



Investigating the Relationship between Organizational Culture, Total Quality Management and Performance

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Abstract This study explored the relationship between organizational culture, total quality management (TQM), and performance in auto parts manufacturing companies in Isfahan, Iran. The study was a correlation survey following applied purposes. The statistical population included all members in such sections as management, quality control, sales, research and development, and human resources of 21 auto parts manufacturers found in Isfahan, Iran. A total number of 95 questionnaires were distributed, and based on the Morgan table, 76 individuals were selected as the participants in this research. The questionnaire consisted of 66 questions measuring the research variables although it did not record demographic information. To investigate the hypotheses of the research, inferential statistics procedures were processed in Smart-PLS software. The results of data analysis revealed that the culture dominating these industrial units was characterized by “adhocracy culture” and “clan culture”, as a result of which the companies prioritized flexibility over control. Among the TQM dimensions, “activity focus” showed the highest degree of development, whereas “customer focus” was the least developed factor. Furthermore, the results obtained from the structural equation model demonstrated that TQM mediated the relationship between organizational culture and performance, while TQM had a significant relationship with performance, and the overall power of organizational culture left a positive effect on performance.

Keywords *Organizational culture; Total Quality Management (TQM); Performance*

Received: 15/11/2019 Accepted: 25/09/2020

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1. Introduction

Manufacturing industries today emphasize the “quality” of products and services they provide, considering the fiercely competitive environment in which such industries work. To enhance quality, various standards and diverse quality measurement tools have been proposed, such the implementation of total quality management (TQM). However, given the remarkably wide spectrum of TQM, researchers have come to the conclusion that such systems face implementation obstacles that could affect organizational performance. The type of organizational culture represents one of the most important obstacles to the implantation of such systems. Therefore, the first step in improving quality and implementing TQM systems is to identify the culture governing organizations. The present study uses Cameron and Quinn’s (2005) framework to identify organizational culture in the organizations under investigation, and employs Malcolm Baldrige National Quality Award to evaluate six categories of TQM and organizational performance.

2. Literature Review

TQM is a comprehensive and internal system that consists of a set of interconnected practices that are associated with organizational performance (Valmohammadi & Rowshan Zamir, 2013). TQM is an approach that improves organizational effectiveness and performance and makes it possible to plan and understand each of organizational activities, while depending on all employees at all organizational levels (Valmohammadi, 2011). Probing into the relationship between TQM and organizational culture could bring about achievements for the organization, help to effectively establish TQM, improve organizational performance, and ultimately contribute to the whole organizational performance. The performance and success of every company are significantly affected by organizational culture (Monavarian et al.,

2008). Over the past 50 years, numerous companies have extensively relied on TQM, although they have not reported desired or optimal results (Jayaram et al., 2010). Among the studies conducted, some results suggest that three-fourths of companies that have implemented TQM have encountered serious problems and failures that could pose threats to their organizational survival. The most frequently cited cause of such failures is ignoring organizational culture (Cameron & Quinn, 2005). Most of approaches to quality management (TQM included) would not lead to long-term success in the organization; this issue stems from the problematic nature of organizational culture and complicates TQM activities (Kaluarachi, 2010). The present study investigates the relationship between organizational culture and TQM by exploring and identifying organizational culture and the degree of development of TQM dimensions in auto parts manufacturers in Isfahan, Iran. Enhancing the quality of products through an excellent implementation of TQM is an overriding issue for auto parts manufacturing companies; the study, focusing on the literature, seeks to figure out how gaining awareness of the outlines of organizational culture could affect the success of implementing the TQM system.

3. Method

This study was a correlational survey that followed applied purposes. The data needed to conduct the study were collected through bibliographical resources and through a questionnaire including 66 items measured on a 7-point Likert scale. To measure organizational culture, Cameron and Quinn's "competing values framework" was used, which included 24 questions. Furthermore, 36 questions were formulated based on Malcolm Baldrige model to investigate TQM, while 6 questions were raised to measure organizational performance. The questionnaire employed was previously used in similar

studies and its validity and reliability were confirmed. However, to further confirm the validity of the questionnaire, face validity and the opinions of experts in the field were relied on. To measure reliability, Cronbach's alpha coefficient was analyzed in Smart-PLS 3 software. In the following section, the conceptual model used to analyze the data and the hypotheses are mentioned (see Figure 1). It must be noted that this is the first time the model proposed is investigated in the auto part manufacturing industry.

