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EXPLORING THE RELATIONSHIPS BETWEEN CORE ELEMENTS OF TQM IMPLEMENTATION

Rashid Al-Jalahma, PhD candidate, Brunel Business School, Brunel University, UK

rashid.aljalahma@brunel.ac.uk

David Gallear, Senior Lecturer, Brunel Business School, Brunel University, UK

David.Gallear@brunel.ac.uk

Abstract

The purpose of the study proposed in this paper is to empirically examine the relationships between important sets of variables known to influence the successful implementation of TQM. The study is presently in the design stage. The sets of variables are TQM principles, organizational culture, and remedial strategies to reduce the barriers to successful TQM implementation. To date, each set of variables has been examined in the literature largely separately. Accordingly, the proposed study would be the first holistic approach that attempts to investigate these relationships collectively to develop a comprehensive TQM implementation model. Primary survey data will be collected from service industry companies of Bahrain. The strength and direction of relationships among the variables will be examined using descriptive statistics, correlation and regression.

Keywords: TQM, TQM principles, organizational culture, remedial strategies, implementation barriers, survey research.

1 INTRODUCTION

Total Quality Management (TQM) is a broad-based approach used by world class companies to achieve organizational excellence, the highest weighted category of all the quality and excellence awards (Oakland, 2001). However, the TQM literature suggests mixed success stories across the business world. Reports on the high rate of failure are dominant (Tatikonda and Tatikonda, 1996). Due to a lack of visible improvements in many company implementations, the value of TQM has been greatly undermined (Ackoff,1993; Wilkinson et al.,1994). The high failure rates at a level of 60% to 67% quoted in the literature has made many companies believe that TQM has not delivered according to its promise (Shin, 1998).

Nevertheless, most of the researchers agree that TQM is a useful philosophy for management if properly planned and implemented (Black and Porter, 1996; Flynn and Saladin, 2006). It has been proposed that if TQM is used properly and fully integrated into the business, this approach will help any organization deliver its goals, targets and strategy (Oakland, 2001). The TQM success rate of 33%-40% may not appear substantial, yet it indicates that many organizations have used the TQM approach successfully. This supports the proposition that the failure of TQM in any organization can't be subjectively linked to deficient principles of TQM. Rather, it is likely to be linked to possible flaws in implementation plans that haven't considered the impact of TQM implementation barriers and underlying cultural dynamics during the implementation process.

According to Lundquist (1995), TQM implementation is based on three core elements:

1. The TQM philosophy that comprises a set of TQM principles;
2. The organizational culture - the present and desired state of culture that will be reached when the TQM philosophy is realized; and

3. The implementation strategy - the approach to realizing the philosophy, that will specifically include the activities to identify and offset TQM implementation barriers

In this context, there have been many studies on the significant TQM principles and their implementation (Powell, 1995; Black and Porter, 1996), and the cultural impact on implementation of TQM (Prajogo and McDermott, 2005; Kumar, 2006; Tan et al., 2003). There are also growing bodies of literature on the barriers to TQM implementation (Huq, 2006; Sebastianelli and Tamimi, 2003; Oakland, 1997; Kotey and Slade, 2005; Thomas and Armstrong, 2004) and on the remedial strategies to overcome TQM barriers (Dale, 2003; Oakland, 1998; Kanji, 1995). The whole set of these core variables in these studies is depicted in figure 1.

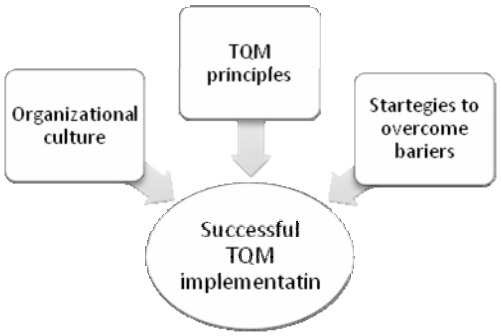

Figure 1. Core elements of successful TQM implementation (source: author)

In the prior studies, each set of variables has largely been investigated separately. Despite an extensive search, no studies have been located in the literature that has investigated the relationships of these sets of variable collectively in order to formulate a TQM implementation framework that explicitly considers their interrelationships. Accordingly, the following critical gap exists in the perspective of TQM implementation.

Many TQM implementation models and frameworks have been designed and proposed but none of these models explicitly identify these individual sets of variables and the relationships between them in the context of enhancing the success rate of TQM implementation.

2 AIM AND OBJECTIVES OF THE RESEARCH

The aim of the study is to empirically examine evidence on the relationships between the sets of TQM variables to better understand their influence towards successful TQM implementation.

