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Total Quality Management, Knowledge Management and Corporate Culture: How do they synchronized for performance excellence

Ahsan Ali Ashraf
Lahore Leads University, Lahore, Pakistan
E-mail: Ahsanali.Lhr@gmail.com

Abstract

The emergence of knowledge economy and globalization has pushed the businesses into a new paradigm. The concept of organizational performance excellence solely based on total quality management (TQM) philosophy is no longer valid in international businesses and needs to be improved. The ever increasing global competition is forcing organizations for cost reduction on one hand and enhanced quality on the other. This dilemma faced by the organizations is difficult to solve. It is argued that mixed practices based on the philosophies of TQM and knowledge management (KM) and their synchronization is necessary to achieve performance excellence in organizations. The current research endeavored to determine the common grounds between TQM and KM philosophies for their synchronization. The review of literature identifies one common enabler for TQM and KM namely Corporate Culture with respect to performance excellence, using this common enabler a theoretical framework is proposed that can be used by organizations to obtain the benefits of both philosophies. The validation of the proposed framework was conducted by obtaining data from manufacturing sector. The managers from manufacturing concerns were interviewed in detail using structured questionnaire. Delphi method is adopted to develop consensus between the participants. The results showed that different cultures have put distinct impacts in the manufacturing sector. However, results also showed that with the help of knowledge management philosophy cost can be cut down in dominant developmental or rational culture while leading group culture improves the quality in TQM philosophy. Finally it is concluded that TQM and KM philosophies can be implemented in synchronization and their combined implementation will lead to higher performance excellence.

Keywords: knowledge management, total quality management, quality improvement, cost reduction.

1. Introduction

In today's global competition, and liberalization of the economy, improvement in the quality and cost reduction has become one of the most important factors to achieve a competitive advantage. Product or service with good quality and with reasonable price will always results in multiplication of profits and retention of customers. The business environment is becoming increasingly complex and the market has changed from local to global. There is a constant pressure on management to improve competitiveness by reducing operating costs and improving quality. There is an increase in demand for

products and services and the world revolution was forced organizations to invest substantial resources in the adoption and implementation of strategies for managing the overall quality and reduction in costs.

Knowledge is very much difficult to define and same is the case with knowledge management. The functioning of knowledge is that there is a definite requirement of an agent, who can use knowledge to carry out function essential to attain a goal (Kahreh et al., 2014). Knowledge Management (KM) is the procedure of acquiring, saving, disseminating, and successfully using organizational knowledge. The same situation which was previously facing by organization with Total Quality Management in early 1980's is now facing by organizations with knowledge management philosophy. Organizations can gain high quality, low cost of production and satisfaction of customers with the help of using knowledge and expertise of knowledge workers. (Kennedy & Schleife, 2007). Ruhi (2003) argued that knowledge sharing can benefit in number of ways that includes customer relationships, good response from customers and creation of traditional content as well. Knowledge management philosophy can help us in order to change employee's activities towards support and trustworthiness of sharing of knowledge among employees (Connelly & Kelloway, 2003). Literature highlighted that to gain competitive advantage; TQM is considered as vital philosophy for organizations (Lakhe & Mohanty, 1995). TQM philosophy supports an organization to gain competitive advantage (Lenny et al., 2007). Ruhi, 2003 argued that to gain long term edge over your competitors with knowledge management. Kolarik (1997) provided two enablers of TQM that includes customer focus and culture.

2. Literature Review

Walczak (2005) argued that there is a change of commodity into information and knowledge as we move from industrial to knowledge base economy. Organizations can enhance performance in TQM philosophy as well as well as in KM philosophy. Previously there were lot of studies conducted on TQM philosophy for quality improvement and KM philosophy for cost reduction. However, there is a need for finding synchronization in between these two philosophies where organizations can enhance organization performance in a better way. The current study is based on the synchronization of TQM, and KM for getting high performance with quality improvement and cost reduction. Literature identifies one common enabler of these two philosophies known as Organizational Culture.