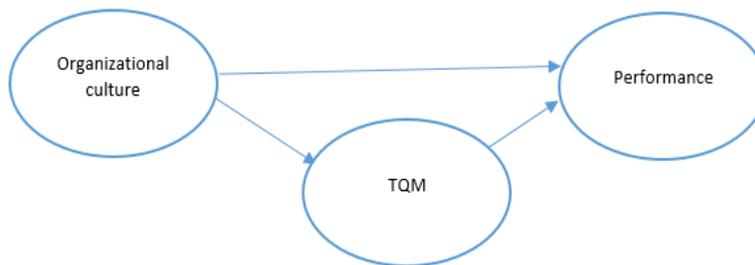


Fig. 1. The Conceptual Mode

In the data analysis, partial least squares structural equation modeling (PLS-SEM) was processed in Smart-PLS to investigate the conceptual model of the research. In this method, before making any evaluation or using the model to test hypotheses, the conceptual model was primarily fit to ensure the credibility and precision of the findings. To test the model, such indices as Cronbach's alpha, composite reliability (CR), average variance extracted (AVE), and coefficient of determination (R²) were used. Table 1 lists the results observed.

Table 1.

Results of Reliability Analysis

Variable	AVE ≥ 0.5	CR ≥ 0.7	Cronbach's alpha ≥ 0.7	R ²
Organizational culture	0.719	0.911	0.869	-----
TQM	0.800	0.960	0.949	0.708
Organizational performance	0.714	0.937	0.919	0.900

Considering Table 1, all of the figures obtained for Cronbach's alpha values were greater than 0.7, and similarly they were greater than 0.7 for CR, and were greater than 0.5 for AVE; these observations indicated that the model fit was in a desirable status.

4. Findings

Figure 2 illustrates the factor loading values as observed in the analysis.

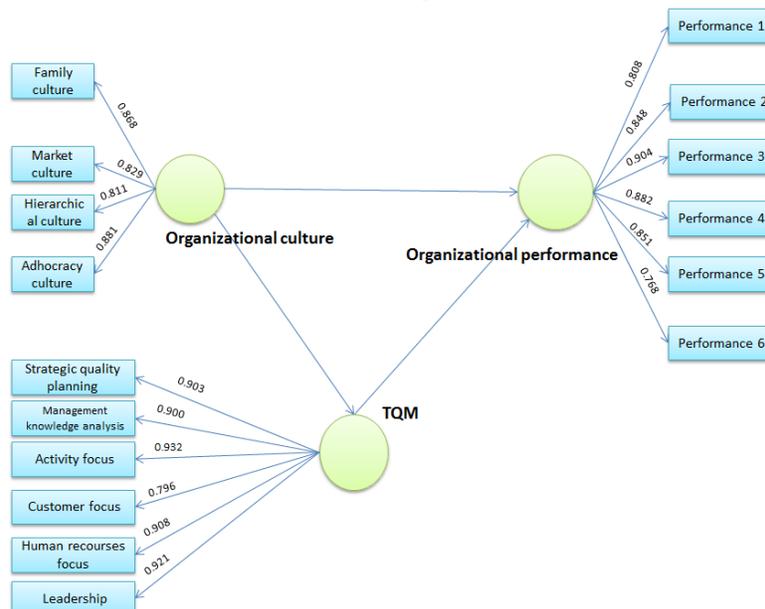


Fig. 2. The Outline of the Indicators' Factor Loadings

As Figure 2 clarifies, the dominating culture in the auto part manufacturers was characterized by “adhocracy culture” and “clan culture”; among the TQM dimensions, “customer focus”, with a factor load value of 0.796, was the least developed item, whereas “activity focus”, with a factor load value of 0.932, was the most developed factor. Furthermore, given the values of the performance variables, “performance 6” showed the least amount of factor load value. The indicators of the structural model fit and the overall model of the research are mentioned in Table 2.

Table 2.

Indicators of the Structural Model Fit and the Overall Research Model

Construct	Communality	R ²
Organizational performance	0.567	0.9
Organizational culture	0.5	-----
TQM	0.677	0.708
	0.581	0.804
$GOF = \sqrt[2]{Communality \times R^2} = \sqrt[2]{0.467} = 0.684$		

As Table 2 shows, the GOF value for the research model was 0.684, which revealed a considerably strong fit value for the model. Figures 3-4 include path coefficients and absolute values of the t-values.

