Impact of Quality Management Practiceson Performance: Moderating Role of Innovation Culture

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Abstract

In the current era, the decision makers become more concerned about quality, so the organizations are more involved and questions are raised about which quality management practice should implement to enhance the performance of an organization. The purpose of this study was to investigate the relationship between quality management practice and firm performance through the moderating role of the innovation culture in the textile sector of Pakistan. The study used three quality management practices including top management leadership, employee's management, and training. Data was collected through a survey questionnaire; Total 160 managers were selected from different textile firms. The Proposed model wastested through Smart PLS3, demographic statistics were determined through SPSS 23. The results show that training and employee management significantly affect the firm performance. However, the top management leadership insignificantly affects the firm performance. After introducing innovation culture as a moderator, results indicate that the insignificant relationship between top management leadership and firm performance has become significant. The findings of the study reveal that innovation culture contributes to the firm performance.

Keywords: Top Management Leadership, Training, Employee's Management, Innovation Culture and Firm Performance.

Introduction

Total quality management is an integrated management philosophy aimed to achieve the customer satisfaction by continuous improvement in the quality of product and process. Total quality management is well-recognized change management approach byquality practitioners

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andmanagers(Arumugam, Ooi, & Fong, 2008). Various scholars asserted TQM as atactic to improve flexibility, competitiveness of an organization to meet customer'sneeds. The Quality Management is defined as a universal management philosophy that ensures the regular improvements in all operations of an organization (Kaynak & Hartley, 2005) The 20th century was the century of productivity and 21st century is the century of quality (Juran, 1986)

The literature showedmixed findings of the connection between total quality management practices and firm performance. Some previous research findings determined thepositive relationship between QMP's and firm performance. However other studies found aninsignificant relationship between QMP'S and firm performance (Ahire & Dreyfus, 2000; Feng, Prajogo, Tan, & Sohal, 2006; Kaynak, 2003; Quazi, Jemangin, Kit, & Kian, 2010). While other studies found thatQMP's have anegative impact on firm performance(Choi & Eboch, 1998; Rahman & Bullock, 2005; Yang, Wong, Lai, & Ntoko, 2009).Literature revealed inconsistent findings due to issues in research design or proposed research models. Firstly some studies conducted by scholars, who operationalized TQM as a single construct to determine the relationship between TQM and firm performance (Douglas and Judge, 2001). Though others researchers, (Danny Samson & Terziovski, 1999)operationalize TQM as a multidimensional construct to found the relationship between TQM and firm performance. Secondly, the level of performance was varied in different studies. Some studies operationalize the firm performance at the level of operations (Danny Samson & Terziovski, 1999)While other only measured the firm's financial performance(Douglas & Judge, 2001). Though,(Das, Handfield, Calantone, & Ghosh, 2000) measured the firm performance at multiple levels.

Previous studies revealed that there were total nine HR based QMP's, however, there was no best combination of these practices that could may important for the success of quality(Hung, 2007; Ooi, Arumugam, Teh, & Chong, 2008; Prajogo & Sohal, 2001)Thus there is a need to reconsider the association of quality management practices and also introduce a moderator to strengthen the impact of QMP's on firm performance. On the basis of review we introduce Innovation culture as a moderator in the research model. Innovation culture is like a backbone thatenables an organization to compete in thedynamic business environment(Morris, 2007). Innovation culture and entrepreneurship provides a competitive advantage to an organization (Drucker, 2002)It is difficult to define the innovation culture, literature provides anonlyunidimensional view of innovation culture (Dobni, 2008). An

organization having innovation culture prefer to give a great value to seeking opportunities to test the new ideas and products to enhance its performance (Duane Ireland, Kuratko, & Morris, 2006). According to Dobni,(2008), the researchers took interest in the concept of organization's creativity and innovation culture and its effects on overall organizational performance.

The main purpose of the study is to evaluate the crucial factors for the implementation of TQM in an order to enhance the firm performance. Literature found that various studies develop the contradictory relationship between quality management practices and firm performance. Thus the main focus of this study is to design research model showing the relationship between TQM's practices and firm performance. Although examining the moderating effect of innovation culture which is not well explored in previous studies. The study used three HR based QMP's (Team Managementleadership, Employees Management, and Training) after a comprehensive review of theliteratureand detailed discussion with managers from different organizations.

