

**THE PERCEIVED PERFORMANCE OF CONSTRUCTION FIRMS
IN THE UNITED ARAB EMIRATES IN THE CONTEXT OF
TOTAL QUALITY MANAGEMENT ENVIRONMENT**

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by

Firas Jalal Shakir

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DEDICATION

This thesis is dedicated to my parents, who have never failed to give me financial and moral support, and for teaching me that even the largest task can be accomplished if it is done one step at a time. This thesis is also dedicated to my life's partner and the love of my life, Jinan.

I would like to dedicate this work to the soul of my leader and president: Saddam Hussain, and to the souls of my grandmother and uncles 'Dr. Fawzi Jamil', 'Abdulrazaq Shakir'.

Besides, I would also like to dedicate this thesis to my lovely nieces, nephews, sisters, who always pray for me; and brothers the backbone of my life.

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LIST OF ABBREVIATIONS

TQM	Total Quality Management
EFQM	European Foundation for Quality Management
QC	Quality Control
QA	Quality Assurance
SPC	Statistical Process Control
PAF	Prevention-Appraisal-Failure

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TANGGAPAN TERHADAP PRESTASI FIRMA PEMBINAAN DI UNITED ARAB EMIRATES DALAM KONTEKS PERSEKITARAN PENGURUSAN KUALITI MENYELURUH

ABSTRAK

Kajian ini dijalankan untuk membanding serta membezakan prestasi firma pembinaan yang melaksanakan falsafah pengurusan kualiti menyeluruh (total quality management, TOM) dengan firma yang tidak melaksanakannya (NON-TQM), melalui tiga (3) petunjuk / indikator prestasi utama (iaitu. Kepuasan pekerja, keberkesanan operasi dan kepuasan pelanggan) yang diukur secara statistik. Kajian ini juga mengetengahkan kepentingan pelaksanaan TQM dalam industri pembinaan. Rangka kerja teori kajian ini disesuaikan daripada European Foundation Quality Model (EFQM, 2010). Penyelidikan korelasi yang menggunakan suatu pendekatan kuantitatif diaplikasikan untuk mengumpul maklumat tentang pekerja daripada beberapa firma pembinaan di Dubai serta prestasi mereka. Seramai 321 orang pekerja dipilih secara rawak daripada beberapa firma pembinaan di Dubai. Dapatan kajian menunjukkan terdapatnya suatu perbezaan yang signifikan di antara firma pembinaan yang melaksanakan TQM dengan NON-TQM, dari sudut prestasi mereka setelah diuji dengan MANOVA satu hala. Dapatan kajian selanjutnya mendedahkan kewujudan korelasi linear yang signifikan dan amat positif di antara keberkesanan operasi dengan kepuasan pekerja dari satu sudut, dan di antara keberkesanan operasi dengan kepuasan pelanggan dari satu sudut yang lain, berdasarkan pekali korelasi Pearson (r). Sebagai kesimpulan, dapat dirumuskan bahawa firma pembinaan seharusnya memasukkan TQM dalam agenda utama mereka kerana ia merupakan suatu falsafah yang unggul untuk memastikan pencapaian prestasi terbaik dalam sektor pembinaan, yang secara langsung mampu meningkatkan kualiti dan produktiviti. Justeru, beberapa saranan diutarakan kepada pembuat dasar firma pembinaan di UAE untuk menggalakkan pengamalan falsafah TQM. Di samping itu, pada masa depan, kajian hendaklah dijalankan untuk mengkaji dengan terperinci halangan yang mungkin didepani dalam pengamalan TQM melalui pendekatan kaedah bercampur.

