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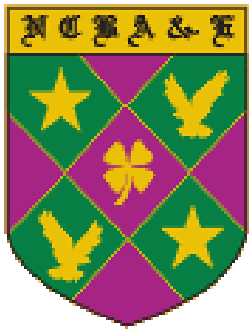

THE ROLE OF ORGANIZATIONAL LEARNING IN UNDERSTANDING RELATIONSHIP BETWEEN TQM AND ORGANIZATIONAL PERFORMANCE

BY

SHAHID MEHMOOD

MASTER OF PHILOSOPHY
IN
BUSINESS ADMINISTRATION

APRIL, 2013

NATIONAL COLLEGE OF BUSINESS ADMINISTRATION & ECONOMICS

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A dissertation submitted to
School of Business Administration

In Partial Fulfillment of the
Requirements for the Degree of

MASTER OF PHILOSOPHY
IN
BUSINESS ADMINISTRATION

April, 2013

In the name of ALLAH,
The Most Beneficial,
The Most Merciful,

He who repair all broken things,

Who completes that which is incomplete and

Who has the ability which force, to make

people do whatever He wants.

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Dissertation Committee:

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Chairman

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Member

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Member

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Rector
National College of Business Administration & Economics

DECLARATION

This is to certify that this research work has not been submitted for obtaining similar degree from any other university / college.

SHAHID MEHMOOD
April, 2012

DEDICATED TO

My Wife

And

My Brother
Tariq Masood

ACKNOWLEDGEMENT

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RESEARCH COMPLETION CERTIFICATE

Certified that the research work contained in this thesis entitled **"The Role of Organizational Learning in Understanding Relationship Between TQM and Organizational Performance"** has been carried out and completed by **Shahid Mehmood** under my supervision during his M.Phil. Business Administration Programme.

(Dr. Faisal Qadeer)
Supervisor

SUMMARY

The maintenance and enhancement of organizational performance is a challenge for the manufacturing firms as they are always trying to sustain competitive advantage. This challenge may be convened through the principles of TQM; customer focus, continuous improvement, employee involvement, top management support. For this type of organizational development, socio-technical intervention is often suggested. However, in many cases this is not sufficient and its success is not always warranted. Alternatively, organizational learning capability is one of key antecedent for achieving organizational change and securing competitive advantage. Most of the manufacturing organizations have already adopted the principles of TQM. In an attempt to transform from a quality based socio-technical system to a learning paradigm they ought to understand the role of learning capability as an intervening mechanism between TQM-performance linkages. This study attempts to investigate this issue in the manufacturing firms of Pakistan.

This study specifically investigates the interrelationship among TQM practices, organizational learning capability and organizational performance in Textile Sector of Pakistan. Moreover, this study also investigates organizational learning capability as a mediator between TQM practices and organizational performance.

Empirical data is collected through self-administrative survey from 90 quality managers and 180 other managers. These 270 managers represent 90 manufacturing firms including both ISO certified (70) and no-certified (20) firms. The data is aggregated at the organizational unit of analysis. The study utilizes usual cross tabulations and descriptive statistics. For testing the hypothesized relations, the study variables are analyzed through reliability, bi-variate correlations and hierarchical liner modeling and widely used mediation steps (Barron and Kenny, 1986).

This study finds both TQM practices and organizational learning capability of the manufacturing firms significantly impact their performance. The mediating role of organizational learning capability between TQM-performance is fully supported by our data. The implications for the theory and practice are discussed along with direction for the future research.

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CHAPTER 1

INTRODUCTION

This chapter describes the study background, significance of the study, objectives of the study, research hypotheses, research model and briefly introduces the remaining parts (methodology, data analysis and findings) of the dissertation.

1.1 STUDY BACKGROUND

Business atmosphere is getting increasingly competitive coupled with augmented uncertainty in the task environment as well as general environment. Developments of the technological innovations pose challenges of competitive advantage for most of the organizations (Baker and Sinkula, 1999; Prajogo and Sohal, 2003). This competitive pressure motivates the management of the organizations to evaluate their business strategies and practices to become creative and innovative in order to increase their performance. In this context top management require to incorporate 'quality vision' into the goals and objectives of their organizations.

The effectiveness of the organization is consistent with techno-structural intervention theory, which lays emphasis on productivity, performance factors and relationships among workers. Techno-structural intervention strategies also focus on level of participation in the development and change process of an organization.

One of the key interventions that have been identified is socio-technical systems, which focus on quality circles and total quality management; the factors that determine the effectiveness of an organization through continuous improvement.

In order to become more customer focused through quality driven strategy, almost all the manufacturing firms adopt quality management practices. Total quality management is being practiced since mid-1980s and has received high degree of attention in improving organizational performance; however results derived from the study of relationship between TQM and performance are mixed and controversial.

Total quality management is a set of principles that represents the basis of a continuous improvement in organization, where the organization is 'continuously improving in every aspect of every process, every level and every activity and could be the best objective at large' (Chang and Sun 2007). TQM is all about business management values consisting of different principles that help in continuous improvement and are considered as the most suitable approach in sustaining efforts for organizational improvement (Lin and Ogunyemi, 1996). TQM when successfully implemented helps in gaining sustainable competitive advantage (Prajogo and Sohal, 2004). Numerous scholars and researchers identify that organizations which are making efforts to strengthen must focus on TQM as the source of sustainable competitive advantage (Terziovski, 2006). In nutshell, TQM is a broad way to improve the overall performance and quality of organizations (Spencer, 1994).

The success of TQM may be contingent on several other organizational factors. Such contingencies can be comprehensively grouped in the concept of 'learning organization'. The concept of learning is articulated by scholars in 1990s as a source of continuous improvement and gains much popularity among manufacturing firms. Organizational learning is consistent with organizational transformation (OT) interventions, which focuses on articulating a change for an organization through continuous improvement.

Learning organizations facilitate learning of all their members and continuously transform themselves in order to meet their strategic goals (Pedler et al., 1991). Learning organization is a place that fully utilizes knowledge, gains competence, expands capacity and changes organizational behavior (Garvin, 2000 and Senge, 1990). Organizational learning is not only the learning of its individuals but is also the capability to continuously enhance the collective capacity to reflect, to learn, how to learn, to unlearn old ways of doing things and discard old habits (Senge et al., 1999).

Both TQM and organizational learning capability are interrelated concepts due to their focus on continuous improvement and competitive advantage. One of the key mechanisms of TQM intervention is an emphasis on organizational learning by every person involved in the process to bring a change. Macher (1992) concludes that continuous learning can be flourished in an environment where TQM is implemented. Barrow (1993) argues that TQM closely relates to organizational learning as an anticipated product of TQM. Hill (1996) observes that scholars consider it the first step to continuous improvement. Popper and Lipshitz (2000) propose that productive learning can occurs in an organization, where TQM culture is prevalent. Deming (1986) suggests that in a competitive environment learning promotes innovation whereas TQM is the major determinant of success. TQM stimulates learning in

an organization and by the integration of both an organization can achieve excellence (Irani et al., 2004 and McAdam et al., 1998).

Many studies investigate the relationships between TQM and organizational performance. In one of the studies on the relationship between TQM and firm performance, Powell (1995) examines TQM as a potential source of sustainable competitive advantage. Organizational learning also has its performance implications. For example, Ellinger et al., (2003) find an empirical relation between financial indicators of performance and organizational learning. Most of the scholars argue that adopting learning organization strategies promote individual, team and organizational learning and that such improved learning yields performance gains (Baker and Sinkula, 1999; Hunt and Morgan, 1994; Slater and Narver, 1995). Learning capability of an organization can provide sustainable competitive advantage in an unstable environment (Bontis et al., 2002 and Nonaka and Takeuchi, 1995). Slater and Narver (1994) propose that learning capability is important to overall performance of an organization. The significant role of organizational learning, in terms of learning capability, learning orientation in overall business or economic performance has been widely recognized in the literature (Prieto and Revilla, 2006; Tippins and Sohi, 2003). Therefore, like TQM, organizational learning capability may be identified as a key factor for performance outcomes. The later is a relatively newer concept.

Consequently we expect that both TQM and organizational learning individually and collectively promote the organizational performance. Both these concepts have been simultaneously theorized for organizational change (Love et al., 2000). However, there is hardly any empirical investigation that covers thoroughly both TQM and organizational learning capability in explaining organizational performance. Such an empirical investigation on the interrelationships among the three variables in manufacturing sector of Pakistan is likely to be useful for academia and practitioners in our context.

This study particularly focuses on the manufacturing firms of Textile Sector, where the international market is of very importance and therefore TQM implementation through various quality standards certifications is often demanded. TQM practices are considered more relevant to manufacturing firms as compared to service firms. The study empirically investigates the role of organizational learning in understanding relationship between TQM and organizational performance in textile sector of Pakistan. The present study follows the recent research suggestions by scholars in the field (Lam et al., 2011 and Lee et al., 2012). The study contributes in the TQM literature by providing empirical evidence on the roles of TQM practices and organizational

learning capability in understanding their influences on organizational performance.

1.2 SIGNIFICANCE OF THE STUDY

The empirical evidences on the relationship between TQM and organizational performance are mixed. It is therefore still interesting for the academia to further improve on their understanding about the phenomenon by exploring the black boxes (if any) between TQM and organizational performance relation.

To understand TQM-performance relationship academia is seeking empirical evidences regarding various 'generative mechanism (mediators), through which TQM practices influence the organizational performance. This study extends the existing research by involving organizational learning capability as a mediator with the help of empirical data to explain TQM-performance relationship. The study also attempts to investigate that sufficiency of organizational learning capability as a mediator and would identify other mediator (s) that may be required to understand this phenomenon.

In contextual perspective, there has been no attempt to simultaneously investigate the role of TQM practices and organizational learning to improve firm performance in *textile sector* anywhere in the world, let alone Pakistan. In Pakistan's *manufacturing industry*, textile sector is one of the largest sectors. According to Government of Pakistan (2012), it contributes 8.5 percent of the national income, employs more than 38 percent workforce of the manufacturing sector and more than 50 percent exports of Pakistan are related to textile products. Therefore, there is of great significance to investigate the importance of TQM practices and organizational learning capability on performance of this sector that may benefit the practitioners of textile as well as other manufacturing sectors to enhance their performance. This is the *maiden empirically investigation* on TQM-performance relationship with the mediation of organizational learning capability in textile sector of a *developing country* like Pakistan.

1.3 OBJECTIVES OF THE STUDY

This study aims at:

a) Investigating the interrelationships among TQM practices, organizational learning capability and organizational performance.
b) Investigate organizational learning capability as a mediating mechanism between TQM practices and organizational performance.

1.4 RESEARCH HYPOTHESES

Keeping in view the aims of the study, four hypotheses are developed as listed in Table 1.1.

Table 1.1
List of Research Hypotheses

Hypothesis	Description
H_1	TQM practices positively affect organizational learning capability.
H_2	TQM practices positively affect organizational performance.
H_3	Organizational learning capability positively affects organizational performance.
H_4	Organizational learning capability mediates the relationship between TQM practices and organizational performance.

1.5 RESEARCH MODEL

The hypothesized relations of this study are presented in Figure 1.1. The four hypothesis of the study are mentioned in the Figure. TQM practices arguably relate to organizational learning capability (H_1) and organizational performance (H_2). The Figure also shows that organizational learning capability directly produces organizational performance (H_3). The last but not the least path is the mediating impact of organizational learning capability in understanding the relationship between TQM practices and organizational performance (H_4). In this path TQM practices are an independent variable, organizational performance is dependent variable whereas organizational learning capability is mediating variable.