Literature Review

Top Management Leadership

Leadership defines the positions attributes, in line with the individual characteristics as well as a behavior's charisma (Bennis, Katz, & Kahn, 1980).Previous studies suggested that quality management strongly supported the significant role of management leadership for attaining a high level of performance((Deming, 1986)According to Powell, (1995)Executive commitment have adirect and significant relationship with firm Performance. Hundt, (1995) found that top management leadership leads the organization towards the number of innovative products. Ahmed, Noor, Bin, Muhammad, & Ahmad, (2016) suggest that 'given resources' and 'power' assignees to top management have a significant impact on project performance. Financial performance was significantly and positively relatedto top management involvement (Adam et al., 1997). Top management leadership has a negative influence on the quality performance of the organization (Choi & Eboch, 1998).Samson &Jeziorski, (1999)found the significant direct relationship between top management leadership and organizational performance. They also found that Committed Leadership has adirect impact on organizational performance. Curkovic, Vickery, and Droge (2000) and Sami et al. (2016)argue that top management leadership has a direct effect on quality dimensions. They found that leadership ability was significantly and positively related tothe customer's satisfaction, profit

gained from product and product utilization. Quality management practices weresignificantly and positively related to the level of the newnessof the products especially on the number of new products (Prajogo & Sohal, 2003). Another study by Prajogo & Sohal, (2004)found that management leadership not significantlyrelatesto product quality management. Singh & Smith, (2004) found aninsignificant relationship between QMP's and organizational performance. Kannan & Tan, (2005) argued that leadership negatively influenced on the market and financial performance of the firm. Hoang, Igel, & Laosirihongthong, (2006)suggested that quality management practices relatedto innovation culture and had apositive impact on firm performance. However, through literature review, this study purposed the following hypothesis:

Hypothesis 1: There is a significant relationship between top management leadership and firm performance.

Training

Training is the organizational actions to for the improvements of the expertise, ability, and information.(Anderson, Jerman, & Crum, 1998) that resulted in asignificant and positive impact on the performance of the firm. According to ("Flynn et al 1995," n.d.), trainingis desirable for enhancing the worker contribution in quality management efforts. And also helps to improve the employee's ability to perform a task effectively. Scholar suggested that previous research on the automobile and manufacturing industries had found that the performance in terms of product quality output was highly correlated with soft elements of quality management like Training(Ahire, Golhar, & Waller, 1996). They found that training has apositive and direct relationship with operational performance (Rungtusanatham, Forza, Filippini, & Anderson, 1998). According to Dow, Samson, & Ford, (1999) Personnel's training is not significantly related to quality performance. Quality management practices are significantly and positively related to the level of the newness of the products particularly on the number of new products and commercialized services(Prajogo & Sohal, 2003). Through a comprehensive literature review, this study proposed the following hypothesis:

Hypothesis 2:There is asignificant relationship between training and firm performance.

Employee's Management

Carefully recruitment and selection of workers during the hiring process will help in the effective management ofemployees, develop a strong and

committed relationship with employees through recruitment and selection process.Previous studies support that quality management intensely supported the significant role of employee's management for attaining a high level of performance (Deming, 1986). According to Powell, (1995)employees' empowerment, open organizational sharing system has a significant relationship with firm performance as well quality management. Another study by Rungtusanatham et al.,(1998) suggested that there exist a direct relationship between employee's management and the firm performance.Previous studies suggest that employees commitment has a positive and direct effect on quality outcomes (Dow et al., 1999). according to Shieh & Wu, (2002), he found that a relationship exists between employee's management and performance. Nair, (2006) argue that people management is positively connected with aggregate firm performance, people management also positively relets with each element of firm performance like financial performance, and product quality. After a detailed literature review, this study purposed the following hypothesis:

Hypothesis 3: There is a significant relationship between employee's management and firm performance.