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ABSTRACT

This study was carried out to compare and contrast the performance of construction firms that implement the TQM philosophy and the ones that do not via statistically measuring three major indicators of performance (i.e. employee satisfaction, operational effectiveness and customer satisfaction). Furthermore, this study aimed to highlight the benefits of TQM implementation in the construction industry. The theoretical framework for the study was drawn from the European Foundation Quality Model (EFQM, 2010). A correlational research employed a purely quantitative approach to gather information on employees from some construction firms in Dubai and their performance. 321 employees were randomly selected from some construction firms in Dubai. The findings revealed a significant difference between TQM and Non-TQM construction firms in terms of their performance after running one-way MANOVA. A further finding exposed the existence of strong positive and significant linear correlations between operational effectiveness and employee satisfaction on one hand and operational effectiveness and customer satisfaction on the other through employing Pearson correlation coefficient (r). Finally, it was concluded that construction firms ought to consider TQM in the top of their agendas as TQM is the ideal philosophy to ensure accomplishing the best performance in the construction industry sector that raises quality and productivity. Thus, some recommendations were made to the policy makers of construction firms in the UAE to encourage the adoption of TQM philosophy. In addition, some future studies should be carried out to investigate in details the obstacles encountering the adoption of TQM through employing a mixed method approach.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter describes the background of the study and statement of the problem. It also explains the purpose and objectives of the study, research questions, significance of the study, and limitation of the study. The last section of this chapter outlines the organisation of the other chapters.

1.1 Background of Study

Total Quality Management is a management philosophy aiming at continuous improvement in all functions of an organisation with the major concern for satisfying customers and improving the organisational performance which involves the accurate coordination of work processes that allows firms to obtain a higher degree of differentiation, decrease costs by reducing waste and rework, and increase efficiency with the aim of meeting or surpassing customer's expectations (Tari, 2005).

Moreover, TQM is an appropriate system to any organisation regardless of size, and motives; therefore, organisations adopt the ideology in order to make them effective in meeting demands. In spite of its advantages, some problems are detected through the adoption of TQM such as the difficulties that some organisations faced while implementing TQM, and thus not achieving much whilst others have had a great

success. However, failure is frequently referred to as an implementation problem rather than a failure of the principles or theory of TQM (Boyne & Walker, 2002).

The deregulation of the industry in most parts of the world marked the beginning of a new realm of competition in the industry (Oluseun & Oluwatoyin, 2008). In attempts to get some competitive benefits, construction firms try their best to do better than their competitors via supplying quality products that meet or exceed the expectations of customers. Hence, customer satisfaction in the construction industry is never ending because they face numerous challenges and competitions daily. This makes Quality management critical to the construction industry since they make every effort to continuously improve their products and services to meet customers' expectation.

Several studies, were conducted throughout the world, demonstrated a lack of information about the nature and stages of TQM implementation in some regions of the world such as the Middle East (Sila & Ebrahimpour, 2002). In fact, the problems of poor production and services have consistently characterised most of the construction firms in the Middle East countries in general and the UAE in particular.

Construction, in the UAE, constitutes a major and significant sector of the country's economy. Quality in the construction industry is essential for its being a main determinant of competitiveness. In addition, continuous improvement and price are the two other determinants for the construction industry (Salama & Habib, 2009). Besides,

new investors entering into the sector and adopting the TQM ideology, which leads to lose the local firms their position in the UAE market.

There is a need to continue to support implementing of TQM in organisations, especially in the construction industry in the UAE where the adoption of TQM ideology seems farfetched to local organisations. The construction industry in the UAE gives a true picture of the shortcomings of organisations in their quest to make profit at the expense of quality. Due to the huge number of foreign and local investors in the construction industry, a rapid growth happened leading to intense competition. Hence, there is a need for organisations to look internally into their operational procedures and change strategically to meet up with the challenges.

Regarding the UAE context, there were a few studies that were carried out on the construction industry. One of which tackled the significant factors causing delays in the UAE construction industry (Faridi & El-Sayegh, 2006). The other one investigated the causes of variation within the construction project in the UAE (Salama & Habib, 2009). Moreover, there was a study about effecting the electronic communication systems on the success of construction projects in the UAE (El-Saboni & Aouad, 2009). Therefore, this study is considered as the first of its type researching the comparison between TQM and non-TQM construction firms in the UAE. This study also aims to investigate the benefits of implementing total quality management in the UAE construction firms and the problems encountered the implementation process.