Accordingly, the objectives of the study supporting this aim are:

- to identify the significant TQM principles, prevalent TQM implementation barriers and remedial strategies to reduce the effects of these barriers;
- to identify a suitable framework for examining organizational culture in the TQM context;
- to establish what type of organizational culture is associated with each of the main TQM principles, what types of barrier are associated with each type of organizational culture, and which remedial strategies are appropriate to overcome what type of barrier; and
- to develop a model for TQM implementation that extends present knowledge by integrating prevalent barriers and their remedies with the TQM principles and context specific culture

3 RESEARCH QUESTIONS

Based on the problem definition and objectives defined, the author proposes the following research questions to be addressed:

(1) What are the types of organizational culture and what are the characteristics of each type in the context of TQM implementation

(2) What are the significant TQM principles for performance excellence?

(3) What are the significant barriers in TQM implementation?

(4) What are the most effective remedial strategies to overcome TQM implementation barriers?

(5) What is the relationship between core elements of TQM implementation?

4 LITERATURE REVIEW

In order to address the research questions given in section 3, a conceptual and thematic review of literature was performed in order to illustrate how previous research relates to the research questions in the context of TQM implementation:

4.1 Identifying type of organizational culture

Research question (1) requires an examination of the extant literature in relation to the following more specific questions: What is organizational culture and how many types of organizational culture are there? What cultural dimension each type of culture will cover? Why knowledge of culture type is important for TQM implementation? The relevant research streams that were reviewed are types of organizational culture and their characteristics; cultural perspective of TQM and frameworks to identify types of organizational culture.

The competing value framework (CVF) proposed and tested by Denison and Spreitzer (1991) has been selected to identify types of organizational culture and explore underlying dynamics of culture in terms of TQM practices being supported by type of culture.

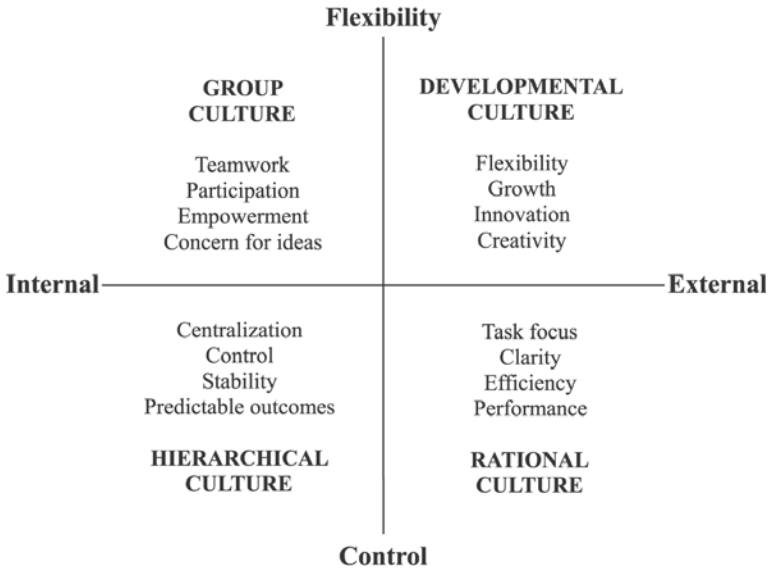

Figure 2. The competing values framework of organizational culture (adapted from Denison and Spreitzer, 1991)

The CVF framework is built upon two dimensions represented by two axes with each representing a superordinate continuum as shown in Figure 2. The first dimension is the flexibility-control axis that describes two contrasting orientations, and the second dimension is the internal-external axis that also describes two orientations. The combination of the two dimensions results in four quadrants of cultural dimensions, namely group, developmental, hierarchical, and rational.

This part of the review addresses the second research objective - to identify a suitable framework for examining organizational culture in the TQM context.

4.2 Deriving significant TQM principles

One of the aims of this research is to examine the relationship of TQM practices with type of organizational culture. This section will derive significant TQM practices from literature and use these practices for determining relationship with organizational culture.

Research question (2) requires an examination of the extant literature in relation to the following more specific questions: What is TQM and what does it consist of? Does it have a validated set of practices? If so, what is the effect of these practices on organizational performance? The relevant research streams reviewed are the definition of the quality, history and evolution of quality, evolution of TQM concepts, empirical studies on significant TQM practices and impact of these practices on performance. The immediate product of this review is identification of the significant TQM principles/practices.

Five empirical studies have been identified to derive significant TQM principles for implementation to achieve performance excellence: (Ho and Fung, 1994; Mann and Kehoe, 1994; Powell, 1995; Black and Porter, 1996; Choi and Eboch, 1998). Based on this literature a total of 48 significant TQM practices were identified and categorized into eight major TQM principles:

(1). Top management commitment

(2). Quality planning

(3). Customer and market focus

(4). Employees focus

(5). Information management

(6). Process control

(7). Supplier management

(8). Quality culture

A number of other scholars (Capon et al., 1995; Curkovic et al., 2000; Dean and Bowen, 1994; Evans and Lindsay, 1999; Juran, 1995; Ahire et al., 1996; Flynn et al., 1994; Samson and Terziovski, 1999; Saraph et al., 1989) have supported that the identified eight principles given above adequately explain the content of TQM practices and comprehensively capture the major dimensions of TQM as envisioned by its proponents, such as Deming, Juran, and Crosby.