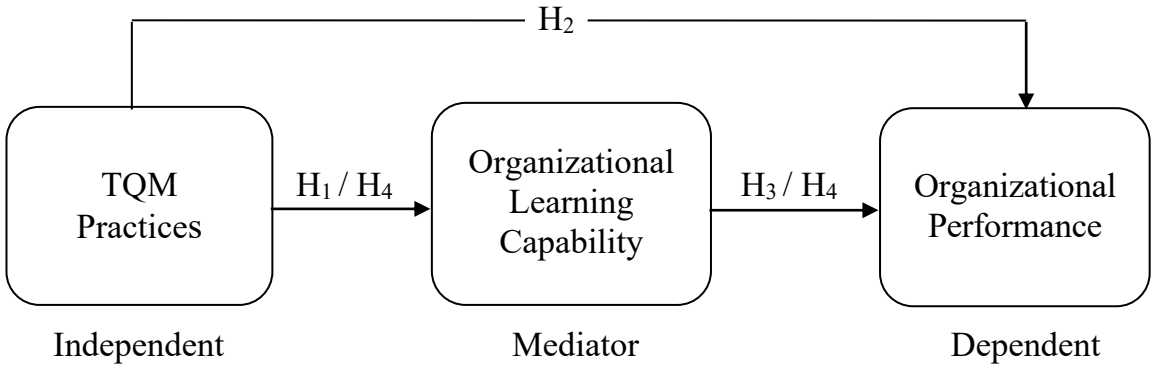

Fig. 1.1: Research Model

The measurement model for the three study variables is presented in Chapter 3 (Figure 3.1).

1.6 METHODOLOGY

In order to achieve both co-relational and analytical aims of the study, a questionnaire based cross-sectional survey is conducted from MR/DMR and managers of organizations with minimal interference of the researcher in a non-contrived (i.e. natural) setting.

A self-administrated survey is conducted in textile sector of Pakistan, a sector in which TQM literature is scarce. The data is collected through survey questionnaires from member mills of all Pakistan textile mills association (APTMA) situated in the Punjab province.

After designing the questionnaires a pilot study is conducted to verify the language, clarity and relevancy of the measures used in the questionnaires. Four managers of textile sector fill the questionnaires, upon the suggestions and responses of these managers, five items have been customized in both the questionnaires. Complete detail of the methodology is given in Chapter 3.

1.7 DATA ANALYSIS

The data is aggregated at the organizational unit of analysis. Data is analyzed by using SPSS 19 and Excel. As per requirement various statistical tests are used. The study utilizes usual cross tabulations and descriptive statistics. Cronbach's Alpha is measured to test the scale reliability of all the measures. The Kolmogorov-Smirnov Test is used to check the data normality. For testing the hypothesized relations, Pearson Correlations are estimated for bi-variate correlation, hierarchical liner modeling and widely used mediation steps (Barron and Kenny, 1986). The complete detail of the data analysis and interpretation are provided in Chapter 4.

1.8 FINDINGS

The methodology and data analysis techniques used in the study seems suitable for fulfilling the objectives of the study. The hypothesis testing procedure of the study is conclusive enough to have a clear picture of the interrelationship and the mediation analysis. The study finds that both TQM practices and organizational learning capability of a firm significantly impact its performance. The mediating role of organizational learning capability between TQM-performance is fully supported by our data. The complete discussion on our results, their implications for the theory and practice, limitations and future research direction are provided in Chapter 5.

CHAPTER 2

LITERATURE REVIEW

This chapter provides the review of the existing literature on the concepts of TQM, organizational learning capability and organizational performance, followed by their interrelationships and finally the mediating role of organizational learning capability between TQM and performance.

2.1 TQM AND ORGANIZATIONAL LEARNING CAPABILITY

2.1.1 Total Quality Management

The concept of quality management was introduced in 1950's by Deming in Japan and subsequently promoted by the work of Juran, Crosby and other quality gurus. In early 1980's the western manufacturing firms began to adopt TQM principles (Golhar and Ahire 1995) and got much attention among industry practitioners and academicians. TQM is a set of management principles that directs a firm in its daily management, involving the continuous effort from every individual to achieve firm's goals, improve quality, satisfy customers' needs and ultimately enhance the firm's performance (Ooi et al., 2006). It is a management philosophy that seeks to provide the basis for continuous improvement. According to Evans and Lindsay (1996) TQM is a management approach that focuses on improvement of quality and effectiveness of the organization. TQM is a guiding principle that helps the organizations to produce better quality products, reduces costs, increases customer and employee satisfaction and improves organizational performance (Easton and Jarrell, 1998). It is a critical factor that helps to increase the competitiveness of an organization. TQM is a broadly recognized management philosophy, and has become the key slogan as organizations endeavor for competitive advantage in markets (Sureshchandar et al., 2001). It comprises of different ideas and techniques for enhancing competitive performance by improving the quality of products and processes (Grant et al., 1994).

TQM may be expressed in various dimensions. Dean and Bowen (1994) believe that teamwork, continuous improvement and customer focus are the three common principles in most of the quality frameworks. Some of the renowned researchers assess TQM through six practices namely leadership, strategic planning, customer focus, information and analysis, people

management, and process management (Choi and Eboch, 1998; Prajogo and Sohal, 2003; Terziovski & Samson, 1999).

Most of the researchers identify that the most influential elements of TQM are those that are intangible, behavioral and also known as the soft variables consisting of customer focus, human resource focus and leadership as these dimensions are invisible but have a direct impact on company's performance (Dow et al., 1999; Flynn et al., 1995; Powell, 1995).

Curkovic et al., (2000) find that the successful elements of TQM are customer focus, employee empowerment and top management support. According to Zairi (1997), the focus of TQM is on the level of top management support, employee involvement and in related continuing improvement initiatives.

It has also been argued that no research clarifies the key elements of TQM (Shenawy et al., 2007). This inconsistency in the previous research makes it difficult to identify the exact elements of TQM (Hoang et al., 2006). However, majority of the scholars agree that the most influential dimensions of TQM include: *top management support, employee involvement, continuous improvement, and customer focus* (McAdam and Armstrong, 2001; Prajogo and Sohal, 2003; Zairi, 1997).

This study uses the four most influential practices of TQM (top management support, employee involvement, continuous improvement and customer focus) in order to examine their relationship with organizational learning capability and organizational performance.

2.1.2 Organizational Learning Capability

The notion of learning organization is linked with organizational development movement 1960s (Ryan and Hurley, 2004). This concept is developed by Peter Senge in his famous book "*The Fifth Discipline*" (Senge, 1990). The process of learning is a mechanism by which organizations transform the common knowledge of individuals into structures, systems and strategies that result in gaining competitive advantage and enhancing performance of the organization (Slater and Narver 1995). The learning capability of an organization depends upon the continuous learning of an individuals working in that organization. Without individual's learning an organization cannot achieve continuous improvement. Chang and Sun, (2007) believe that it is necessary for each individual in an organization to learn for continuous improvement. In order to achieve continuous improvement firms

must encourage learning to enhance knowledge that can be utilized in the future (Baker and Sinkula, 1999).

Organizational learning capability entails a change in organizational paradigm. It is simply defined as a procedure of creating new knowledge (Crossan et al., 1999; Dodgson, 1993). Organizational learning is further defined as the process by which the firm develops new knowledge and insights from the common experiences of people in the organization, and has the potential to influence behaviors and improve the firm's effectiveness (Fiol and Lyles, 1985; Senge, 1990; Slater and Narver, 1995). The learning capability of an organization provides the foundation for competitive edge and performance enhancement. According to Lane and Lubatkin (1998) a firm's learning capability depends on its ability to identify, assimilate, and internalize the partners' knowledge and finally generate rents from the knowledge. The major benefit to those organizations that have a capability to learn can enhance the performance of an organization, which predictably creates a sustainable competitive advantage for the firms (Brockmand and Morgan 2003; Fiol and Lyles 1985).

2.1.3 Impact of TQM Practices on Organizational Learning Capability

TQM implementation is anticipated as a productive tool to promote continuous learning in an organization. Barrow (1993) argues that organizational learning is the principal outcome of TQM. Scholars state that TQM is a useful tool for promoting learning and increasing a company's competitive advantage (Martinez-Costa and Jimenez-Jimenez, 2008; Martinez-Lorente et al., 2000). Both TQM and organizational learning capability are interrelated concepts. Chang and Sun (2007) identifies close and significant correspondence among TQM and organization learning.

TQM principles are viewed as the drivers of organizational learning capability. In this sense, Simatupang and White (1998) believe that leadership and top management support creates a culture that helps the organizations to learn. Love et al., (2000) suggest that TQM practices are helpful to develop a system of learning for the organizations. Effective learning can be produced with the successful implementation of TQM practices that ensures to enhance the company performance (Barrow, 1993 and Poole, 2000).

The implementation of quality management system provides the basic atmosphere to endorse learning in an organization. Hackman and Wageman (1995) conclude that the TQM system provides the best environment to promote learning in those organizations where TQM practices have been

implemented. According to Chang and Sun (2007) elements of TQM can help to create a learning environment for organizations. To promote the learning culture, organizations should provide the ways that enable employees to contribute towards decision making and a change in implementation. This culture can be cultivated through the execution of TQM (Love et al., 2000).

Some studies find a relationship between TQM and organizational learning such as, Martinez-Costa and Jimenez-Jimenez (2008) find that in Spanish firms the structure of TQM positively relates with the firms' organizational learning development. Lam et al., (2011) find that the Malaysian service firms practicing TQM also have learning orientation. Recently Hung et al., (2011) find a positive association between TQM practices and organizational learning in their research on high-tech Taiwanese firms. Therefore, it may be suggested that TQM and organizational learning are complementary and mutually dependent concepts but the empirical research on TQM practices and organizational learning capability particularly in manufacturing sector of developing country like Pakistan would further elaborate this relation.

From the above literature generated in various parts of the world we expect that TQM practices would positively relate with organizational learning capability. This is as per the first hypothesis of the study.

2.2 TQM AND ORGANIZATIONAL PERFORMANCE

2.2.1 Organizational Performance

Performance measurement is an enduring research issue in business literature. Different studies measure the performance by different aspects such as financial performance, market performance, innovation performance, business performance and organizational performance. Performance may be defined as the consequences of the organizational operations or attainment of organizational goals. Agarwal et al., (2003) and Guo (2002) divide the organizational performance in two dimensions comprises of objective and judgmental performance. Objective performance covers the financial and market based assessments such as profit, sales growth, market share and reduction in cost. On the other hand judgmental performance includes the customers and employees perceptions such as service quality, customer satisfaction and retention.

According to Venkatraman and Ramanujam (1986) the business performance has three domains these are financial, operational and

organizational effectiveness. Whereas financial performance includes the sales growth and profitability; operational or non-financial performance includes market share, product quality, new product introduction and market effectiveness; and organizational effectiveness is an extent to which organizations achieve their goals and objectives. This study measures organizational performance with respect to objective and judgmental measures of performance.

2.2.2 Impact of TQM Practices on Organizational Performance

The adoption and implementation of TQM practices are beneficial for the organization and help to improve performance and competitiveness. For instance, Hendricks and Singhal (1997) suggest that companies that apply TQM perform better than their competitors that do not apply TQM on various aspects such as costs, profit, total assets, capital expenditure and quality of employees. The importance of TQM in enhancing company's performance is largely agreed upon in literature and business practice (Crosby, 1986; Juran, 1992).