1.2 Statement of the Problem

All over the world, the construction industry represents the backbone of any country's infrastructure and economy (Metri, 2005). In a world which is characterised by increasing the number of competitors with the least cost; a lot of organisations are encountering problems in its performance which directly affect its products and services because of the absence or limitation of consciousness about the importance of adopting total quality management in their activities which results into increasing the waste time and efforts. As a result, facing the problems of high fragmentation; instability; low productivity; poor quality; and lack of standards (Metri, 2005). Due to the inefficient or nonexistent quality management procedures, great expenditures of time, money and resources, both human and materials, are wasted each year (Arditi & Gunaydin, 1997). Additionally, owing to neglecting the use of total quality management in diagnosing those problems leads to weakening the organisation status confronting its competitors and losing its marketing position since defects are costly and preventable in the construction field (Akinci et al., 2006).

Historically, construction as an industry has been reluctant to implement changes and slow to embrace the concept of TQM. The struggling of construction firms has been continuous with its implementation causing the construction industry to remain behind where it should be on the implementation of TQM (Haupt & Whiteman, 2004). TQM is a flexible ideology that aims at achieving high performances in terms of operational effectiveness, customer satisfaction, and employee satisfaction.

Although Total Quality Management was utilised in developed countries as a new philosophy for managing organisations, little attention has been paid on the successful implementation of TQM systems and in developing countries (Twaissi, 2008). Most of the Middle East countries face delays in the construction projects, for instance the delays in the UAE construction industry was studied by Faridi and El-Sayegh (2006) as the most recurring problem encountering the construction projects. It was found that delays affect the overall economy of the UAE as 50% of the construction projects in the UAE encounter delays which have an adverse effect on the success of those projects. Therefore, inadequate early planning and slowness in the decision-making process were illustrated as the most significant causes of delays in the construction sector.

Salama and Habib (2009) identified the key factors that cause variation in time and cost regarding the construction projects. However, they did not cover the comparison issue between TQM and non-TQM construction firms in the UAE. Whilst, Pheng and Teo (2004) recommended the necessity of implementing TQM in the construction industry after conducting two case studies in the Singaporean construction industry (i.e. an international construction firms and a local construction firms).

A review of recent literature has recognized lack of studies regarding the relationship among the indicators (i.e. employee satisfaction, customer satisfaction and operational effectiveness) of non-financial performance of construction firms. To summarise, accomplishment of acceptable levels of quality regarding performance in the

construction industry has long been a problem (Arditi & Gunaydin, 1997). Using total quality management has proven its effectiveness when applied in the industrial field, in determining the deviations and defects' causes. However, implementing total quality management in the construction field regarding performance is worth study especially with the fact that the competitive edge is with those who manage their resources most effectively and provide a timely response to the demands of the market (Idris, McEwan, & Belavendram, 1996; Metri, 2005). Hence, this research is the first of its type which compares the performance of construction firms that implement the TQM ideology and the ones that do not implement TQM via statistically measuring three major values of performance (employee satisfaction, operational effectiveness and customer satisfaction). Therefore, this study adds to the knowledge of the field as it reveals a new perspective pertinent to the construction industry in the UAE as well as contributing to the broad TQM literature.

1.3 Research Questions

The current research attempts to answer the following questions:

1. Is there any difference between TQM and non-TQM construction firms in performance (employee satisfaction, operational effectiveness and customer satisfaction)?
2. Is there a relationship between operational effectiveness and employee satisfaction?