This part of the review partly addresses the first research objective - to identify the significant TQM principles.

4.3 TQM implementation barriers

Implementing the TQM practices and neglecting to address potential TQM implementation barriers may not result in achieving desired objectives. The barriers to implementing TQM are so many and

it is important for all organizations to understand and address these barriers both before and during TQM implementation. In this context, research question (3) requires an examination of the extant literature in relation to the following more specific questions: Why TQM interventions don't succeed in organizations? What are the significant TQM implementation barriers? In order to address this matter, the research so far has reviewed the research streams on literature dealing with barriers in implementation process (Lau and Idris, 2001; Huq, 2006; Sebastianelli and Tamimi, 2003; Oakland, 1997; Master, 1996; Adebanjo and Kehoe, 1998; Salegna and Fazel, 2000; Kotey and Slade, 2005; Thomas and Armstrong, 2004). A comprehensive review has resulted in identifying 27 significant barriers. These barriers are grouped into following categories:

(1). Top management barriers

(2). Planning barriers

(3). Operational barriers

(4). Resource barriers

(5). Cultural barriers

In practice, these barriers need to be identified and addressed in order to facilitate the introduction of the high-performance management practices required for a TQM ethos. This part of the review partly addresses the first research objective - to identify the prevalent TQM implementation barriers.

4.4 Tangible remedial strategies to overcome TQM implementation barriers

In order to facilitate TQM implementation, the TQM implementation barriers identified above, need to be overcome by deploying appropriate remedial strategies. Absence of such sound remedial strategies has often contributed to ineffective quality improvement. A review of research streams on remedial strategies to offset TQM implementation barriers (Deming, 1986; Oakland, 1998; Dale, 2003; Wilkinson et al., 1994; Kanji, 1995, Froiland, 1993; Hyde, 1994; Reeves and Bednar, 1993; Rubach, 1995; Wernick, 1995; Whalen and Rahim, 1994, Pehrson, 1994; Huq, 2005, Zetie et al, 1994; Gopalakrishnan and McIntrye, 1992; Laza and Wheaton, 1990; Pehrson, 1994; Rand, 1994; Stevens, 1993; Senege, 1990; Hayes and Pisano, 1994; Zairi et al, 2008) revealed 14 strategies grouped in following 6 categories:

(1). Getting management support

(2). Reinforcing Communication

(3). Developing infrastructure

(4). Consolidating people factor

(5). Providing training

(6). Adoption to change

This part of the review partly addresses our first research objective - to identify the remedial strategies to reduce the effects of these barriers.

Thus far in the project, the secondary research investigations have identified all core elements of TQM implementation. This takes us back to our aim of research - to empirically examine evidence on the relationships between the core elements of TQM. The next section proposes a conceptual framework for examining these relationships.

5 CONCEPTUAL FRAMEWORK

The purpose of the proposed research is to develop a theoretical framework for TQM implementation by combining and organizing various components and their impact on one another in logical flow of their involvement. Establishing the relationship between type of organizational culture and TQM principles can help to determine the type of organizational culture that would support implementation of a particular TQM principle. The relationships between organizational culture types and TQM implementation barriers will be examined in order to determine the type of organizational culture having a specific set of associated TQM implementation barriers. For successful TQM implementation, the TQM implementation barriers identified need to be overcome by deploying appropriate remedial strategies.

Based on the review of TQM and the TQM implementation literature, the author proposes the following initial framework. Primary data will be used to empirically examine the relationships identified in it, and support its development and refinement. The structure of the relationships between the sets of variables is depicted in conceptual framework given in figure 3.