Organizational culture includes societal values that can put impact on behaviors of individuals (Bose, 2004). Organizational culture is referred as shared values by large number of employees to organization (Daft, 2005) Knowledge sharing culture are recognized by researchers, the vital issue that have a consequence on knowledge management. Knowledge sharing culture is recognized by the researchers, the important issues that can contain an effect on Knowledge Management (Lu et al., 2008. Corporate culture could change the behaviors of workers to share knowledge and design knowledge sharing environment (Cabrera & Cabrera, 2002). It can argued that by using TQM philosophy the culture of the organization shifted towards quality management culture (Duran et al., 2014).

Arthur Andersen Business Consulting Model is established in 1999 and it gives information of the enablers of KM. Enablers of this model are named as leadership, organizational culture, technology, and knowledge management processes in

organizations for performance excellence. Leadership is emphasized of leaders for knowledge management in organizations. Organizational Culture includes norms and values and working that are accomplished with standard formats. Technology elaborates the main purpose of the organizations that is used to provide a chance for employees for identification, storage and usage of knowledge for reducing cost in organizations. This model includes enablers and processes of KM for the identification, compilation, and adaption, usage and knowledge sharing among employees for getting high performance.

TQM and KM both emphasize on corporate culture. Total Quality Management discuss new ways of managing organization, whereas Knowledge Management talk about new styles of decision making by using valuable information. KM talks about innovation by identifying, saving, sharing and using valuable knowledge whereas TQM is based on influencing innovation in an optimistic way (Honarpour et al., 2012). Researchers have highlighted scope of corporate culture that is based on values or principles. Quinn and Spreitzer (1991) discussed four categories of culture. According to scholars these categories are group culture, developmental culture, hierarchal culture and rational culture. Firstly, Group culture is mechanized on the basis of standardized procedures. Secondly, developmental culture is based on generation of new ideas and also allows individuals for creativity and innovation. Thirdly, Hierarchal culture talks about giving orders to employees regarding every task they are assigned. Finally, rational culture is exclusively grounded on the achievement of goals. According to literature KM is more aligned with developmental culture and Total Quality Management is related with rational culture. Organizational Culture represents where organization working is accomplished with standard formats (Cameron and Quinn 1999). Wallach (1983) provided three different categories of culture that can be named as bureaucratic, innovative and supportive.

3. Data and Methodology

Quantitative, qualitative and mixed approaches can normally be used in conducting a research. Research approach that is related with numbers is referred as quantitative approach and another approach which deals with behaviors and words are referred as qualitative research (Zikhmund et al., 2010). Moreover, third approach that include both quantitative and qualitative can be named as mixed strategy. However, this research is based on quantitative research and Delphi technique is deployed in this study. Delphi Technique can normally be used for reaching consensus after investigating survey from professionals. In order to justifying Delphi technique, structured questionnaire is used. Structured questionnaire is scaled at responses from 1 to 7 and this is used to collect responses from respondents.

First RAND organization started using Delphi Technique in 1960's for consensus development. Cline (1998) pointed out that US government used Delphi technique for group decision making. Abramson, Title, & Cohen (1979) argued that this technique is used for getting high success in every program. Delphi technique can be used as a, survey analysis and also as workout. Delphi is based solely on the opinion, with arguments and thoughts. Methods involved in this technique are to gather data and analyze data on behalf of results gathered from experts. This technique can be used by interviews, questionnaires, observations and focus groups. Delphi is concerned as a method with diverse variations. And it remembers an identical pattern in the gathering and interpretation of data. The basic thought is recognized by literature review, and then

theoretical framework has been developed. Purpose of this study is find synchronization between TQM and KM philosophies for performance excellence. So, to find synchronization common enabler of these two philosophies has been identified which is common in literature like Corporate Culture. This study has two parts. First part include theoretical framework that is used to define the variables and to propose research hypotheses. Secondly structured interviews have been conducted from middle level managers with the help of questionnaires. All respondents are from manufacturing organizations. Moreover, all respondents are middle managers who have at least three years of experience. So, expert opinions are used in our study for analysis.