3. Is there a relationship between operational effectiveness and customer satisfaction?

1.4 The Aim and Objectives of the study

The overarching aim of this research is twofold; firstly, to compare and contrast the performance of construction firms that implement the TQM and the ones that do not implement TQM via statistically measuring three major values of performance (employee satisfaction, operational effectiveness and customer satisfaction) and secondly, to highlight the benefits of TQM implementation with focusing on the correlation between operational effectiveness and stakeholders' (customer, employee) satisfaction. This study has certain objectives which are:

1. To investigate whether there is any difference between TQM and non-TQM construction firms in Performance (employee satisfaction, operational effectiveness and customer satisfaction).
2. To determine whether there is a relationship between operational effectiveness and employee satisfaction.
3. To determine whether there is a relationship between operational effectiveness and customer satisfaction.

Consequently, the outcomes of these comparisons if positive will show the importance of implementing TQM in the construction firms and will also exhibit the need for

benchmarking by the non-TQM construction firms, in order to derive the values created by its implementation.

1.5 Significance of the study

The significance of the study lies in explaining the importance of implementing total quality management in the construction industry in UAE. Simultaneously, it provides a demonstration to the real situation of construction firms' performance. Besides, the relevance of this research illustrates an important issue of TQM adoption especially by those local construction firms that do not implement TQM. Therefore, this research is considered as a guide for non-TQM construction firms to pay more attention and pave the way towards implementing the core principles of TQM to accomplish a high level of performance which is explained by operational effectiveness and stakeholders' satisfaction.

To summarise, this study presents an empirical evidence of the academic body of knowledge. Hence, it is the first study of its type to investigate TQM practices in the construction sector in the UAE.

1.6 Limitations of the Study

The current study has been conducted with some certain limitations which should be taken into account before drawing generalisations from its results. Some important limitations are listed below:

1. The population of the study was limited to construction firms in Dubai only due to the fact that most of the firms invested in it for its famous commercial rank that has been achieved in a very short time among all the other emirates.
2. There was a lack of literature on quality management in Dubai and other Emirates because little research has been conducted as TQM is considered a relatively new phenomena and concept
3. The other limitation represents in the fact that it is only few local construction firms which are aware of TQM principles in the United Arab Emirates.

1.7 Scope of the Study

This study addressed the construction firms in the United Arab Emirates. It focused on implementing the TQM philosophy in the Emirate of Dubai for its special rank as being a world commercial centre. Hence, this study was limited to only the construction industry in the Emirate of Dubai and not other industries as TQM can be applicable to all sectors.

Moreover, this study will be beneficial to non-TQM construction firms in terms of accomplishing the highest levels of stakeholders' satisfaction, attaining the best performance, and achieving more effective operations. The term 'Performance' in this study context refers to the non-financial performance.

1.8 Summary of the Chapters

Chapter 1 contains the background of the study, statement of the problem, the purpose and objectives of the study, research questions, research hypotheses, significance of the study, limitations of the study and scope of the study. In the next chapter, the literature review is going to be explained focusing on the concept of quality, quality management, quality inspection, quality control, quality assurance and total quality management. It also demonstrates a detailed description for the implementation of TQM in the construction industry with presenting the benefits and obstacles to the implementation. Next, Chapter Three contains both the theoretical and conceptual frameworks with reviewing some related studies on implementing TQM in the construction industry globally and locally (the UAE context). Consequently, Chapter Four exhibits the research methodology using certain a quantitative instrument which is an adapted questionnaire. A correlational research with purely quantitative approach would be employed for the purpose of answering the research questions. Next in Chapter Five, descriptive and inferential statistics will be performed to analyze the gathered data. Finally, Chapter Six will include the discussions for the findings, implications of the research, recommendations and conclusion.

CHAPTER TWO

TOTAL QUALITY MANAGEMENT FUNDAMENTAL ISSUES AND PRINCIPLES

2.0 Introduction

The aim of this chapter is to discuss topics: the history of quality, concept of quality, quality management, quality inspection, quality control, quality assurance, total quality management. Besides, this chapter also aims at demonstrating the implementation of TQM in the construction industry with illustrating both the benefits and the obstacles from implementing TQM in the construction field.