Moderating Role of Innovation culture

It is difficult to define culture is difficult. Previously existing literature provides anonlyunidimensional view of innovation.Dobni, (2008)an organization having innovation culture prefer to give value to experiment with new ideas and products to enhance its performance (Duane Ireland et al., 2006) According to Dobni, (2008), there has been a great research interest in the concept of innovation in anorganization, and also the effect of innovation culture on firms performance. The growth of an organization depends on the ability to bring innovation in their products through enhancing organization structure and business practices(Euratex, 2004).Morris explains *"The innovation culture, of course, is likewise an expression of people, their past, and their current beliefs, ideas, and behaviors. They make innovation happen, and they do so consistently over time"*(Morris, 2007). Scholarsdiscussed innovation culture is an organization's alignment with the testing of new alternatives by exploring new resources, breaking through existing norms and creating new products to enhance its performance (Ireland & Webb, 2007) Morris defines culture as acollective expression of a group of people. And a suture is actually a reflection of beliefs and behavior of its people, (Morris, 2007). Morris presents a compression table to differentiate key points of differences in "status quo culture" and "innovation culture" where it becomes more easy to understand how and where innovation

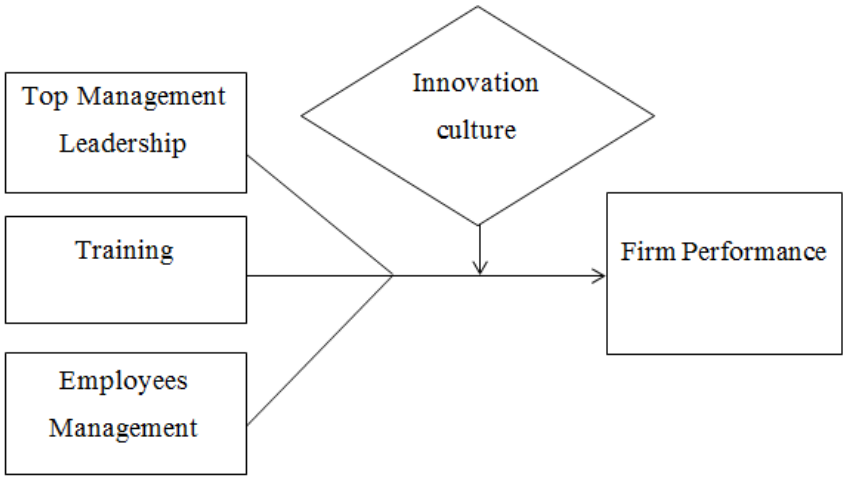
differ from traditional culture (Morris, 2007). Martin explains that Innovation is the base for economic growth and a source for sustainable competitive advantage, especially for an organization, want to exist in focus in themarket. ("Martins & terblance, 2003; O'Reilly & Tushman, 1997). It is also suggested that innovation culture also creates positive outcomes at the level of individual employees.(Wei, O'Neill, Lee, & Zhou, 2013). A resource-based theory analyze that how innovation culture can be a building block for a firm by creating superior employee level performance. The research contributes to innovation culture and business management literature(Barney, 1986); (Fiol, 1991). On the bases of detailed literature review following hypothesis were developed.

Hypothesis 4: Innovation culture moderates the relationship between top management leadership and firm performance.

Hypothesis 5: Innovation culture moderates the relationship between training and firm performances.

Hypothesis 6: Innovation culture moderates the relationship between employee's management and firm performance.

SchematicDiagram



Methodology

Sample and Procedure

As it is discussed in theliterature that textile industry is like a backbone of Pakistan's economy, and largest manufacturing sector of Pakistan there are different bodies of trade are working in Pakistan for expansion and development of this industry. There are many textile associations are functioning to safeguard the textiles industry of Pakistan. Such as All Pakistan Textile Mills Association (APTMA) is primarily Focusing on

