a borrowing line

to the university/college that extended the time span for restructuring its debt. Having its economic adversities resolved allowed the university/college's management to focus on its TQM business survival strategy. This was different from other university/colleges that were compelled to close down or change ownership. In a study of four public Saudi Arabia university/colleges (Alsaggaf, 1995), that voluntarily adopted the identical value program as the studied university/college, the investigator recorded dissatisfaction with the expanded workload and need for teaching allowances and assets as the foremost risks to applying TQM.

Interestingly, regardless of how effectively TQM was applied, some respondents were not so enthusiastic about buying into the university/college's top-down approach. One older manager from the TQM department said that when she was asked for input on TQM achievement, she would, according to the Dean of College II sometimes,

Feel a little embarrassed to glimpse the shocked faces of persons who discovered that our university/college utilized a top-down approach. With our success in applying TQM, I believe they anticipated discovering that we used a bottom-up approach.

Another respondent from the operational grade commented,

Involving all the staff and employees of the department was a new concept for College III, and there was some objection from some of the top management levels of the university.

The Dean of College III said,

Getting employees from the operational grade to take part and share concepts about how they could advance their work or service within their working locality in working competently or supply better service to the clients was a new process.

Challenges and barriers 2: Perceptions of the staff. From a contingency viewpoint, it appears the university/college's management was adept at making a good "organizational fit." By capitalizing on the doubt created from the financial position and the sense of urgency for survival, management emphasized the importance of collaboration with its TQM initiative in saving the positions of "protected employees." Nevertheless, being adept in securing protected employees' collaboration did not signify that management had a smooth TQM journey. One of the major adversities with utilizing the top-down set was that it requires a firm promise from management. As the Dean of College I states,

Unlike the bottom-up set where the employees are self-motivated and selected to apply TQM for its mechanical advantages (such as productivity, clientele satisfaction, zero-defects), the university/college employees were willing to take up TQM in the concern for survival not just because of the beliefs of TQM. As an outcome, the management had to spend substantial allowances of time and assets, not only in teaching, but furthermore in inspiring the employees to buy into TQM.

But the Dean of College III thinks that ultimately it helped things to become normal: A lot of people were initially strongly resistant to TQM and participation in team work. Currently, it has become a part of their work culture. Initially no one

wanted any change in the system, but as changes began to occur and notice was made of other people doing well, there was an increase in willingness to change.

2.- A. How do the TQM leaders view their leadership commitment and strategies?

Awareness and knowledge. All the deans of the three colleges were aware of the need for quality management to sustain the present students as well employees while taking the necessary steps to increase student enrollment and insure that quality of education was not compromised. Budget considerations, faculty and staff training, accurate records and data management, and continuous feedback from students, faculty, staff, and parents were put in the priority list of leadership strategies for TQM implementation. But the most important was the leadership commitment. All three participants agreed that the following were extremely important considerations for TQM leaders in planning TQM strategies:

- i. Exercising strategic leadership;
- ii. Establishing a strategy-supportive budget;
- iii. Installing appropriate administrative support systems;
- iv. Designing and installing rewards and incentives linked to performance objectives of TQM, shaping an organizational culture to fit the TQM philosophy; and
- v. Instituting best practices and pushing for continuous improvement.

All three leaders agreed that making staff and employee knowledgeable about TQM and providing appropriate training was an essential part of their job as TQM leaders. The following comments emphasize the importance of awareness, knowledge, and management:

Everyone in the university, from top management to workers, should be involved, but the dean is the primary leader of the TQM initiatives in his college. True commitment is driven by true understanding. We are trying to make sure that the understanding of TQM is adequate for all employees.

From the survey given to 150 staff members of the three colleges, 50% of the total respondents agreed that they were aware of challenges related to TQM. It was clear from the analysis that a moderate number of the respondents (32%) were not aware of the ongoing challenges associated with total quality management. Of the respondents, 18% chose "no comment." This clearly shows that making all employees fully aware of TQM was indeed a challenging task for TQM leaders.

Also, 50% of respondents believed that TQM could solve problems and challenges and make improvements to process, while 30% did not believe that TQM could solve the challenges. Again, 20% of the respondents chose "no comment." Convincing the employees that TQM can lead to improvement in their work was another important challenge reflected by the comments from TQM leaders.

On the awareness of the overall strategy that was used for TQM, 38% of the respondents said they were aware of the strategies, welcomed it in to the university, and practiced it. However, a total of 32% percent of the population disagreed with this, and 30% of the respondents selected "no comment."

For the success of TQM in any organization, top management commitment is the first step and prerequisite for a firm's TQM implementation efforts. Lack of management commitment is one of the reasons for the failure of TQM efforts (Brown et al., 1994). Top

managers need to demonstrate their commitment through their actions rather than words. Top management commitment can positively affect employees' commitment to TQM and culturally change people involved.

The implementation of TQM in higher education organizations requires an active, committed leadership over a long period of time to overcome organizational resistance (Burns, 1978; Cameron & Ulrich, 1986; Tichy & Devanna, 1986). As Nadler and Tushman (1989) observe, "It appears that significant and profound organizational change cannot happen without a certain type of executive leadership. The leader is a critical player in the drama of organizational change" (p. 100). In the present study, 48% percent of the total population said that they are satisfied with the leadership effort in TQM implementation, while 33% believe that the leadership was not well-qualified for this task. The rest of population (19%) chose "no comment."

Commitment by senior management and all employees is a must for the success of TQM implementation. The majority of respondents (54%) believed that the strong support of senior management is essential for TQM success in the university and colleges. On the other hand, 30% regarded that strong support from the deans of colleges was needed for good achievement. However, 16% of population considered that neither the president and vice president nor deans are important for the success of TQM.

Training and Involvement

The importance of training was a challenging task and considered to be the most important aspect for the involvement of every member. Training is essential for cultural change within the college. Training is a designed program of organizational change in agreement with

the tenets of Total Quality Management (Deming, 1986), and is among the most well liked methods utilized for TQM implementation (Hackman & Wageman, 2005).

With the importance of training established, the learning unit had been charged by the Educational and Training Department with the major responsibility of providing extending learning for all staff. Furthermore, each faculty in the department was responsible for participating in the annual teaching design and in the end of the year reviews based on categories covered in the accepted teaching plan.

Because the background for TQM served as a good starting point to build the conceptual framework, all deans of the colleges started earlier by reading about the application of TQM in higher education and by traveling outside the Kingdom of Saudi Arabia to different countries such as Japan, Australia, Singapore, and the USA. Most of these visits were viewed as helpful. This may reflect the high level of TQM awareness among KSU leadership. They believed that there are three main factors that are essential for TQM implementation:

- Institute quality leadership in the organization;

- Provide for accountability and continuous improvement; and

- Involve stakeholders in decision making.

Involving stakeholders in design and implementation can result in increased data quality and data-informed decision making designed to improve service delivery. A number of examples exist of the effective implementation of TQM within educational institutions where a new quality culture, involving all the stakeholders, provides internal management with the tools they need to become highly effective. Deans believe that ineffective measurement techniques are the main challenge to be addressed by TQM. A well-designed quality measurement system is characterized by an ability to detect critical defects.

Because TQM is a philosophy and a system for continuously improving the services and/or products offered to customers, the dean and/or chairs of King Saud University agreed that TQM was dedicated to enhancing the quality of all aspects of the work in all areas. They considered that all areas in King Saud University were receptive to TQM. However, scientific colleges were the most in need of quality.

All the participants said that they also appointed facilitators who were departmental chairs to provide training to employees and staff. All the participants believed that culture change within organization was always a big task. This is highlighted from the statements below:

I believe that to attempt the implementation of total quality management without creating a quality culture is to invite failure. Cultural change is one of the most difficult challenges an organization will ever face. Culture change requires support, ideas, and leadership from employees at all levels.

It is the responsibility of everyone. Quality implementation and support absolutely start with every individual and every unit in the whole institute.

Like many individuals in my institution, I'm trying to follow the principles of TQM. I am committed very much, and I am providing leadership efforts to train staff towards TQM implementation.

Every dean for quality and development is the leader tasked with applying the highest standards of quality in the college, with meeting the expectations,

requirements, and levels of satisfaction of its internal and external clients, and promoting the quality culture within colleges.

TQM has my full support, but it will take a dedicated, long-term effort by all of us. We must go beyond “good enough,” as we strive for continuous improvement in how we do our jobs. There were some quality training courses for Vice-Deans, Directors of Quality and other personnel working on quality. They found they were quite interesting and beneficial courses.

I notify my employees’ constituents that we require working simultaneously if we are to supply the value service to customers (students).

In the survey given to staff, while 45% percent of the total population said they were aware of factors responsible for TQM, 30% said they had no ideas about these factors, and 25% chose “no comment.”

Commitment is the most important factor determining the success of TQM implementation. Commitment and personal involvement are required from top management in creating and communicating clear quality values and goals consistent with the objectives of the company and in creating and implementing well defined systems, methods, and performance measures for achieving those goals.

Concerning the role of the faculty members, they were encouraged to play an important role in TQM implementation. Many members of the faculty spent a significant part of their time serving in administrative roles. Other faculties had interactions with the University's

administrative and business processes. On the other hand, deans and department heads can play an active role in providing leadership for continuous quality improvement. In King Saud University, 30% of the respondents say they have an active role in the over-all process of TQM, while 46% believe that their roles could not be considered as involving initiative. Also, 24% of the respondents chose "No comment."

In King Saud University, respondents agreed that the faculty members were the motivating factor for the success of TQM. Everyone needed to arrange schedules to allow time for TQM training and activities in light of other commitments and priorities. In the long run, TQM activities contributed to rather than hindered operations. TQM became a means for saving time and enhancing operations.

In King Saud University, while 46% percent of the total population said that they spent up to 10 hours on activities related to TQM, 35% said they spent from 10 to 20 hours on TQM-related practices. Only 19% of the population said that they spent more than 20 hours on TQM activities.

Communication and recognition strategies. TQM professionals emphasize the significance of a strategic design method (e.g., Deming, 1986) because TQM is strategically connected to organizational goals. Goals and objectives are important to the method of strategic designing. One of the strategies was to assemble and coordinate all stakeholders (faculty, dean, staff, students, and even parents) to assemble and co-construct the yearly goals for their own program, department, or unit.

The method of developing a yearly strategic business design began mid-October to December each year. All three colleges used data from the fall, spring, and summer semesters, along with information from the last quarter of the identical year to develop next year's plan. The

planning method used facts, numbers, and data from diverse categories encompassing market studies, competitor evaluations, self-evaluations, and allowance designs. Then, a brainstorming meeting was held where a set of critical achievement components were identified before submitting it to a departmental and divisional evaluation. The Dean of College II says,

At the end of the year, we attempt to recognize difficulties and possibilities in order that we could use them as our area of main emphasis for the approaching year. We work on common goals, common objectives, and the common approaches. I like the idea of workshops. We examine our current programs and discuss how we could overcome our weaknesses and focus on our strengths. This requires that we set a route, and that route I don't select alone. So I conceive a variety of dialogue with my faculty and staff to identify difficulties in their area. I bring together people from distinct agencies in order that we have the benefit of a view from outside the department to assist in recognizing the problems that require work. These views contribute to the establishment of our goals and objectives.

The dean and/or chairs of King Saud University confirmed that to get the maximum TQM effort, the following are necessary: (1) exercising strategic leadership, (2) building an organization capable of successfully executing the strategy, (3) establishing a strategy-supportive budget, (4) installing appropriate administrative support systems, (5) designing and installing rewards and incentives linked to the performance objectives of TQM, (6) shaping an organizational culture to fit the TQM philosophy, (7) allocating ample resources to help with

critical activity strategies, and (8) instituting best practices and pushing for continuous improvement.

Concerning the leadership commitment, the deans stated that everyone in the university, from top management to workers, should be involved, but the deans were the primary leaders of the TQM initiatives. According to Packard (1995), leadership commitment to a large scale, long term cultural change is necessary for successful TQM implementation. True commitment is driven by true understanding. Actually, the deans were trying to make sure that all employees understood TQM. The deans believed that quality implementation and support starts with every individual and every unit in the whole institution. They also believed that they must go beyond “good enough,” as they strive for continuous improvement in how jobs are done.

Deans believe that training is the key by which the organization creates a TQM environment. They mentioned that there were some quality training courses for vice-deans, directors of quality, and other personnel working on quality. They found the training courses to be quite interesting and beneficial. In King Saud University, the initial training was provided by quality leaders and professionals from National Commission for Academic Accreditation and Assessment. These sessions were attended by employees from different levels within the organization. Most of these training sessions focused on quality and planning tools.

Communication and recognition were the two most important strategies that came out of the interviews of the participants. All three participants agreed that both were important factors influencing efficiency. Communication involved the synchronization of all the stakeholders and customers (students and parents). Giving them recognition was important for keeping them motivated. Some employees discovered that if some of the teaching meetings were dull or tough, they could have a contradictory influence. The Dean of College III said,

Distributed information, like notes and pamphlets, are not sufficient to ensure a coordinated effort for TQM training. The teaching associated with this training is difficult at best and is further complicated by the diverse backgrounds of the employees. Communication is a major factor in providing the background for training and it cannot be handled with just information distribution.

If the teaching program is not consistent with what is appreciated by the receiver and not relevant to the receiver's job, then we are not surprised to see that this may have a negative influence on his interest in training classes. For example, the Dean of College I said,

In the orientation for employees, all of the employees, regardless of their employed grade and background, had to attend. Given this, an employee responsible for a housekeeping function, (for example, engineering lab manager) had to attend the meeting which he might not find relevant to his job and this might affect his interest in training.