4. Theoretical Framework

Graphical picture provide simple look for viewers to comprehend the questioned area of research. Theoretical framework is also established in order to show and deliver the graphical picture of under study variables and it can also be used to find relationships of these variables among them. Furthermore, it also provided help in writing the hypotheses that are developed to testify in subsequent part of paper. Figure (1) shows the theoretical framework used to conclude proposed theory. Independent variables can be defined as those variables that are used to forecast the differences found into dependent variables. Previously researchers have found different ways to find performance excellence. However, this research is based on one independent variable of TQM and KM philosophies such as Types of Cultures. Mediating variable is defined as the variable that can mediate the affect between independent and dependent variable. In current study quality improvement and cost reduction are mediating variables. Dependent variable is the variable of attention whose differences are tried to investigate. In this study performance excellence is dependent variable. One can find many approached to investigate performance excellence. However in current study one enabler of TQM and KM philosophies is selected as shown in Figure (1) and it is tried to investigate their relation with quality improvement and cost reduction that mediates its effect for performance-excellence.

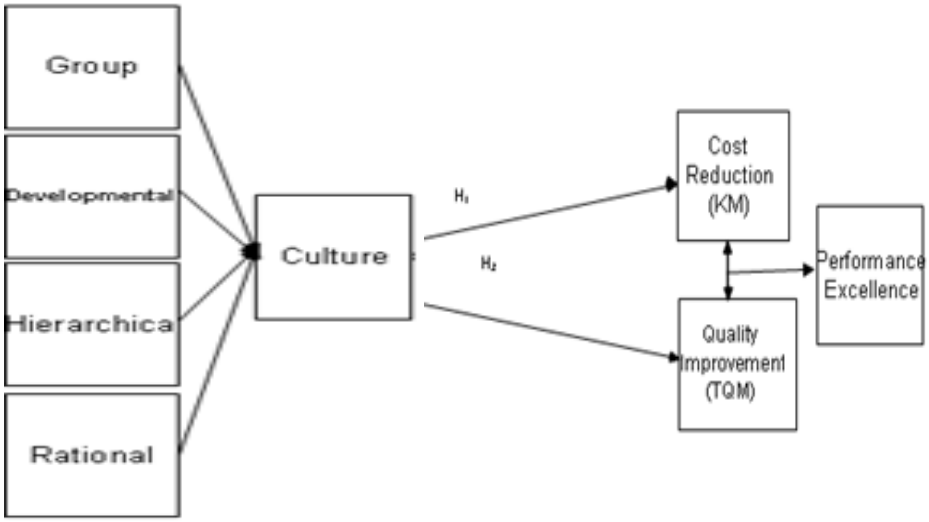

Figure 1: Theoretical Framework

4.1 Hypothesis Development

Organizational culture is the main enabler in this respect. For instance it can be viewed that group, developmental, hierarchical, and rational culture will have a positive impact on quality improvement and cost reduction. So, on the basis of above discussions following hypotheses are proposed further in TQM and KM philosophies.

H_1a: Group Culture as KM enabler will have a positive impact on cost reduction.

H_1b: Developmental Culture as KM enabler will have a positive impact on cost reduction.

H_1c: Hierarchical Culture as KM enabler will have a positive impact on cost reduction.

H_1d: Rational Culture as KM enabler will have a positive impact on cost reduction.

H_2a: Group Culture as TQM enabler will have a positive impact on quality improvement.

H_2b: Developmental Culture as TQM enabler will have a positive impact on quality improvement.

H_2c: Hierarchical Culture as TQM enabler will have a positive impact on quality improvement.

H_2d: Rational Culture as TQM enabler will have a positive impact on quality improvement.

5. Results & Discussions

Organizational Culture encourages an environment where there are shared morals relating to the worth of the attentiveness of employee's knowledge sharing with others (Cabrera & Cabrera, 2002).