TQM is one of the most effective quality management initiatives to achieve significant improvement in organizational performance. Numerous empirical studies propose that continuous commitment on the implementation of TQM does have a significant positive effect on firm performance, as evidenced in the case of service firms (Agus, 2004; Brah et al., 2002), the small and medium enterprises (Huarng and Chen, 2002; Pinho, 2008) and across a range of industries (Martinez-Costa and Jimenez-Jimenez, 2008). Many previous empirical studies show that TQM has a positive effect on organizational performance, (Martinez-Costa and Jimenez-Jimenez, 2008; McAdam and Armstrong, 2001; Prajogo and Sohal, 2003). Similarly some studies find a positive and significant association between TQM and different types of performance (Fotopolus and Posmas, 2010; Kanak, 2003; Lam et al., 2011; Terzivoski and Samson, 1999).

On the other hand, some studies find a positive but non-significant relation between TQM and performance (Hendricks and Singhal, 1997; Lemak et al., 1997; Macinati, M.S., 2008) and some of them find a non-significant relation between TQM and performance (Powell, 1995 and Westphal et al. 1996). Most of the studies focus on the impact of TQM practices on financial performance (Baker and Cagwin, 2000); there is a lack of studies that address the overall performance of an organization.

From the above literature we find that the empirical evidences on the relationship between TQM and organizational performance are mixed. On the basis of these mixed findings scholars highlight the need for an in-depth investigation of the relationship between TQM and organizational performance (Dean and Bowen, 1994; Hackman and Wageman, 1995; Sila, 2007; Spencer, 1994). Therefore, further research is of interest. Accordingly we propose second hypothesis.

2.3 ORGANIZATIONAL LEARNING CAPABILITY AND PERFORMANCE

2.3.1 Impact of Organizational Learning Capability on Performance

Learning capability of an organization creates the environment necessary for the continuous learning of each individual. Studies regularly find that the cultures that possess learning capability can improve individual, team, and organizational learning, and organizational performance (Kropp et al., 2006; Martinez-Costa and Jimenez Jimenez, 2008). Ellinger et al., (2003) empirically find a relation between organizational learning and organizational performance. Some studies clarify that the learning capability helps to enhance performance in the organizations (Goh and Richards, 1997; Jacobs, 1995).

Similarly, some studies report a direct relationship of organizational learning and performance (Baker and Sinkula 1999; Bontis et al., 2002; Tippins and Sohi 2003). Jimenez-Jimenez and Sanz-Valle (2011) find a positive relationship between organizational learning and performance in Spanish firms. Interestingly, their finding shows that the effect of organizational learning on innovation is stronger than its effect on performance. This result may entail that organizational learning influences organizational performance mostly by facilitating innovation.

Organizational learning capability is able to gain competitive advantage and leads to enhance performance of an organization. In this sense, some studies suggest that organizational learning is a key variable in gaining sustainable competitive advantage and enhancing organizational performance (Brockmand and Morgan, 2003; Dodgson, 1993; Fiol and Lyles, 1985). As scholars acknowledge that next source of the competitive advantage comes from firms that learn continuously, as learning is believed to be the key to unlock organizational success (Lukas, 1996).

From the above discussion it is found that empirical findings support the relationship between organizational learning and performance but these studies

use different samples in different perspectives. Therefore, this study proposes third hypothesis in a new context.

2.4 ORGANIZATIONAL LEARNING CAPABILITY AS A MEDIATOR

Very few empirical studies attempt to explain organizational performance through a joint mechanism of TQM and organizational learning capability. One of such rare investigations, Martinez-Costa and Jimenez-Jimenez (2009) find that in Spanish SMEs TQM, organizational learning and performance are connected. Similarly, Hung et al., (2011) recently conclude that in the high-tech Taiwanese firms TQM has positive association with organizational learning. They also find that TQM as well as organizational learning have positive influences on the innovation performance. Hence, it is found that organizational learning not only promotes innovation performance of a firm, but it also acts as a mediating factor between TQM and innovation performance. Some scholars also find that the successful implementation of TQM produces effective learning that ensures a company's success (Barrow 1993; Poole 2000).

Based on the above literature it is found that the mediating effect of organizational learning in understanding the relationship between TQM and organization performance has only been recently conducted. However, these studies are context specific (Martinez-Costa and Jimenez-Jimenez 2009) or only cover a special type of performance that is innovative performance (Hung et al., 2011). Only few empirical studies investigate the mediating effect of organizational learning in understanding the relationship between TQM and performance.

Accordingly this study proposes organizational learning capability as a mediator between TQM practices and organizational performance in a new context.

2.5 CONCLUSION OF LITERATURE REVIEW

A comprehensive review of scientific literature on TQM and organizational performance reveals that the empirical evidences on the relationship between TQM and organizational performance have been mixed (Hung, 2007; Kaynak, 2003; Nair, 2006). Some studies highlight the failure of TQM in enhancing performance. Dooyoung et al. (1998) report an estimate of 60-67% failure rate of quality management. Fredrickson (1984) finds that in

highly unsound product market broad decision making in total quality management negatively affects performance.

These mix findings and the need for an in-depth investigation of the relationship between TQM and organizational performance in a new context gives us motivation to investigate mediating mechanisms between TQM and organizational performance.

After finding and reading the relevant literature we have identified *organizational learning, employee performance and market orientation* as mediators between TQM and organizational performance. Some scholars emphasize on organization learning as a mediating mechanism between TQM and organizational performance (Sinkula 1994; Slater and Narver 1995).

Future studies are required to investigate the mediating effect of learning in TQM and performance relationship. Our study follows the future directions of Lam et al., (2011, p. 1293) "extensions of the current study should be directed to investigate the indirect effect of learning orientation on market performance via mediating variable(s)" and Lee et al., (2012, p. 11) "whether LO plays a mediating role between TQM and organizational performance, future research could take into consideration testing the three-dimensional relationship between TQM, LO and organizational performance". Accordingly, this study attempts to investigate the mediating effect of organizational learning capability between TQM practices and organizational performance.

CHAPTER 3

METHODOLOGY

This chapter describes the research design, population and sample, data collection, measures and scales used in the study, measurement model and data analysis approach in order to test the hypotheses.

3.1 RESEARCH DESIGN ELEMENTS

3.1.1 Purpose and Type of Investigation

The purpose of the study is *analytical and predictive* in nature. The study has been designed to test the hypothesis provide in the previous chapters. The researcher is basically interested in investigating the variation in organizational performance (i.e. the response variable). The study attempts to explain organizational performance through TQM practices (i.e. criterion variable) directly and indirectly through the mediation of learning capability between criterion and response variables. The nature of investigation of the study may be broadly categorized as a *co-relational type* of research.

3.1.2 Unit of Analysis and Time Horizon

Keeping in view the dependent variable i.e. organizational performance, the aggregation of the survey data from managers is done at the level of organizations. Therefore, the basic unit of analysis of this study is organizations. Three to four managers from each organization participated in the survey and by averaging these responses we were able compute each variables at the level of organizations. Hypothesis testing is carried out on the data aggregated at *organizational level*. The time horizon of the study is *cross-sectional* as the two survey questionnaires are administrated simultaneously in one short from all the managers.

3.1.3 Study Setting and Interference

The survey is conducted from the managers at their respective workplaces without manipulation of any nature with respect to the independent variables or mediator. They are requested to provide their perception based on

their working experience in their jobs. Therefore, the study is non-contrived (i.e. in natural setting). The survey is utilizing self-administrated questionnaires with *minimal interference* of researcher.

3.2 STUDY VARIABLES

3.2.1 Dependent Variable

Organizational performance is dependent variable which has two main dimensions, objective performance and judgmental performance. Profits, sales, market share and cost are the components of objective performance, whereas service quality, customer satisfaction and retention, and employee perceptions of the organization are the components of judgmental performance.

3.2.2 Independent Variable

TQM practices collectively, consisting of four dimensions namely: customer focus, continuous improvement, employee involvement and top management support, are the independent variable.

3.2.3 The Mediator

Organizational learning capability has been theorized as an intervening variable (i.e. the mediator) between the independent and the dependent variable.

3.2.4 Control Variables

The variation in organizational performance (i.e. the dependent variable) may be due to other organizational characteristics. From the previous experience of researchers the study has identified four control variables, *age* of organization (number of year since establishment), *size* (number of permanent employees), number of *surveillance audits* and years since ISO certification (where applicable) that may influence the performance of an organization. Therefore, the study attempts to find the additional variation in the dependent variable over and above these control variables.

3.3 THE POPULATION AND SAMPLE

3.3.1 Target Population

The study is basically interested in the manufacturing sector of Pakistan. As discussed in Chapter 1, Textile sector is one of the most manufacturing industries of Pakistan. The present study is focusing on testing the hypothesis for the textile manufacturer in Pakistan and we argue that with this sector we can have reasonable understanding and capability to generalize the results for all manufacturing organizations of Pakistan. Specifically, for identification of a population frame, the researcher targets textile manufacturing firms that are member of APTMA. There are 396 textile firms that are member of APTMA all over Pakistan (total population). Off these 396 textile firms, 197 textile firms are in Punjab; this is the target population of this study, the results based on this target population are quite likely to be generic for the target population.

3.3.2 The Sample

The target population, 197 member mills of APTMA (Annexure-A) situated in Punjab province are basically concentrated in the three regions i.e. Lahore (119), Faisalabad (54) and Multan (24). This may be relevant to mention here that many manufacturers having their production facility outside Lahore have their head offices in Lahore, thus inflating the number for Lahore. Out of 197 units 120 units are ISO certified and the remaining 77 are non-ISO certified units. The survey questionnaires are administered to the all 197 organizations. Filtering out all textile organizations that could not provide 3 or more completed questionnaires (at least one of the participants must be a quality manager). Out of the planned sample of 197 textile firms, 90 (about 46%) of the firms (70 ISO certified and 20 non-ISO certified) qualified as the actual sample for testing the hypothesis of the study.

3.4 DATA COLLECTION

This study is based on primary data. A self-administered survey questionnaire is used for collection of data from Textile Sector of Pakistan. The researcher used two questionnaires for collecting the data from two types of respondents. First questionnaire is designed for *quality related managers* (Annexure-B), in case of ISO certified firms, management representative (MR) or deputy management representative (DMR) are the respondents and for non-ISO certified firms, the input of senior official dealing with quality control or quality management is obtained. Second questionnaire is designed for *Top or*

middle level managers (Annexure-C) other than MRs or quality related officials.

3.4.1 Instruments and Pilot Study

As discussed above the study uses two instruments for the data collection. The first instrument (Annexure-B) comprises of three sections. The first section covers general information about the organization including name, size, certification status, and surveillance audits; and about the organizational tenure of the quality related managers. The second section includes the items for measuring organizational learning capability and the last section is covering items pertaining to TQM practices.

The second instrument (Annexure-C) comprises of three sections, with the first section covering general information about the participating managers including his/her designation, department organizational tenure. The second section of the second instrument is exactly same like the first instrument that covers item pertaining to organizational learning capability. The third section covers items pertaining to organizational performance.

Both the instruments are in English language. The researcher believes English language is understood by most of the educated persons in Pakistan. As our respondents are mangers, this is expected that they could easily understand the survey items in English.

To further ensure the validation of the instruments, items understandability or explore item ambiguity, if any, a ***pilot study*** was conducted to confirm the language, clarity and relevancy of the measures used in the questionnaires. The pilot study is conducted with the help of four managers (one quality related and three functional managers) working in four different organizations. Upon the suggestions and responses of these managers, five items are further customized / revised in the two instruments. Most of the changes are minor in nature. For example, in an item ‘my work duries and responsibilities *contribute little to satisfying need* to create quality products’ is percieved ambiguis by the respodants. The atalic part in this item is rephrased as ‘*do not contribute much in the job’* thus making it more job specific and understandable. The other changes even were more minor than this example. These revisions improved the questionnaires.

Keeping in view that some items in sections covering learning are still ambiguous, it seems appropriate to add a note about the meaning of learning in organizational context. Therefore, a footnote is provided: “Learning is a

process by which organizations develop new knowledge and insights from the common experiences of people, and has the potential to influence behaviors and improve organizational effectiveness".

