ABSTRACT

The aim of the paper was to determine the relationships between total quality management practices, quality culture and contractor’s competitiveness in Saudi Arabia. A quantitative research design was adopted to collect data, test hypotheses, and answer the research questions. A cross-sectional survey method was used to conduct this study. The results indicated that total quality management practices meaningfully contributed and related to competitiveness. In addition, that quality is considered a positive moderate the relationship between total quality management practices and competitiveness.

Key words: Total quality management practices, Quality culture, Competitiveness, Saudi Arabia contractors.

Introduction

Owing to the ever increasing competition in the marketplace, enterprises are now looking for new ways in order to stay competitive. To this end, many companies try to adopt and apply a set of operation management practices assisting them to enhance the efficiency of their operations and processes. Among these practices is Total Quality Management (TQM), a practice that has been receiving a lot of attention in the last two decades [49,24]. TQM is a management philosophy that has come into the limelight and is here to stay. Owing to its significant success in Japan, it is now the talk of every corporate management worldwide.

Several studies concentrate on expounding TQM-oriented training, management by fact, and continuous improvement of processes [11]. Firms that adopt TQM have been proven time and again to gain competitive advantage over those that do not [11]. The level of TQM implementation impacts the achievement of success which varies from marginal impact towards organizational performance to phenomenal affects on customer satisfaction [24].

The relation between the TQM and competitiveness is such that several organizations are failing to achieve competitive advantage through TQM practices’ implementation while some others have succeeded. The failure is attributed to the incomplete implementation of the crucial TQM practices and the absence of the assisting assets that must be simultaneously used with TQM for the achievement of competitive advantage [11].

The culture is stated to comprise of knowledge, belief, law, morale, art, custom and any other habitual activity acquired by man in the society [35]. Quality culture’s analysis is important prior to the implementation of TQM practices. The TQM program is expected to be successful if the quality culture is parallel to the values and basic assumptions suggested by the TQM principles. It comes to reason that failure in the attempts to implement TQM can be due to the incompatibility between quality culture and competitiveness.

In the quest to study TQM implementation, quality culture has to be given due consideration because of the practical orientation of the TQM philosophy towards management and the natural link between TQM and quality culture. To do this, quality should be top priority of organizational members which suggests that if quality culture is based on TQM, a foundation of quality can be developed [60].

TQM is being widely adopted by contractor companies to solve problems regarding quality in the construction industry particularly to satisfy the needs of the customers [57,54,26,23]. It is no surprise that TQM has now become the major business strategy in current management and has currently been taken up by companies around the globe [48]. The construction industry is being considered as comparatively having one of the poorest quality emphases among different manufacturing and service sectors [29,26,57]. In fact, numerous criticisms have
been heaped on the construction industry for the general under quality of workmanship. This relates to the final product and processes that the products undergo, the peoples, and the materials etc. [34]. Thus, the present study is confined to TQM implementation in the contractor companies in general and the Saudi classified contractor companies in particular.

The aim of this paper was to obtain a framework to be used as a foundation to investigate the implementation of total quality management practices, quality culture and their contractors' competitiveness.

**Total Quality Management Practices, Quality Culture And Contractor Competitiveness:**

The conceptual framework is adopted from three comprehensive variables which include TQM, quality culture, and competitiveness. TQM is the single component considered as the independent variable while the dependent variables consist of competitiveness. In addition, quality culture will be considered as the mediating variable in the relationship between TQM practices and competitiveness. It is notable that when quality culture is intended to be studied as the mediating factor, the theoretical model becomes one of a kind. As evidenced by Abdullah et al. [1], quality culture is a fundamental element in such research model and based on a thorough review of literature, there is lack of studies investigating the role of quality culture as a mediating variable between TQM and Companies’ competitiveness in Saudi construction companies. Therefore, the justification of the present study attempting to utilize the same as a mediating variable for the purpose of the investigation between TQM and competitiveness is valid.

**Fig. 1: Conceptual Framework.**

Figure 1 below presents the conceptual framework of the present study. On the basis of the literature reviewed in chapter two and Anderson et al.’s [5] model, the digraph below presents the theoretical framework of the current study:

Organizations are increasingly recognizing the strategic significance of TQM practices. Varying past researchers has examined the inter-relationship between the quality of organization management practices, quality culture and competitiveness. The current study adopts literature from past studies to develop a new model correlating the impact of specific TQM practices under different quality cultures upon the competitiveness of the organization. The theoretical framework of the current research is presented in Figure 1.