the Welfare of Spinning and weaving division of Pakistan. In the same way "All Pakistan Textile Processing Mills Association (APTPMA)" is primarily functioning for textiles processing business of Pakistan. PCMA is primarily functioning for the clothing business of Pakistan. PAKSEA is primarily functioning for the sweater and knitwear business of Pakistan. PTEA is primarily functioning for the textiles products exports. PHMA is chiefly functioning for the hosiery apparel products exports in Pakistan. PRGMEA is primarily functioning for readymade garments exporters in Pakistan. PDMEA is primarily functioning for denim products exporters in Pakistan, and PCFA is primarily functioning for the cotton apparel products producers and exporters in Pakistan.All the textile organization registered under above-discussed association were taken as a population.Disproportionate stratified sampling technique was used for data collection.A total number of 200 questioners has distributedto different textile industries of Pakistan.Out of which 170questionnaires were received. During data analysis, the problem of missing data was resolved by removing 10 questionnaires which have missing data. In this study majority of the respondent were male with the performance of 70.6 and 29.4% was the number of the female respondents. The questionnaireincluded five sections like demographics; top management leadership, training, employee's management, and innovation culture as a moderator and firm performance.

Measures

All the scales used to measure the hypothesis adopted from previous studies, where reliability and validity were testified and reported. The five-pointLikert scale was used to measure the items where "1 = strongly disagrees to 5 = strongly agree". Top management leadership was measured by using 6 items and were adopted from the ss(Kim, Kumar, & Kumar, 2012) in his study, the Cronbach's alpha value of the used items were (0.889). Training was measured by using 4 items adapted from (Sadikoglu & Zehir, 2010) works, the value ofCronbach alpha for the items of training was (.89) that are up to requirement. Employees management was measured by using 9 items, these items were taken from (Sadikoglu & Zehir, 2010). The Cronbach alpha value of Employee's management Items were (0.89). To measure the innovation culture 2 items were adopted by (Martín-de Castro, Delgado-Verde, Navas-López, & Cruz-González, 2013)The Cronbach alpha value of innovation culture measures was (0.74). Firm performance was measured by using 5 items. The firm performance measures include items related to (quality performance, customer satisfaction performance, and operating performance). We adopted performance measures from

(Sadikoglu & Zehir, 2010)works; the Cronbach alpha value of firm performance measures was (0.84).

Result

Model Assessment

The main objective of the study is to finds a relationship between dependent variable and independent variables, so partial least squares (PLS) was used. All the hypotheses were tested simultaneously through Smart-PLS. It is a causal modeling approach, that revolves around two approaches,i.e., evaluation of measurement model (i.e. outer model), flowed by assessment of the structural model (F. Hair Jr, Sarstedt, Hopkins, & G. Kuppelwieser, 2014)The outer models determined the relationship between construct and related items, while the inner model defined the relationship between exogenous and endogenous construct(F. Hair Jr et al., 2014)

Assessment of measurement model (reliability and validity analysis)

Evaluation of measurement model has been used for reliability and validity (F. Hair Jr et al., 2014)The reliability of model has been assessed based on factor loading and (CR) composite reliability. Table 1explains all factor lodgings and composite reliability exceeded the recommended value of 0.70 and 0.70 respectively that confirm the model reliability at items and construct levels(Henseler, Ringle, & Sinkovics, 2009) (The validity of measurement model has been assessed based on average variance extracted (AVE) and composite reliability (F. Hair Jr et al., 2014)Table 1 showsthat AVE and CR provide support to convergent validity;(F. Hair Jr et al., 2014) Reliability of theinstrument is measured through Cronbach alpha which is based on theinternal consistency of items. Cronbach's alpha computes the average of measuring constructs and its correlation. Items are said to be reliable if their value of Cronbach alpha exceeds 0.5 (kim et al., 2004) table 1 explains that all values of Cronbach's alpha are greater than 0.5. CR, AVE and outer loadings of all items exceed the threshold level.

Table 1: Evaluation of the measurement model

First order construct	Items	Loading	Cronbach's	CR	AVE
TML	TML1	0.805	0.886	0.911	0.630
	TML2	0.819			
	TML3	0.783			
	TML4	0.753			
	TML5	0.859			
	TML6	0.738			
EM	EM1	0.830	0.823	0.935	0.616

	EM2	0.742			
	EM3	0.796			
	EM4	0.791			
	EM5	0.825			
	EM6	0.754			
	EM7	0.820			
	EM8	0.740			
	EM9	0.757			
Training	TR1	0.803	0.808	0.874	0.635
	TR2	0.810			
	TR3	0.829			
	TR4	0.743			
I-C	IC1	0.834	0.765	0.811	0.682
	IC2	0.817			
FP	FP1	0.803	0.871	0.906	0.659
	FP2	0.810			
	FP3	0.829			
	FP4	0.743			
	FP5	0.803			

Notes: items IC3 and IC4 were deleted to improve the reliability and validity; AVE. average variance extracted: CR, composite reliability.