On the other hand, our contacts with the four managers participating in the pilot study indicate that except for some minor changes all of them are quite comfortable with the items and concepts of TQM practices and organizational performance. Therefore, no further elaboration in the sections covering these two concepts is required.

3.4.2 Administration Procedure

In a questionnaire based survey research achieving a high response rate is always a challenge, particularly in an organizational level analysis where top / middle level managers' participation is needed. In manufacturing sector of a developing country like Pakistan, where academic research is few and far between, a lot of effort is required to generate high quality primary data. The current study adopts a comprehensive plan for the data collection to attain a reasonable response rate. The major steps involved in the administration of the instruments are presented here.

First of all, the researcher contacted the secretary APTMA and requested him forward the two instruments with their covering letter via email to all the 197 members. The secretary APTMA very kindly acceded to our request and forwarded both the instruments with *his covering letter* to the chief executives officers of all the member mills. In the covering letter (Annexure-D), the organizations are requested to get complete the first instrument (Annexure-B) from at least two quality related managers (MR/DMR/Quality mangers) and the second instrument (Annexure-C) from any two managers (at top or middle level) other than quality related officials. The organizations were requested to return the completed instruments to the researcher at the given contact details.

The emails sent to all CEO with the covering letter of secretary APTMA proved helpful in establishing an effective contact with the member mills. Waiting for one week after the online distribution of the questionnaires, we receive only few responses. Then a reminder has been sent directly by the researcher to the remaining organizations. One week after this reminder, the researcher started telephonic contacts to get an appointment from the focal official assigned by the CEOs for this purpose. On this *telephonic follow-up* some of the organizations promised to returns the questionnaire online. The other organizations asked the researcher to *physically visit* offices for receiving

back the completed questionnaires. Finally, the researcher personally visits most of the organizations to collect the questionnaires and continues the follow up process for about two months.

3.4.3 Response Rate

The administration procedure described above proved very effective in generating a good response rate for the survey. Organizations which could not provide 3 or more completed questionnaires are filtered out. Off the 197 organizations (the planned sample), 90 organizations qualifies for the aggregation criteria i.e. completing 3 or more questionnaires (at least one of the participants must be a quality manager). This yielded an overall response rate of about 46 percent.

This may be mentioned here that in an organizational level analysis in TQM research, the survey response rate usually ranges from 9 to 28 percent with an average of 18 percent (Lok et al., 2005; O'Neill and Sohal, 1998; Zairi and Sinclair, 1995). The response rate of some of the recent surveys on TQM and learning in both manufacturing and service sectors is relatively higher. For example for Hung et al., (2011), Lam et al., (2011) and Lee et al., (2012) the response rate is 19.6 percent, 29.2 percent and 33.2 percent respectively.

The response rate of our study (45.6 percent) is closer two studies on Spanish firms Martinez-Costa and Jimenez-Jimenez (2008, 2009); the response rates in these two studies are 45.4 percent and 43.8 percent respectively.

The researcher follows the procedure used by Hung et al., (2011) and Lopez et al., (2006) and compared the participating firms with non-participating in terms of age (number of year since establishment), size (number of employees), ISO certification status and regions (the location of the business offices). The results suggest that there is no response bias in this study. It is interesting to note that the response rate for ISO certified firms (58.3 percent) is much higher than that of for non-ISO certified firms (26 percent). Still the rate for the non-certified firms falls in the usual rate of these types of studies and this factor might be ignored.

3.5 MEASUREMENT AND SCALES

3.5.1 Common Method Biases

Common method variance (Podsakoff et al., 2003) is a problem in measurement of constructs that may influence the results of a research. Before moving on the measurement and scales, let us highlight few points this study adopts to minimize the common method biases.

Participants' *anonymity* has been ensured, *different format* for different sections of both the instruments. The anchoring of various scales uses unique categorization. The researcher avoids *neutral scale* point because respondents some time tend to tick these to avoid their true feelings. Single informant approach is often criticized in organizational level of analysis due to a potential source of management bias. Therefore, this study relies on select *multiple raters* to aggregate score for organizations.

Common rater affect may potentially produce biased results when independent and dependent variable are measured from the responses of same person. In this study the independent (TQM practices) and dependent (organizational performance) variables are measured from *two separate sources* i.e. from quality related managers and top/middle level managers respectively.

The subsequent sections provide detail about items used in measurement of variables, example item and scale categorization

3.5.2 TQM Practices

TQM practices variable covers the four main dimensions of TQM which are customer focus, continuous improvement, employee involvement and top management support. Each of the four dimensions is measured through five items. Thus the total items for measuring the extant of practicing TQM are 20. All of the items are adopted from the previous studies (Coyle-Shapiro, 2002; Fuentes et al., 2006; Hung et al., 2011; Lam et al., 2011; Lee et al., 2012; Wang et al., 2012; and Zeith et al., 1997) with and without further customizations with suitable changes in the wordings of items and then further improvement in some of the items on the basis of the pilot study as mentioned above.

For ready reference, one sample item for each of the four TQM dimension is presented here: *'quality-related customer complaints are treated*

with top priority' (customer focus); '*continuous quality improvement is an important goal of this organization*' (continuous improvement); '*management creates a work environment that encourages employees to perform to the best of their abilities'* (employee involvement)*; and 'top managers in our organization set clear goals for quality improvement'* (top management support). Each of these items uses a 6-point scale (ranging, 1=Never to 6=Always. These TQM practices are measured from quality related manager (MR/DMR or quality manager) of each organization.

3.5.3 Organizational Learning Capability

Organizational learning capability is measured by using 10 items adopted from Hult et al., (2003), Hung et al., (2011), Lam et al., (2011), Sinkula et al., (1997) and Yeung et al., (2007). Sample items include, *'continuous learning is an important strategy for our organization'* and *'in my organization employees help each other to learn'.* All the items are customized to make them suitable for the participating managers of manufacturing sector. However two of the items i.e. 'learning in my organization is seen as a key commodity necessary to guarantee organizational survival' and 'the sense around here is that employee learning is an investment not an expense' are not subjected to any change. Each of the 10 items are measured by using a six-point scale (ranging, 1=very strongly disagree to 6=very strongly agree. Organizational learning capability is measured from three respondents for each organization i.e. one quality related manager and two top/middle level managers other than quality manager. These responses are aggregated at the organizational unit of analysis.

3.5.4 Organizational Performance

Organizational performance is measured by using 11 items adopted from existing studies of Fuentes et al., (2006), Hult et al., (2003), Hung et al., (2011) and Venkatraman and Ramanujam, (1986). Sample items include, '*the sales of our organization have increased',* and *'level of employee satisfaction has increased'*. These items cover the two aspects of organizational performance namely *objective performance* and *judgmental performance*. In order to synchronize these measures suitable changes have been made in the wordings of all the items except one item i.e. 'employee productivity has improved significantly'. These items are measured by using a six-point scale (ranging, 1= not true to 6= absolutely true). Organizational performance is measured from two managers (top/middle level) of each organization and these responses are aggregated at the organizational unit of analysis.

Table 3.1 presents the summary of all measures. The scale reliability of the measures is discussed in Chapter 4, Table 4.7.

Table 3.1
Summary of the Measures

Variable	Sub-dimensions	Items	Remarks
TQM practices	Customers focus	05	8 items have been customized
	Continuous improvement	05	
	Employee involvement	05	
	Top management support	05	
Organizational learning capability		10	8 items have been customized
Organizational performance	Objective and judgmental performance	11	10 items have been customized
	Total measures	**41**	**26 customized**

3.6 MEASUREMENT MODEL

Figure 3.1 presents the measurement model for the theoretical model for three study variables such as TQM practices, organizational learning capability and organizational performance. TQM is measured from the four most popular dimensions namely customer focus, continuous improvement, employee involvement, top management support. Organizational learning capability is measured from a single compounded scale and organizational performance is measured from single dimension namely objective and judgmental performance.

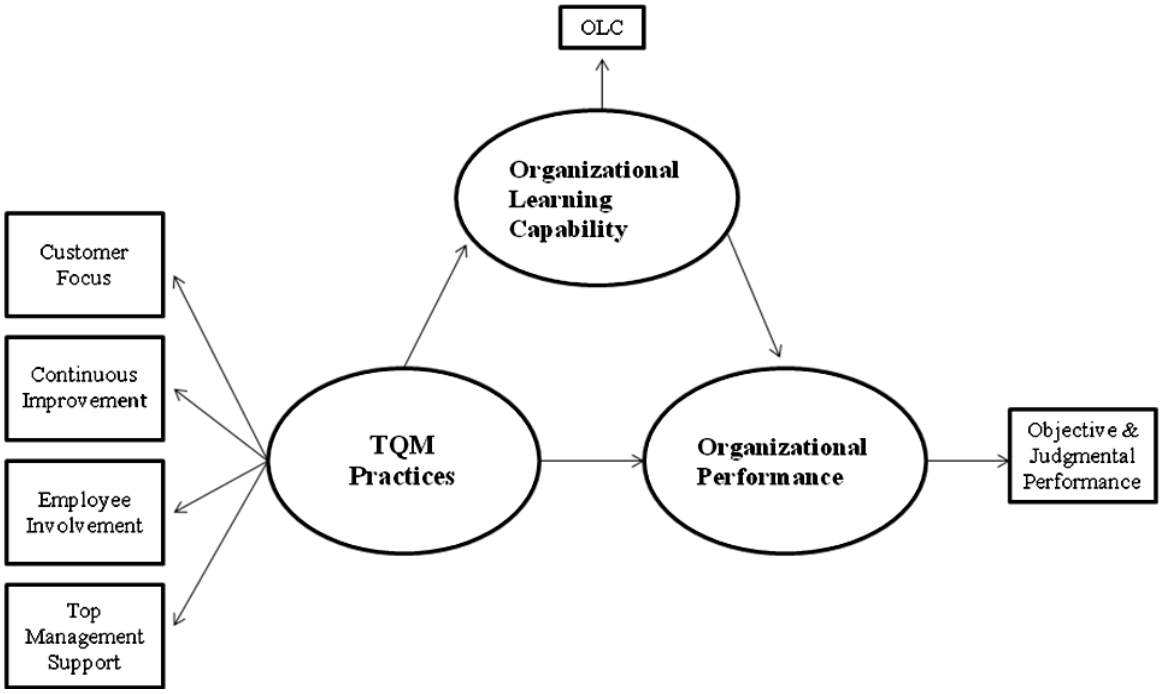

Fig. 3.1: Measurement Model

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

This chapter presents the sample characteristics, descriptive statistics, correlation matrix and hypotheses testing.

4.1 SAMPLE CHARACTERISTICS

4.1.1 The Respondents

The respondents of the self-administrative survey are 270 managers of textile mills. Out of these 270 managers 90 are quality related managers and the remaining 180 are non-quality managers. From each textile mill one management representative (MR) or deputy management representative (DMR) or quality manager and two managers other than quality related managers are participants of the survey.

Table 4.1
Distribution of the Respondents
(Quality Mangers)

Designation	Total	
	Frequency	Percent
MR / Deputy MR	70	77.8
Quality Managers	20	22.2
Total	**90**	**100**

Table 4.1 shows the distribution of quality managers. The management representative (MR) and deputy management representative (DMR) are representatives of ISO certified firms and the quality managers are representatives of non-ISO certified firms. As a whole we can say that from quality related managers more than three fourth of the respondents are from ISO certified firms.