The university/college began a better strategic plan for training that increased communication within the organization and provided better information concerning the quality enhancement undertakings at the university/college-wide level. According to one divisional controller who supplied an evaluation of the way the university/college advanced teaching before and after TQM implementation,

We had teaching, workshops, and orientation long before TQM. The result that TQM had on these undertakings was that we had better designed training activities and the design was merged with the university/college strategic plan.

Each year, the teaching and learning department would assemble responses on our university/college's desires as well as the employees' desires for training and submit their suggestions to the management group who would consider them for incorporation into the design for the upcoming year. The good thing about this was that everyone would have training that is connected to and concerned with the main goals each year. Through this process, every employee had information on the strategy for providing organizational wide training, before training that was designed specific to certain groups.

In the university/college, there were two major kinds of training: (1) mandatory training that encompassed employees orientation (general orientation and clinical employees orientation), unit orientation, management teaching, and new key policy-related teaching (e.g., Student Safety and Service Excellence), and, (2) individual development training that encompassed interior teaching (e.g., 100 hours English categories and rudimentary computer skills) and external teaching for programs that are helpful and associated to work practices, but not being supplied to the interior of the university/college.

However, the aim was on mandatory training on TQM related teaching techniques because of its important function in aligning the new and old employee members' information, mind-set and demeanor in the direction of the university/college's established goals. A variety of TQM teaching techniques were expressly designed to set up information on quality management methods as well as to instigate individual and organizational change through the enhancement of group work, collaboration, and connection (Scope of Service: Education) at the assembly and university/college-wide level.

The techniques supplied at the assembly grade were mostly directed toward employees at the management level. Courses, for example, included interpersonal skills, quality enhancement methods, and difficult explanations, group leading and construction, statistics investigation, connection abilities and productive meetings are glimpsed as a way to empower controllers, managers and supervisors with absolutely crucial understandings, knowledge, and abilities in directing their subordinates. Some of these techniques were directed toward advancing a person's abilities or toward developing abilities that were seen to underpin thriving TQM implementation.

As for the techniques supplied at the university/college-wide level, they were mostly associated with demeanor modification and self-awareness, for example service excellence and student safety. These teaching programs were seen as a way to encourage and strengthen collective mind-sets and behaviors in the direction of the university/college distributed goals. More significantly, these programs permitted university/college employees to realize other people's occupations and responsibilities and to concern themselves with others.

For instance, service excellence teaching was supplied to every employee who worked in the university/college, without regard to their place, and to all the sub-contracted employees who supplied service to the interior of the university/college. There was evidence that teaching did have some influence on trainees' mind-set and behavior. The respondents who worked in the clientele service department related that after obtaining training, they observed positive mind-set and demeanor of the employee constituents who worked in other agencies (either inside the identical partition or outside their division) had become more cooperative and helpful. The Dean of College II commented,

Before, we had teaching associated with supplying services only to the front line employees, for example, clientele service, receptionists, and public relations. But now every individual has to participate in service excellence, which is great and I can see the enhancement of the mind-set, and the employees who came to the class are more cognizant of their manner. They are more cognizant that looking after the student is not only the clientele service's job but it's everyone's job. When you see a student experiencing difficulty, you should proceed and offer assistance. You don't require calling a porter. It's not about saying this-is-not-my-job. This enhancement makes other's job simpler, particularly in coordinating with other departments. The staff will be more inclined to observe that we are all assisting the identical customer. So they are more eager to manage a task even if it's not their job. I can tell who had or had not participated in the training; it's conspicuous from their mind-set, the way they work with people, and the way they take care of the clients.

However, from the survey, 30% percent of staff said they had an active role in the over-all process of TQM, while 46% believed that their roles could not be considered as initiative. Also, 24% of the respondents chose "no comment." This clearly indicates that TQM leaders may have to work more in assisting the staff in taking more initiative.

2-B. What kind of support do they expect?

Financial Commitment and Support

The three participants were satisfied with the budget that was issued every semester for the training of staff and employees. It was issued by the Quality Deanship of King Saud University. All three participants took advantage of external consultants, especially in strategic planning:

Yes. We visited many organizations especially in Japan, Singapore, and Australia; most of these visits were helpful. We received support during the planning session. We have some great staff, but our work does not depend on a few key people being involved.

The majority of respondents (54%) believed that the strong support of the president (central administration) is essential for TQM success in universities and colleges. On the other hand, 30% related that strong support from the deans of colleges was needed for good success. On the other hand, 16% of the respondents considered that the president, vice president, and deans were not important for the success of TQM.

From the survey, 50% agreed that the faculty members were the motivating factor for the success of TQM, while 32% of the population said that many faculty members did not provide leadership to the effort. "No comment" was chosen by 16% of the respondents. This reflects the efforts of TQM leaders who have involved the faculties to enhance the leadership effort within the college and its departments.

Training Support

Initial training was provided by quality leaders and professionals from the National Commission for Academic Accreditation and Assessment. These sessions were attended by

employees from different levels within the entire organization. Most of these training sessions focused on quality and planning tools. Quality circles and improvements teams were used to implement quality in King Saud University.

If total quality is to succeed, management must demonstrate a personal commitment to and continuous involvement in the TQM process. This applies to all members of the institution.

However, this cannot be done without the strong support from the president and vice-presidents (central administration) who are essential to the success of TQM implementation. The role of the deans is important to consider in the work environment in which this motivation is taking place.

Every college in King Saud University has a vice-dean for quality and development who is the leader charged with applying the highest standards of quality in the college. This is to ensure the university will meet the expectations, requirements, and level of satisfaction of its internal and external clients, and promote a quality culture within colleges.

They all confirmed that they received a remarkable amount of support starting with the King Saud University Rector, the dean of quality, and the college's deans and vice-deans for quality. Concerning the financial support for TQM implementation, deans stated that full support was received from King Saud University through the Quality Deanship.

I believe that strong support from the President and Vice-Presidents (central administration) is essential for the success of TQM implementation. The role of dean is very important to consider in providing the motivation needed in the work environment.

All areas in King Saud University are receptive to TQM. However, College III is in great need of quality. Furthermore, the faculties are involved and they are very supportive. The University administration is also supportive of training.

Workshops, short seminars, training sessions, and the Deanship of Quality are tools used for communication. These occur regularly one or two times a semester, and school officials are involved.

In King Saud University, all people generally have a high level of awareness of TQM. This is because total quality management (TQM) has been recognized as a management approach that improves organizational efficiency and performance.

Yes, I have managed a team that provides Total Quality Management. My work is essential for continuous improvement and development.

The above comments are reflected in the responses to the survey given to staff members. While 48% percent of the total population said that they were satisfied with the leadership effort in TQM implementation, 32.7% believe that the leadership was not well qualified for this task. The rest of the population (19.3%) chose "no comment."

It was also noted that the achievement of TQM implementation originated from the authorization and empowerment supplied by the university/college administration:

Many university/colleges did not manage well with TQM because they did not have a well-established TQM participation like us. They either set up an

exceptional group which could be to blame for TQM undertakings or treated TQM more like task management. We are fortunate that our management group supplied all the resources and quality enhancement needed. The principles of the university/college supported our activities as we developed an administrative scheme to manage our jobs effectively.

Training is important for employees to be highly productive. Supervisors are solely responsible for implementing TQM within their departments and teaching their employees the philosophies of TQM. All employees can benefit from training in interpersonal skills, the ability to function within teams, problem solving, decision making, job management performance analysis and improvement, business economics skills, and technical skills. During the creation and formation of TQM, employees are trained so that they can become effective employees for the company.

In the present study, 46% of the respondents said that they had not participated in TQM principles training anywhere, while 31% indicated that they had already participated in such training. Among them, 23% enjoyed such training and benefited from such training in their work. Also, 46% of the respondents reported that they had identified personnel to support the initiative administratively from their areas. It was reported by 32% that they did not have such personnel, and 22% chose "no comment."

3. What are the goals of the organization derived from the TQM initiative and what efforts are being made to reach those goals?

A Clear Vision Is Required for Success

There is a strategic plan in King Saud University. It has clear vision and mission statements. Furthermore, the leadership of the university/college is making sure that it is broadly communicated to all staff members and employees. The development of the mission statements requires much time and discussion. Research, education, learning, engagement, and human growth are the dominant endeavors of KSU; therefore, KSU's strategies addressed these areas. Deans mentioned that every college has some great staff and that the work of the college was not dependent on a few key people being involved. The quality circles and improvements teams are used to implement quality in King Saud University.

Communicating with the customers (students) gives a new direction to meet the expectations towards specific goals. All three participants agreed that continuous feedback from the students and parents (which was not done prior to TQM implementation) gave a direction towards campus safety, design of syllabus, lab facilities and supplies, computer facilities, and coordination with placement agencies. It not only gave an accurate estimate about college budgets and admissions procedures, but also helps to hire the appropriate faculty based on their qualifications. The Dean College II said,

Most of the time, we are pleased to participate in the training activities because we discover new things. There is a strategic plan in King Saud University.

Research, education, learning, engagement, and human growth are the dominant endeavors of KSU, and KSU's strategies will address these areas particularly in the three colleges where TQM implementation is going on.

Continuous Evaluation

All the participants believed that there should be clear vision and mission statements. Furthermore, they were making sure that it was broadly communicated to all staff members and employees in their college. They were also making effort to expand this communication to other colleges and departments in the university, such as Students Affairs and Academic Affairs. These statements took a lot of discussion and time to establish specific objectives to be achieved through TQM initiatives. All the three participants highlighted the following objectives:

Stockholder satisfaction;

Guiding the institution by its values, vision, mission, and goals set through strategic planning processes;

Performance superiority; and

Creating an institution where people are at the core of every activity and are encouraged and empowered to work in teams.

The deans considered that TQM requires a culture change in many organizations, where the employees are given considerable power and authority. They believe that to attempt the implementation of total quality without creating a quality culture is to invite failure. Cultural change is one of the most difficult challenges an organization will ever face. Initially, a lot of people were strongly resistant to TQM and to participation in team work. Currently, it has become a part of their works. Culture change requires support, ideas, and leadership from employees at all levels. If the culture is not changed, then nothing else can successfully be changed.

Various measurement tools designed to access progress are now used as a part of the TQM implementation plan. The most common ones are BSC (Balance Score Card) and KPIs

(Key Performance Indicators). They are among the many measurements tools used to chart progress. They are used to periodically assess the performances of institutions, units, their division, departments, and employees.

Even though none of the participants disagreed that quality is something which is hard to define, there exists within the colleges an enthusiasm where customer and employee satisfaction is valued and where the productivity of the college should be of prime concern. According to the Dean of College II,

Yes I agree, institutional quality is difficult to define because quality is not an attribute of the object or product, it is a perception that relates to a person observing or using that product. So, quality is not absolute, but relative.

The Dean of College III said,

The answer is, TQM is the way of managing for the future, and is far wider in its application than just assuring service quality – it is a way of managing people and business processes to ensure complete stockholder satisfaction, internally and externally. TQM, combined with effective leadership, results in an organization doing the right things right the first time.

All of the participants agreed to the following points. They also agreed that continuity is required for quality management implementation:

Improvement of the institutional processes and outputs;

Continual and relentless thrust for improvement; and

Creation of “quality culture,” whereby everyone in the institution shares a commitment to continuous improvement.

Under the special comment section, few staff members wrote their personal opinions about the level of TQM awareness and implications. On the awareness of the total quality management culture and applications, five respondents said they accepted it as a global program and as a result welcomed it into the university where it is practiced. On the other hand, three said the university did not only welcome it, but also put in place a well-organized system for an enduring culture of quality within the system. However, a total of four of the respondents disagreed with this, saying that such a culture does not exist. Although 35% of the respondents believed that TQM could improve the quality of one or more areas, 45% considered that three or more areas would be affected by the application of TQM. Also, 20% believe that five or more areas could be changed after application of TQM. No respondent chose “10 or more.”

Finally, the deans of King Saud University indicated that TQM is the way of managing for the future, and is far wider in its application than just assuring service quality – it is a way of managing people and business processes to ensure complete stockholder satisfaction, internally and externally. TQM, combined with effective leadership, results in an organization doing the right things the first time around.

In King Saud University, all people generally have a high level of awareness of TQM. This awareness is due to the fact that total quality management (TQM) has been recognized as a management approach that improves organizational efficiency and performance.

One of the most important factors responsible for the success of TQM implementation is the culture change in the organization. The culture of the organization must be changed so that everyone and every process embrace the concept of total quality management. Yeh (2003)

believes that a successful TQM implementation requires cultural changes and that the creation of a “quality culture” is the ultimate goal.

CHAPTER V

RESULTS AND FINDINGS FOR SABIC

This chapter presents the analysis of the data collected from the interviews with Unit Managers and from questionnaires given to 150 staff members from three different units at SABIC, 50 each from Units I, II, and III. Themes are identified for each research question based on the qualitative data generated by the interview. For the purposes of triangulation, the survey questionnaire data from the staff of the units were used along with data from annual reports and research journals.

The data were summarized and presented in the form of proportions, means, and tables. The data collected were analyzed using a simple descriptive statistical method. In other words, frequency tables and percentages for the response of the respondents were provided for each of the seventeen items on the questionnaire. The collected data were analyzed and interpreted in line with the aims of the study namely, to determine the extent to which quality management was applied in SABIC, to establish the quality management practices used, and to determine the challenges faced in quality management implementation in SABIC.