5.1 Group Culture

This culture is based on approach that is purely employee specific. It is found that most of the respondents believe that group culture leads to both quality improvements and cost reduction. Figure 2 is showing that average scores of group culture are high in both cases. Since, group culture is more supportive and allows knowledge sharing that ultimately leads to cost reduction and quality improvements. However, results are not showing major difference between the benefits of group culture with respect to the quality improvements and cost reduction. So it can be seen that hypothesis 1a and 2a are supported.

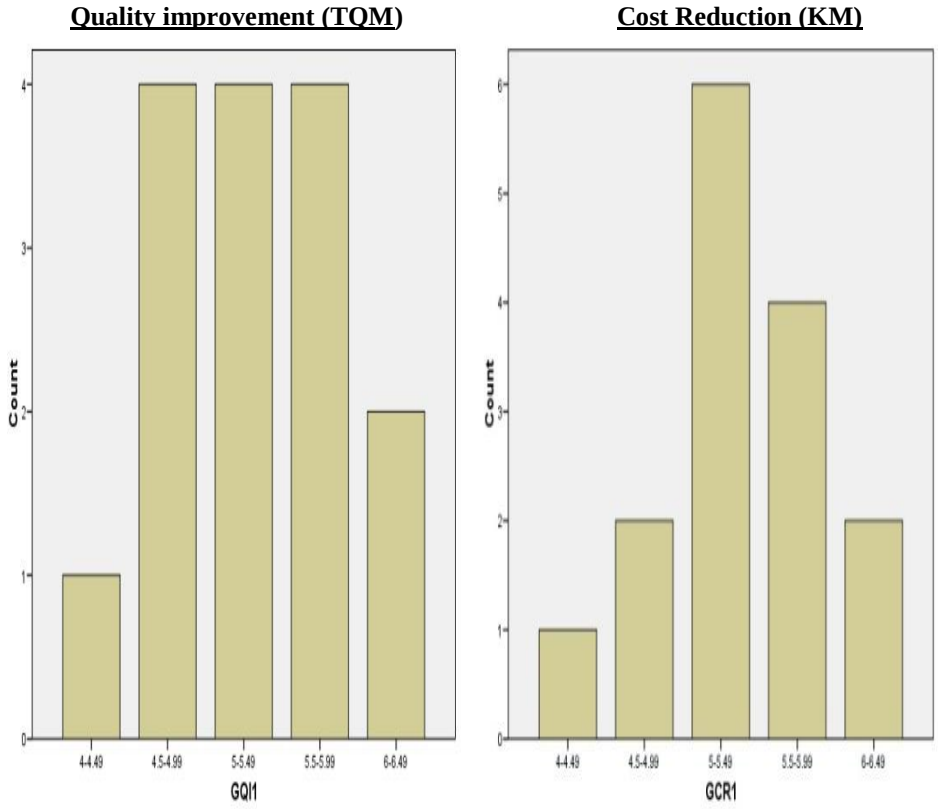

Figure 2: Average Scores of Group Culture and Its Impact on both Quality Improvement and Cost Reduction

Table 1: Scale Used to Calculate Average Score of Group Culture

Following scale is used to calculate average scores of group culture with respect to both quality improvement and cost reduction						
Negative		**Neutral**			**Very High**	
1	2	3	4	5	6	7

5.2 Developmental Culture

This culture encourages innovation and permits employees to take risk. Similarly, figure 3 is showing the graph output for role of developmental culture to the quality improvements and cost reduction. It is found that most of the respondents scored more than 4.5 for both quality improvements and cost reduction. However, it can be evidenced that average scores for cost reduction are high comparatively. Graph is showing that for cost reduction average scores of 4 respondents are more than 5.5 in case of cost reduction while for quality improvement only one respondent responded at that level. This implies that developmental culture is more consistent with cost reduction within KM philosophy. It is because developmental culture encourages the employees to take innovative and

creative actions to gain competitive advantages. So, innovative and creative ability of developmental culture helps in effective knowledge management that ultimately results into cost reduction. So it can be seen that hypothesis 1b and 2b are supported.