Table 4.2
Distribution of the Respondents
(Non-Quality Managers)

Department	Total	
	Frequency	**Percent**
Accounts	17	9.4
Administration	13	7.2
Commercial	4	2.2
Finance	57	31.7
HRM	13	7.2
Marketing	57	31.7
Operations	7	3.9
Sales	7	3.9
Others	5	2.8
Total	**180**	**100**

As explained in the previous chapter, two non-quality managers participated in the survey for each organization. Therefore, these respondents are double than the quality related managers (i.e. 180). The distribution of the non-quality managers in terms of their departmental affiliation is presented in Table 4.2. These managers are top or middle level managers form more than eight different departments. Off these 180 respondents, 57 (31.7%) are from Finance department. Incidentally, this tally from the Marketing department is also 57 (31.7%). The combined representation of Administration and HRM is 26 (14.4%) and that of for Accounts is 17 (9.4%). The representations from the remaining other departments is less than 4 percent.

Table 4.3 shows the distribution of the non-quality managers in terms of their hierarchical levels in their respective firms. Off the 180 non-quality managers, 36(20%) are upper level managers. The representation of middle level managers is 138 (77%) and only 6 (3%) of the participants report that they are lower level managers. Therefore, more than three fourth participants (non-quality managers) of this survey are working at middle level in their organizations.

The cross-tabulation of the managerial levels of the respondents by their departments shows that the lower level managers are only from marketing, operations and sales departments whereas the middle level managers are from all the departments except HRM department (Table 4.3). Similarly the upper level managers are also from all departments except administration.

Table 4.3
Managerial Levels of respondents by Departments
(Non-Quality Managers)

Department	Managerial Level						Total	
	Lower		Middle		Upper			
	Freq	%	Freq	%	Freq	%	Freq	%
Accounts	0	-	15	10.9	2	5.6	17	9.4
Administration	0	-	13	9.4	0	-	13	7.2
Commercial	0	-	3	2.2	1	2.8	4	2.2
Finance	0	-	50	36.2	7	19.4	57	31.7
HRM	0	-	0	-	13	36.1	13	7.2
Marketing	2	33.3	47	34.1	8	22.2	57	31.7
Operations	3	50.0	3	2.2	1	2.8	7	3.9
Sales	1	16.7	5	3.6	1	2.8	7	3.9
Others	0	-	2	1.4	3	8.4	5	2.8
Total	**6**	**100**	**138**	**100**	**36**	**100**	**180**	**100**

4.1.2 The Organizational Tenure of the Respondents

Table 4.4
Organizational Tenure of the Respondents

Managerial Nature	N	Mean	SD	P-Value
Quality Managers	90	9.04	6.14	Ns
Non-Quality Mangers	180	7.90	5.10	
Total	**270**	**8.28**	**5.48**	

The organizational tenure (work experience in the present firm measured in number of years) for both quality and non-quality managers is presented in Table 4.4. The average work experience of both types of managers (quality and non-quality) is 8.28 years. This may be noted from the mean organizational tenure of quality related managers (9.04 years) is relatively greater than non-quality managers (7.90 years). In other words, quality related managers participating in the survey are more experienced than their counter part i.e. non-quality managers. However, this may also be mentioned here that this difference is not statistically significant.

4.2 DESCRIPTIVE STATISTICS

4.2.1 Descriptive Statistics

Keeping in view the unit of analysis of this study (i.e. organizations), the minimum, maximum, mean and standard deviations of all the variables (independent, dependent, mediating and four control variables) aggregated at the organizational level for the 90 firms in the sample is presented in Table 4.5.

Table 4.5
Descriptive Statistics

S#	Variables	Min	Max	Mean	SD
1	Age (No. of years)	6	63	25.38	11.24
2	Size (No. of employees)	220	6445	868.11	537.09
3	Years since certification	1	20	10.10	3.72
4	Number of Surveillance Audits	0	19	6.94	5.00
5	TQM Practices	4	6	5.37	0.39
6	Organizational Learning Capability	3	6	4.74	0.50
7	Organizational Performance	3	6	4.49	0.53

It can be observed that the mean *age* (number of years since establishment) of the organization is about 25 years. The range of the age of the organizations in our sample is 6 to 63 years. The mean *size* (number of employees) of the organizations in the sample is about 868 years with a range of 220 to 6445 employees. As mentioned earlier off 90 firms in our sample, 70 firms are ISO certified. These firms on average have completed their certification since 10 years with a range of 1 to 20 years since certification. The mean scores of TQM practices, organizational learning capability and organizational performance are 5.37, 4.74 and 4.49 respectively.

4.2.2 Data Normality

Before moving on testing the study hypothesis, for data normality, we have applied Kolmogorov-Smirnov test. The results for the five numeric variables are presented in Table 4.6. This may be observed that the data is normal for all the variables at a significance level of 0.05.

Table 4.6
Data Normality of the Study Variables

S#	Variables	N	Kolmogorov-Smirnov Z	Sig.
1	Age (No. of years)	82	1.34	0.06
2	Size (No. of employees)	63	1.31	0.07
3	TQM Practices	90	0.84	0.49
4	Organizational Learning Capability	90	1.28	0.08
5	Organizational Performance	90	1.03	0.24

4.3 CORRELATION MATRIX

The means, standard deviations and the correlations among the variables are presented in Table 4.7. The scale reliability of the three key variables is measured by Cronbach's Alpha. It can be observed that the Alpha values of all the scales are greater than the minimum level of acceptance (0.70) such that the reliability coefficients for TQM practices, organizational learning capability, and organizational performance are 0.842, 0.868, and 0.805 respectively. Therefore, reliability for all the scales is acceptable.

It can be further seen from Table 4.7 that TQM practices are significantly positively correlated with organizational learning capability (coefficient = 0.203, $p < 0.05$) and organizational performance (coefficient = 0.244, $p < 0.05$). The correlation of organizational learning capability with organizational performance is also positive and statistically even more significant (coefficient = 0.348, $p < 0.01$). Hence our key variables are positively and significantly correlated which provides initial support to our hypotheses H_1, H_2 and H_3.

Table 4.7
Correlation Matrix

	Variables	1	2	3	4	5
1	Age	1				
2	Size	0.372**	1			
3	TQM Practices	0.242*	0.044	1		
4	Organizational Learning Capability	0.086	-0.095	0.203*	1	
5	Organizational Performance	-0.116	-0.176	0.244*	0.348**	1
	Mean	25.378	868.111	5.368	4.741	4.489
	Standard Deviation	11.243	537.088	0.389	0.503	0.529
	Alpha	-	-	0.842	0.868	0.805

* Significant at 0.05 level; ** Significant at 0.01 level

4.4 HYPOTHESES TESTING

4.4.1 TQM and Organizational Learning Capability

The first hypothesis states that *TQM practices positively affect organizational learning capability*. Before testing this relationship, this may first be observed from the Table 4.8 (Step 1a), that the control variables (i.e. *age* and *size* of the organization) do not significantly associate with the *organizational learning capability*. Step 2a (Table 4.8) provides the relevant regression model to test the hypothesis H_1. The results reveal that TQM practices positively affect organizational learning capability ($\beta = 0.248$, $p < 0.01$). Therefore, there is a strong support for H_1.

Table 4.8
Hierarchical Linear Modeling Results

Dependent variable	Organizational Learning Capability		Organizational Performance		
	Step 1a	**Step 2a**	**Step 1b**	**Step 2b**	**Step 3b**
Constant	4.709	3.443	4.814	3.031	1.857
Control					
Age	0.126	-0.039	-0.178	-0.242	-0.261
Size	-0.033	-0.039	-0.115	-0.122	-0.111
Independent					
TQM Practices		0.248*		0.285**	0.216
Mediator					
Organizational Learning Capability					0.279**
R^2	0.014	0.072	0.060	0.137	0.209
ΔR^2		0.058		0.077	0.072

* Significant at 0.01 level; ** Significant at 0.05 level

4.4.2 TQM and Organizational Performance

The second hypothesis states that *TQM practices positively affect organizational performance*. Before testing this relationship, this may first be observed from the Table 4.8 (Step 1b), that the control variables (i.e. *age* and *size* of the organization) do not significantly associate with the *organizational performance.* Step 2b (Table 4.8) provides the relevant regression model to test the hypothesis H_2. The results reveal that TQM practices positively affect organizational performance ($\beta = 0.285$, $p < 0.05$). Therefore, there is a strong support for H_2.

4.4.3 Organizational Learning Capability and Organizational Performance

The third hypothesis states that *organizational learning capability positively affects organizational performance*. Step 3b (Table 4.8) provides the relevant regression model to test the hypothesis H_3. The results reveal that organizational learning capability positively affects organizational performance ($\beta = 0.279$, $p < 0.05$). Therefore, there is a support for H_3.

4.4.4 Mediation of Organizational Learning Capability

The fourth hypothesis states that *organizational learning capability mediates the relationship between TQM practices and organizational performance*. This type of hypothesis is mostly tested by utilizing the three steps proposed by Barron and Kenny's (1986).

Firstly, the independent variable should have significant impact on the mediator. Secondly, the independent variable should affect the dependent variable. Thirdly, the mediator must be significantly related to dependent variable. For fully mediation, this is further required that, after inclusion of a mediator the significant relationship between the independent variable and the dependent variable should became insignificant and gamma for independent variable predicting the dependent variable should also drop (Barron and Kenny's, 1986; Harris el al., 2011; Zagenczyk et al., 2011).

Step 2a, 2b and 3b (Table 4.8) provides the relevant regression models for testing the hypothesis H_4. The first three conditions of Barron and Kenny's (1986) mediation process have been fulfilled while testing the first three hypotheses (H_1, H_2 and H_3). This may be observed that after inclusion of organizational learning capability (the mediator) in Step 3b, the significant relationship between TQM practices (the independent variable) and the organizational performance (the dependent variable) became insignificant. Further, gamma value of TQM practices drops from 0.248 (step 2a) to 0.216 (step 3b) after inclusion of organizational learning capability (the mediator) in the model. Therefore, organizational learning capability fully mediates the relationship between TQM practices and organizational performance. Thus, hypothesis H_4 is supported.

CHAPTER 5

DISCUSSION AND CONCLUSION

This chapter presents the discussion on results, contributions of the study, implications, limitations and research directions, and the conclusion.

5.1 DISCUSSION ON RESULTS

The main goal of the study is to empirically examine the relationship between TQM practices, organizational learning capability and organizational performance. More specifically, a) the direct impact of TQM practices on organizational learning capability and organizational performance has been investigated; b) the direct impact of organizational learning capability on organizational performance and the role of the former as a mediator between TQM practices and organizational performance have been empirically investigated in an organizational level analysis from a survey design.

Before discussing the results let us highlight few points this study adopts. These features are common for all the results. These points further elaborate the efforts of the research to use sound methodological procedures as much as possible to increase the reliability of our results. Later in this Chapter the weaknesses and limitation in our research design are also reported.

Firstly, this study attempts to control the common method biases (Podsakoff et al., 2003) through different methods. For example, the study maintains *anonymity* of the participants. We have used *multiple informants* approach rather than single informant approach that is often considered faulty due to potential source of biased information. Using *unique formats*, anchoring for the three main study variables and not including *neutral points* in the 6-point scales would help us reveal the real feeling rather. A neutral perception may be due to the avoidance, lack of knowledge and not understanding an item by the participants. Two *separate information sources* have been utilized for measurement of the explanatory variable (TQM practices) and the response variables (organizational performance).

Secondly, the study generates the *primary data* from both top level and middle level managers of textile mills. *Top administrators* provide reliable information's about their organizations (Mintzberg and Waters, 1985). Further,

the aggregation of the data collected from *three managers per organization* is likely to be more reliable as compared to one manager per organization.

Thirdly, the response rate of this study 45.6 is favorably higher than other relevant surveys in the field where the survey response rate usually ranges from 9 to 28 percent with an average of 18 percent. To account for sample representativeness and possible non-response bias, the study compares the participating firms with non-participating in terms of age (number of year since establishment), size (number of employees), ISO certification status and regions (the location of the business offices).