SABIC's commitment to quality is evident from its total quality management program. All SABIC manufacturing affiliates have initiated TQM programs and have set global standards to qualify for International Standard ISO 9001 certification. SABIC and its affiliates initiated total quality management programs in 2002 and became the first company in the entire Middle East to get ISO 9002 certification.

Overview of Saudi Basic Industries Corporation (SABIC)

SABIC is the Saudi Basic Industries Corporation, one of the world's leading manufacturers of chemicals, fertilizers, plastics, and metals. SABIC was founded in 1976. In

September 2006, King Khalid signed a Royal Decree, creating the Saudi Basic Industries Corporation (SABIC). Its task was to set up and operate hydrocarbon and mineral-based industries in the Kingdom of Saudi Arabia with its center located at Riyadh, Saudi Arabia. It has five strategic business units: basic chemicals, polymers, intermediates, fertilizers, and metals. It also has research centers in Riyadh and in the United States. The vision of SABIC is to be the preferred world leader in chemical manufacturing, and its mission is to responsibly provide quality products and services through innovation, learning, and operational excellence while sustaining maximum value for stakeholders.

SABIC has always recognized the vital importance of quality. But it was the year 2002 when the TQM drive was launched. Since then, it has never turned back. As a result, all SABIC affiliates are ISO 9000 certified.

Consistently profitable and with global ambitions, SABIC continued to expand its manufacturing capability in Saudi Arabia while growing its manufacturing and marketing platform in Europe, the Americas, and Asia. As a result, in less than five years, its global workforce grew from 10,000 to more than 31,000 (Saudis and multinationals) employees working in more than 100 countries on six continents. Chief among SABIC's products made from hydrocarbon feedstock are:

Basic chemicals, the building blocks of petrochemicals, including methanol, ethylene, propylene, butadiene, benzene, and xylenes.

Intermediates, such as ethylene glycol, vinyl chloride monomer, and ethylene dichloride, used in the manufacture of other "downstream" compounds, which are themselves the raw materials of finished commodities.

Polymers, from which are derived most of the world's plastics ranging from thermoplastic resins to the polyester fibers. SABIC is one of the few companies in the world that produce all types of commodity thermoplastic resins, the most widely used of all plastics.

Fertilizers, the essential nutrients for increasing crop yields, especially in marginal lands. SABIC is one of the world's leading producers and exporters of urea.

Metals, chiefly steel and aluminum, the products of a Metals Group that relies on hydrocarbon fuels to turn out flat hot and cold rolled steel, and manages SABIC's two large offshore aluminum manufacturing holdings.

The year 2007 was a record year for SABIC, both operationally and strategically. Net income recorded a new high in sales revenue of 27 billion, compared with sales revenue of 20.3 billion in 2006, an increase of 33%. Total operating income was up 32% with sales revenue of 41 billion, as compared to 31 billion in 2006, with total production from manufacturing operations rising from 49.1 million tons in 2006 to 55 million tons, an increase of 12%. Total sales revenues reached 126.2 billion, an increase of 46% over the sales revenue of 86.3 billion that was achieved in 2006.

Results and Discussions

The data are summarized and presented in the form of proportions, means, and tables. Three production units (I, II, and III) tried to implement TQM. Their TQM leaders (i.e., Unit Managers) took the initiative for the TQM implementation. The themes emerging from the data were identified for each research question. Survey data were collected from 50 staff and unit workers from Units I, II and III of SABIC, for a total of 150 staff and unit workers surveyed. Survey data collected were analyzed using a simple descriptive statistical method, i.e., frequency

tables and percentages for the response of the participants to each of the items on the questionnaire.

1A. What were the reasons for initiating TQM implementation?

Reason 1: Competition from other companies. SABIC is in a favored position because it produces a variety of products. Its strategic enterprise units consist of basic chemicals, intermediaries, polymers, fertilizers, and metals, making it a conglomerate business in the industry. SABIC is committed to providing high-quality products and services that meet stakeholders' expectations while ensuring that the operations are safe and reliable. Since 2002, when the TQM initiative was launched, SABIC has never turned back. As a result, all SABIC affiliates are ISO 9000 certified. There is a strategic plan in SABIC for quality improvement initiatives to be explicitly addressed, though the focus is on human resource (HR) customers and manufacturing excellence. SABIC has clear vision and mission statements as part of its TQM initiatives. The push for operation excellence, customer satisfaction, and environmental safety are embedded in the mission statements.

Until now, the world market could not find any economically feasible alternative to the products manufactured by SABIC. In reality, the world is becoming more and more reliant on petrochemical products as research finds more and more uses for these products. Even though SABIC has always recognized the vital importance of quality, being a petro product manufacturing company, it was in 2002 when the TQM drive was launched to counter the increase in competition and to ensure survival in this competitive market. The Manager of Unit I said,

Saudi Arabia has a lot of petro chemical product manufacturing companies, and the competition in the global market is tough, especially in terms of product export. To

generate maximum revenue and efficiency, it was decided by the SABIC management to start implementing TQM.

Reason 2: Stakeholders' involvement and increasing employee trust. The rising competition among the petro product producing companies also led the TQM leaders to pay close attention to the stakeholders within the units and company. The major challenge was how to retain employees who could get additional benefits by working in other western companies. The TQM leader of Unit I said,

The employees were running either to other Middle Eastern European countries or to Far Eastern companies like Japan for better job prospects. We came to believe that there was something wrong in our approach to addressing employee and staff issues.

The main goal of TQM was to remove the barrier between management and staff. For example, all employees, from operational level staff to engineers and production managers, met during the initial discussions. They were told to meet on a regular basis to establish an inter-dialogue. The Manager of Unit II said,

As a part of continuous development, we found that the most important step towards the change was to examine satisfaction of not only customers but also of employees. Employee feedback was never really a part of the work culture for this company, but as a part of TQM implementation, it was realized that employee satisfaction can increase the work efficiency as well as the retention rate for employees.

Somehow it was realized that employees, particularly staff members in the production unit, were not considered stakeholders, and their opinions were hardly considered when making the annual report of the company. Also, the lack of measurement techniques and feedback systems was believed to be missing. It was believed that implementing measurement tools would assist in identifying areas of improvements that would lead to employee and customer loyalty, which in turn would lead to increased efficiency and effectiveness, which would lessen the challenges faced in TQM. The Unit III leader said,

We believe that ineffective measurement techniques are the main challenge to be addressed by TQM. A well-designed quality measurement system is characterized by an ability to detect critical defects.

The leader of Unit I agreed.

We found that somehow there is lack of communication, and the unit leaders, production units, human resources, and company administration are not in sync with each other. Initiatives were taken and the administration was told about the TQM training and the application to the quality circles within the different units of the company.

The importance of front line workers cannot be ignored as they are frequently in direct contact with the customers and can provide opinions and feedback on how to improve the products. According to Ishikawa (1985), customer focus is the entrance and exit to TQM. All the participants agreed that if a company does not want to hear the criticism and feedback from the

customers, that company will have the least chance of survival. According to the customer and supplier, relationships should be based on feedback.

The Manager of Unit II said,

People in the front line have more possibility to communicate with other clients; thus, they understand what the client desires. What are the alterations that happen? How do we cover the difficulties we face? The best functions of management persons are to align the mind-set of external clients and the mind-set of the interior employees to be on the same issues or concerns.

1B. What challenges and barriers count towards TQM implementation?

Awareness

All three unit leaders agreed that in the SABIC community, people are generally aware of TQM because it is part of the annual evaluation and appraisal system. Emphasizing the importance of awareness, the Unit I Manager said,

Quality and its challenges are related to the entire organization. They are all dependent and inter-related to all SBUs and functions in the organization. SABIC and all its affiliates have an overall strategy for TQM implementation; it is embedded in day-to-day business.

According to the Manager of Unit II,

Today we hear a lot about change management because organizations encounter situations which require restructuring to stay competitive. Some will find this change difficult to accept or adopt. Change management is essential for good,

dynamic companies to deal with cultural change in a professional sense; there is no constant thing except change.

According to Unit Manager III, Everybody should be a leader when it comes to quality, but the senior executives are the (primary) leaders of the TQM initiatives. But this was not the perception of everyone initially. There was no culture of collaborative effort and collective responsibility for the unit performance as everyone used to think that they are only entitled to do their work and should not bother with other proceedings or policies for the units. Changing that perception was very tough at the beginning. After the TQM training, things started to change slowly.

However, according to the survey given to 150 staff members of the three units, the majority of respondents (66%) were fully aware of the challenges related to total quality management. Because their awareness of TQM had started earlier (10-20 years), they were acquainted with TQM. Concerning the factors responsible for TQM implementation, 55% of the total population said that they were aware of factors responsible, 28% said they had no ideas about these factors, and 17% chose “no comment.”

According to Hyacinth (1993), there are two major characteristics of total quality management. The first is a focus on serving customers, and the second is systemic problem solving by front line workers. In our study, 62% of SABIC respondents believed that TQM could solve problems and challenges and make improvements to process. They (60%) believed that TQM could improve the quality for three or more areas in their companies.

Teamwork

Involving all the employees was the major challenge for the three TQM leaders. Initially, the TQM implementation was planned for selected manufacturing units of SABIC. But it was later realized that fragmented sections cannot positively impact the environment to the overall benefit of SABIC. Making all employees stakeholders was a major strategy used to address the challenges of TQM implementation. The leader of Unit I said,

Taking responsibility for work as a team member was not part of work culture at SABIC. Beginning with the sub managers and engineers to the operational level employees and staff who work in the production unit, it was important to make sure that operational activities were aligned with the strategies of SABIC. Not only that, but there should be coordination of all the units and divisions in SABIC.

The Leader of Unit II agrees.

Quality implementation and support absolutely starts with every individual in every unit in the whole organization. We are advocates for the TQM initiative in SABIC. The source of TQM support is from everyone in the organization, and the executives are the role models for this support. Every SABIC leader is a member of the quality steering committee headed by a CEO.

Regarding the TQM leaders in SABIC, 60% of the total population said that they were satisfied with the leadership effort in TQM implementation, and 28% believed that the leadership was not well qualified for this task. The rest of the population (12%) chose "no comment."

2A. How do the TQM leaders view their leadership commitment and strategies?

Team Formation and Training

All three leaders viewed training and team formation as the most important part of their strategy and believed that it was responsible for the success of the company. The production company from Europe encouraged the formation of teams whose task was to apply the concepts of quality management. The teams were formed to do market research in the Middle East and to research customers' perception of quality, rather than sticking to the set standards of SABIC. There were many quality training sessions in SABIC, and more than 800 employees participated at different times. The SABIC CEO appointed the quality steering committee, and the initial training involved external consultants, especially in areas of benchmarking customer surveys and climate surveys.

Initial training was provided by quality leaders and professionals in SABIC and its affiliates, sometimes with assistance provided by individual consultants or specialized companies. These sessions were attended by different levels of the entire organization. To find out the existing culture and to find out what needed to be changed to increase production, a research team did its initial training with quality teams located in Japan who had implemented TQM in their units.

There is no question that enjoyment of one's work leads to improved quality and to the development of those values and behaviors that lead to improved production and a feeling of self-satisfaction. The feeling of ownership was viewed as extremely important to all employees. The Manager of Unit II said, "Sometimes engineers were appointed as team facilitators to work with the training department to improve effectiveness, and they could also train other departments."

In the training called process evaluation, at regular intervals all machines were tested and replaced by the engineering team. Furthermore, reports on the performance of machines in the production unit were provided to the management on a regular basis. Training was comprehensive and included elements from all aspects of quality. For example, the Manager of Unit III said,

Training also included various tools about safety and productivity. Productivity was always of prime interest of the company, but only by its own standards. On the other hand, safety management was one area that needed careful attention.

One of the strategies was to insure that all employees were educated about the basic aspects of quality tools. New quality control training made it possible for employees to work outside their specialized fields and to work in other units on a regular basis to become more skilled and marketable. The quality team was trained in engineering statistics, math process, and requirements of ISO (International Standards Organization) 9000. People were made aware of concepts like statistical process control (SPC). Environmental protection plans and employee safety were given prime importance now.

A significant commitment must be made to training in preparation for implementing TQM. One of the biggest mistakes of the traditional approaches to handling quality is that it was assumed employees would use common sense and be courteous and knowledgeable when dealing with customers (Ehigie & McAndrew, 2005). Lack of proper training reduces productivity, quality, and safety (Parasuraman, Zeithaml, & Berry, 1988). In the present study, 45% of respondents had already participated in TQM training. Among them, 52% enjoyed such training and benefited from such trainings in their work.

Communication and Recognition Strategy

Short seminars, training sessions, and SABIC web quality portal were used. Unit Manager I said, “There is a strategic plan in SABIC, and quality improvement initiatives explicitly addressed and focused on human resources, customers, and manufacturing excellence.”

Communication attempts were made to all the buying customers of the company products, and their feedback was taken along with the employee feedback. The main reason for such communication strategy was to set goals towards

Employee loyalty;

Customer loyalty; and

Product and service excellence.

A policy was made where customers who were loyal to the products of the company were given rewards and were asked to provide feedback on the company’s products. The same reward technique was adopted for employees. The Manager of Unit III said,

A minimum vacation slot was made common for everyone, and every week an award was made for “employee of the week.” This encouraged the workers within the units to perform better because of the recognition strategy. Also, a customer’s day was implemented. This quality day is recognized to give value and importance to the customers.