Discriminant validity is assessed through the(Fornell & Larcker, 1981)criterion, in which the square root of the AVE of a construct (diagonal values) must be greater than the correlation between other constructs (off-diagonals values) in row and columns.

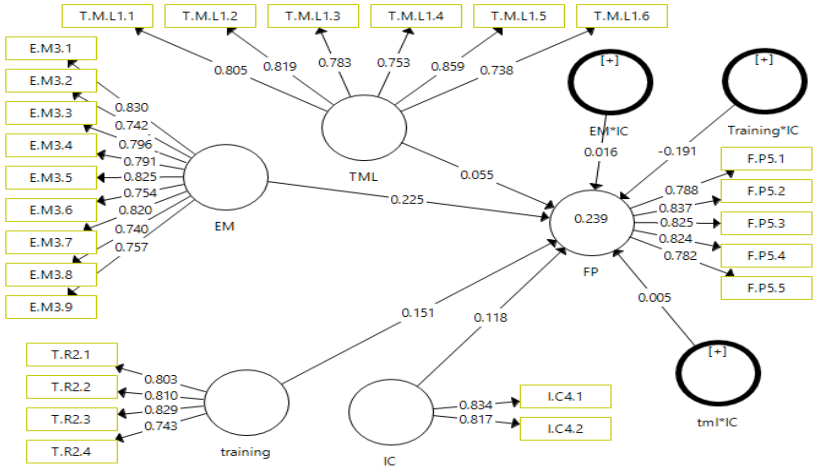


Figure 2: Measurement Model (PLS Algorithm)

Discriminant Validity

The current study evaluates the reliability and validity of model through convergentvalidity and discriminant validity of measurement scale shown in the below (Table 2). Weused two methods to evaluate the discriminant validity of the constructs. Firstly, we tested the cross-loadings of the indicators. Secondly, we followed the Fornell(Fornell & Larcker, 1981)criterion, which requires that each AVE value of the construct should be high than its correlation with all the other constructs. The square root of AVE of all the variables was greater than 0.70, the diagonal values in the as shown in (Table 2)

Table 2:Discriminant validity at construct level

	EM	FP	IC	TML	Training
EM	0.785				
FP	0.372	0.812			
IC	0.316	0.304	0.826		
TML	0.197	0.216	0.248	0.794	
Training	0.344	0.278	0.221	0.310	0.797

Note: square root of the average variance extracted in diagonals and remaining of entries are correlation values. EM, Employees Management; IC, Innovation Culture; TML, Top management leadership; FP, Firm performance and training.

Evaluation of structural model

According to (Henseler et al., 2009)the R^2 (coefficient of determination) is a measure of the predictive accuracy of the model. This impact ranges from "0 to 1", while "1" indicates the complete predictive accuracy because R^2 is comprised ofthe rangeof disciplined researchers should depend upon general guideline with respect to an acceptable R^2 with 0.75, 0.50 and 0.25 respectively described significant, moderate and weak levels of productive accuracy. In the current study as shown in thetable (3), R^2 of endogenous variables indicates the significance but theweak predictive accuracy of the model.

Table 3: Predictive Accuracy and relevance of the Model

The goodness of Fit Indices	R-Square (R^2)	(Q^2)
Firm Performance	0.25	0.204

Testing hypothesis

To link the hypothesized relationships between the variables we run the PLS-Bootstrapping for the model shown in (Fig 2) which provides the

estimates for the path coefficients. Values of the path coefficient consist on the range from "-1 to +1".strong positive relationship indicated by the value of path coefficient "closer to +1" and stronger negative relationship indicated by the value of the path coefficient "closer to -1".Even though the path coefficient values closer to -1 or +1 are practically always significantly, by using bootstrapping to test for significance level