On the basis of above discussion we can say that the results drawn from this study are quite dependable for the academia and the practitioners. Now the results of the study are discussed one by one. The findings of hypothesis H_1 suggest that TQM practices have a positive and significant relationship with organizational learning capability ($p < 0.01$). This result is not surprising and is consistent with many previous studies (Barrow, 1993; Hung et al., 2011; Lam et al., 2011; Lee et al., 2012; Martinez-Costa and Jimenez-Jimenez, 2008; Ruiz-Moreno et al., 2005). All of these studies find that TQM is positively related with organizational learning. Khadra and Rawabdeh (2006) and Terziovski et al., (2000) put this in a slightly different way and they believe that TQM adoption is a first step to become learning organization.

The findings of hypothesis H_2 show a positive and significant relationship between TQM practices and organizational performance ($p < 0.05$). This result is in line with the previous studies (Agus, 2004; Fotopolus and Posmas, 2010; Hendricks and Singhal, 1997; Martinez Costa and Jimenez-Jimenez, 2008; McAdam and Armstrong, 2001; Prajogo and Sohal, 2003; Terziovski and Samson 1999). These studies find that TQM has a positive effect on organizational performance.

The response variable in both the above results (H_1 & H_2) is TQM practices. Keeping in view that TQM is generally regarded more relevant when firms are focusing on producing tangible products to be consumed after some time lag at a site other than production site and quality is directly measured (Daft, 2010). All these features of the manufacturing technology make TQM more relevant for the manufacturing sector. This may be a reason for most of the previous studies have selected the manufacturing contexts for testing these hypotheses. However, particularly Textile sector have rarely been contextualized for this purpose. These findings in context of the present study (i.e. textile manufacturers of a developing country) suggest a convergence trends on the phenomenon understood and predicted through these two results.

The results of hypothesis H_3 indicate that the organizational learning capability has a positive and significant effect on organizational performance ($p < 0.05$). These findings are consistent with the previous studies (Baker and Sinkula, 1999; Bontis et al., 2002; Ellinger et al., 2003; Jimenez-Jimenez and Sanz-Valle, 2011; Kropp et al., 2006; Martinez Costa and Jimenez-Jimenez, 2008; Tippins and Sohi 2003). These studies find an empirical relation between organizational learning and performance. Organizational learning capability and performance is relatively recent phenomenon and it has great importance in manufacturing sector due to its emphasis on competitiveness and efficiency. This result is as per expectations, learning capability increases problem solving ability of the employees and promotes effective decisions making in a firm that ultimately accumulate into organizational performance.

The results of hypothesis H_4 show that organizational learning capability fully mediates the relationship between TQM practices and organizational performance. The phenomenon that TQM practices transform into organizational performance via learning capability sound logical in theory. The empirical support provided by this study makes this result the most important finding. This novel result supports the direction suggested by researchers (Lam et al., 2011 and Lee et al., 2012) for empirical investigation on this phenomenon.

This study reveals that organizational learning capability is an explanatory mechanism that understands the TQM-performance relation. The fact that beta value of TQM practices (independent variable) after inclusion of organizational learning capability (the mediator) drops and no more remains significant, does not necessarily means that this is an ideal mediation. Even after decrease of the beta value, still it is not close to zero; rather it has a reasonable value (0.216). This suggests that other mediating mechanism should not be out of question in linking TQM with performance.

5.2 CONTRIBUTIONS OF THE STUDY

The study uses a sample of textile sector of a developing country like Pakistan, a perspective in which the empirical literature is not available. This study contributes in the existing literature by number of ways. Firstly, this is a maiden study which provides empirical evidences on an indirect association of TQM and organizational performance, and has discovered an important mediator in the textile sector of Pakistan which would be a source of reference for TQM researchers in future.

Secondly, the study fills the gap in TQM literature by revealing the black box of the phenomenon, by not relying on simplistic view of establishing linear relationships often criticized under the chaos theory in today's complex adaptive system.

Thirdly, most of the previous studies measured the performance subjectively (Hung et al., 2011; Martinez Costa and Jimenez-Jimenez, 2008; Jimenez-Jimenez and Sanz-Valle, 2011) with one dimension like market performance (Lam et al., 2011) and innovation performance (Hung et al., 2011), this is first study that combines both types (i.e. objective and judgmental) of measures to estimate the overall performance.

Finally, the study meets the future directions of Lam et al., (2011) and Lee et al., (2012) by investigating the mediating effect of learning in TQM-performance relationship.

5.3 IMPLICATIONS

From theoretical perspective, the study provides a better understanding of TQM in its association with organizational learning capability to enhance organizational performance within textile sector of Pakistan. The study provides a theoretical model that will help the academicians to formulate the strategies for maximizing the influence of learning along with TQM for enhancing performance of organizations. Thus, the study suggests that the organizations should form the strategies for implementation of learning capability along with TQM practices in order to enhance their performance.

For managerial perspective, this study proposes that the top management can achieve the excellent performance if they use their resources for learning capability along with TQM practices. The study suggests that managers of manufacturing and service sectors who intend to achieve higher organizational performance through the implementation of TQM must focus on organizational learning capability as a supporting factor to achieve the desired results. The current study focuses on those TQM practices which are most important in enhancing performance in manufacturing sector. Thus, the practitioners of manufacturing organizations should give more concentration to these four practices while implementing and managing TQM.

5.4 LIMITATIONS AND DIRECTIONS

The study has some limitations. First, this study focuses on manufacturing sector (i.e. textile sector). Hence, its results may not be generalized to all other sectors such as service sector. Second, it is a cross-sectional study based on the perceptions. The data collected at one point of time may suffer from response biases. The third limitation of the study is that we measure the organizational learning capability with single dimension. We still realize that, organizational learning may be measured with more than one dimension.

Future research should be conducted out on some other industries in manufacturing sector as well as service organizations. In order to transform quality certifications into learning paradigm, changes should be monitored with several times of data (longitudinal study). As mentioned above, organizational learning capability may not be an ideal mediator; future research should attempt to investigate the further mediators such as market orientation in order to understand TQM- performance relation. In future, for better understanding of TQM and performance relationship, more than one mediator with various dimensions may be tested with the help of structural equation modeling (SEM).

5.5 CONCLUSION

This study demonstrates the importance of TQM practices and organizational learning capability in manufacturing firms like textile sector. The analytical results confirm a significant and positive correlation between TQM practices, organizational learning capability and organizational performance. The study also reveals that organizational learning capability fully mediates the relationship between TQM practices and organizational performance. The results suggest that TQM practices are helpful to increase the learning capability and performance of the organizations and as a result this learning affects the organizational performance both directly and indirectly. Thus organizations should focus on learning along with TQM in order to enhance the performance.

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ANNEXURE-A

LIST OF MEMBERS PUNJAB-REGION (APTMA)

S#	Mill Name	Address
1	A.A. Spinning Mills Ltd	61-Askari Villas, Sarwar Shaheed Road, Lahore Cantt.
2	A.L Textiles (Pvt.) Ltd.	130-Industrial Estate, Kot Lakhpat, Lahore
3	Abdullah Fibers (Pvt.) Ltd	Rafique Barki Market, Katchery Bazar, Faisalabad
4	Acro Spinning & Weaving Mills Ltd	106/3, Saint Johns Park Lahore
5	Acro Textile Mills Ltd	106/3, Saint Johns Park Lahore
6	Afzal Spinning Mills (Pvt) Ltd	18 Km, Multan Road, Near Highnoon Labs, Lahore
7	Ahmad Din Textile Mills (Pvt) Ltd	Pull Korian Samudri Road Faisalabad
8	Ahmad Hassan Textile Mills Ltd	46- Hassan Parwana Colony, Multan
9	Ahmed Fine Textile Mills Ltd	1st Floor, International Plaza, Bohra Street, Multan Cantt.
10	Akram Cotton Mills Ltd	184-B, Block-M, Gulberg-III, Lahore.
11	Alam Cotton Mills (Pvt) Ltd	A-201-B, 2nd Floor, City Towers, Main Boulevard, Gulberg-II, Lahore
12	Alhamd Corporation (Pvt) Ltd	44-A, Main Gulberg, Lahore
13	Ali Akbar Spinning Mills Ltd	16/2, Main Gulberg Lahore
14	Ali Akbar Textiles (Pvt) Ltd	1-Km, Defence Road, Bhoptian Chowk, Raiwind Road, Lahore
15	Ali Haq Spinning (Pvt) Ltd	F-4, 2nd Floor, Liberty Shopping Centre, Gulberg-III, Lahore
16	Allawasaya Spinning Mills (Pvt) Ltd	Allawasaya Square, Mumtazabad Industrial Area, Vehari Road, Multan
17	Allawasaya Textile & Finishing Mills Ltd	Allawasaya Square, Mumtazabad Industrial Area, Vehari Road Multan
18	Al-Nasr Textiles Ltd	29 Shadman-II, Lahore
19	Al-Qadir Textile Mills Ltd	6 K.M. Jhelum Road, Chakwal.
20	Al-Zamin Textile Mills Ltd	20-Bilal Road, Civil Lines, Faisalabad
21	Amer Cotton Mills (Pvt) Ltd	7-Ak, Mian Boulevard Gulberg-II, Lahore
22	Amin Textile Mills Ltd	97-B, Gulberg-III, Lahore
23	Anjum Textile Mills (Pvt) Ltd	Industrial Estate, Nalka Kohala, Sargodha Road, Faisalabad
24	Anmol Textile Mills Ltd	83 - A/H, Race View, Jail Road Lahore
25	Arain Fibers Limited	61-Abdali Road Multan
26	Arain Mills Limited	61-Abdali Road Multan

S#	Mill Name	Address
27	Arain Textile Mills Limited	61-Abdali Road Multan
28	Arshad Corporation (Pvt) Ltd	1088 Jail Road Faisalabad
29	Arshad Textile Mills Ltd	1088 Jail Road, Faisalabad
30	Aruj Textile Mills Ltd	40-A Lawrence Road Lahore
31	Arzoo Textile Mills (Pvt) Ltd	2.6 Km, Jaranwala Road, Khurrianwala, Faisalabad
32	Asher Imran Spinning Mills (Pvt) Ltd	45- Industrial Estate, Kotlakhpat, Township Lahore
33	Ashiana Cotton Products Ltd	29, Shadman -II, Lahore
34	Asim Textile Mills Ltd	16-C Peoples Colony, Faisalabad
35	Aslam Textile Mills Ltd	Pull Korian Samundri Road Faisalabad
36	Ayesha Spinning Mills Ltd	45-50 Industrial Area Gulberg III Lahore
37	Ayesha Textile Mills Ltd	97-B Gulberg 2, Lahore
38	Barkat Textile Mills Ltd	467-M, Block, Model Town Ext., Lahore.
39	Basfa Textile (Pvt) Ltd	22-Km, Al-Noor Town, Ferozepur Road, Lahore
40	Bashir Cotton Mills (Pvt) Ltd	97-B Gulberg-II, Lahore
41	Best Exports (Pvt) Ltd	Main Road Chak No.208 R.B, Faisalabad
42	Bhimra Textile Mills (Pvt) Ltd	12-C-Ii, M.M. Alam Road, Gulberg – III, Lahore
43	Bilal Fibres Ltd.	112-C, Block-E/1 Ghalib Road, Gulberg-III, Lahore
44	Bilal Textiles (Pvt) Ltd	102-Jail Road, Faisalabad
45	C.A. Textile Mills (Pvt) Ltd	11, Aurangzeb Block New Garden Town Lahore
46	Chakwal Spinning Mills Ltd	Kashana-E-Yousaf Khawaja Street Chakwal
47	Chakwal Textile Mills Ltd.	7/1 E-3 Main Boulevard Gulberg-III Lahore
48	Chaudhry Sugar Mills Ltd	146, Abu Bakar Block, Garden Town, Lahore
49	Chenab Limited	Nishatabad, Faisalabad
50	Chiniot Textile Mills Ltd	45-50 Industrial Area, Gulberg III Lahore
51	Colony Industries (Pvt) Ltd	M. Ismail, Aiwan-e-Science Building, Shahrah-e-Jalaluddin Roomi, Lahore
52	Colony Mills Ltd	P.O. Ismailabad, Multan
53	Combine Spinning (Pvt) Ltd	148-Ahmad Block, New Garden Town, Lahore
54	Comfort Knitwears (Pvt) Ltd	45 Industrial Estate, Kotlakhpat Lahore
55	Crescent Bahuman Limited	40-A, Zafar Ali Road, Gulberg V, Lahore
56	Crescent Mills & Distillery Ltd	Nishatanad, Faisalabad
57	Crescent Textile Mills Ltd	40-A Off Zafar Ali Road, Gulberg, Lahore
58	Crescent Ujala (Div Of Shakarganj Mills)	10th Floor Bop Tower, Main Boulevard, Gulberg III, Lahore
59	D.M. Textile Mills Limited	Westridge Rawalpindi