In a quality-oriented organization, the commitment is absolutely permanent, not on and off. The quality policy was identified with the following points:

1. Institute quality leadership in the organization;

2. Maximize internal and stakeholders' involvement;
3. Manage by customer driven processes; and
4. Adopt continuous improvement.

A powerful way to decrease resistance to change is to increase the participation of employees in making decisions about various aspects of the process. In the present study, 62% agreed that the unit leaders were the motivating factor for the success of TQM. In terms of motivation, 28% of the population said that many unit workers did not provide leadership to the effort. Also, 12% of the respondents chose "no comment."

2B. What kind of support do they expect?

According to participants, dedication, budget, teamwork, training, values, tools, and techniques are the real demonstration of support towards implementation of the TQM mission. In SABIC, quality circles and improvement teams were used to implement quality in SABIC and its affiliates. The Manager of Unit I said,

In a real quality organization, quality is free; financial cost of quality actually is an investment; quality is all about reducing cost, efficiency. Employees' and customers' loyalty all lead to an increase in overall profitability of the organization.

All manager participants reported that they had visited many national, regional, and international organizations and that most of these visits were helpful. The travel support was encouraging for managers to develop personal interest to learn more about TQM implementation in the actual settings of other advanced organizations. Unit Manager II said, "We have very good support from some staff, engineers, front line workers, and upper management of SABIC."

SABIC continues to support research and promotes close cooperation with universities and research centers, offering numerous incentives for research in the form of grant programs and funding. It also encourages participation in conferences and scientific forums, which expands the material and moral support in its patent registration. The company also provides specialized tools at scientific departments of universities.

Concerning the source of support, the majority of 80 respondents (as mentioned in the special comment section) indicated that strong support from heads of the company's units was needed for good achievement, while 50 believed that the strong support of the executive director (central administration) was essential for TQM success in the company. On the other hand, 20 of the participants considered that neither the executive director nor heads of the company's units were important for the success of TQM. Without proper support from leadership in the organization, the service company would be unable to effectively harness the benefits of TQM.

3. What are the goals of the organization from TQM initiative and what efforts are being made to reach those goals?

The goals and missions were given prime importance at SABIC. Specific objectives were established to be achieved through the TQM initiatives. Yes, SABIC had clear vision and mission statements as part of its TQM initiatives. Operation excellence, customer satisfaction, and environmental safety were embedded in the mission statements. SABIC (QSQ) established the steering committee, and it is well communicated to all SABIC communities through all publications and through the SABIC web. The final statement was approved after detailed discussion among all executives and during multiple reviews with all concerned parties. Some of these objectives are

- Increased employee loyalty and productivity;
- Increased customer loyalty and increased growth and profitability; and
- Operations excellence and competitive advantage.

The quality committee created a time line for measuring and monitoring the progress of implementation. Initially, the time line was developed for a period of five years. Since then, many measurements tools have been used to evaluate unit progress.

Time commitment is an important factor for the success of TQM implementation. Despite the added time commitment required by TQM, team members in SABIC indicated they were excited to take part. While 60% said they spent from 10 to 20 hours on TQM-related practices, 25% of the total population said that they spent up to 10 hours on activities related to TQM. Also, 15% of the participants said that they spent more than 20 hours on TQM activities.

A full implementation of TQM represents a significant change in the culture and political economy of an organization. Therefore, a comprehensive change strategy is required (Zairi, 1996). Successful TQM implementation can come only from radically challenging and changing the culture of the organization (Zairi, 1996). On the awareness of total quality management culture and applications, 56% of the respondents said they accepted it as a global program, and as a result, welcomed it into the company where they practiced it. On the other hand, 25% said the company did not only welcome it, but also put in place a well-organized system for an enduring culture of quality within the system. However, 19% percent of the participants disagreed with this, saying that such a culture does not exist.

The importance of quality is well recognized by all participants. Although all of them agreed that quality may be defined in various contexts, it has to do with the efficiency of the

organization and satisfaction for everyone, including customers and employees. For example, the Manager of Unit I said,

Yes, I agree, institutional quality is difficult to define, because real quality is defined by the customers in different terms. However, the real answers to the question on quality are, by default, provided in day-to-day business on personal, unit, organization, and community levels. It is a way of life, and this is the future prospect of any quality objective.

The Vice Chairman and Chief Executive Officer (CEO) of SABIC, Mohamed Al-Mady, made a speech in which he argued that SABIC, since its inception, has paid full attention to scientific and technical research topics. He signed a research agreement with the majority of universities in Saudi Arabia in accordance with the directives of the Government of the Custodian of the Two Holy Mosques. He noted that SABIC made a long-term strategic plan in 1976 by attracting and licensing technologies for construction works and the implementation of the largest plan of preparation in the training of Saudi youth to work in the field of modern technologies. He noted that SABIC has developed many innovative technologies and products that have been applied on a commercial basis. Now, SABIC has more than 500 researchers and scientists who have produced about 6,000 patents.

CHAPTER VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Research on TQM often explores the relationship of leadership approaches to the successful implementation of total quality management. In this regard, it is important to understand the manager's perception of the process of TQM implementation and the effort that successful implementation will require. Total quality management is a philosophy and a process used both in business organizations and in institutions of higher education (Deming, 1986; Seymour & Collett, 1991). The method of implementation, however, may differ across various types of organizations. This variety in methodology is due to variations in the characteristics of the organizations, namely in their purpose, culture, structure, and process.

This study focused on implementation of TQM in both business and in higher education in the form of understanding the views of TQM leaders and their perceptions related to TQM implementation. The company that was chosen for this case study was SABIC company. The higher education organization was King Saud University. King Saud University (KSU) is one of the premiere institutions in Saudi Arabia that took the initiative for TQM implementation by forming the Deanship of Quality; SABIC is one of the leading companies in Saudi Arabia that implements TQM as part of the procedural, administrative, and working culture of the company. Both of these organizations are dedicated to implementing quality culture as part of the evaluation, assessment, and customer satisfaction strategies.

The purpose of this study was to identify the reasons, as identified by TQM leaders, leading to the adoption of total quality management in SABIC and KSU and the barriers and challenges encountered in its implementation. The issue of the leadership commitment required and the strategies used in implementation were part of the investigation, as was the type of

support leaders expect to receive. Goals and objectives resulting from the TQM initiative were examined, as well as the issues related to measuring progress toward those goals. The study sought to determine the perceptions of upper and middle managers of the two institutions concerning the implementation of TQM and the factors related to those perceptions. Because leaders and their particular involvement in such introductions and implementations are purported to be pivotal, the focus of this research was at the managerial levels and involved those individuals who had leadership roles and responsibilities.

Little has been done in Saudi Arabia to compare TQM implementation strategies between a leading industrial firm and a leading educational institution. This research was an exploratory study designed to examine the role of the TQM facilitator in diverse settings. Specifically, the study was an in-depth, two-case research study of TQM implementation in an international manufacturing firm and a regional institution of higher education. The context and complexity of relationships that change agents face in different types of organizations, and their roles in facilitating the implementation of TQM in a business and academic setting, were examined using a descriptive case study approach.

The research tools of this study were a questionnaire for faculty and staff and a set of structured questions used to interview TQM leaders in King Saud University. The questionnaire was randomly given to 150 staff members from three different colleges, 50 each from Pharmacy, Engineering, and Education. In addition, interviews with deans of the three colleges were done. In SABIC, data were also gathered by means of questionnaires and interviews. Questionnaires were given to 150 staff and unit workers of three units of the company (Units I, II, and III) as well as interviews with the Chief Managers of three units. The questionnaires were composed of

17 questions for staff and faculty of King Saud University. The same questions were also given to staff and unit workers of SABIC.

TQM Implementation in KSU and SABIC

The purpose of this study was to compare the leadership strategies used in King Saud University (KSU) and SABIC in their implementation of TQM. To make this comparison, the perceptions of TQM leaders were examined in an attempt to understand the challenges and issues each faced in the implementation process.

For SABIC, it was found that the stimulus for change was due to competition from other companies and the desire to improve the retention rate of employees. For KSU, competition from the other universities for student enrollment and a declining economic situation were the main factors. External pressures were common factors for both of them, but the contexts were different. A major challenge for both organizations was to convince people, both internally and externally, that a change in the work culture was necessary if the major issues were to be addressed and the survival of the organizations ensured. However, when the staff was asked about the changes in the work culture, 56% of SABIC respondents accepted the new culture and welcomed it, while the percentage for King Saud University was 45%. This shows that the TQM leaders in KSU needed to work more on building support for culture change.

Leadership commitment was an essential component of TQM implementation that emerged from the interviews of TQM leaders. It required the involvement and support of the Chancellor, President, Managers, members of the faculty, and staff. However, the major challenge was to make the staff aware of TQM and obtain their commitment to TQM training and meetings. However, concerning the awareness of respondents to the challenges related to TQM implementation, 60% in SABIC had an awareness of challenges faced, whereas only 50%

in King Saud University expressed awareness of the challenges. Regarding factors responsible for TQM implementation and success, 54% of SABIC respondents were aware of these factors. Only 45% of the respondents from King Saud University indicated they were aware of factors impacting successful implementation of TQM.

It was found (as stated by TQM leaders) that one of the challenges to implementation was to target areas where TQM would lead to improvement in the organization's work climate, productivity, and employee satisfaction. In SABIC, 60% of the respondents indicated they were satisfied with the leadership effort in implementing TQM in their company. In King Saud University, only 48% of the respondents indicated they were satisfied with the leadership effort in the implementation of TQM. Concerning the awareness of respondents to the overall strategy that was used for TQM implementation, 55% of SABIC respondents indicated they were aware of the strategies used, while 38% of King Saud University respondents indicated they were aware. Under the special comment section, about 50% of both SABIC and KSU respondents wrote that the strong support of the central administration and upper level management was necessary for successful TQM implementation in their organizations. Concerning training participation, the percentages indicated that there was similar participation. Both SABIC (45%) and King Saud University (46%) held similar views regarding the importance of participation in training sessions on TQM. These percentages indicate that it is hard to make "total" quality changes.

Conclusions

A number of general conclusions were drawn from the data generated by this research. The methods of TQM implementation differ across the two types of organizations based on different visions, missions, structures, cultures, etc.

There is no single theoretical formalization of total quality in either organization (King Saud University or SABIC). However, Deming, Juran, and Ishikawa provide the core assumptions, as a "discipline and philosophy of management which institutionalizes planned and continuous improvement and assumes that quality is the outcome of all activities that take place within an organization; that all functions and all employees have to participate in the improvement process; that organizations need both quality systems and a quality culture."

1. TQM implementation increases customer satisfaction because TQM is a management philosophy that focuses on customer satisfaction.
2. The experience of King Saud University with TQM is still at the beginning, but the results so far are encouraging. The level of commitment from the deans and staff members is responsible for the promising start.
3. The training process took a top-down approach from the managerial level, to the unit head, to the division head level.
4. TQM implementation is a lengthy process that requires a great investment of time.
Implementation of TQM is difficult in large organizations, and it is important to coordinate the efforts and the strategies of TQM implementation among different departments.
5. The case study illustrates the importance of training and management commitment to TQM.
6. Commitment by senior management/deans and all employees in both organizations is essential.
7. The level of awareness of TQM initiatives within the organization directly influenced the success of TQM implementation.

Recommendations

The following is a summary of the recommendations proposed on the basis of the findings presented in this research study.

1. To achieve the maximum possible advantages of TQM, both SABIC and King Saud University should extend TQM applications to all departments
2. More training and encouragement for change should be provided to the employees of these organizations so they fully understand TQM.
3. The leaders and employees of both organizations must be well informed about the benefits of TQM and committed to TQM implementation. This can be achieved through effective education and intensive training programs provided in house, locally, or internationally.
4. A cultural change is essential, especially in King Saud University, and the top leadership should be positive about these changes. First of all, the supreme authority must be satisfied with TQM culture. It is also necessary to provide the employees with the educational programs necessary for them to develop a clear understanding of TQM principles.
5. In both organizations, top management should lead and become committed to developing and sharing knowledge and insight into TQM.
6. The role of leadership in employee participation, customer focus, supplier quality management, continual improvement, and organizational culture is critical.
7. Emphasis should be put on the incorporation of all the principles of TQM for successful implementation of TQM and for the success of the organization.
8. TQM implementation has positive effects on overall business performance.

9. Resistance to change, lack of commitment, and placing the program in a position of low importance are some of the challenges faced in TQM implementation.
10. Flexibility of the organizational culture will determine the success or failure of implementing TQM. Organization inflexibility and inertia have provided an environment that weakens and erodes the foundation of TQM.
11. Firms should be flexible when implementing TQM. Management should develop a quality culture by changing the perception and attitudes towards quality.
12. Employee involvement and commitment could be promoted through the establishment of an employee suggestion system and quality improvement teams.
13. Increasing the percentage of time each employee spends on TQM activities should be accomplished in a way that does not lead to an increase in work load for the employees and staff.

Recommendations for Further Research

The following is a summary of the recommendations proposed on the basis of the findings of this research study.

1. A similar study can be done across various universities in Saudi Arabia and within Middle East regions to find the commonality of challenges in TQM implementation and its barriers as perceived by TQM leaders.
2. This research included TQM leaders and their perception related to TQM implementation strategies in different departments like Engineering, Education, and Pharmacy. A detailed comparative study can be done between different departments of large scale educational institutions implementing TQM.

