

Examining the effects of contextual factors on TQM and performance through the lens of organizational theories: An empirical study

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Abstract

Although much has been written about TQM, little attention has been paid to the potential effects of contextual factors on TQM and TQM–performance relationships. The use of organizational theory to formulate propositions regarding the effects of such factors is especially scarce in the TQM literature. This study uses institutional theory and contingency theory as the basis to test a number of such propositions. First, a model of TQM and organizational performance is developed. Then using survey data, the effects of five contextual factors – three institutional factors and two contingency factors – on the implementation of TQM practices and on the impact of TQM on key organizational performance measures are analyzed within a TQM–performance relationships model framework. The three institutional factors include TQM implementation, ISO 9000 registration, and country of origin, and the two contingency factors include company size and scope of operations. The results show that the implementation of all TQM practices is similar across subgroups of companies within each contextual factor. In addition, the effects of TQM on four performance measures, as well as the relationships among these measures, are generally similar across subgroup companies. Thus, for the five contextual factors analyzed, the overall findings do not provide support for the argument that TQM and TQM–performance relationships are context-dependent. The implications of the study for managers and researchers, as well as study limitations, are also discussed.

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1. Introduction

In general, previous studies obtained mixed results about the success and failure rates of total quality management (TQM). Some of these studies reported estimates of TQM failure rates as high as 60–67% (Dooyoung et al., 1998). However, other studies yielded more optimistic results. For instance, according to a

study conducted by Mohrman et al. (1995), 83% of the surveyed companies had a “positive or very positive” experience with TQM, and 79% planned to “increase or greatly increase” their TQM initiatives in the next 3 years.

One likely reason for some of the unsuccessful TQM implementations is the possibility that TQM is context-dependent. That is, contextual factors such as company size and scope of operations might play a role in the implementation of TQM practices and outcomes. However, this issue has largely been ignored in the literature. Thus, one of the objectives of this study

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is to empirically analyze and compare TQM practices across companies with different characteristics using several contextual factors. The study will also examine how these factors affect the relationships among TQM and key organizational performance measures. These analyses are intended to shed light on whether the universal or the context-dependent approach to TQM is warranted. The use of organizational theory to test the validity of these two approaches has been scarce in the TQM literature. To fill this void, this study uses two organizational theories, institutional theory and contingency theory, as the basis to formulate propositions regarding the effects of contextual factors on TQM practices and TQM–performance relationships.

There are differing views on whether a context-dependent or universal approach to TQM implementation is appropriate. However, despite a lack of empirical evidence, the assumption of universal applicability has permeated the literature with little attention being given to the context-dependent argument. Several recent studies (e.g., Sousa and Voss, 2002; Sila and Ebrahimpour, 2002, 2003) also emphasized the need to conduct contingency studies in the field of TQM.

One of the earlier empirical studies in the quality management area that analyzed the effects of several contextual factors on the implementation of TQM practices was conducted by Benson et al. (1991). This study obtained mixed results in that although company type explained the variation in the “actual quality management practices” implemented, other factors including company size and manager type did not. It can be argued that this study did not have a big following since very few similar studies were published in subsequent years. For instance, a study by Martinez-Lorente et al. (1998) used data from Spanish industrial companies to analyze the effects of several company characteristics such as size, nationality, conviction about the benefits of TQM, and perceived product value on the application of TQM. Most of the other empirical studies in this area mainly focused on cross-country comparisons of TQM practices (e.g., Adam et al., 1997; Solis et al., 2000; Rungtusanatham et al., 2005) or the effect of company size on these practices (e.g., Ahire and Golhar, 1996). In addition, Sousa and Voss (2001) analyzed manufacturing strategy as a contextual factor and found evidence that TQM practices were contingent on manufacturing strategy.

In these previous studies that analyzed contextual factors, either no performance measures or a limited number of measures were used, or the relationships among TQM and performance measures were not analyzed within a TQM–performance relationships

model. Overall, a limited number of such empirical studies did not provide conclusive evidence for the validity of either the universal or context-dependent approach to TQM. This study develops a structural equation modeling (SEM) model, where the combined effects of seven TQM practices on four measures of organizational performance, as well as the effects of these performance measures on each other, are tested using survey data. This model is also tested using five contextual factors by conducting multiple group analysis to determine whether the model relationships are invariant (i.e., equivalent) across subgroups of companies within each contextual factor.

2. Model and hypotheses

An extensive review of the TQM literature showed that the TQM construct could be measured by seven general categories of practices including leadership, strategic planning, customer focus, information and analysis, human resource management (HRM), process management, and supplier management. A description of these practices and the supporting literature for them are provided in Table 1. These practices are also consistent with the Malcolm Baldrige National Quality Award (MBNQA) criteria as suggested by Sila and Ebrahimpour (2003), who analyzed the TQM practices extracted by 76 empirical TQM studies and categorized them under the 2002 MBNQA framework. The results of an empirical study by Curkovic et al. (2000a) also showed that using the MBNQA framework, companies could achieve the implementation of TQM, which also indicated that the MBNQA was compatible with TQM practices. However, in contrast to the MBNQA framework, supplier management was used as a separate practice in the current study since supplier management has been very critical for many organizations in recent years as a result of the growing importance of supply chain management. In addition, as shown in Table 1, this practice has been extracted as a separate TQM factor by a number of previous empirical studies. Using it as a separate practice in the proposed model would also make it possible to assess its significance for the TQM construct, as well as compare its implementation across companies with different characteristics.

The four performance variables used to measure organizational performance in four key business areas include human resource results, customer results, organizational effectiveness, and financial and market results. The items constituting each measure and the supporting literature for these items are listed in Table 1. Fig. 1 shows an SEM model of the nine hypotheses

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