S#	Mill Name	Address
60	D.S. Industries Ltd	20 K Gulberg II Lahore
61	D.S. Textiles Ltd	20 K Gulberg II Lahore
62	Dar-e-Salaam Textile Mills Ltd	Service House, 2 Main Gulberg Lahore
63	Dawood Spinning Mills (Pvt) Ltd	46 Nishtar Road, Lahore
64	Diamond Fabrics Limited	7A-K, Main Boulevard, Gulberg II, Lahore
65	Eastern Spinning Mills Ltd.	10-A, Block-L, Gulberg-III, Ferozepur Road Lahore
66	Ejaz Spinning Mills Ltd	301-307, 3rd Floor Business Centre, Dunolly Road Lahore
67	Ejaz Textile Mills Ltd	34 -E/1, Gulberg III, Lahore
68	Ellcot Spinning Mills Ltd	91 B-1, M.M Alam Road Gulberg III Lahore
69	Fahid Javed Spinning Mills (Pvt) Ltd	Feroze Watowan. Distt. Sheikhupura
70	Faisal Asad Textile Mills Limited	195/ 1-D, Model Town Lahore
71	Fatima Enterprises Ltd.	78/78-A, Bohra Street Saddar Bazar Multan
72	Fazal Cloth Mills Ltd	Room No 102-103, Ist Floor International Plaza Bohra Street, Multan Cantt
73	Fazal Rehman Fabrics Ltd	First Floor International Plaza Bohra Street Multan Cantt. Multan
74	Ghazi Fabrics International Ltd	8-C, Block E-III, Gulberg III Lahore
75	Gulistan Fibers Limited	2nd Floor Garden Heights, 8-Aibak Block, New Garden Town, Lahore
76	Gulistan Spinning Mills Ltd	2nd Floor Garden Heights, 8-Aibak Block, New Garden Town, Lahore
77	Gulshan Spinning Mills Ltd	2nd Floor Garden Heights, 8-Aibak Block, New Garden Town, Lahore
78	H.A. Fibres (Pvt) Ltd	138-CCA Phase IV Commercial Area DHA Lahore
79	H.A. Haq Spinning Mills (Pvt) Ltd	P-9/2, Montgomery Bazar, Faisalabad
80	Habib Haseeb Spinning Mills Ltd	Ist Floor, Saigol Plaza, Street 1, Montgomery Bazar Faisalabad
81	Har Textile Mills (Pvt) Ltd	P-237, 1st Floor, Hassan Arcade, Montgomery Bazar, Faisalabad
82	Hassan Limited (Formerly Hassan Spinning Mills Ltd)	2nd Floor, House Of Hassan, P-13/A - Bilal Road, Civil Lines, Faisalabad
83	Hira Terry Mills Ltd	44-E/1 Gulberg III, Lahore
84	Hira Textile Mills Ltd	44-E/1 Gulberg III Lahore
85	Husnain Textile Mills (Pvt) Ltd	138-CCA, Sector-D, Phase-IV, DHA, Lahore
86	Ibrahim Fibres Limited	1-A, Ahmed Block, New Garden Town Lahore
87	ICC Textiles Limited	242-A Anand Road, Upper Mall Lahore
88	Ideal Spinning Mills Ltd	1088/2 Jail Road, Faisalabad
89	Ihsan Cotton Products (Pvt) Ltd	8th Floor, City Tower Main Boulevard, Gulberg II Lahore

S#	Mill Name	Address
90	Ihsan Raiwind Mills (Pvt) Ltd	8th Floor, City Tower A Main Boulevard, Gulberg II Lahore
91	Ihsan Sons (Pvt) Ltd.	801-A, City Towers, Main Boulevard, Gulberg-II, Lahore
92	Imperial Textile Mills Ltd	4th Floor, Institution Engineers Of Pakistan Building Faisalabad
93	Indus Home Limited	174-Abu Bakr Block, New Garden Lahore
94	Interweave Textile Mills (Pvt) Ltd	65-Industrial Estate, Kot Lakhpat, Lahore
95	Ishaq Textile Mills Limited	1088/2, Jail Road, Faisalabad
96	Ittehad (Pvt) Ltd	Dost Street, Samundri Road, Faisalabad.
97	J. K. Fiber Mills Ltd.	3-1/A Peoples Colony Jaranwala Road Faisalabad
98	J. K. Spinning Mills Ltd.	3-1/A Peoples Colony Jaranwala Road Faisalabad
99	J.A. Textile Mills Ltd	16-C Peoples Colony, Faisalabad
100	Jamhoor Textile Mills Ltd	Monnoo House, 3 Montgomery Road Lahore
101	Jubilee Spinning & Weaving Mills Ltd	40, A Zafar Ali Road Gulberg V Lahore
102	Kamal Spinning Mills (Pvt) Ltd	Jhang Road, Faisalabad
103	Kashir Textile Mills Ltd.	P-208/1, Teeka Gali No.1, Montgomery Bazar, Faisalabad
104	Khalid Shafique Spinning Mills Ltd	115 P, M.M Alam Road, Gulberg II Lahore
105	Khalid Siraj Textile Mills Ltd	467-M, Block, Model Town Ext. Lahore
106	Khawaja Spinning Mills Ltd	10-L Gulberg III, Ferozepur Road Lahore
107	Khokhar Textile Mills Ltd	90 Qasim Road, Multan Cantt.
108	Khurshid Spinning Mills Ltd	69-G, Gulberg-III, Lahore
109	Kohat Textile Mills Ltd.	4th Floor Kulsum Plaza, 42 Blue Area Islamabad
110	Kohinoor Mills Ltd	87/2, Arif Jan Road, Lahore Cantt.
111	Kohinoor Spinning Mills Ltd	Kashana-E-Yousaf Khawaja Street Chakwal
112	Kohinoor Textile Mills Ltd	42 Lawrence Road Lahore
113	Kunjah Textile Mills Ltd	20-E-1,(C)Gulberg-III, Lahore
114	Lahore Textile & General Mills Ltd	Monnoo House 3, Montgomery House Lahore
115	Mahmood Textile Mills Ltd	Mehr Manzil Lohari Gate, Multan
116	Majeed Fabrics	1099/5, Colony Flour Mills Road, Factory Area, Faisalabad
117	Maqbool Textile Mills Ltd	Head Office 2- Industrial Estate Multan
118	Margalla Textile Mills Ltd	Monnoo House 3, Montgomery Road Lahore
119	Masood Fabrics Ltd	Mehr Manzil Lohari Gate, Multan

S#	Mill Name	Address
120	Masood Spinning Mills Ltd.	Mehr Manzil Lohari Gate, Multan
121	Masood Textile Mills Ltd	Universal House, West Canal Road, Faisalabad
122	Master Textile Mills Limited	82-C/1, Gulberg-III, Lahore
123	Mayfair Limited	46-49 Industrial Area, Gulberg III, Lahore
124	Mehtabi Spinning Mills	Malik Industrial Compound, Samana Pull, Sargodha Road, Faisalabad
125	Mian Textile Industries Ltd	29-B/7, Model Town, Lahore,
126	Mima Cotton Mills Ltd	F-B-5, 1st Floor, Awami Complex, Usman Block, New Garden Town, Lahore
127	Moiz Textile Mills Limited	35 Km, Main Raiwind Road, Lahore
128	Monnoo Industries Ltd	Monnoo House 3, Montgomery Road Lahore
129	Monnoowal Textile Mills Ltd	Monnoo House 3, Montgomery Road Lahore
130	Multan Spinning Mills	2192, Humayun Road, Multan
131	Nafeesa Textiles Limited	8 -M Block, Model Town Extension, Lahore
132	Nisar Spinning Mills (Pvt) Ltd	4th Floor, A.T.S. Heights, 7-Durand Road, Lahore
133	Nishat (Chunian) Limited	31-Q, Gulberg -II, Lahore
134	Nishat Mills Limited	7-Main Gulberg, Lahore
135	North Star Textiles Ltd	32/A, Garden Block, New Garden Town Lahore
136	Olympia Blended Fiber Mills Ltd	Monnoo House, 3-Montgomery Road, Lahore
137	Olympia Textile Mills Limited	23-Davis Road, Lahore
138	Pak Kuwait Textiles Ltd	29, Shadman-II, Lahore
139	Paramount Spinning Mills Ltd	58 Main Gulberg, Lahore
140	Pride Spinning Mills (Pvt) Ltd.	21- Tipu Sultan Road, Multan Cantt
141	Prosperity Weaving Mills Ltd	91 B-1 M.M. Alam Road Gulberg III, Lahore
142	Qureshi Textile Mills Ltd	Monnoo House, 3 Montgomery Road Lahore
143	Rafi Cotton Industries (Pvt) Ltd	45 Shamsabad Colony Multan
144	Rafiq Spinning Mills (Pvt) Ltd	Al-Aziz Street, Factory Area, Faisalabad
145	Rahimbaksh Textile Mills Ltd	61-Abdali Road Multan
146	Rai Textile Mills Ltd	40-A Lawrence Road, Lahore
147	Ravi Spinnings Ltd	123-H Block, Model Town Lahore
148	Ravi Textile Mills Limited	Bungalow No. 120 Defence Officers Housing Scheme Sher Shah Road Multan
149	Rawal Textile Mills Limited	Monnoo House 3, Montgomery House Lahore