3. This research showed that much can be learned from studying TQM implementation in both industry and in an educational institution. A detailed study would be helpful as to how to maximize the TQM implementation through the cooperation of industry and educational institutions.
4. The Baldrige model was used as the framework for this TQM study. It is recommended that other TQM implementation models be examined in various types of institutions to determine their effectiveness in addressing issues and barriers that affect successful implementation.
5. This research examined colleges whose student population was all male. A study comparing total quality management implementation processes between male and female departments, colleges, or universities might lead to some interesting results.
6. Research comparing TQM implementation in institutions in Saudi Arabia with those of another country might provide insight into issues of leadership, commitment, and the creation of a changed culture necessary for the establishment of successful quality programs.

REFERENCES

- Aalbregtse, R. J., Hejka, J. A., & McNeley, P. K. (1991). TQM: How do you do it? *Automation*, 38(8), 30-32.
- Alalawi, H. M. A. (1998). *Total quality management in higher education institutions*. Jeddah: Oxford University, King Abdul-Aziz.
- Al-Harkan, I. M. (2007, October). Developing a methodology to assess the implementation of TQM in selected TQM in selected Saudi industries. In M. H. Elwany, & A. B. Eltawil (Eds.), *Proceedings of the 37th International Conference on Computers and Industrial Engineering*, Alexandria, Egypt.
- Al-Najjar, F. (1997). Vision of total quality management and sustainable development the key to the twenty first century. Paper presented at the Seventh Annual Conference of the Department of the Twenty-First Century Management, Centre-wide Consulting and Management Development (pp. 362-407). Cairo, Egypt.
- Al-Qahtani, S. (1993). Possibility of TQM application in the Saudi public sector. *Public Administration*, 78, 5-26.
- Al-Qahtani, S., & Methheb, M. (1999). Implementation of total quality management in some Saudi public sector organizations. *Journal of King Abdul-Aziz University: Economics and Administration*, 13, 23-38.
- Alsaggaf, H. A. (1995). *A comprehensive and speedy entrance to the understanding and application of total quality management*. Cairo: Knowledge Arabia Press.
- Arnold, W. W., & Plas, J. M. (1993). *The human touch, today's most unusual program for productivity and profit*. New York, NY: John Wiley & Sons.

- Babbie, E. (1989). *The practice of social research*. Belmont, CA: Wadsworth Publishing Company.
- Babcock, D. L. (1991). *Managing engineering and technology*. Englewood Cliffs, NJ: Prentice Hall.
- Babtin, A. W. (1998). Founded evaluate academic programs in higher education. (pp. 643-662). Higher education symposium conducted by the Ministry of Higher Education, Riyadh, Saudi Arabia.
- Bass, B. (1985). *Leadership and performance beyond expectations*. New York: The Free Press.
- Bass, B., & Avolio, B. (1999). *Training full range leadership*. Redwood City, CA: Mind Garden.
- Bateman, G., & Roberts, H. (1992, October). TQM for professors and students. Unpublished manuscript, Graduate School of Business, University of Chicago, Chicago, IL.
- Behn, R. D. (1989). Leadership counts. *Journal of Public Policy and Management*, 8(3), 494-500.
- Blake, R. R., & Mouton, J. S. (1961). *The managerial grid: Key orientations for achieving production through people*. Houston, TX: Gulf Publishing Company.
- Boden, D. (2004). *The business of talk: Organizations in action*. Cambridge: Policy Press.
- Brown, M. G. (1993). Measuring your company against the Baldrige criteria. *Journal for Quality and Participation*, 16(3), 70.
- Bryson, J. M. (1988). *Strategic planning for public and nonprofit organizations*. San Francisco, CA: Jossey-Bass.
- Burati, J. L., Farrington, J. J., & Ledbetter, W. B. (1992). Cause of quality deviations in design and construction. *Journal of Construction Engineering and Management*, ASCE 118(1), 34-39.

- Burns, J. (1978). *Leadership*. New York, NY: Harper and Row.
- Cameron, K. S., & Ulrich, D. O. (1986). Transformational leadership in colleges and universities. In *Higher education: Handbook of theory and research* (pp. 1-42). New York, NY: Agathon.
- Carr, D. K., & Littman, I. D. (1990). *Excellence in government: Total quality management in the 1990s*. Arlington, VA: Coopers & Lybrand.
- Caudron, S. (1993a). Keys to starting a TQM program. *Personnel Journal*, 72, 28-35.
- Caudron, S. (1993b). Just exactly what is Total Quality Management? *Personnel Journal*, 72(2), 32.
- Chaffee, E. E. (1990, July). Key to the future. Paper presented at the meeting of the American Association of Colleges of Pharmacy, Salt Lake City, UT.
- Chaffee, E. E. (1991). Total quality management: A guide to the North Dakota university system 1991-92. Publication Services Office, North Dakota State University.
- Chaffee, E. E., & Sherr, L. A. (1992). Quality: Transforming postsecondary education. ASHE-ERIC/Higher Education Report No. 3. Washington DC: George Washington University, School of Education and Human Development.
- Chase, G. W. (1993). Implementing TQM in a construction company. *Journal of Management in Engineering*, 9(4), 433-443.
- Chase, G. W., & Federle, M. O. (1992). Implementation of TQM in building design and construction. *Journal of Management in Engineering*, 8(4), 329-339.
- Coate, L. E. (1990/July). Implementing Total Quality Management in a university setting. Oregon: Oregon State University.

- Cornesky, R. (1992). *The quality professor: Implementing TQM in the classroom*. Madison, WI: Magna publications.
- Crabtree, B., & Miller, W. (2009). *Doing qualitative research*. Thousand Oaks. CA: Sage.
- Crocker, O. L., Chiu, J. S. L., & Charney, C. (1984). *Quality circles: A guide to participation and productivity*. New York, N.Y: Facts on File Publications.
- Crosby, P. B. (1984). *Quality without tears*. New York, NY: McGraw-Hill Book Co.
- Crosby, P. B. (1988). *The eternally successful organization: The art of corporate wellness*. New York, NY: McGraw-Hill.
- Crosby, P. B. (2004). *Qualify is free: The art of making qualify certain*. New York, NY: Mentor Books.
- Culp, G. (1993). Implementing total quality management in consulting engineering firm. *Journal of Management in Engineering*, 9(4), 340–355.
- Cummings, T. G., & Worley, E. F. (1993). *Organization development and change*. St. Paul, MN: West.
- Cyert, R. M. (1993). Universities, competitiveness and TQM: A plan of action for the year 2000. *Public Administration Quarterly*, 7(1), 10-18.
- Dahlgaard, J. J., Larsen, H. Z., & Norgaard, A. (1997). *Leadership profiles in quality management: A Danish perspective*. Aarhus: Carfax Publishing.
- Deetz, S. (2008). Conceptual foundations. In F. M. Jablin & L. Putnam (Eds.). *The new handbook of organizational communication: Advances in theory, research, and methods* (pp. 3-46). Thousand Oaks. CA: Sage.
- Deming, W. E. (1986). *Out of the crisis*. Cambridge, MA: Massachusetts Institute of Technology, Center for Advanced Engineering Study.

- Deming, W. E. (1991). Foundations for management of quality in the western world. In *An introduction to total quality for schools* (pp. 1-30). Arlington, VA: American Association of School Administrators.
- Derbas, A. S. (1994). Total quality management concept and educational applications and the potential benefit from the educational sector in Saudi. *Arabian Gulf*, 10(50), 15-49.
- DeSanctis, G., & Poole, M. S. (1994). Capturing the complexity in advanced technology use: Adaptive structuration theory. *Organization Science*, 5(2), 121-147.
- Dill, D. (1982). The management of academic culture: Notes on the management of meaning and social integration. *Higher Education*, 11, 303-320.
- Durant, R. F., & Wilson, L. A. (1993). Public management, TQM, and quality improvement: Toward a contingency strategy. *American review of Public Administration*, 23(3), 215-245.
- Ebel, K. E. (1991) *Achieving excellence in business. A practical guide to the total quality transformation process*. New York, NY: ASQC Quality Press.
- Ehigie, B.O., & McAndrew, E. (2005). Innovation, diffusion and adaption total quality management. *Management Decision*, 43(5/6), 925-940.
- Eisenberg, E. M., & Riley, P. (2008). Organizational culture. In F. M. Jablin & L. L. Putnam (Eds.). *The new handbook of organizational communication: Advances in theory, research, and methods* (pp. 291-322). Thousand Oaks. CA: Sage.
- El-Kady, M. A., Al-Ahmari, A. M., Alhamali, R. M., Al-Karni, A. A., Al-Omar, B. A., Al-Qahtani, S. S., & Alshehri, M. A. (2009). An integrated approach to research and academic quality management in engineering education. Paper presented at the 2009 World Congress on Electronics and Electrical Engineering, WCEEEG'09, Cairo, Egypt.

- Evans, J. R., & Lindsay, W. M. (1996). *The management and control of quality* (3rd ed.). New York, NY: West Publishing.
- Fairhurst, G. T., & Wendt, R. F. (2003). The gap in total quality: A commentary. *Management Communication Quarterly*, 6, 441-451.
- Freed, J. (1994, November). Total quality management on campus: Implementation, experiences, and observation. Paper presented at the annual meeting of the Association for the Study of Higher Education, Tucson, Arizona.
- Feigenbaum, A. V. (1991). *Total quality control* (3rd ed.). New York, NY: McGraw-Hill.
- Fiedler, F. E. (1967). *A theory of leadership effectiveness*. New York, NY: McGraw-Hill.
- George, S. (1992). *The Baldrige quality system: The do it-yourself way to transform your business*. New York: John Wiley & Sons, Inc.
- Gittell, J. H. (2001). Supervisory span, relational coordination and flight departure performance: A reassessment of post bureaucracy theory. *Organization Science*, 12(4), 468-483.
- Gittell, J. H. (2002). Coordinating mechanisms in care provider groups: Relational coordination as a mediator and input uncertainty as a moderator of performance effects. *Management Science*, 48(11), 1408-1426.
- GOAL/QPC. (1990). Total quality management master plan: An implementation strategy. (Report No. 90—12-02). Methuen, MA.
- Goetsch, D. L., & Davis, S. (1994). *Introduction to total quality: Quality, productivity, competitiveness*. New York, NY: Macmillan College Publishing Co.
- Goodstein, L. D. (1978). Organization development in bureaucracies: Some caveats and caution. In W. W. Burke (Ed.), *The cutting edge: Current theory and practice in organization development*. Lajolla, CA: University Associates, Inc.

- Gould, S. J., Lerman, D. B., & Grein, A. F. (2009). Agency perceptions and practices on global IMC. *Journal of Advertising Research*, 39(1), 7-20.
- Grady, D. O. (1992). Promoting innovation in the public sector. *Public Productivity and Management Review*, 16(2), 157-171.
- Green, D. (1993). TQM: What's its status on campuses? *Academic Leader*, 9(7), 1-2.
- Hackman, J. R., & Wageman, R. (2005). Total quality management: Empirical, conceptual, and practical issues. *Administrative Science Quarterly*, 40(2), 309-342.
- Hadgraft, R., & Holocek, D. (1995). Viewpoint: Towards total quality using problem-based learning. *The International Journal of Engineering Education*, 11(1), 8-13.
- Hardy, C., Lawrence, T. B., & Phillips, N. (2008). Talk and action: Conversations and narrative in interorganizational collaboration. In D. Grant., T. Keenoy, & C. Osrick (Eds.). *Discourse organization* (pp. 65-83). London: Sage.
- Harvey, L., & Quality in Higher Education Project. (1995). *Quality assurance systems, TQM, and the new collegialism*. Birmingham, AL: Quality in Higher Education Project.
- Hersey, P., & Blanchard, K. H. (1974). So you want to know your leadership style? *Training and Development Journal*, 28(2), 22-37.
- Hersey, P., & Blanchard, K. H. (1988). *Management of organizational behavior* (5th ed.). Englewood Cliffs. NJ: Prentice Hall.
- Hollander, E. P. (1975). *Leadership dynamics*. New York. NY: The Free Press.
- Houghton, J. R. (1992). Leadership's challenge: The new agenda for the 90's. *Planning Review*, 20(5), 8-9.
- Houston, D. (2007). Linkages between total quality management and the outcomes-based approach in an education environment. *Quality in Higher Education*, 1, 1-16.

- Hull, W. E. (1991). The quality improvement paradigm and academic praxis. In *Deming style quality improvement*. A conference on quality improvement in higher education. Birmingham, AL: Samford University.
- Hyacinth, A. A. (1993). *The education system in Saudi Arabia* (4th ed.). Riyadh: Alumni House.
- Irvin, A. H. (1995). Leadership strategies for the implementation of total quality management at five research universities. Unpublished doctoral dissertation, University of Michigan, Ann Arbor.
- Ishikawa, K. (1982). *Guide to quality control*. Ann Arbor, MI: Unipub.
- Johnson, R. S. (1993). TQM: Leadership for the quality transformation. Milwaukee, WI: ASQC.
- Joiner, B. L., & Scholtes, P. R. (1985). Total quality leadership vs. management by results. In *An introduction to total quality for schools* (pp. 1- 9). Arlington, VA: American Association of School Administrators.
- Juran, J. M. (1992). *Juran on quality by design*. New York, NY: The Free Press.
- KAQA. (2008). King Abdul Aziz Quality Award. Retrieved August 12, 2008, from King Abdul Aziz Quality Award: http://www.kaqa.org.sa/index_en.aspx
- Kanji, G. K., & Tambi, A. M. B. A. (1999). Total quality management in UK higher education institutions. *Total Quality Management*, 10(1), 129-153.
- Kanji, G. K., Tambi, A. M. B. A., & Wallace, W. (1999). A comparative study of quality practices in higher education institutions in the US and Malaysia. *Total Quality Management*, 10(3) 357-371.
- Kauffman, R., & Herman, J. (1991). *Strategic planning in education: Rethinking, restructuring, revitalizing*. Lancaster, PA: TechnoMic.

