



# The guidelines of improvement: Relations among organizational culture, TQM and performance



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## ABSTRACT

This study has four main goals: (1) diagnosing the organizational culture of Tehran's pharmaceutical companies; (2) investigating the implementation of different categories of TQM in these companies; (3) comparing two models explaining the relationships among culture, TQM and performance; (4) determining the effect of culture and TQM on performance, according to the preferential structural equation model.

A total of 209 valid responses were obtained from CEOs and senior managers of quality, operations, R&D and sales departments in the surveyed industry. The results specify the hierarchy and market cultures as the dominant types of culture and the leadership category as the most developed aspect of TQM. The findings of this study suggest that Tehran's pharmaceutical companies emphasize on stability more than flexibility. The analysis shows the positive direct effects of culture and TQM on performance and also the positive indirect effect of culture through its positive effect on TQM. By analyzing the culture profile, development degrees of TQM categories and performance indicators, some appropriate theories of effectiveness and quality strategies are suggested.

While the relationships among culture, TQM and overall performance have been examined separately just one to one in prior studies, this is the first look at all of them in one unique model.

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## 1. Introduction

Total quality management (TQM) is described as a collective, interlinked system of quality practices that is associated with organizational performance (Choi and Eboch, 1998). TQM has been widely adopted by firms in the last 50 years and yet firms report less than optimal results (Jayaram et al., 2010). However, three-quarters of TQM have failed entirely or have created problems serious enough that the survival of the organization was threatened. Several studies reported that the most frequently cited reason given for failure was a neglect of the organization's culture (Cameron and Quinn, 2005). Many approaches to quality management, including TQM hardly give long-term success to organizations. This is mainly because of the problematic nature of organizational culture (OC) within which managers find it difficult to practice their TQM activities (Kaluvarachchi, 2010). Cultural change is essential for the successful implementation of TQM (Rad, 2006). The important role of OC in TQM success is frequently referred to in the literature (Chung et al., 2010; Gimenez-Espin et al., 2013; Green, 2012; Haffar et al., 2013; Kaluvarachchi, 2010; Prajogo and McDermott, 2005; Rad, 2006; Roldán et al., 2012; Zu et al., 2010).

Organizational culture might create an environment (Mathew, 2007) that would impact on both business and operational firm performance (Cadden et al., 2013).

Therefore both OC and TQM can individually and effectively promote overall performance. However, no previous empirical studies have investigated how OC and TQM jointly affect organization's performance. In this research we compare two structural equation models explaining the relationships among these three extensive variables, the preferential model is used to determine the relationship between OC and TQM and their effects on organizational performance.

In this study, we adopt the instrument developed by Cameron and Quinn (2005) to diagnose organizational culture and the 2011–2012 criteria for performance excellence of the Malcolm Baldrige National Quality Award (MBNQA) to measure the six TQM categories and organizational performance. We use the structural equation modeling (SEM) technique to examine the data collected from the pharmaceutical companies of Tehran. The main objectives of this study are as follows: (1) diagnosing the organizational culture of the survey industry; (2) investigating the implementation of different categories of TQM in its companies; (3) comparing two models explaining the relationships among culture, TQM and performance; (4) determining the effect of culture and TQM on organizational performance, according to the preferential structural equation model. Several reports outside of the pharmaceutical industry have addressed the critical factors for success by implementing TQM (Inoue and Yamada, 2013).

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In the pharmaceutical industry because of the priority attached to quality and regulation and the environment of ever increasing competition (McAdam and Barron, 2002; Sneyd and Rowley, 2004), the TQM practices can help the companies to achieve superior performance.

## 2. Literature review, research questions and hypotheses

### 2.1. Organizational culture

Culture is a set of shared meanings that make it possible for members of a group to interpret and act upon their environment (Schein, 1984). These shared assumptions and understandings lie beneath the conscious level for individuals. They generally are identified through stories, special language, artifacts and norms that emerge from individual and organizational behavior (Cameron and Freeman, 1991; Deal and Kennedy, 1982). Organizational culture depends for its existence on a definable organization, in the sense of a number of people interacting with each other for the purpose of accomplishing some goal in their defined environment (Schein, 1983). OC is a set of structures, routines, rules, and norms that guide and constrain behavior (Schein, 2004). It is the collective programming of the mind which distinguishes the members of one organization from another (Hofstede, 1998). Culture defines the core values, assumptions, interpretations, and approaches that characterize an organization (Cameron and Quinn, 2005).

In the current research, we adopt the Competing Values Framework (CVF) proposed by Cameron and Quinn (2005). The CVF is based on two major dimensions that organized the effectiveness indicators into four main clusters. One dimension emphasizes the organizational focus (internal versus external), whereas the second one differentiates the flexibility, discretion and dynamism from the stability, order and control. These two dimensions form four quadrants, each representing a major type of organizational culture: clan, adhocracy, market and hierarchy (shown in Fig. 1). Cameron and Quinn assert that not any of these cultural models are superior over the others (Giritli et al., 2013).