2.1 History of Quality

In 1960, Japanese workers learned and applied a simple statistical technique aimed quality improvement which is called control circles. In the eighth decade from 20th century U.S. began frequent trips to Japan to learn about the Japanese miracle of quality, during that time TQM activities were effectively used in many manufactures. Nevertheless, a quality renaissance began to occur in US products and services, and by the middle of 1980's the concepts of TQM were being publicized. In 1987 ISO 9000 quality standard was developed and quickly became the worldwide model for a quality system (Abohmed, 2001).

2.2 Concept of Quality

Quality is defined as the totality of features and characteristics of a product or service that bear on its ability to keep the customers satisfied (Kolarik, 1995). The concept of quality has several definitions and views by different people, Feigenbaum (1983) described quality as ‘the single most important force leading to the economic growth of companies in international markets’, Juran defined quality as the ‘fitness for use’ (Reeves & Bendar, 1994).

Crosby defined quality as the ‘conformance to specifications’ (Mallak, Bringelson, & Lyth, 1997) and also suggested that to manage quality sufficiently it must be able to be measured. ISO 9000 defined quality as the degree to which a set of inherent characteristics fulfill requirements. The American Society of Quality sees quality as being subjective, with different individuals having their own perception of it (Oluseun & Oluwatoyin, 2008). Quality has two meanings one of which is the properties of the product or service that provides satisfaction to consumers, the other one is a product or service free of faults. Peters (1999) defined quality as a ‘magic bullet’ which provides lower cost, higher customer service, better products and higher margins.

There are two ideas that quality management came from, the first was about customers, it is important to know about the customers’ demands. The second idea about efficiency, it is also important to be as efficient as one can concern the waste time and reproduction (Peters, 1999). The quality responsibility is not exclusive for specified part of the organisation, but it is the responsibility of everyone involved in the process

from top management to the workers, in different stages and departments. Revising and improving quality standards assist the organisation to supply society with quality products as economically as possible and that is engineers and technical specialists' responsibility (Abohmed, 2001).

2.3 Quality Management

Quality management is mentioned as the quality activities set involved in producing a product, process, or service, and include prevention and evaluation (Battikha, 2003). According to Boer, Berger, Chapman, and Gertsen (2000) defined quality management system as a management system to direct and control an organisation with regard to quality.

Oluseun and Oluwatoyin (2008) defined quality management as, 'all management activities and function involved in determination of quality policy and its implementation through means such as quality planning and quality assurance including quality control'. The purpose of quality management system is to establish a framework of reference point to ensure that every time a process is preformed the same information, methods, skills and controls are used and applied in a consistent manner. There are several fundamental documents that assist with ensuring quality (Dale, 2003):

- a. An organisation quality manual (level 1), contains a concise of quality policy and quality management objectives as a part of organisation's objectives.

- b. A procedures manual (level 2), contains a description of system function and responsibilities for each department or unit with details the practices to be followed in the organisation.
- c. Work instructions manual (level 3), contains specification, ways of performance and detailed methods for performing work activities.

Reference documents, a database containing forms, standards, drawing, supplier, etc.

According to Hoyle (2000), the basic goal of quality management is the elimination of potential, suspect and actual failure. The implementation of quality management aims at accomplishing two important requirements:

- a. The customer's requirements, confidence in the ability of the organisation to produce and service what customer needs and expects.

The organisation requirements, efficient use of the available resources-material, human, technology, and information.

The stages of quality management are: inspection, quality control (QC), quality assurance (QA) and total quality management (TQM) (Dale, Boaden, & Lascelles, 1994a).

2.3.1 Inspection

ISO 8402, 1986 defined inspection as '*activities such as measuring, examining, testing, gauging one or more characteristics of a product or service and comparing these with specified requirements to determine conformity*'. Inspection includes testing and

measurements of the product characteristics and comparing them in order to meet the specified requirements (Oluseun & Oluwatoyin, 2008).