- Kelley, C. (1991). Effective methods for selecting group facilitators. Paper presented at Association for Quality and Production, New Orleans, LA.
- King Saud University (KSU). (2010). King Saud University. Retrieved May 5, 2012 from <http://ksu.edu.sa/Pages/default.aspx>
- Koch, J. V., & Fisher, J. L. (1998). Higher education and total quality management. *Total Quality Management*, 3, 659-668.
- Kotter, J. P. (1990). What leaders really do. *Harvard Business Review*, 68(3), 103-111.
- Kravchuk, R., & Leighton, R. (1993). Implementing total quality management in the United States. *Public Productivity and Management Review*, 17(8), 71-82.
- Lakhe, R. R., & Mohanty, R. P. (1994). Total quality management: concepts, evolution and acceptability. *International Journal of Quality & Reliability Management*, 11(9), 9-13.
- Latour, B. (2005). Reassembling the social: an introduction to actor-network-theory. Oxford University Press, UK.
- Lawler, E. E.; Mohrman, S. A.; & Ledford, Jr., G. E. (1992). The Fortune 1000 and total quality. *The Journal for Quality and Participation*, 15, 6-10.
- Likins, P. (1993). Leadership, change, and TQM: The Lehigh University case. *Public Administration Quarterly*, 17, 19-29.
- Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage Publication.
- Longenecker, C. O., & Scazzero, J. A. (1993). Total quality management from theory to practice: A case study. *International Journal of Quality & Reliability Management*, 10(5), 24-31.
- Lorange, P. (1980). *Corporate planning: An executive viewpoint*. Englewood Cliffs, NJ: Prentice Hall.

- Luthans, F., & Kessler, D. (1993). Meeting the new paradigm challenges through total quality management. *Management Quarterly*, 34(1), 2-12.
- Mahbashi, M. (2007). Benefits and difficulties in implementing TQM in construction industry. Retrieved May 5, 2010 from <http://ebookbrowse.com/tqm-the-construction-industry-pdf-d188238782>
- Marchese, T. (1991). TQM reaches the academy. *American Association of Higher Education Bulletin*, 44(3), 3-9.
- McClintock, C. C., Brannon, D., & Maynard-Moody, S. (1979). Applying the logic of sample surveys to qualitative case studies: The case cluster method. *Administrative Science Quarterly*, 24, 612-629.
- Merriam, S. R. (1991). *Case study research in education*. San Francisco, CA: Jossey-Bass.
- Milakovich, M. E. (1990). Total quality management for public sector productivity improvement. *Public Productivity and Management Review*, 14(1), 19-32.
- Milakovich, M. E. (1991). Total quality management in the public sector. *National Productivity Review*, 10, 195-213.
- Ministry of Health (MOH). (2008). Ministry of Health, Kingdom of Saudi Arabia. Retrieved 12 August, 2008 from <http://www.moh.gov.sa/en/index.php>
- Mitra, A. (1993). *Fundamentals of quality control and improvement*. New York, NY: Macmillan.
- Normann, R. (1991). *Service management strategy and leadership in service business* (2nd ed.). New York, NY: John Wiley & Sons.
- Nowlin, D. L., & Hickok, C. (1992). Executives look in the mirror. *Healthcare Forum*, 35(4), 64-69.
- Oakland, J. S. (1995). *Total quality management*. Oxford, UK: Butterworth.

- Obaidi, M. B. A. (1999; trans. D. Chen). A critical operational aspects in total quality management. *Journal of Public Administration*, 39(1), 203-214.
- Owlia, M. S., & Aspinwall, E. M. (1997). TQM in higher education: A review. *International Journal of Quality and Reliability Management*, 14, 527-543.
- Parasuraman, A., Berry, L. L., & Zeithami, V. A. (1991). Understanding customer expectations of service. *Sloan Management Review*, 32, 39-48.
- Parasuraman, A., Zeithaml, V.A., & Berry, L. L. (1988). SERVQUAL: A multiple item scale form measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12-39.
- Patton, M. Q. (1987). *How to use qualitative methods in evaluation*. Newbury Park, CA: Sage.
- Pfeffer, J. (1982). *Organizations and organization theory*. Marshfield, MA: Pitman.
- Quality in higher education. (1999, February 22). *Okaz*, No. 11867. Retrieved from <http://www.okaz.com.sa/new/Issues/20120222/index.htm>
- Reeg, W. (1992). TQM: 14 ways to total quality management. *Life Association News*, 87(9), 142-146.
- Rosander, A. C. (1989). *The quest for quality in services*. Milwaukee, WI: Quality Press, American Society for Quality Control.
- Rubach, L. (1994, September). Fourth annual quality in education listing. *Quarterly Progress*, 27-79.
- Rubach, L., & Stratton, B. (1994). Teaming up to improve U.S. education. *Quality Progress*, 27(2), 65.
- Rummel, F. J., & Bellaine, W. C. (1963). *Research methodology in business*. New York: Harper & Row.

Sashkin, M., & Kiser, K. J. (1992). *Total quality management*. Seabrook, MD: Ducochon Press.

Sashkin, M., & Kiser, K. J. (1993). *Putting total quality to work: What TQM means, how to use it, & how to sustain it over the long run*. San Francisco, CA: Berrett-Koehler Publishers.

Saudi Basic Industries Corporation (SABIC). (n.d.). Retrieved April 26, 2008 from

<http://www.sabic.com/me/en/default.aspx>

Schein, E. H. (1992). *Organizational culture and leadership*. San Francisco, CA: Jossey-Bass.

Scholtes, P. R. (1988). *The team handbook: How to use teams to improve quality*. Madison, WI: Joiner.

Scholtes, P. R., & Hacquebord, H. (1988). Six strategies for beginning the quality transformation. In *An introduction to total quality for schools* (pp. 44-48). Arlington, VA: American Association of School Administrators.

Senge, P. (1990). The leader's new work: Building learning organizations. In *An introduction to total quality for schools* (pp. 111-123). Arlington, VA: American Association of School Administrators.

Seymour, D. T. (1991). TQM on campus: What the pioneers are finding. *American Association of Higher Education Bulletin*, 44(3), 10-13.

Seymour, D. T. (1993a). Total quality management in higher education: Clearing the hurdles. A survey on strategies for implementing quality management practice in higher education. Methuen, MA: GOAL/QPC.

Seymour, D. T. (1993b). *On Q: Causing quality in higher education*. Phoenix, AZ: Oryx Press.

Seymour, D., & Collett, D. (1991). *Total quality management in higher education: A critical assessment*. Methuen, MA: GOAL/QPC.

- Short, P. J., & Rahim, M. A. (1995). Total quality management in hospitals. *Total Quality Management*, 6(3), 255–263. doi:10.1080/09544129550035422
- Simon, J., & Brustdh, P. (1985). *Basic research method in social science*. New York, NY: Random House.
- Sowards, D. (1992). TQM is a journey: So where do we begin? *Industrial Engineering*, 24(1), 24-28.
- Spanbauer, S. J. (1992). *A quality system for education*. Milwaukee, WI: American Society for Quality Control Quality Press.
- Spanbauer, S. J. (1995). Reactivating higher education with total quality management: Using quality and productivity concepts, techniques and tools to improve higher education. *Total Quality Management*, 6(5), 519–537.
- Stevenson, W. J. (1993). *Production/Operations management* (4th ed.). Boston, MA: Irwin Professional Publishing.
- Taguchi, G. (1986). *Introduction to quality engineering*. Tokyo: Asian Productivity Organization.
- Talley, D. J. (1991). *Total quality management. Performance and cost measures: The strategy for economic survival*. Milwaukee: ASQC Quality Press.
- Tari, J. J. (2005). Components of successful and quality management *The TQM Magazine*, 17(2), 182 -194. doi:10.1108/09544780510583245
- Tichy, N., & Devanna, M. (1986). *The transformational leader*. New York: John Wiley & Sons.
- Tukiainen, T. (2001). An agenda model of organizational communication. *Corporate Communication*, 6(1), 47-52.

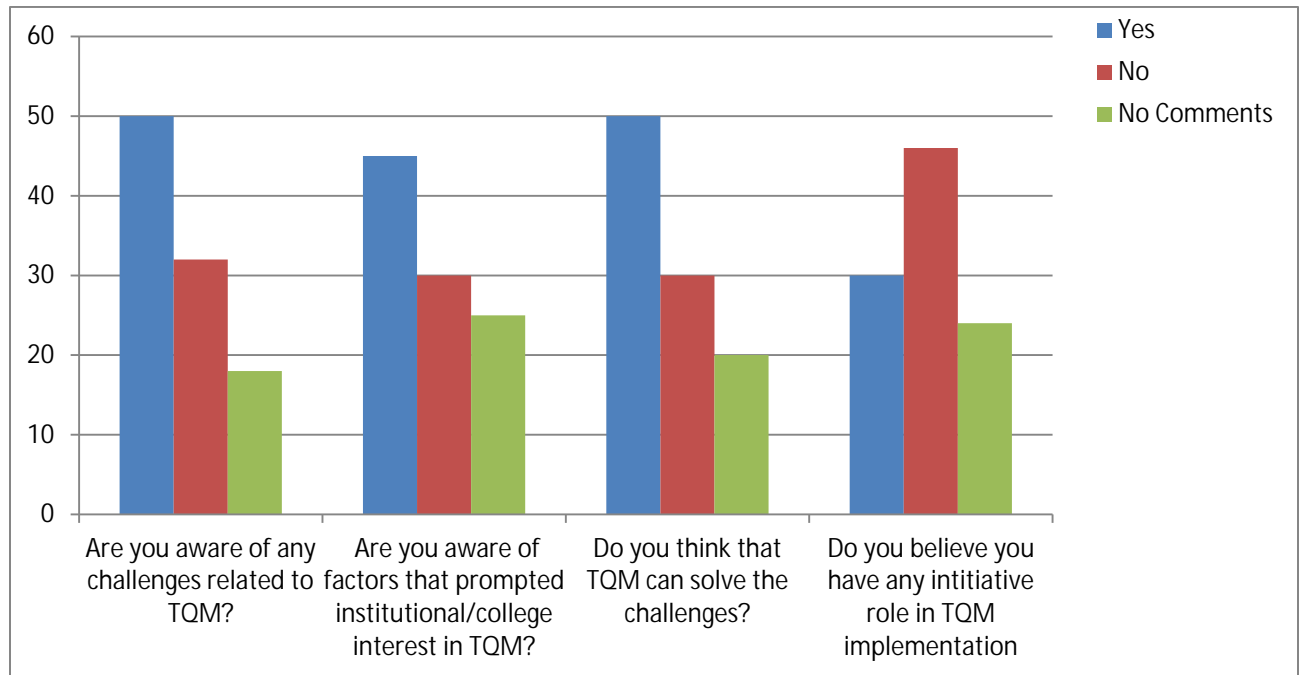
- Tushman, M., & Nadler, D. (1978). Information processing as an integrating concept in organization design. *Academy of Management Review*, 3(3), 613-624.
doi:10.5465/AMR.1978.4305791
- Vazzana, G., Bachmann, D., & Elfrink, J. (1997). Does higher education practice what it teaches? *Quality Progress*, 30(12), 67-70.
- Wageman, R. (1995). Interdependence and group effectiveness. *Administrative Science Quarterly*, 40(1), 145-180.
- Waldman, D. A. (1993). A theoretical consideration of leadership and total quality management. *Leadership Quarterly*, 4, 65-79.
- Walsh, J. P., & Ungson, G. R. (1991). Organizational memory. *Academy of Management Review*, 16(1), 57-91. doi: 10.5465/AMR.1991.4278992
- Waters, H., Saadah, F., & Pradhan, M. (2003). The impact of the 1997-98 East Asian economic crisis on health and health care in Indonesia. *Health Policy and Planning*, 18(2), 172-181.
doi:10.1093/heapol/czg022
- Weisbord, M. R. (1978). Input-versus output-focused organizations. Notes on a contingency theory of practice. In W.W. Burke (Ed.), *The cutting edge: Current theory and practice in organization development* (pp.13-26). Lajolla, CA: University Associates, Inc.
- West, J. P., Berman, E. M., & Milakowich, M. E. (1993). Implementing TQM in local government: The leadership challenge. *Public Productivity & Management Review*, 17(2), 175-189.
- Yeh, Y.-J. (2003). Implementing a sustainable TQM system: Employee focus. *The TQM Magazine*, 15(4), 257-265.
- Yin, R. (1984). *Case study research: Design and methods*. Beverly Hills: Sage Publications.