Quality improvement (TQM) **Cost Reduction (KM)**

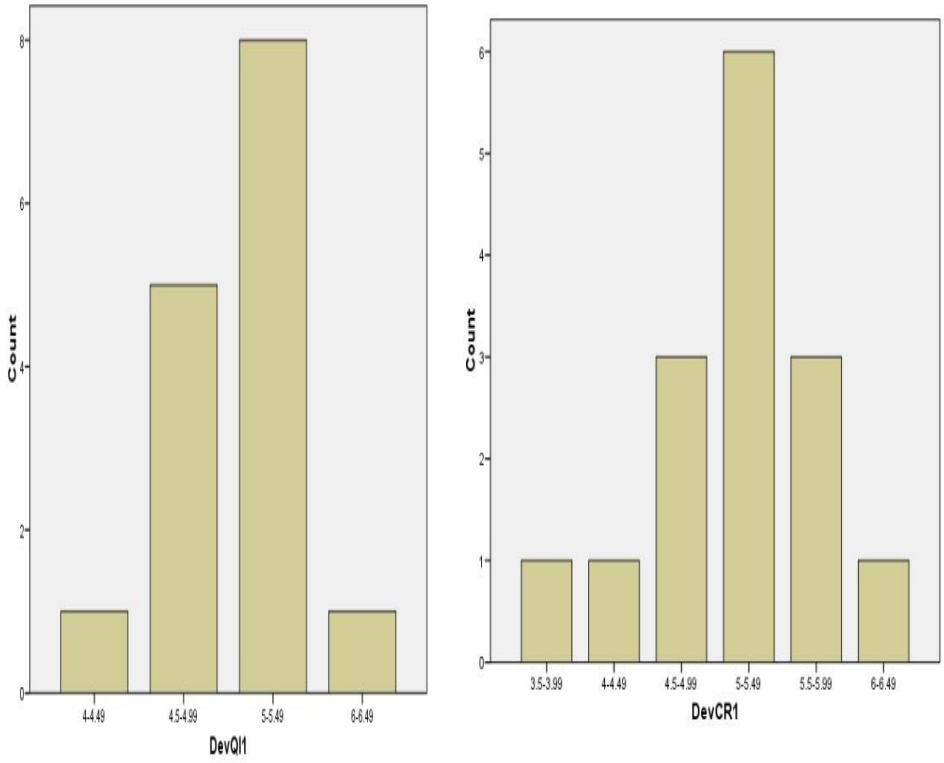

Figure 3: Average Scores of Developmental Culture and its Impact on both Quality Improvement and Cost Reduction

Table 2: Scale Used to Calculate Average Score of Development Culture

Following scale is used to calculate average scores of development culture with respect to both quality improvement and cost reduction						
Negative		**Neutral**			**Very High**	
1	2	3	4	5	6	7

5.3 Hierarchal Culture

Hierarchal culture is based on shared beliefs and values on the basis of administration. Clear instructions are given to complete tasks. This research also argued that hierarchal culture also affects the quality improvements and cost reduction. Figure 4 is showing that on average most of the respondents believe that hierarchal culture positively affects the quality improvement and cost reduction. In both cases average scores of most of the cases are more than 4.75. However, for quality improvements average scores are high as

compared to cost reduction. It can be viewed that average scores for quality improvements are more than 5.00 for 12 respondents out of 15. On the contrary only 9 respondents scored more than 5.00 for cost reduction. In hierarchal culture things are done in standardized ways that increase the efficiencies. However, such efficiencies are more prominent for quality improvement. So it can be seen that hypothesis 1c and 2c are supported.