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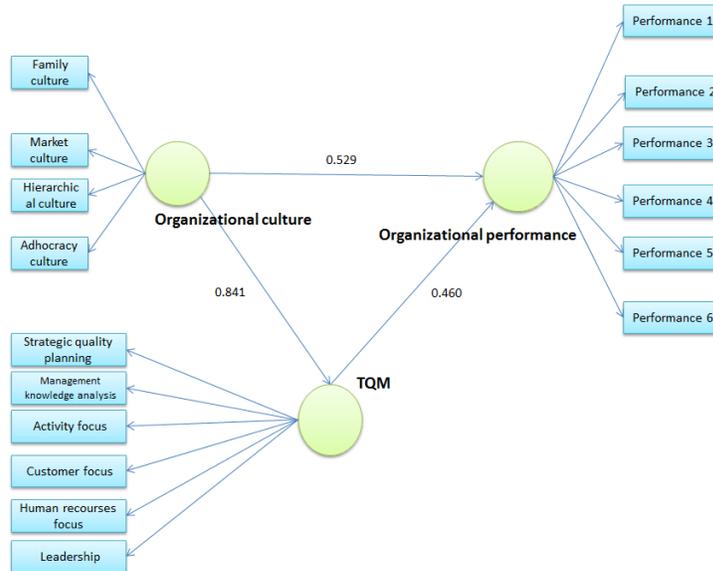


Fig. 3. The Path Coefficients in the Research Model

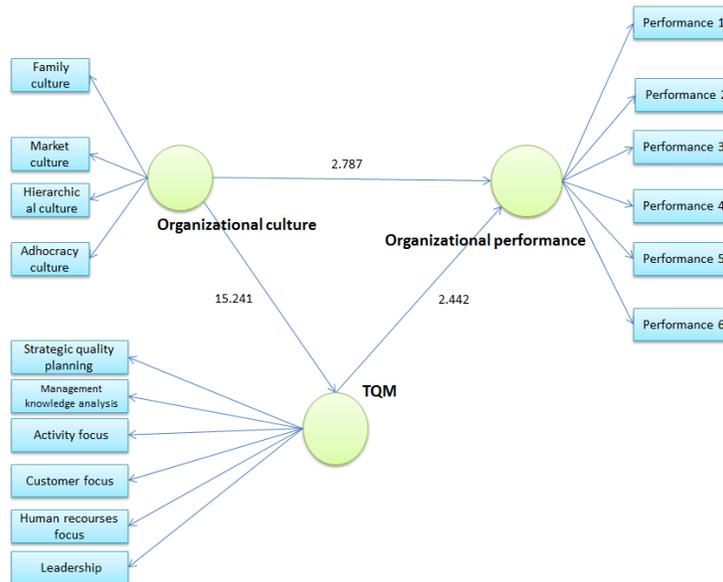


Fig. 4. The T-values of the Research Model

Table 3 shows the results of the hypotheses tested in the study.

Table 3.

Results of the Hypotheses Tested

Hypothesis		t	b	Result
First hypothesis	The general power of organizational culture has a positive and significant association with the level of TQM implementation	15.241	0.841	Confirmed
Second hypothesis	An excellent level of TQM implementation is positively associated with organizational performance	2.442	0.460	Confirmed
Third hypothesis	The general power of organizational culture has a positive association with organizational performance	2.787	0.529	Confirmed
Main hypothesis	TQM mediates the relationship between organizational culture and organizational performance	15.241 2.442	0.841 * 0.460	Confirmed

5. Discussion and Conclusions

Given the proven impact of organizational culture and TQM on performance, managers are advised to identify their organizational culture by using the analytical instrument proposed in this study and to use qualitative strategies compatible with their culture in terms of Cameron and Quinn's "competing values framework." To increase "customer focus", international standards/tools in line with customers' needs should be employed; one of such standards is ISO 10004 customer satisfaction system; yet, considering its unacceptable performance in the field under investigation, this study suggests that strong internal control procedures should be implemented within shorter periods of time for a better handling of the situation. If organizations manage

to acceptably develop the “customer focus” dimension, their performance results in financial and marketing areas could be improved (and enhance performance 6).

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