The development of Deming’s method of management encapsulated in his fourteen point principle is traced by Anderson et al. [5]. The integrated it into the management theory context and provided a description of the theory development. It opined that the effectiveness of Deming’s management method stems from the efforts of top management to develop learning and cooperative organization in an attempt to allow process and management practices implementation supporting the organization’s survival and customer satisfaction. This process is undergone through sustained employee fulfillment and consistent improvement in processes, products and services [5].

Nevertheless, it can be argued that Anderson et al. [5] study concentrated on organizations desirous of implementing TQM and not for those who aren’t. Therefore, it may be said that the theory may be invalid for some organizations. Review of literature reveals that the initial effort expended to synthesize quality management theory from research based on Delphi’s method was conducted by Anderson et al. [5]. They included both managers and academic officers in their study relating to quality [53].

**Total Quality Management Practices:**

Total Quality Management is considered as a philosophy that is basically about continuous organizational success through the employment of customer satisfaction, and by basing it on the contribution of all the employees constantly working to enhance processes, services and products [3]. In other words, it is an all-encompassing effort expended to bring about customer satisfaction through continuous improvement [56]. In addition, its definition has also been provided as satisfying or exceeding the satisfaction of the business stakeholders’ needs and expectations [55]. TQM’s definition covers the entire critical success factors including aspects of leadership elements, hard elements and soft elements.

Several researchers including Hill [18], also provide several definitions of TQM. Other researchers provided that TQM is a method to taming the usefulness, effectiveness and flexibility of a whole organization requiring all aspects of planning, organizing and understanding every single activity.
Still other researchers consider it as a process of constant improvement [16] in the quality aspect of the entire processes, people, products and services within an organization and its core goal is to improve the value for the customers through continuous improvement of organizational processes and systems [18]. Total quality is the inflexible and repeated refining exertion by everyone in an organization to comprehend, meet, and exceed the expectations of customers [19].

The American Society for Quality provided quality’s definition as ‘how good the product or the service satisfies the customer specifications, either stated or implied [22]. It is notable that this definition of quality is similar to the one stated in the MBNQA criteria. From the definition, it is clear that quality should be characterized as the element that meets or exceeds customer needs and wants and the features comprising quality include performance, features, durability, aesthetics and service quality [33]. Therefore, TQM is a management philosophy stating that every employee within the organization must work in enhancing the processes for the purpose of meeting or exceeding customer expectations. According to Motwani [38], the emphasis stated in MBNQA is inclined to the achievement of customer satisfaction by continuous quality improvement, as opposed to the provision of a holistic kind of quality improvement.

Of the most notable study carried out regarding quality is Garvin’s identification of the five approaches to defining it [33,56]. These five approaches are transcendent approach; an approach where quality is considered to be similar with innate excellence, the product-based approach where quality is considered to be a characteristic of the product, the user-based approach; where the user is left to decide on the quality, the manufacturing-based approach where quality is viewed from the viewpoint of engineering, and finally the value-based approach where the product or service conforms to certain specifications. Manufactured products have features like performance, durability, reliability, aesthetics and perceived quality for quality measurement while services have timeliness, courtesy, accuracy, convenience and responsiveness. Owing to the lack of consensus regarding the definition of quality management, MBNQA has developed certain specifications and procedures for quality [18]. Nevertheless, it is up to the firms to find their own ways of process improvement.

Total Quality Management Practices Factors:

Management governance and pledge is required for TQM implementation. Good and effective leadership generally denotes keeping a close involvement in the implementation activities for the purpose of maintaining the momentum of the employees towards customer satisfaction [39]. TQM is in need of maximum efforts from each and every employee in the company in order to maintain customer satisfaction [36].
The lack of clear and consistent quality leadership leads to quality failure. In other words, the leader should facilitate the suitable environment for the group for the purpose of improving performance and productivity [32]. Juran [25] is of the opinion that most of the issues related to quality are linked to management indicating that successful quality management depends on the extent of management commitment. Similarly, Deming [9] considered quality responsibility attributable to top management while Atkinson [6] reveals that 80% of TQM failures are generally linked to absence of obligation from top management.

Based on Zairi and Youssef [61] the applicability of 22 critical factors based on the MBNQA criteria along with the suggestions from three TQM gurus involving the operating on a global basis has been verified and Figure 2 indicating 22 factors in order of priority. Nevertheless, the authors are of the opinion that not the entire factors play a crucial role in all organizations. What is imperative is the top management’s cooperation and facilitation through active involvement, setting clear goals, having clear vision, and integrating TQM into the strategic quality planning process. Additionally, culture change is also significant in the achievement of TQM implementation and it is not sufficient just to utilize simple tools and techniques without constant improvement through constant learning and development.

Notable quality gurus are of the belief that supplier should be considered as a crucial part in the business operations of the organization [21,8,9]. In addition, according to Crosby [9] one of the most essential elements of quality improvement process is the link between supplier and buyer. Organizations all around the world are utilizing teams for quality improvement of their products and services while recognizing the fact that suppliers play a critical role in this teamwork [59].