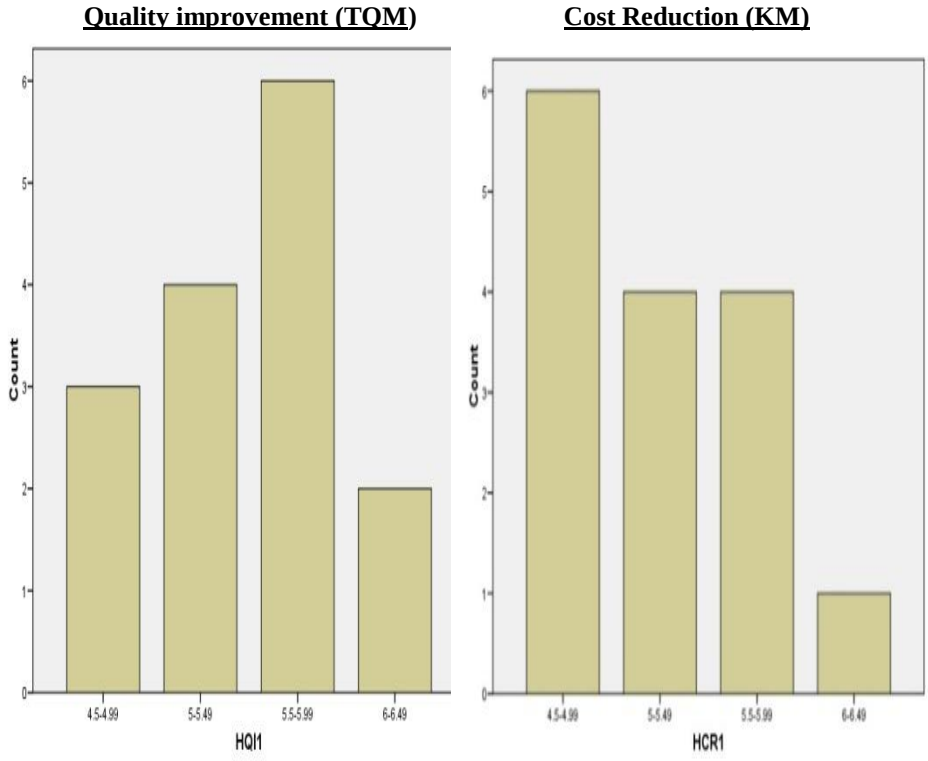

Figure 4: Average Scores of Hierarchal Culture and its Impact on both Quality Improvement and Cost Reduction

Table 3: Scale Used to Calculate Average Score of Hierarchal Culture

Following scale is used to calculate average scores of hierarchal culture with respect to both quality improvement and cost reduction						
Negative		**Neutral**			**Very High**	
1	2	3	4	5	6	7

5.4 Rational Culture

Rational culture focuses on results and also follows result oriented approach. Figure 5 is showing that rational culture also positively effects on both quality improvements and cost reduction. However, such positive effects are more prominent in case of quality

improvements. For quality improvement average scores of all respondents except two are more than 5.00 and even some respondents scored more than 6.00. On the other hand for cost reduction fewer respondents scored more than 5.50. This concludes that rational culture is more effective if the objective is to improve quality as compared to cost reduction. In rational culture focus is given towards output. Such concentration towards output enhances the quality as well. So, it is concluded that rational culture enhances the quality and reduce cost as well with prominent effects on quality improvements. This concludes that hypothesis 1d and 2d are supported.