Inspection is an efficient, effective, and economical method of finding defects in products and services. The use of inspections assists to improve productivity and quality of products. On the other hand, not using inspection causes into a lot of waste in time and money. The basis of inspection lies in the ability to translate the customers' requirements to objectified measurements that can be conducted in production (Kennedy, Hoffman, & Bond, 1987).

2.3.2 Quality Control

Quality control has been defined as the operational techniques and the activities which sustain a quality of product or service that will satisfy given needs; also the use of such techniques and activities (Kolarik, 1995). Deming defined it as, '*The application of statistical principles and techniques in all stages of design, production, maintenance and service, directed towards the economic satisfaction of demand*' (as cited in (Cheng, 1993)). Juran and Gryna (1993) defined quality control as '*The application of statistical methods to the measurement and analysis of variation in any process*'.

Quality control involves all activities concerned with the planning, improving and controlling of quality in a production system. The importance of establishing an effective quality program lies in the many benefits (Cheng, 1993).

- a. Improving the quality of products and services.
- b. Increasing productivity.
- c. Reducing costs.
- d. Reducing production and delivery times.
- e. Improving the marketability of products and services.
- f. Reducing the prices of products and services to customers.

There are several benefits of utilizing the quality control tools such as obtaining the knowledge to correct the work method; forecasting and prevention of deviations before they occur; finding the causes of deviations in the work; rationalising the need to develop skills and abilities of the workforce; and continuing improvement efforts and competitive advantage in the future (Khiwka, 2000).

2.3.3 Quality Assurance

Quality assurance is one of quality management parts focused on the creation of confidence that quality requirements will be fulfilled including all the factors and actions to ensure appropriate quality level of products and services (Akao, 2004). According to Dale, Boaden, and Lascelles (1994b), quality assurance is a prevention system aims at improving product and service quality with increased productivity by emphasis on product, service and process design.

Quality assurance focuses on defect prevention, whereas quality control focuses on defect detection once the item is produced or constructed. The audit of the operation of

the system and the continual redefinition of its components assist to ensure that the quality management system supports the organisations' quality goals (Murley, 1997).

Providing the client with the quality of work required without the need for clients checking during the process is the ultimate objective of quality assurance which is achieved by documenting what processes are performed and accomplished, by self checking that each process is completed correctly and finally by recording that fact.

Recording the process and procedures policy supplies the customer with the assurance that the organisation is trying to achieve an acceptable standard of quality. Organisations have recently established a separate department specialized for quality assurance in order to increase customer confidence and improve work process and efficiency by catching defects before they get into the final product (Muffato & Panizzolo, 1995).

2.3.4 Total Quality Management

Total quality management refers to a set of disciplines and applications of quality management principles to all the aspects of an organisation that are coordinated to ensure that the organisation meets customer requirements (Sit, Ooi, Lin, & Chong, 2009). TQM engages all levels and departments of the organisation. The strategy of top management organizes around customer needs and develops a culture aims to achieve the effective participation of staff.

TQM is defined as a holistic philosophy that focuses on the participation of every member of an organisation's staff to achieve customer satisfaction by continuous process improvement (Chow & Lui, 2001).

TQM aims at the satisfaction of customers by delivering the highest value at the lowest cost in an efficient, reliable and profitable way. According to Nieuwenhuizn (2007), TQM approach is far more than quality assurance (Bou-Llusar, Escrig, Roca, & Beltra', 2009) or the detection mode of quality control (QC). It is an approach to improving the competitiveness, flexibility and effectiveness of the entire organisation.

In the concept of TQM the quality of the outputs falls under the responsibility of everyone involves in the organisation that means to get an effective organisation all should work together to achieve the same goal, recognizing that persons and activities affect and are affected by each other. The methods and techniques used in TQM can be applied on any type of organisations (Oluseun & Oluwatoyin, 2008).