Quality Culture:

Literature is occupied of definitions concerning philosophy, every having its own trivial difference contingent on the emphasis of the study. Nevertheless, the most popular and widespread suggestion of nation is the design of preparation, material or behaviour which has been adopted by a society (corporation, group, or team) as the accepted way of solving problems.

According to this definition, culture may be considered to encompass all the institutionalized ways and the implicit beliefs, norms and values and premises which underline and govern behaviour [2]. Various countries, nations, regions and enterprises generally project different feelings, requirements, creations and understanding from each other. The researchers have still not reached a unanimous definition of quality culture. Douglas and Judge’s [11] on the other hand, advocate the fact that quality culture can be investigated in both broad and narrow points of view. In the former, it is considered to be phases of consciousness, standards, value orientation, codes of conduct modes of thoughts and manners and customers regarding quality issues developed through a long term production and operating activities of firms and society and the totality of products, identifications and actions, etc. [11].

In the latter, it refers to the quality as the centrality or the totality of the technical knowledge, value orientation, mode of thinking and phases of management thoughts and codes of conduct that relates to quality issues acknowledged by the staff and developed through long-term quality practice processes. Culture has also been considered as a key factor underpinning success when it comes to developing the required commitment in any form of change [28] and Garvin [15] was one of the pioneering authors to state that quality cultures, eras or paradigms have been developing through the years in organizations. He highlighted changes in the values and ideologies or cultures of organizations based on their quality orientations. He forwarded four main quality cultures namely, inspection culture, statistical control culture, quality assurance culture and strategic quality management culture.

Competitiveness:

The competitiveness concept has been defined in multitude of ways; in the individual firm’s context, industries context and nation’s context. Porter [42] stated that “national prosperity is created and not inherited. It does not grow out of a nation’s natural endowments, its labour pool, its interest rates, or its currency’s value, as classical economics insists. A nation’s competitiveness depends on the capacity of its industry to innovate and upgrade.” Competitiveness at the firm level can be described as the firm’s ability to thrive in a competitive environment with its rivals. Companies from all over the world gain competitive edge over their rivals withstanding the pressure and challenge. The existence of strong local rivals, aggressive local suppliers and demanding customers perpetuate the competitiveness of companies meeting them with the help of innovation. According to Porter [42] “competitiveness remains a concept that is not well understood, despite the widespread acceptance of its importance”. The term “competitiveness” stems from the Latin word “compare”, meaning involvement in a business competition in the markets [4]. This definition is similar to the definition provided in the Oxford Dictionary of Economics [41] which states that it is, “the ability to compete in markets for goods or services”. This definition has its basis on the combination of price and quality. It states that, “with
equal quality as well as an established reputation, suppliers are competitive only if their prices are as low as those of rivals. Competition is often considered as the contest between two or more than two entities for a certain attractive target or goal. Generally speaking, the dictionary meaning of competitiveness is often, “an aggressive willingness to compete”. Aggressiveness is considered as the quality of boldness and enterprising. A competition commonly has three elements to make it so: main interests of the independent competition, competitors and the result of competition [52]. From this definition, it can be said that competitiveness of enterprises is the ability of creational development present in the competitive market environment in comparison to other enterprises as contended by Shi-Rong and Guang-kun [52]. Similarly, Porter [42] defines competitiveness as “the country’s share of world markets for its products”. From this definition, it can be assumed that competitiveness is a zero-sum game due to the competitiveness of one country at the expense of other countries. Also, according to Dion and Lafrance [10], competitiveness is a variety of things ranging from efficiency in production and distribution to the innovation and adaptability of the firm to the existing market.

For the purpose of conducting the present research, contractor’s competitiveness will be considered as the ability of the company to meet product, services, values, experiences demands and the ability of the management to meet and satisfy requirements more effectively than its competitors for the achievement of long term goals. Competitiveness is a concept that is widely used by economists and business management researchers specifically in the way of national competitiveness. Moreover, both firm and industrial competitiveness have been utilized in various contexts. Industries are desirous of understanding and enhancing their competitiveness as it is the element that leads to the success or failure in the market economy. The levels of competitiveness are presented in Figure 3.

![Fig. 3: The concept of competitiveness in three contexts.](image)

There are numerous facts of the descriptions about the idea of the keenness as adopted in different contexts. For example, the national competitiveness is defined as a country’s ability to create, produce, distribute and/or service products in international trade while earning rising returns on its resources. The Industrial competitiveness is the capability of firm or industry to meet challenges posed by foreign competitors. The researchers defined the firm competitiveness as the degree to which a firm can, under free and fair market conditions, produce goods and services that meet the test of international markets while simultaneously maintaining or expanding the real incomes of its employees and owner.