S#	Mill Name	Address
150	Reliance Cotton & Spinning Mills Ltd	7A-K, Mian Boulevard Gulberg-II Lahore
151	Reliance Weaving Mills Ltd	2nd Floor Trust Plaza L.Q.M. Road Multan
152	Resham Textile Industries Ltd.	314-Upper Mall, Lahore,
153	Riaz Textile Mills (Pvt) Ltd.	H. No. 26 Street No. 4 F/6-3 Islamabad
154	Roomi Fabrics Ltd.	Mehr Manzil Lohari Gate Lahore
155	Saad Textile Mills (Pvt) Ltd	1-Km, Defence Road, Bhuptian Chowk, Opp. Comsats University, Lahore
156	Sajjad Textile Mills Limited	19-B, Zafar Ali Road, Gulberg V, Lahore
157	Sally Textile Mills Ltd	97-Shadman Colony Lahore
158	Salman Noman Enterprises Ltd.	3 Km Balloki Road, Bhai Pheru, Tehsil Pattoki Distt. Kasur
159	Samin Textiles Ltd.	50-C Main Gulberg, Lahore
160	Sardarpur Textile Mills Limited	402, Regency Plaza Mini Market Gulberg II, Lahore
161	Sarfraz Textile Mills (Pvt) Ltd	P-396, Jinnah Colony Faisalabad
162	Sarfraz Yaqub Textile Mills (Pvt) Ltd	1-Jail Road, Lahore.
163	Sargodha Spinning Mills Ltd	A-601/B City Towers, 6-K Main Boulevard, Gulberg II Lahore
164	Saritow Spinning Mills Ltd.	17-Aziz Avenue, Canal Bank, Gulberg V, Lahore
165	Service Industries Textiles Ltd	38-Empress Road, Lahore
166	Shadab Textile Mills Limited	A-601/A City Towers, 6-K Main Boulevard, Gulberg II, Lahore
167	Shadman Cotton Mills Ltd (Unit-2&3)	A-401, 4th Floor, City Towers, Main Boulevard, Gulberg II, Lahore
168	Shafi Spinning Mills Ltd	3 -Mehmood Ghaznavi Road Lahore
169	Shahbaz Garments (Pvt) Ltd	30 Km, Sheikhupura Road, Faisalabad.
170	Shahnawaz Textiles Ltd.	83-Shahrah-E-Quid-E-Azam Lahore
171	Shahraj Fabrics (Pvt) Ltd	147 148 M. Quaid-E-Azam Industrial Estate Kot Lakhpat, Lahore
172	Shahtaj Textile Ltd	House No. 02, Block-L, Johar Town, Lahore
173	Shahzad Textile Mills Ltd	19-A, Zafar Ali Road, Gulberg-V, Lahore
174	Shams Textile Mills Ltd	7-B-3, Aziz Avenue Gulberg-5 Lahore
175	Sheikhupura Textile Mills Ltd	45-50, Industrial Area, Gulberg-III, Lahore
176	Shoaib Salman Textile Mills	68/B-VI, Grain Market, Sahiwal
177	Shujabad Weaving Mills Ltd	Suraj Kund Road, Chowk Shah Abbas, Multan
178	Siara Textile Mills (Pvt) Ltd	605-C, Faisal Town, Lahore.

S#	Mill Name	Address
179	Sitara Spinning Mills Ltd	Sitara Tower, 5th Floor, Bilal Chowk, New Civil Lines, Faisalabad
180	Sohail Textile Mills Limited	45-50, Industrial Area, Gulberg-III, Lahore
181	Spincot Textile Mills (Pvt) Ltd.	Suite No. 2-A, 2nd Floor, Craze 1 Shopping Mall, Main Boulevard, Defence, Lahore
182	Spintex Enterprises (Pvt) Ltd	Block P-5 First Floor, Sitara Market, Markaz G-7 Islamabad
183	Standard Spinning Mills (Pvt) Ltd	31-D, New Muslim Town, Lahore
184	Suleman Spinning Mills Ltd	61-Abdali Road Multan
185	Superior Textile Mills Ltd	32-N, Gulberg II, Lahore
186	Suraj Cotton Mills Ltd	7-B-3, Marina Homes, Aziz Avenue, Gulberg -5 Lahore
187	Tahir Rafique Textile Mills (Pvt) Ltd	58/B, 2nd Floor, 62 Mozang Road, Near Safanwala Chowk, Lahore
188	Tanveer Cotton Mills (Pvt) Ltd	98/A, B-III, Near Hussain Chowk, Gulberg-III, Lahore
189	Tanveer Spinning & Weaving Mills (Pvt) Ltd	98, A B-III, Gulberg-III, Lahore
190	Taxila Cotton Mills Ltd	270, Sector 1/9, Industrial Area, Islamabad
191	Taymur Spinning Mills Ltd	P-54 Ravi Market Sosan Road Madina Town Faisalabad
192	Three Stars Hosiery Mills (Pvt) Ltd	10-A, Industrial Estate, Multan
193	Tribal Textile Mills Ltd	Monnoo House 3, Montgomery House, Lahore
194	Us Denim Mills (Pvt) Ltd	26-M, Gulberg-III, Lahore
195	Wisal Kamal Fabrics (Pvt) Ltd.	87-P Gulberg II, Lahore
196	Yousaf Weaving Mills Limited	H.O: 7/1, E-3 Main Boulevard Gulberg III, Lahore
197	Zainab Textile Mills Ltd	1-Jail Road, Lahore

ANNEXURE-B

Survey Questionnaire

(From Management Representatives)

The purpose of this study is to analyze Quality Management practices in the Textile Sector of Pakistan. Your valuable feedback is of great importance because you are the one who can give us a correct picture of these practices on the basis of your experience. The information provided will be utilized for research purpose only and all research ethics would be followed strictly.

1. a) Name organization: …….....

b) No of permanent employees: …… c) Your tenure in this organization: …. years.

d) ISO certified: Yes ☐ No ☐ e) If Yes, then year of the certification: ……

f) Number of *Surveillance Audits* since certification: ……..

2. In the space given next to each statement write the appropriate number from the following key that describes your ratings about <u>learning capacity</u> of the organization.

Very Strongly Disagree	1
Strongly Disagree	2
Disagree	3
Agree	4
Strongly Agree	5
Very Strongly Agree	6

a	In our organization learning is a key to improve efficiency.	
b	Continuous learning is an important strategy for our organization.	
c	Our organization offers a good learning environment for helping the innovation.	
d	Managers agree that our organization's ability to learn is the key to our competitive advantage.	
e	Learning in my organization is seen as a key commodity necessary to guarantee organizational survival.	
f	The sense around here is that employee learning is an investment not an expense.	
g	Our organization encourages employee learning.	
h	Our organization tolerates employee mistakes.	
i	In my organization employees help each other to learn.	
j	The basic values of this organization include learning as key to improve organizational performance.	

Note: ***<u>Learning</u>*** is a process by which organizations develop new knowledge and insights from the common experiences of people, and has the potential to influence behaviors and improve organizational effectiveness.

	3. Rate the following statements regarding various dimensions of Quality Management by placing a tick in only one option for each statement.	**Never**	**Almost never**	**Sometimes**	**Often**	**Very often**	**Always**
Customers							
a	People in my organization know their customers.	1	2	3	4	5	6
b	Our organization prefers customer needs to develop the business strategies.	1	2	3	4	5	6
c	Our organization collects extensive complaint information from customers.	1	2	3	4	5	6
d	Quality-related customer complaints are treated with top priority.	1	2	3	4	5	6
e	Satisfying our customers and meeting their expectations is the most important thing we do.	1	2	3	4	5	6
Continuous Improvement							
f	Continuous quality improvement is an important goal of this organization.	1	2	3	4	5	6
g	People in this organization are continually looking for better ways of doing their work to avoid errors.	1	2	3	4	5	6
h	Our organization encourages continual study and improvement of all the products and processes.	1	2	3	4	5	6
i	People in my organization analyze their work products to look for ways of doing a better job.	1	2	3	4	5	6
j	I frequently make suggestions to improve the work of my work area.	1	2	3	4	5	6
Employee Involvement							
k	There is a strong commitment to quality at all levels of this organization.	1	2	3	4	5	6
l	People in this organization have a relatively high level of authority over their work-related decisions.	1	2	3	4	5	6
m	People in this organization constantly look for ways to improve their work.	1	2	3	4	5	6
n	Management creates a work environment that encourages employees to perform to the best of their abilities.	1	2	3	4	5	6
o	My work duties and responsibilities do not contribute much in the job to create quality products.	1	2	3	4	5	6
Top Management Support							
p	Top management actively participates in quality management and improvement process.	1	2	3	4	5	6
q	Top managers in our organization set clear goals for quality improvement.	1	2	3	4	5	6
r	Top management is supportive of suggestions for improving the way things are done.	1	2	3	4	5	6
s	Top managers in this organization allocate resources to improve quality.	1	2	3	4	5	6
t	Top managers in this organization try to plan ahead for changes that might affect our performance.	1	2	3	4	5	6

THANK YOU VERY MUCH

ANNEXURE-C

Survey Questionnaire

(From Managers)

The aim of this study is to analyze Quality Management practices in Textile Sector of Pakistan. Your valuable feedback is of great importance because you are the one who can give us a correct picture of these practices on the basis of your experience. The information provided will be utilized for research purpose only and all research ethics would be followed strictly.

1. a) Name of organization: …….....

b) Designation: …… c) Department: ……

d) Your tenure in this organization: ……..years

2. In the space given next to each statement write the appropriate number from the following key that describes your ratings about <u>learning capacity</u> of the organization.

Very Strongly Disagree	1
Strongly Disagree	2
Disagree	3
Agree	4
Strongly Agree	5
Very Strongly Agree	6

a	In our organization learning is a key to improve efficiency.	
b	Continuous learning is an important strategy for our organization.	
c	Our organization offers a good learning environment for helping the innovation.	
d	I am agree that our organization's ability to learn is the key to our competitive advantage.	
e	Learning in my organization is seen as a key commodity necessary to guarantee organizational survival.	
f	The sense around here is that employee learning is an investment not an expense.	
g	Our organization encourages employee learning.	
h	Our organization tolerates employee mistakes.	
i	In my organization employees help each other to learn.	
j	The basic values of this organization include learning as key to improve organizational performance.	

Note: ***<u>Learning</u>*** is a process by which organizations develop new knowledge and insights from the common experiences of people, and has the potential to influence behaviors and improve organizational effectiveness.

	3. Rate the following statements regarding Organizational Performance <u>during last three years</u> by placing a tick in only one option for each statement.	**Not True**	**Somewhat True**	**Almost True**	**True**	**Very True**	**Absolutely True**
a	The products' quality to meet customer's demands is improving.	1	2	3	4	5	6
b	The sales of our organization have increased.	1	2	3	4	5	6
c	Our organization is capturing more market shares.	1	2	3	4	5	6
d	Level of defects in the products has decreased.	1	2	3	4	5	6
e	Customer complaints have been reduced.	1	2	3	4	5	6
f	Level of customer satisfaction has increased.	1	2	3	4	5	6
g	Level of employee satisfaction has increased.	1	2	3	4	5	6
h	Employee productivity has improved significantly.	1	2	3	4	5	6
i	Unit cost of production has decreased.	1	2	3	4	5	6
j	The profitability of our organization has improved.	1	2	3	4	5	6
k	Overall performance of our organization has improved.	1	2	3	4	5	6

THANK YOU VERY MUCH

ANNEXURE-D

COVERING LETTER

PZ\IS\RES\325-12
31st August 2012

The Chief Executive
All Member Mills

Dear Sir,

Mr. Shahid Mehmood, is a research scholar, doing research on "*The Role of Organizational Learning in Understanding Relationship between TQM and Organizational Performance*" in the Textile Sector of Pakistan. The purpose of this research is to investigate the impact of Total Quality Management & Learning on Organizational Performance.

The researcher has designed following two questionnaires for input from the industry.

1. **Survey Questionnaire for <u>Management Representative / Quality Managers</u>**
   At least 2 questionnaires should be completed.
   For ISO certified firms, 1 from the Management Representative (MR) and 1 from Deputy MR (DMR). For non-ISO firms, two senior officials dealing with quality control / quality management issue in the firm for more than one year.

2. **Survey Questionnaire for <u>Managers</u>**
   At least 2 questionnaires should be completed from Top / middle level managers other than MRs or Quality related officials.

You are requested to kindly fill the attached questionnaires and return to Mr. Shahid Mehmood at shahidiub@hotmail.com. For any clarification you may contact the researcher at Cell # 0300-6841016.

The information provided will be used for research purposes only without mentioning the name of any organization. Results of the research would be shared with the industry.

Regards,

(Anis-ul-Haq)
Secretary
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