The Competing Values Framework explores the deep structures of organizational culture relating to compliance, motives, leadership, decision making, effectiveness, and organizational forms in the organization (Zu et al., 2010). It is also helpful in organizing the various aspects of TQM and highlighting its comprehensive nature (Cameron and Quinn, 2005). The CVF have been adopted by prior studies to examine the effect of organizational culture on various issues such as TQM practices (Chung et al., 2010; Gimenez-Espin et al., 2013; Haffar et al., 2013; Prajogo and McDermott, 2005; Zu et al., 2010), supply chain management (Liu et al., 2010), organizational performance (Jacobs et al., 2013; Tseng, 2010).

In this study, we plot the organizational culture profile of Tehran's pharmaceutical industry to answer the following research question:

**RQ1.** What is the emphasis degree of Tehran's pharmaceutical companies on each of the four organizational culture types?

### 2.2. TQM

TQM literature is based largely upon case studies, anecdotal evidence and the personal prescriptions of the recognized gurus of the discipline, including Deming, Juran, Crosby, Feigenbaum and Ishikawa (Black and Porter, 1996). The generic term "total quality management" is used to mean the vast collection of philosophies, concepts, methods, and tools now being used throughout the world to manage quality (Juran and Godfrey, 1998). Quality management (QM) is defined as an approach to achieving and sustaining high

quality output (Flynn et al., 1994). It is made up of a set of mutually reinforcing principles, each of which is supported by a set of practices and techniques. At the empirical level, the assessment of whether such a thing as QM exists and what constitutes QM should be made at the level of practices: practices are the observable facet of QM, and it is through them that managers work to realize organizational improvements. Principles are too general for empirical research and techniques are too detailed to obtain reliable results (e.g. one practice may be implemented via many optional techniques). For example, the QM principle continuous improvement can be supported by the practice "process management", which in turn can resort to several techniques such as statistical process control and Pareto analysis (Sousa and Voss, 2002).

Several studies have tried to synthesize the vast QM literature and identify the key QM practice dimensions (e.g., Ahire et al., 1996; Anderson et al., 1995; Flynn et al., 1995; Powell, 1995; Saraph et al., 1989; Sila and Ebrahimpour, 2002; Tummala and Tang, 1996). Some scholars have demonstrated that in these studies, there is substantial agreement as to what are the key TQM practices (e.g., Bou-Llusar et al., 2009; Kaynak, 2003; Nair, 2006; Sousa and Voss, 2002). These practices are all present in the frameworks used for the national quality awards, such as the MBNQA and the European Quality Award (Sousa and Voss, 2002). The inception of the MBNQA in 1987 led to a strong interest among US organizations from all sectors in holistic quality management (Ahire et al., 1996). Nowadays, quality award models, such as MBNQA and the European Foundation for Quality Management (EFQM) Excellence Model, are used as a guide to TQM implementation by a large number of organizations (Bou-Llusar et al., 2009).

In the current study, we examine six TQM practices according to the 2011–2012 criteria for performance excellence of the MBNQA to investigate the implementation of different categories of TQM in the Tehran's pharmaceutical industry (leadership/strategic planning/customer focus/measurement, analysis and knowledge management/workforce focus/operations focus). So, the following research question is posited:

**RQ2.** What is the development degree of Tehran's pharmaceutical companies on each of the six TQM categories?

### 2.3. Organizational culture and TQM

Literature has noted numerous stories on the problematic issues relating to the TQM implementation process and how they affect its outcomes. Among several factors, which have been attributed as key determinants of its success, organizational culture is often among those listed at the top (Prajogo and McDermott, 2005). Some scholars always place OC as the antecedent of TQM practices. Prajogo and McDermott (2005) believe that organizational culture determines the results of TQM implementation rather than the TQM implementation bringing about cultural change. The significant relationships of different types of cultures with TQM have found in prior studies (e.g., Gimenez-Espin et al., 2013; Haffar et al., 2013; Prajogo and McDermott, 2005; Zu et al., 2010). Moreover, some studies have shown the same relations between different dimensions of organizational culture and TQM (e.g., Kaluarachchi, 2010; Rad, 2006).

In this study, we determine the strength of overall organizational culture and its effect on TQM. It means the set of cultures including all types and dimensions of OC are considered in this investigation. The reason behind this is the confirmation of the need to incorporate and balance all cultural types (Denison and Spreitzer, 1991). And not any of them are superior over the others (Giritli et al., 2013). In addition, few organizations are featured by only one culture type, rather they have a culture profile consisting of different culture types (Zu et al., 2010). Based on the above discussion, the following hypothesis is raised:

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