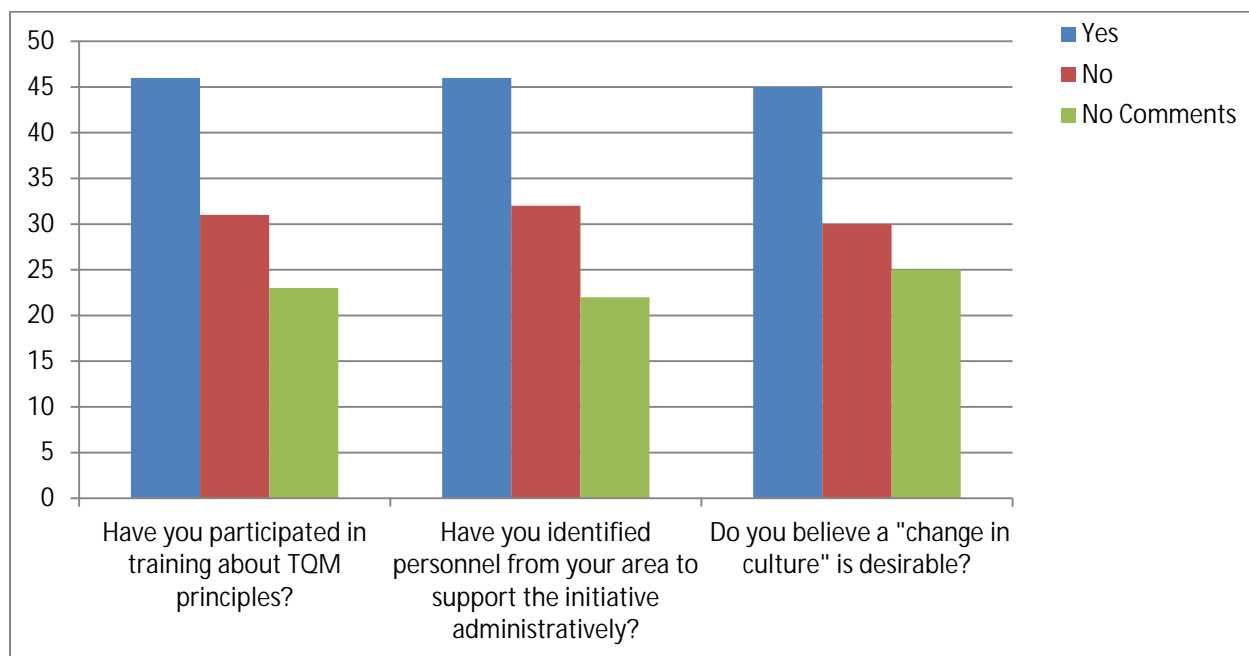
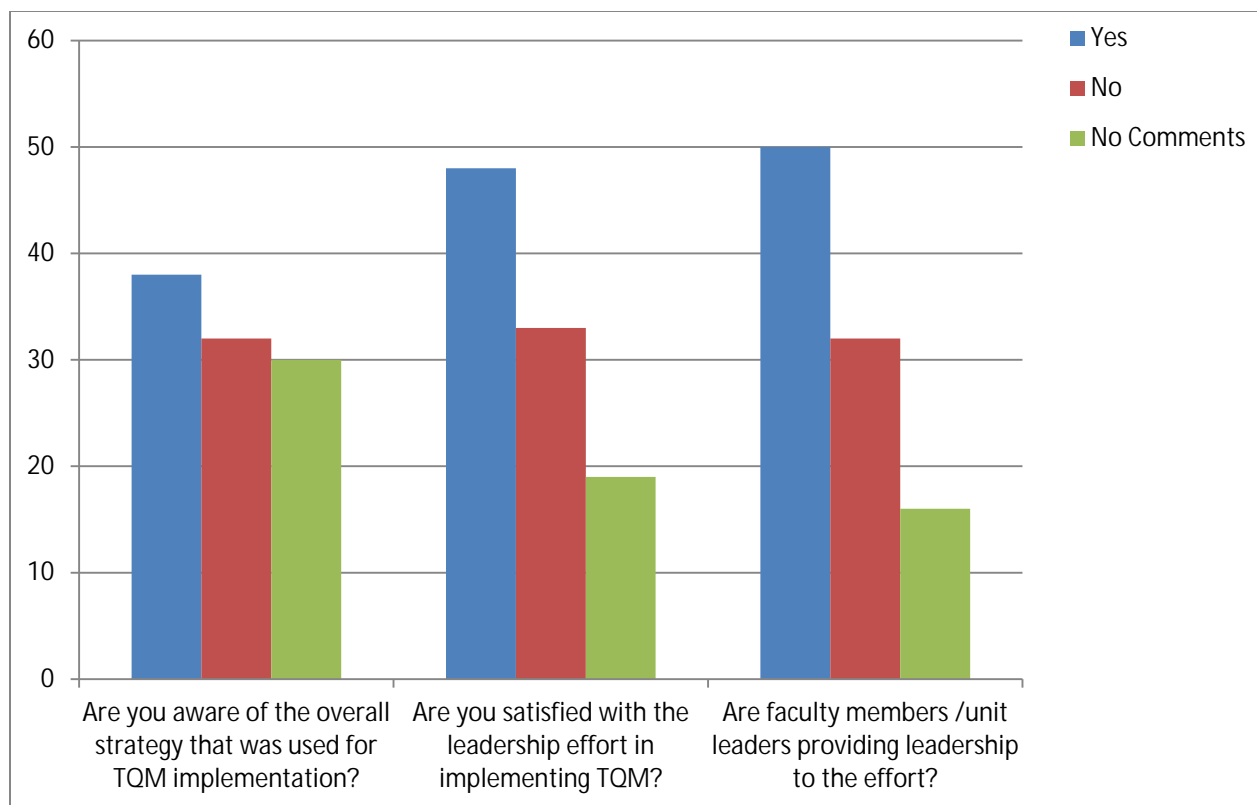
- Youssef, M. A., Boyd, J., & Williams, E. (1996). The impact of total quality management on firms' responsiveness: An empirical analysis. *Total Quality Management*, 7(1), 127–144.
doi:10.1080/09544129650035098
- Yudof, M. G., & Busch-Vishniac, I. J. (1996). Total quality. *Change*, 28(6), 18–27.
- Yukl, G. A. (1981). *Leadership in organizations*. Englewood Cliffs, NJ: Prentice-Hall.
- Zairi, M. (1996). *Critical factors for effective TQM implementation: A benchmarking approach*. Oxford: Butterworth-Heinemann.
- Zhu, Z., & Scheuermann, L. (1999). A comparison of quality programmes: Total quality management and ISO 9000. *Total Quality Management*, 10(2), 291-297.
doi:10.1080/0954412998018

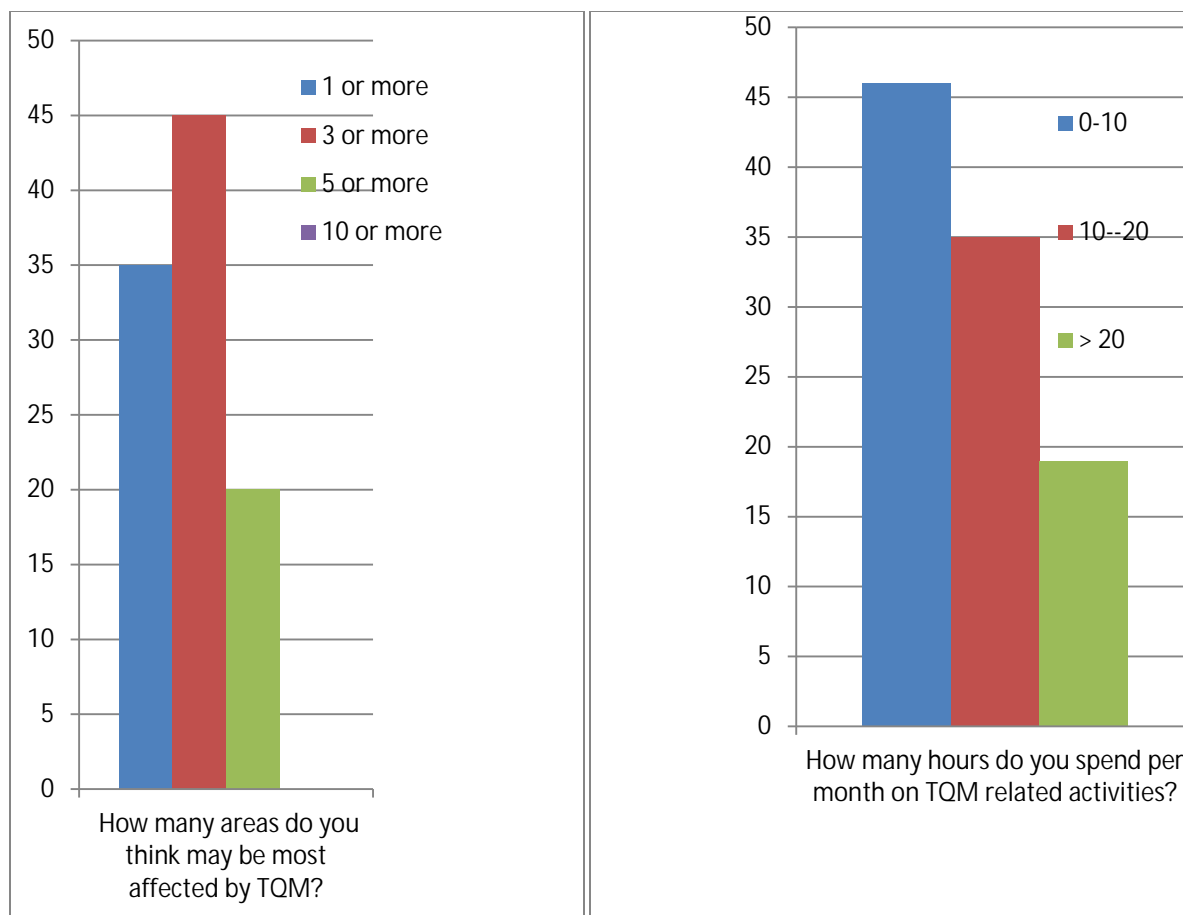
Appendix A

Charts for Survey at King Saud University (KSU)

Appendix A.

Charts for Survey at King Saud University (KSU)

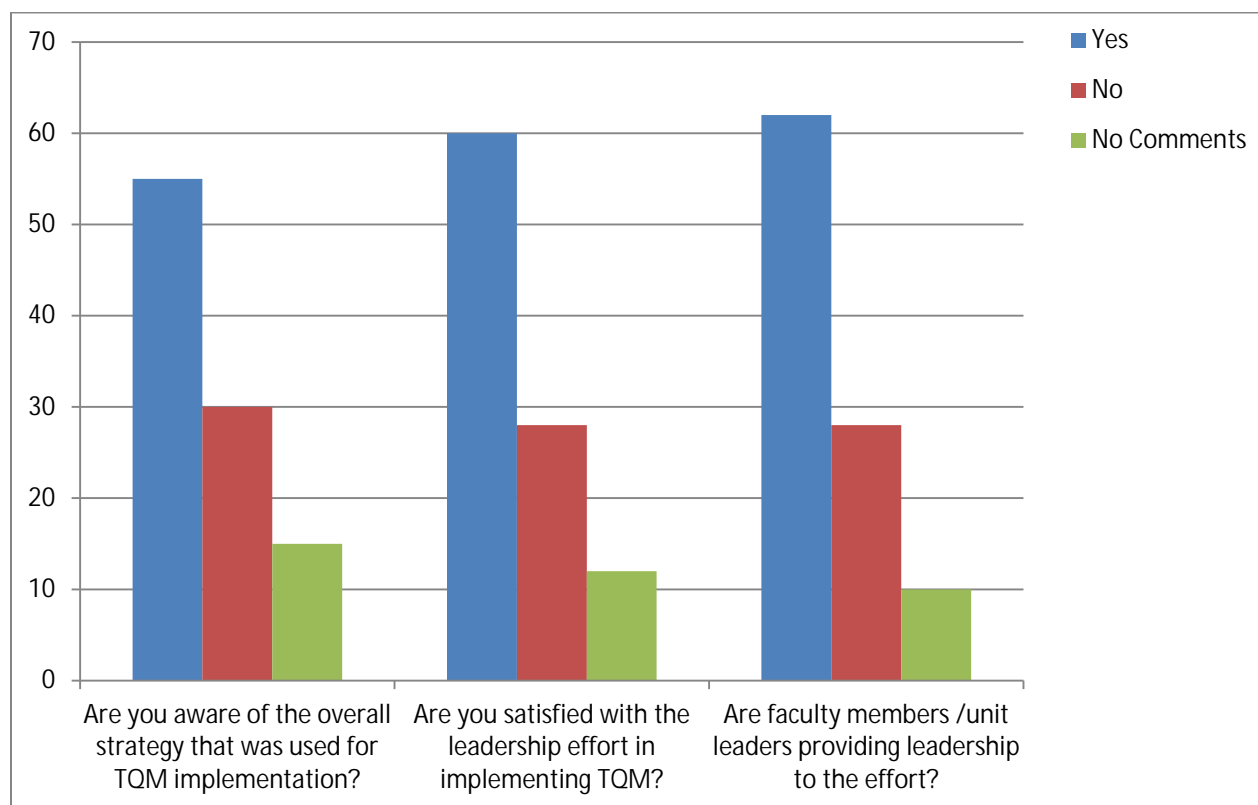
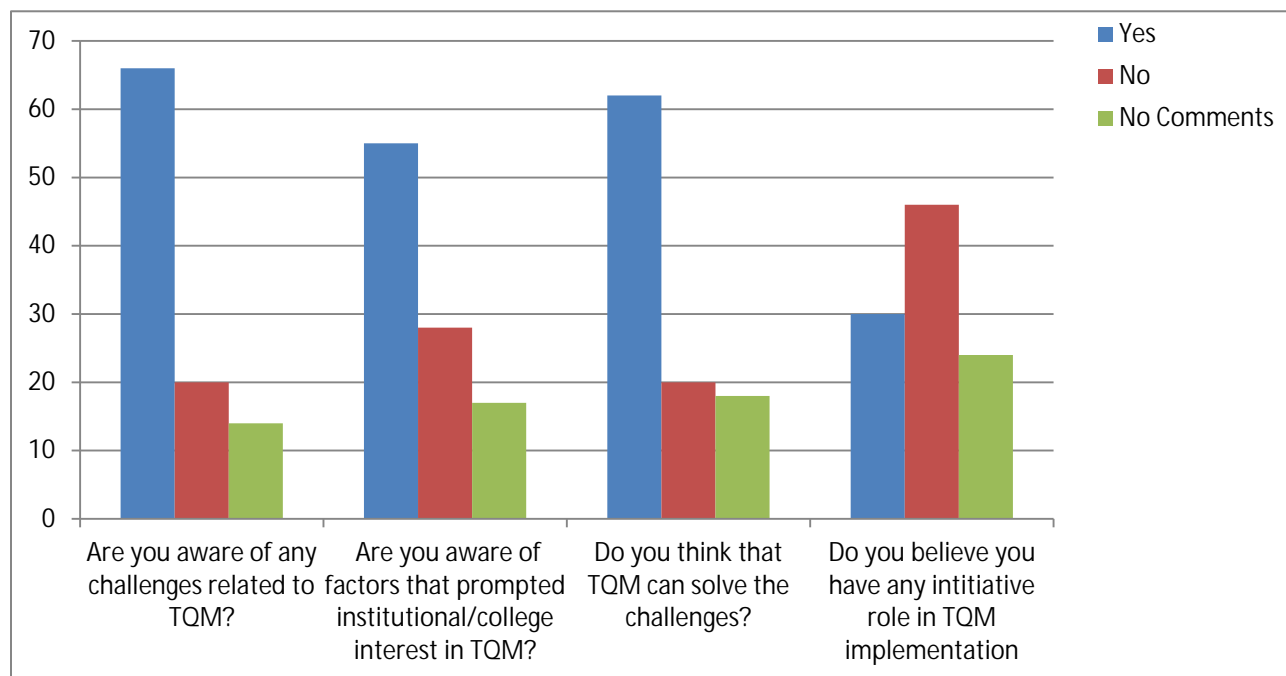


