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# The Role of Organizational Learning in Understanding Relationship between Total Quality Management and Organizational Performance

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**Abstract**

Total quality management (TQM) is often considered a vital antecedent of a firm's performance. However, not much is known about the mechanism through which TQM helps organizations to create this performance. The incorporation of organizational learning capability in the goals and objectives of TQM may help us understand TQM-performance relationship. This study focuses on 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. The results are based on the empirical data collected from a self-administrative survey from 270 managers working in 90 organizations of the textile sector. Hierarchical linear modeling is used to examine the hypothesized relations. The results reveal that 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.

**Keywords:** Organizational performance; organizational learning capability; total quality management; textile sector; Pakistan.

## 1. Introduction

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 is required 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 (TQM); 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. TQM 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 inconsistence. TQM is all about business management values consisting of different principles that help in continuous improvement and is considered the most suitable approach in sustaining efforts for organizational improvement (Lin and Ogunyemi, 1996). Numerous scholars and researchers believe that organizations which are making efforts to strengthen must focus on TQM as the source of sustainable competitive advantage (Munizu, 2013; 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 them 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 individuals but also is 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 of bringing a change. Barrow (1993) argues that TQM closely relates to organizational learning as an anticipated product of TQM. Popper and Lipshitz (2000) propose that productive learning can occur in an organization, where TQM culture is prevalent. 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. 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. Organizational learning also has its performance implications. 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). 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, similar to TQM, organizational learning capability may be identified as a key factor for performance outcomes.

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). To understand TQM-performance relationship academia is seeking empirical evidences regarding various 'generative mechanism (mediators), through which TQM practices influence the organizational performance. However, there is hardly any empirical investigation that covers thoroughly both TQM and organizational learning capability in explaining organizational performance. 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% of the national income, employs more than 38% workforce of the manufacturing sector and more than 50% exports of Pakistan relates to the textile products. The focus of this study is the textile manufacturing firms, which have importance for international market and demand implementation of TQM through various quality standards certifications. Furthermore, TQM practices are considered more relevant to manufacturing firms as compared to service firms. Therefore, it 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.

The objective of this paper is twofold, to study the interrelationships among TQM practices, organizational learning capability and organizational performance; and to investigate organizational learning capability as a mediating mechanism between TQM practices and organizational performance in textile sector of a developing country like Pakistan. Such an empirical investigation on the interrelationships among the three variables is likely to be useful for academia and practitioners in our context. The paper attempts to extend the existing research by involving organizational learning capability as a mediator with the help of empirical data to explain TQM-performance relationship.

## 2. Literature Review and Hypotheses

### *2.1 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 it 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. 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. Mehmood et al., (2014) identify the four critical success factors of TQM implementation in manufacturing sector. Some of the renowned researchers assess TQM through six practices namely leadership, strategic planning, customer focus, information and analysis, people management, and process management (Prajogo & Sohal, 2003; Terziovski & Samson, 1999). 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 these four most influential practices of TQM in order to examine their relationship with organizational learning capability and organizational performance.

### *2.2 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 individual, working in that organization. Without individual's learning an organization cannot achieve continuous improvement. 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 major benefit to those organizations that have a capability to learn is enhanced performance, which predictably creates a sustainable competitive advantage for the firms (Brockmand and Morgan, 2003; Fiol and Lyles, 1985).

*2.3 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; therefore, both 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. According to Chang and Sun (2007) elements of TQM can help 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. Recently, Lam et al., (2011) find that the Malaysian service firms practicing TQM also have learning orientation. Similarly, 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. 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 to organizational learning capability. This is as per the first hypothesis of the study.

- **$H_1$:** TQM practices positively affect organizational learning capability.

*2.4 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. 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.

Agarwal et al., (2003) and Guo (2002) divide the organizational performance in two dimensions, which comprise 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. The current study also measures organizational performance with respect to both objective and judgmental measures of performance.

*2.5 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 (McAdam and Armstrong, 2001; Mehmood et al., 2014; Prajogo and Sohal, 2003). Similarly some studies find a positive and significant association between TQM and different types of performance (Fotopolus and Posmas, 2010; Kaynak, 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.

- **$H_2$:** TQM practices positively affect organizational performance.

*2.6 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 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. Therefore, this study also proposes the third hypothesis in a new context.

- **$H_3$:** Organizational learning capability positively affects organizational performance.

*2.7 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.

- **$H_4$:** Organizational learning capability mediates the relationship between TQM practices and organizational performance.