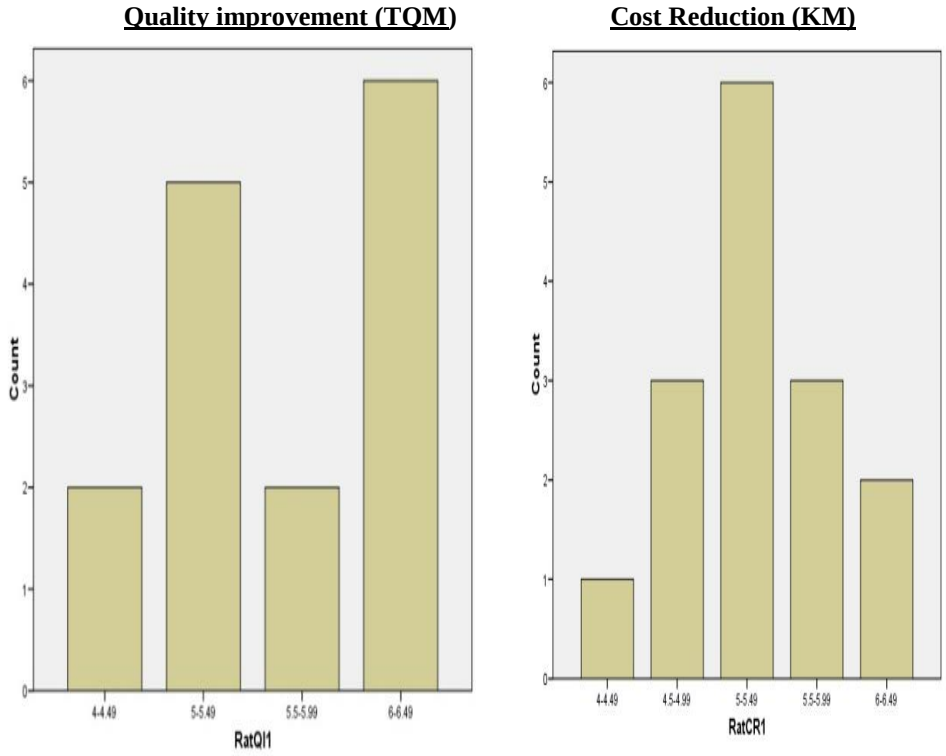

Figure 5: Average Scores of Rational Culture and its Impact on both Quality Improvement and Cost Reduction

Table 4: Scale Used to Calculate Average Score of Rational Culture

Following scale is used to calculate average scores of rational culture with respect to both quality improvement and cost reduction						
Negative		**Neutral**			**Very High**	
1	2	3	4	5	6	7

5.5 Synchronized Effect of Culture

Second part of this research endeavors to investigate the synchronized effects of different cultures with respect to the both quality improvement and cost reduction. To do so I take average scores of both quality improvements and cost reduction for all 15 respondents. It is assumed that average scores of 5.50 or more are showing strong synchronized effects

for both quality improvement and cost reduction. While average scores of 4.5 or less and 4.51 to 5.49 are considered as weak and average synchronization respectively.

Figure 6 is presenting the average scores for both quality improvements and cost reduction in case of four cultures. It is found that six out of fifteen respondents have average scores of 5.50 or more for rational culture with respect to both quality improvements and cost reduction. Similarly, for group and hierarchal culture these statistics are 5 respondents. However, only one respondent has average scores of 5.5 or more for developmental culture. This implies that among four cultures rational culture is viewed as strong determinant of both quality improvements and cost reduction. In textile industry creativity and innovation is not needed that much that decrease the importance of developmental culture. However, in rational culture where importance is given to output that stimulate employees to gain efficiencies that ultimately results in to both cost reduction at sustainable level of quality. So, it is concluded that rational culture is more appropriate if the objective is to gain both quality improvements and cost reduction in case of manufacturing and especially textile firms.