Table 4: path coefficients, t values, p values of direct relationship

Hypothesis	Path Coefficients	SD	t-values	P value
TML →FP	0.055	0.055	1.252	0.211
Training →FP	0.151	0.108	4.217	0.000
EM →FP	0.225	0.116	4.707	0.005

We conducted a PLS-SEM Analysis by using Smart-PLS 3.0 we run PLS-algorithm, PLS-blindfolding, and PLS-bootstrapping to test all hypothesis. As it is shown above in (Table 4), all the values of path coefficients indicate the strong positive significant relationship among the constructs instead of two relationship. In H2 it is hypnotized that training has asignificant impact on the performance of thefirm. The results indicate that Training has apositive and significant impact on theperformance of thefirm as it's (β*=0.313, t- value= 0.108 & P=0.000*) which support the H_2. Employee's management has asignificant impact on firm performance, the findings indicate that employees management positively and significantly contributes to firm performance as (β*=0.326, t- value= 4.707 & P=0.000*). In H3 it is thehypothesis that top management leadership has asignificant impact on performance.These findings provide support for theH3 hypothesis. The results of thecurrent study indicate that top management leadership positively but insignificantly contributes to the performance of firm (β*=0.095, t-value= 1.252 & P=0.211*).The findings indicate that the moderation effect of top management leadership and innovation culture has shown significant impact on firm performance.

Moderation analysis:

To investigate the moderating effect of innovation culture with respect to firm performance and Top management leadership, training and employees management.thePLS-SEMtechnique was used and the moderating effect is created in the model. The moderation effect of top management leadership and innovation culture showedsignificant impact on firm performance (β = 2.955, t= 4.321, P =0.01), so the result supported the 4th hypothesis. The findings also suggest that the result of the moderating effect of training and innovation culture on firm

performance also showed significantly but the negative impact on firm performance (β = -0.260, t=4.217, P =0.000) hence 5th hypothesis was also sustained by the result. The moderating effect of employees management and innovation culture on firm performance was also significant but negative (β = -0.110, t= 1.453, P =0.05) so the H6 also supported by the results.

Table 5: Moderation analysis through PLS

Hypothesis	Path Coefficients	SD	t-values	P value	Decision
TML*IC→FP	0.384	0.055	4.321	0.000	supported
EM*IC →FP	0.110	0.072	1.453	0.002	supported
Training*IC→FP	-0.260	0.119	4.217	0.007	supported

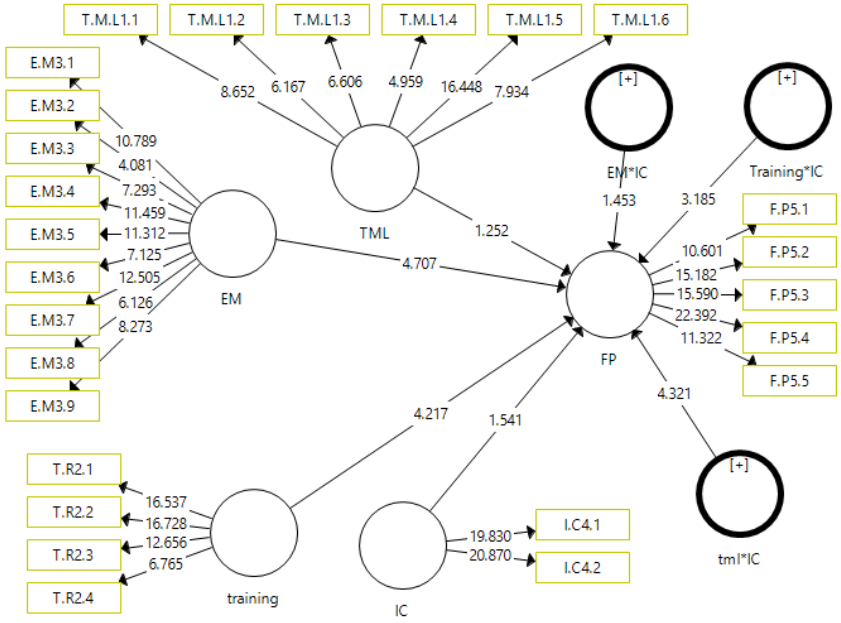


Figure3: PLS Bootstrapping analysis

Discussion

The findings of thestudy supported that QMP's have a significant relationship with firm performance excluded one variable, which is top management leadership. According to thefinding of thestudy,all the hypothesis are accepted excluding H1. The results indicate that quality management practices directly or indirectly contribute to firm performance. The findings provide critical insights for academics and practitioners about the relationship of QMP's with Performance of the