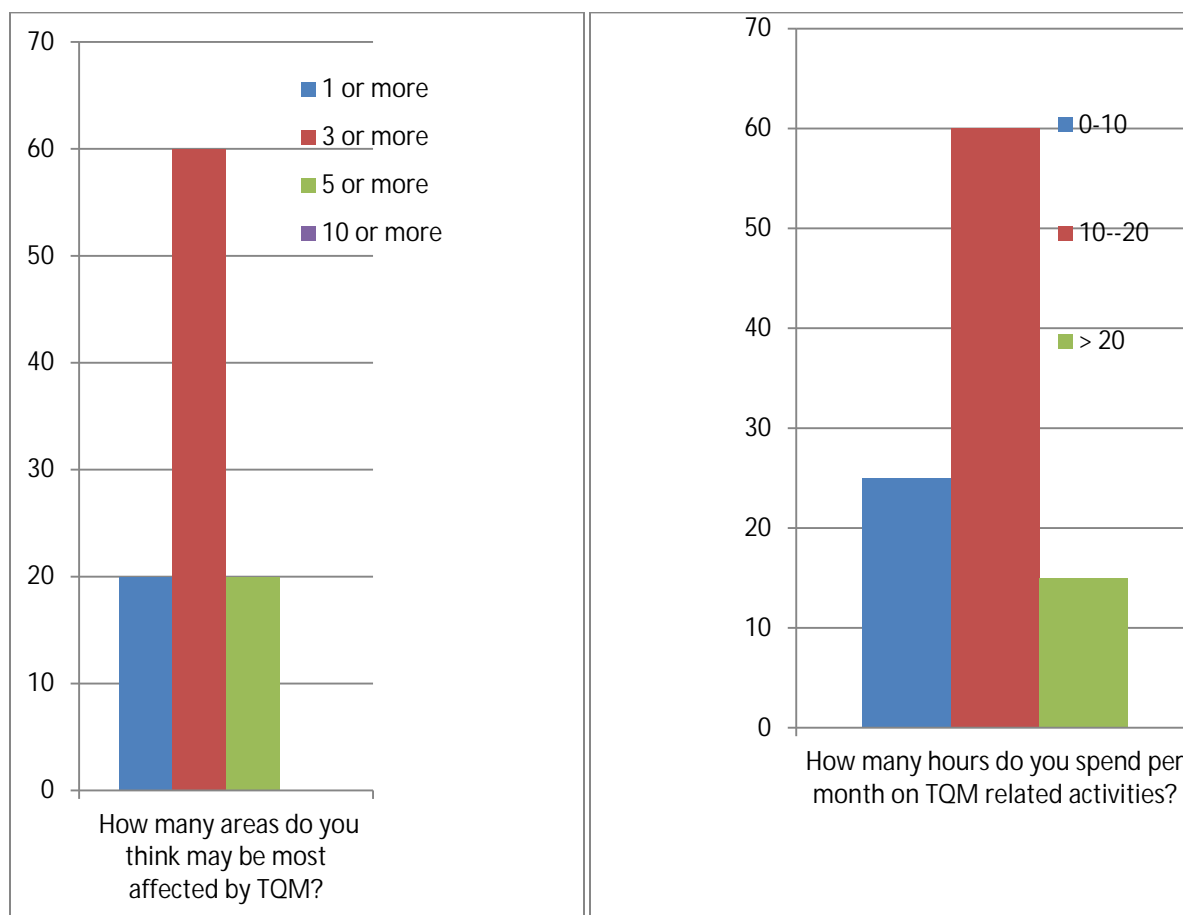
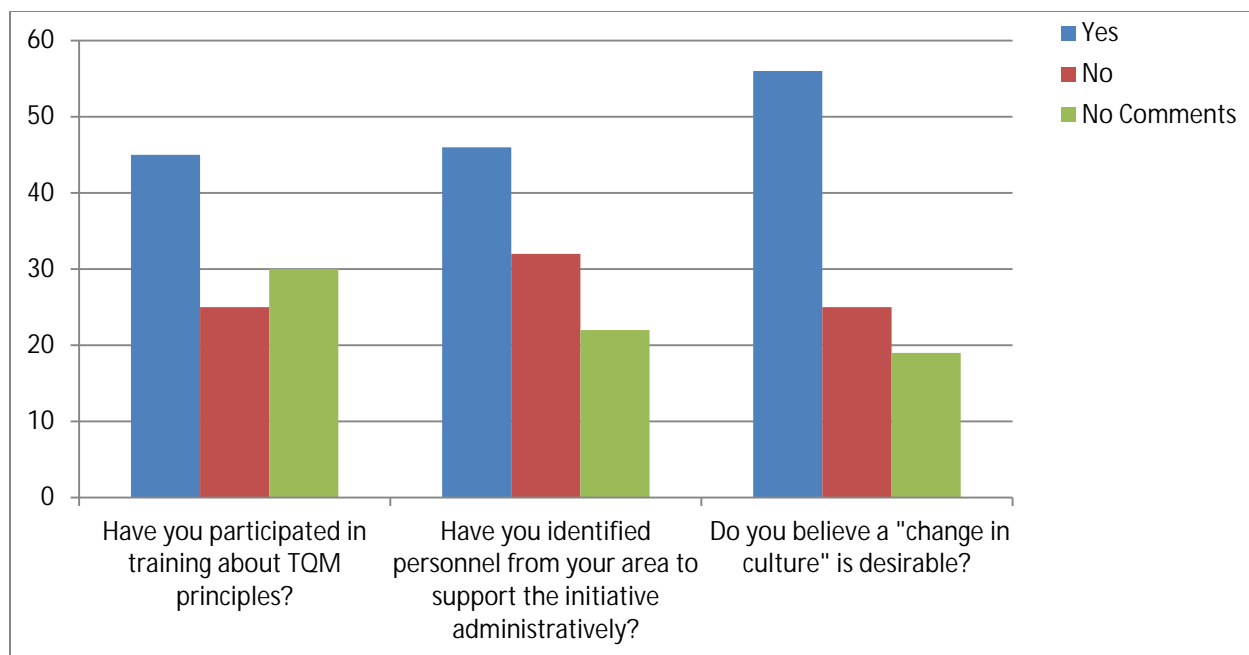


Appendix B

Charts for Survey at Saudi Basic Industries Corporation (SABIC)

Appendix B.

Charts for Survey at Saudi Basic Industries Corporation (SABIC)



Appendix C

Interview Questions for King Saud University (KSU)

Appendix C.

Interview Questions for King Saud University

When and how did you first become aware of TQM?

What factors prompted institution/college interest in TQM?

What are some of the major challenges facing the institution/college?

How do you believe TQM will help address these challenges?

What is your level of commitment as a TQM leader and what kind of support do you expect from the upper level management?

What was the overall strategy used to get the TQM effort underway?

Are faculty members providing leadership to the effort?

How do you define "change in culture" required for TQM to be successful within an organization? What does that term mean to you?

Did you use external consultants? If yes, how did you use them and how effective were they?

What areas of the institution/college seem particularly receptive to TQM implementation? How have faculty, staff, and students responded to your initiative? How is the faculty involved? What are you doing in the academic areas of your college? Please provide some examples.

What areas of the institution seem particularly resistant to TQM implementation?

Do you have some specific examples of ways in which they are resisting implementation efforts? What did you do to overcome those?

How are details about the TQM initiative being communicated to the campus community? What sources are used?

Do you agree with the statement, "Institutional quality is difficult to define?" How do you define educational quality?

Do you have a strategic or long-term planning process in place? Does the institution have a mission and vision?

Have you established specific objectives which you hope to achieve through your TQM initiative?

Has an implementation time line been established?

How are you measuring the progress of the institution's quality initiative?

How are you measuring progress within the college?

What specific improvements can you point to as a result of the TQM initiative?

If I were to come back five years from now, describe to me what I would find.

Appendix D

Interview Questions for Saudi Basic Industries Corporation (SABIC)

Appendix D.

Interview Questions for Saudi Basic Industries Corporation (SABIC)

When and how did you first become aware of TQM?

What factors prompted corporation/unit interest in TQM?

What are some of the major challenges facing the corporation/unit?

How do you believe TQM will help address these challenges?

What is your level of commitment as a TQM leader and what kind of support do you expect from the upper level management?

What was the overall strategy used to get the TQM effort underway?

Are other sub-unit members providing leadership to the effort?

How do you define "change in culture" required for TQM to be successful within an organization? What does that term mean to you?

Did you use external consultants? If yes, how did you use them and how effective were they?

What areas of the organization seem particularly receptive to TQM implementation? How have the unit workers responded to your initiative? How are they involved?

What areas of the organization seem particularly resistant to TQM implementation?

Do you have some specific examples of ways in which they are resisting implementation efforts?

What did you do to overcome those?

How are details about the TQM initiative being communicated to your unit members and staff?

What are the sources used?

Do you agree with the statement, "Institutional quality is difficult to define?" How do you define quality?

Do you have a strategic or long-term planning process in place? Does the organization have a mission and vision?

Have you established specific objectives which you hope to achieve through your TQM initiative?

Has an implementation timeline been established?

How are you measuring the progress of the organization's quality initiative?

How are you measuring your division/unit's progress?

What specific improvements can you point to as a result of the TQM initiative?

If I were to come back five years from now, describe to me what I would find.

Appendix E

Correspondence to Participants

Educational Theory & Practice
West Virginia University
 College of Human Resources and Education
 PO Box 6122
 Morgantown WV 26506-6122

APPROVED BY THE COLLEGE OF
 HUMAN RESOURCES & EDUCATION
 DATE:

June 20, 2007

Dear Participants:

You are being asked to participate in a study as a partial fulfillment of the requirements for the doctoral degree in Curriculum and Instruction at West Virginia University, U.S.A. This study investigates the efforts of Saudi industrial and educational organizations to implement Total Quality Management (TQM) concepts into their operations. This research will use the comparative case study method to explore the approaches used to introduce TQM into two different organizations, Saudi Basic Industries Corporation and King Saud University. This study will explore the factors that helped or hindered successful implementation of TQM in these two organizations.

In order to insure anonymity and confidentiality, do not put your name or identify yourself in any way on the questionnaire. Your participation is completely voluntary, and you have the right to withdraw, not complete the survey or not answer all items any time without fear or penalty. Your standing will not be affected by your refusal to participate in this study. Be confident that your responses will remain anonymous and your confidentiality will be maintained.

Please feel free to ask if you have questions or comments. Do not hesitate to contact me via e-mail at: aljodea@hotmail.com

Thank you in advance for your cooperation.

Sincerely,

Ali Aljodea
 Doctoral Student in the Department of Educational Theory and Practice
 College of Human Resources and Education
 West Virginia University
 Morgantown, WV 26506
 USA

Curriculum & Instruction

304 293-3441

Fax: 304 293-3802

Literacy Studies

304 293-4769

Special Education

304 293-3450

Fax: 304 293-6834