**Contractor Competitiveness:**

Contractor competitiveness has been widely studied in literature. Prior traditional contractor competitiveness studies stress on tender price and relatively ignored the evaluation of contractor’s performance attributes [30]. According to researchers [12], the most popular mechanism to award contracts to contractors is still price competitiveness. However, it has been acknowledged that a service of high quality cannot be achieved if the lowest tender is accepted which resulted in the need to shift from ‘lowest price wins’, to ‘multi-criteria selection’ in the process of selection. Similarly, Hatush and Skitmore [17] state that contractor competence should be evaluated based on a variety of factors like financial soundness, technical ability, management capability, reputation and safety performance. In a related research, Lam et al. [31] made use of an artificial neural network as a tool to support decision making for pre-chosen contractors by examining the multiple variables of contractor competitiveness.

In another study, Wong et al. [59] examined the UK practice and revealed that ‘lowest price’ is not necessarily a part of the client’s selection criterion and proposed that cost should be made as one of the criterion along with evaluation of the ability of the contractor to fulfill the project’s goals. The above studies have proposed many criteria to be used in awarding construction contracts by the assessment of the contractor competitiveness. Nevertheless, they have failed to introduce tools to help contractors develop competitive strategies while performance attributes are utilized in the selection procedures.
On the other hand, Shen et al. [51] developed an invaluable bid model to help contractors determine a more superior bidding strategy while considering both tender price and construction time. This developed model has its basis on the rationale that clients generally call for bids along with tender price and contract time. It was developed through the application of the ISO-line and regression analysis methods. However, the model fails to consider other performance attributes like quality performance, environmental performance and safety standards.

Following their examination of the main parameters generally utilized for contractor’s competitiveness assessment in the context of Chinese construction, Shen et al. [51] came up with seven competitiveness parameters which are; management skill, technical ability, financing ability, organizational structure, marketing ability, social influence and contribution to project. These parameters all act as a reference tool in improving contractor’s competitiveness in the market and are considered as the basis of the comparison of competitiveness assessment between Mainland China and Saudi Arabia. According to Porter [42], there are five main forces that determine the competition practice in the industry and they are; industry competitors, potential entrants, suppliers, buyers and substitutes.

To comprehend the contractor competitiveness, a list of parameters to assess contractor’s competitiveness is drawn up and the core competitiveness indicators of the KCIs are determined. Through the use of this assessment parameters and the establishment of procedures, contractors are able to evaluate and identify their industry position. This approach to assessment can also be applied to determine contractors’ competitive resources which may serve them as competitive advantages. Moreover, the KCIs are utilized in the competitive strategy analysis. The contractor competitiveness indicators have been extensive dealt with by extant studies. For instance, Holt et al. [20] provided a classification of competitiveness indicators into five categories; contractor’s organization, financial considerations, management resource, past experience, and past performance. Every group comprises of particular indicators.

Conclusions:

This paper has provided a theoretical framework which could be the reference model to research the relationship between total quality management practices, quality culture and contractors competitiveness. The framework is developed by adopting elements of prior researchers on the subject such as the analysis of the interrelationship between TQM practices, quality culture and firm’s competitiveness. Moreover, the paper also reviewed Anderson et al.’s [5] model extensively and the research hypotheses.

It discussed theories related to TQM, quality culture and competitiveness. Studies have revealed positive links between quality culture and competitiveness and between TQM and competitiveness. TQM is not a philosophy with flaws rather it’s the TQM implementation that is carried out in manner full of flaws [55]. This is the basis of the inability of the researchers and authors to reach a consensus of the critical elements of TQM success. Most authors advocate the top management involvement and consistent culture improvement while other authors differ on other elements related to TQM success in light of competitiveness.

Based on the study by Bagchi [7], and Torbica [56], TQM basically leads to competitive advantage through customer satisfaction in the condition that it is utilized with an appropriate strategy [7,56]. This is evident in Deming’s philosophy of customer-centric approach which advocates the possibility of coming up with an alternative material and the impossibility of finding another customer. TQM makes it possible and easier to obtain a competitive position owing to its value and unique element and it facilitates the development of the organization’s global vision. It has been revealed to generally lead to competitive advantage through the utilization of varying strategies [47] and elements including core values – style, integrity, care and innovation. It has also been reported to link to marketing function of competitiveness [19]. It is noted that a constantly changing culture adapting to TQM should be adopted to gain benefits provided by TQM. Moreover, several authors have stated that top management commitment is crucial for TQM implementation and adoption of a research-based method instead of an activity-based method.

References