firm. The result of the study reveals that there is aninsignificant relationship exist between top management leadership andfirm performance. According to Singh & Smith, (2004), an insignificant relationship existsbetween top management leadership and firm performance. Another study also reveals similar findings, they found that management leadership practice insignificantlyaffects the product quality (Prajogo & Sohal, 2004). As Pakistan is an underdeveloped country and traditional approaches to run a business firm is one of the main cause of insufficient performance, there is a dilemma of centralized authority, which is the main reason behind theinsignificant relationship. There is no proper distribution of power to middle and lower level managers. So respondents were not satisfied the proper implementation of this quality management practice. Mostly decisions done by top management and not given the power to lower and middle-levelmanagers, they did not support the significant relationship among top management and firm performance due to not aproper implementation of this dimension of quality management. This study also found an insignificant relationship of top management leadership with theperformance of the organization. The finding shows that there is a positive relationship exist between training and the performance of thefirm. Some previous studies also have same findings. According to (Goldstein, 2003) training plays a role in the effectiveness and capabilities of employees at theworkplace. Training and customer satisfaction had apositive relationship, and it also enables the employees to produce ahigh-quality product that ultimately results in ahigher level of customer satisfaction (Das et al., 2000). According to Kaynak, (2003) a positive relationship exists between training and operating, market and financial performance of the firm. Another scholar Hoang et al., (2006) suggest that Employee's management have asignificant and positive relationship with firm performance. According to (C.powell, 1995)employees' empowerment, open organizational sharing system had significant relation with performance. Previous studies also found that performance particularly relets with employee's management, empowerment, and involvement of employees in theexecution(Ahire et al., 1996)After introducing innovation culture as a moderator between QMP's and the performance of thefirm,and theinsignificant relationship of TMLwith firm performance became significant. And provide asignificant relationship with firm performance, we found that top management leadership working with innovation culture as a moderatorenhance the firm performance in a significant way. It indicates that innovation culture contributes to the performance of an organization in a significant way. This result was according to the expectations that innovation culture works significantly as moderator

with top management leadership to improve the firm performance. On the other side when innovation culture also works as moderator with training and employees management, it provides asignificant relationship with the performance of thefirm.

Conclusion

This study examines the relationship between QMP's, firm performance and moderating effecttoanalyze the proposed model, data have been takenfrom theTextilesector of Pakistan. The findings suggest that quality management practices are directly linked to organization performance directlyexcept top management leadership. But after introducing innovation culture as moderator with the top management leadership all the relationship become significant. Finally, it is revealed that particularly in the textile industry, there is excessive use of top management leadership practice which is a common phenomenon and every sector in developing countries facing the same issue. The excessive use of centralized authority or top management leadership suppresses the morale of employees and their contributions in firm's Performance and other job-relatedwork that cause job insecurity. This requires anInnovation culture,Quality based employee's management through mentoring and coaching that ultimately lead to superior firm performance.

Limitation

This study has some limitations. The study just focused on a textile sector of Pakistan and ignore all other sectors. It uses the small sample for data collection. The second one, this studies used only three quality management practices as an independent model and ignore other dimensions that might generate a more desirable outcome. Thirdly, this is a cross-sectional study. The inclusion of other manufacturing and services organizations will make the framework more powerful.

Recommendations

This research study also has some future direction. This research significantly highlighted the impotence of innovation culture to enhance the firm performance. The managers or leaders should minimize the hurdles that caused employees to be worried. They should be aware and reduce the excessive use of top management leadership authority which becomes the reason of employees fear, lack of communication plans and infrastructure, lack of good governance, guidance and feedback to reduce the distress among employees due to excessive use of top management leadership practice, because this horror creates uncertainty in working environment and therefore, increased chances of bad firm performance.

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