According to Khan (2003), there are four basic factors that TQM philosophy is founded on:

- a. Absolute customer focus;
- b. Employee empowerment, involvement and ownership;
- c. Continuous improvement;
- d. Use of systematic approaches to management.

Slack, Chambers, and Johnston (2007) stated that TQM had better to be viewed as a philosophy and a way of thinking and working that mainly focuses on achieving the following:

- a. Attaining the expectations and needs of customers;
- b. Covering all parts of the organisation;
- c. Involving every member in the organisation;
- d. Studying the different costs which are pertinent to quality, especially failure costs;
- e. Getting things right first time;
- f. Developing the systems and procedures in order to support and foster quality and improvement;
- e. Developing a continuous process of improvement.

Table 2.1 the stages of Quality management and Characteristics

TOTAL QUALITY MANAGEMENT	<i>Policy deployment</i> <i>Involves suppliers and customers</i> <i>Involve all operations</i> <i>Process management</i> <i>Performance measurement</i> <i>Team work</i> <i>Employee involvement</i>
QUALITY ASSURANCE	<i>Quality system development</i> <i>Advanced quality planning</i> <i>Comprehensive quality manuals</i> <i>Use of quality costs</i> <i>Involvement of non production operation</i> <i>Failure mode and effect analysis</i>
QUALITY CONTROL	<i>Develop quality manuals</i> <i>Process performance data</i> <i>Self inspection</i> <i>Product testing</i> <i>Basic quality planning</i> <i>Use of basic statistics</i> <i>Paper work control</i>
INSPECTION	<i>Salvage</i> <i>Sorting, grading and re-blending</i> <i>Corrective actions</i> <i>Identify sources of non conformance</i>

Source: (Oluseun & Oluwatoyin, 2008)

2.3.4.1 Stages in TQM implementation

Suganthi and Samuel (2004) identified four different levels of TQM implementation, these are shown in Figure 2.1. The first stage is a common situation which can be seen in several organisations. At stage one, there are a few employees who constantly work, represented by arrows, while there are several others who do very minimal work represented by dots. In other words, the organisation is not in a healthy situation. Dale et al. (1994a) described this stage as an uncommitted stage by which organisations have not commenced a formal procedure of quality improvement.

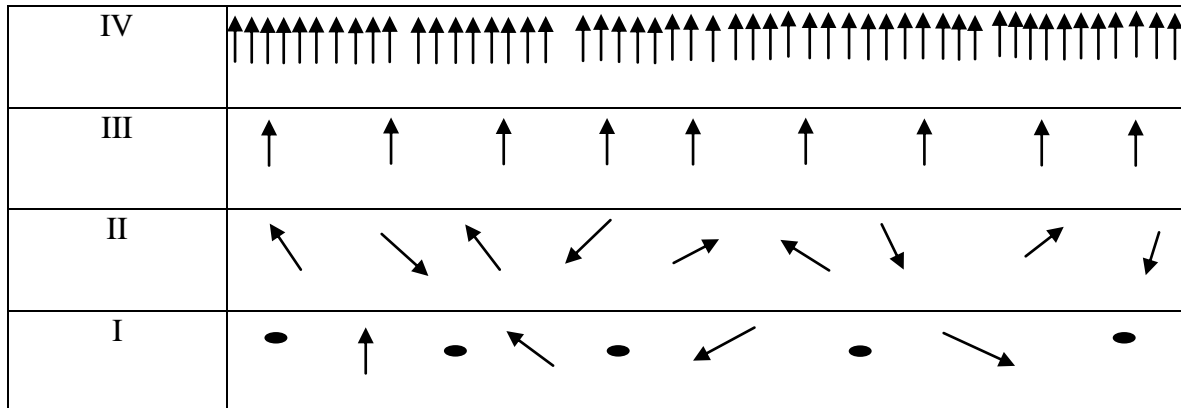


Figure 2.1 Stages of development during TQM implementation (Suganthi & Samuel, 2004).