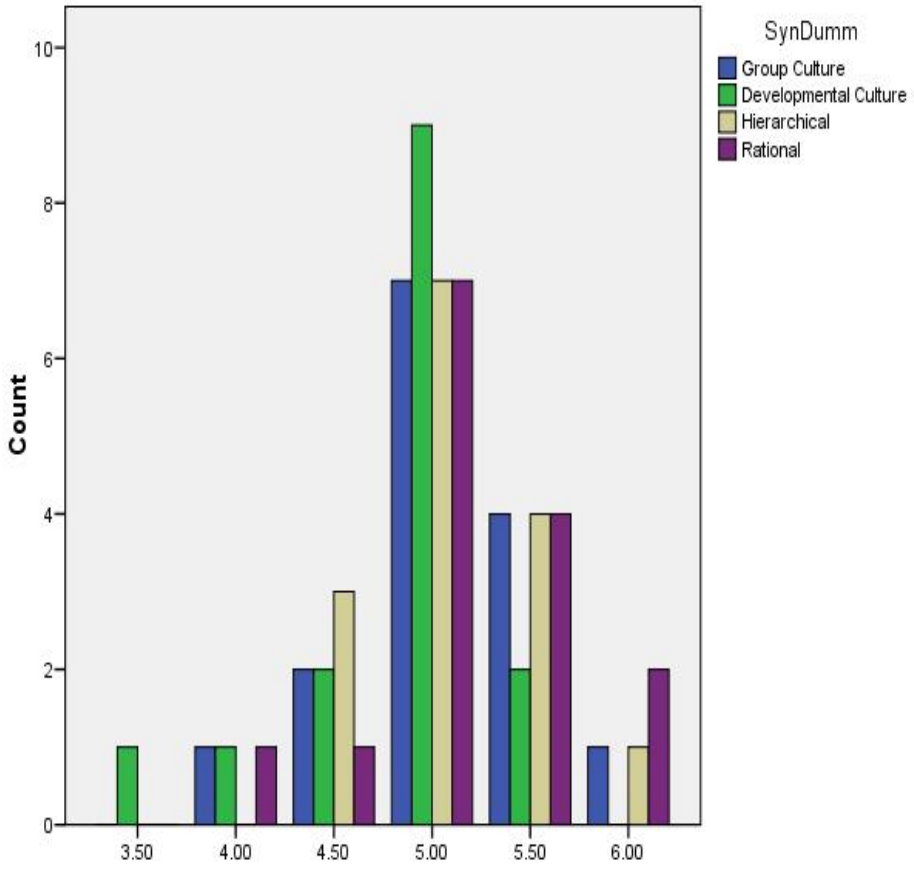

Figure 6: Average Scores of Synchronized TQM and KM Effect on Performance Excellence

Table 4: Criterion Used to Calculate Average Score of Types of Culture

Following Criterion is used to evaluate average scores of types of cultures and its synchronization with both quality improvement and cost reduction		
Weak	**Neutral**	**Very High**
<4.5	4.51-5.5	> 5.5

6. Conclusion

It is concluded from this paper that Total Quality Management and Knowledge Management philosophies both are equally significant for performance excellence in organizations. It is important to perform such activities that continuously strengthen the organization and gain the objective of performance excellence. Present study is based on synchronization of Total Quality Management and Knowledge Management philosophies for high performance with the help of common enabler this is organizational culture. Data is collected from manufacturing firms listed at Lahore Stock Exchange, Pakistan. Targeted respondents are area unit managers having adequate expertise and experience of minimum 3 years. Organizational culture assessment instrument is employed for locating different cultures and its impact is also explored on quality improvement in TQM philosophy and cost reduction in KM philosophy. Delphi Technique is used in this study for creating consensus of various professionals and two rounds were conducted for this purpose. This study inclined towards finding different combinations of organizational cultures and its relation towards quality improvement in TQM philosophy and cost reduction in KM Philosophy. Results showed that as far as cultural perspective of organizations is concerned, dominant developmental or rational culture can reduce the costs in KM perspective and achievement oriented and group culture is much suited for quality improvement in TQM philosophy. In short, this research provides useful information regarding KM and TQM philosophies and its common enabler in respect to organizational performances. However, it is argued that synchronization of both the philosophies can augment their benefits to its optimal level. KM leads to cost reduction while TQM results into quality improvements and their combined effect could enhance the performances to optimal level. So, this study is helpful for manufacturing sector and practitioners that how they can use synchronization of TQM and KM philosophies for performance excellence. In conclusion it can be argued that in Pakistani manufacturing organizations, synchronization of TQM and KM philosophies for high performance occurs when rational or hierarchical culture will be deployed in order to gain quality improvement as well as cost reduction practices in organizations.

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