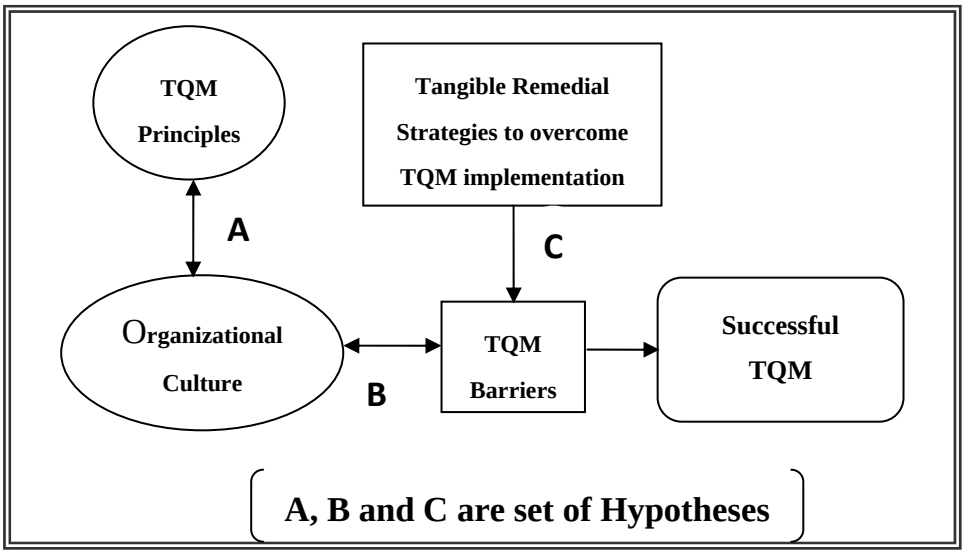

Figure 3. Conceptual framework leading to successful implementation of TQM

6 HYPOTHESES DEVELOPMENT

The following three sets of hypotheses are proposed to test the relationships identified in the conceptual framework:

A. Hypothesis set A - Each type of organizational culture supports the realization of a specific set of associated TQM principles;

B. Hypothesis set B – Associated with each type of organizational culture is a specific set of barriers to TQM implementation; and

C. Hypothesis set C - Each type of remedial strategy has an impact on a specific set of associated barriers to TQM implementation.

7 RESEARCH METHODOLOGY

A quantitative research approach will be used to collect the data in order to test the aforementioned hypotheses based on the proposed framework. The research process is constructive as it develops a framework to facilitate TQM implementation as well as empirical as it tests the feasibility of this framework using empirical evidence. This kind of research can be defined as a deductive research approach, relating more to the positivism research paradigm as it takes the proposed theoretical concept (developed through secondary research) from theory building to testing the theory using primary data (Saunders et al., 2003).

Data will be collected from respondents from service industry companies of Bahrain. These include banks, communication services, and other private organizations. The criteria for selecting the target population in this survey are based on relevance, qualification and experience. Managers, directors, quality managers, operation managers who are decision makers, policy designers, policy implementers and policy receivers are the target respondents of the questionnaire. At the time of writing the exact sampling frame and response target numbers is currently under development.

The survey instrument (questionnaire) will be developed based on the aforementioned extensive literature review. The variables identified will be used to construct appropriate measures. Respondents of the survey questionnaire will be asked to indicate the perceived level of agreement, or the extent to which a practice/barrier/culture type applies to their organization. The questionnaire will be structured into five sections as follows:

A. current company profile;

B. type of organizational culture existing in organizations;

C. relationship between organizational culture and TQM principles;

D. relationship between organizational culture and TQM implementation barriers; and

E. level of impact of proposed remedial strategies on TQM implementation barriers.

The author proposes to use a Likert scale of 1 to 5 in sections B, C, D and E to maintain the uniformity, clarity of coding, reduced respondent errors and simple categorization of variables. The assessment of the measurement model will be carried out including the determination of construct unidimensionality, convergent validity and discriminant validity. In order to ensure reliability and validity of the research instrument peer review will be performed where peers will give their comments on the content and structure of the questionnaire, amendments will be made and document revalidated. Thus, the external validity of the questionnaire will be ensured through the pilot testing of the survey questionnaire. The survey will be administered and collected through online survey questionnaire, email questionnaire, mail questionnaire and direct delivery to respondents. The strength and direction of relationships among variables will be measured using the descriptive statistics, correlation and regression.

8 SUMMARY

The available evidence suggests that if TQM is not introduced and implemented effectively, the objective of performance excellence won't be realized. This study seeks to synthesize and extend the TQM knowledge base by developing and testing a more holistic TQM implementation framework. This would not only generate further knowledge on TQM and offer new insight to both theoretical and practical aspects of TQM implementation but also will develop an empirically grounded conceptual model for TQM implementation based on the core elements of TQM implementation through improved evidence, concept and theory. It will extend the previous studies of quality management by including all core elements of TQM implementation - organizational culture, TQM principles, TQM

implementation barriers and remedial strategies to overcome these barriers. It is expected that this research will provide a much needed impetus for further research on TQM.

This research will help service industries of Bahrain to identify the appropriate emphasis amongst the TQM principles based on their organizational culture and subsequently identify barriers and corresponding remedial strategies for successful implementations of TQM. It is envisaged that this study would help to enhance the success rate of TQM implementation. More specifically, the development of a deeper understanding of TQM implementation would meet the long term objectives of Bahrain centre of excellence and the Vision 2030 program of government of Bahrain. Hence, the author anticipates significant multi-dimensional contributions from this research study.

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