Quality improvement is viewed by organisations as an added cost having no investment in quality improvement programs such as training of employees. Organisations characterised in this stage as unaware of the benefit of quality improvement and lack an appropriate quality improvement plan. Dale et al. (1994a) highlighted other common features of this level:

- a. The first interest is to achieve the sales target.
- b. The employees do not have an interest in quality.
- c. Inspection processes focus on incoming materials and the strategic points during the production process.
- d. Lack of communication between the top management and front line employees.
- e. Minimal contact with customers.

In the second stage, it is noticed there are no dots but the arrows are in different directions. This means that no one is relaxing and there is no single focus for the

organisation (Suganthi & Samuel, 2004). This situation occurs in organisations that are trying to implement total quality management and move from one program or concept to another without having a common platform for the application. The management of the organisation in this stage expects immediate gains from implementation of TQM. These organisations view TQM as a program rather than a process, and thus making the policy is of a low interest among employees. Within this stage, all the organisations involved have no plan for the deployment of TQM philosophy throughout the organisation and hence the implementation of TQM will be limited to the managers excluding the shop floor out of the implementation process (Dale et al., 1994a).

The third stage has all arrows and the arrows are pointing towards the same direction. It indicates that there is a common goal or vision for the institution and every individual is motivated to focus on the same vision (Suganthi & Samuel, 2004). According to Dale et al. (1994a), organisations in this stage have engaged in a process of quality improvement not less than five years. In addition to that, the organisations have made the most important advances. On the other hand, organisations in this category understand that total quality contains long term cultural change and have recognised the importance of change regarding the cultural aspect. Besides, organisations in this stage depend on a few numbers of managers regarding the implementation of TQM yet still have a long way to go.

The fourth stage is slightly different. In all the first three stages there are same numbers of arrows and dots (in the first stage) representing employees. But in the fourth stage the number has been multiplied. This does not mean that the numbers of employees have increased but the increase is only because of effect of employees working towards a common goal. In this stage, employees work as a team. When employees work as a team, synergic effect sets in and there is always five times greater effect as compared to employees working as a group. It can be said that the fourth stage indicates a tremendous increases in productivity. In other words, the input remaining same, the output has increased (Suganthi & Samuel, 2004).

Every organisation should check where it stands as on date. If the organisation is placed in the first stage, it should work towards reaching to the fourth stage through the second and third stages. Implementation of total quality management strategies will be effective only when the organisation is in the fourth stage. Hence, every organisation should aim to reach the fourth stage at the earliest.

Promotion from the second stage will be possible when every individual is motivated to do their best utilizing all their potential. In other words, empowerment will be the key issue. For movement to the third stage, it requires a common vision by generation of a vision statement by democratic means and popularizing the same will motivate employees to have a common focus and reach the third stage. To reach the fourth stage, the members of the organisation must work as a team (Suganthi & Samuel, 2004).

2.4 Major Principles of TQM

There are some major principles for TQM that should be contained into the organisation's culture. These principles are reviewed in relation to TQM implementation. The principles are addressed below:

2.4.1 Top Management Commitment and Leadership

Organisational culture should involve an effective change concerning TQM which can only be made possible with the deep and real commitment of management to the organisation's strategy of continuous improvement and open communication and cooperation throughout the organisation. Demirbag, Tatoglu, Tekinkus, and Zaim (2006) stated that TQM implementation improves the organisational performance by influencing other TQM dimensions.

According to Ugboro and Obeng (2000), TQM must start at the top with the chief executive in order to be successful in promoting business effectiveness and efficiency. Butner (2010) recognised that leadership should be critical in effecting organisational change especially in building effecting relationship with suppliers and others involved in the process of value delivery. The daily natural tendency to work emphasises the leadership commitment to the TQM strategy and motivates employees to deliver quality services that exceed the expectation of customers.