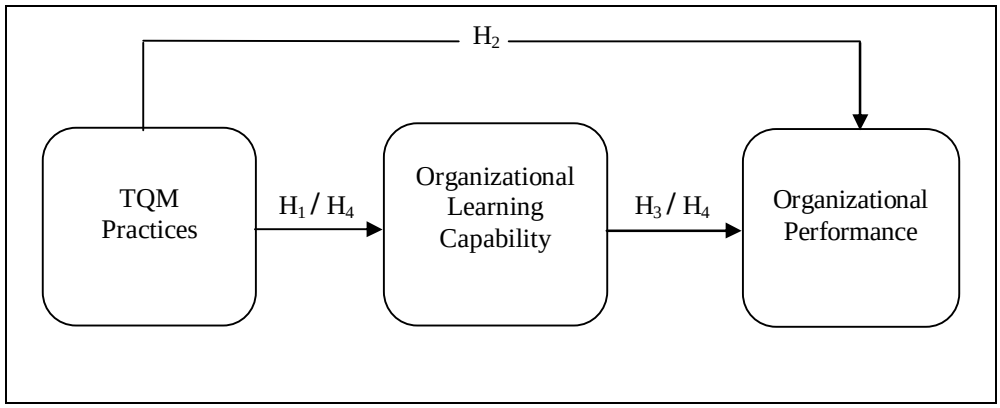


**Figure 1: Hypothesized Model**

## 3. Methodology

*3.1 Sample and Procedures*

We target textile manufacturing firms that are member of all Pakistan textile mills association (APTMA). There are 396 textile firms that are member of APTMA all over Pakistan. The sample selected from the directory of APTMA is 197 textile firms which are situated in territorial boundary of Punjab Province only, the results based on this sample are quite likely to be generic for the target population. Out of the 197 units 120 units are ISO certified and the remaining 77 are non-ISO certified units.

A self-administered survey questionnaire is used for collection of data. We used two questionnaires for collecting the data from two types of respondents. First questionnaire is designed for quality related managers (management representatives (MR) /Deputy MR for ISO certified firms and quality related official for non-ISO certified firms) and second questionnaire is designed for Top or middle level managers other than quality related officials.

To ensure validation of the instruments, items understanding or to 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 from four managers (one quality related and three functional managers) working in four different organizations. Upon their suggestions and responses, five items are further customized / revised in the two instruments. The final versions of both the instruments were emailed to all 197 CEOs by the secretary APTMA along with his covering letter.

This proved very helpful in letting the participating organizations the importance of the research and also establishing an effective contact of the researchers with the member mills.

After one week of the online distribution of the questionnaires, we receive only few responses. The researcher utilized various methods to follow up the respondents such as reminder through e-mails, telephonic pursuance and personally visiting most of the organizations to collect the questionnaires. This process continued for about two months.

Out of 197 organizations, 90 organizations (70 ISO certified and 20 non-ISO certified) qualify for the aggregation criteria i.e. completing 3 or more questionnaires. This yielded an overall response rate of about 46%. Organizations which could not provide 3 or more completed questionnaires are filtered out. The response rate of this study is favorably higher than other relevant surveys in the field where the survey response rate usually ranges from 9 to 34% with an average of 18% (Hung et al., 2011; Lam et al., 2011; Lee et al., 2012; Lok et al., 2005; O'Neill and Sohal, 1998).

To account for sample representativeness and possible non-response bias, we follow the procedure used by Hung et al., (2011) and Lopez et al., (2006) and compare the participating firms with non-participating in terms of age (number of year since its establishment), size (number of employees) and regions (the location of the business offices). The results suggest that there is no systematic response bias in this study. 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*, different anchoring categories for the three main study variables and not including neutral points in the 6-point scales would help us reveal the real feeling. 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) from quality related managers and the response variable (organizational performance) from top/middle level managers.

The respondents of the survey are 270 managers of textile mills which are classified as 90 (33.3%) quality related managers and the remaining 180 (66.7%) are non-quality managers. From quality related managers more than three fourth of the respondents are from ISO certified firms. The non-quality managers are top or middle level managers from more than eight different departments such as finance and marketing (63.4%), Administration and HRM (14.4%) and from Accounts (9.4%). The representations from the remaining other departments is less than 4 percent.

*3.2 Measurement and Scales*

3.2.1 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 5 items. 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. 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).

3.2.2 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 except two are customized to make them suitable for the participating managers of manufacturing sector. Each of the 10 items are measured by using a six-point scale (ranging, 1 = very strongly disagree to 6 = very strongly agree).

3.2.3 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. These items are measured by using a six-point scale (ranging, 1 = not true to 6 = absolutely true).

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 two control variables, *age* of organization (number of year since its establishment), *size* (number of permanent employees), 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 Data Analysis*

The data is aggregated at the organizational unit of analysis. The study utilizes usual cross tabulations and descriptive statistics. Cronbach's Alpha is measured to test the scale reliability of all the measures. For testing the hypothesized relations, Pearson Correlations are estimated for bi-variate correlation, hierarchical liner modeling (Raudenbush et al., 2004) and widely used mediation steps (Barron and Kenny, 1986) have been employed.

## 4. Results

### *4.1 Descriptive Statistics and Correlation Analysis*

The means, standard deviations and the correlations among the variables are presented in Table 1.The mean *age* (number of years since establishment) of the sample organizations 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 with a range of 220 to 6445 employees. These firms on average have completed their certification since 10 years with a range of 2 to 20 years since certification. 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.

It can be further seen from Table 1 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, $p < 0.01$).

### *4.2 Hypotheses Testing*

Before testing our hypotheses, this may first be observed from the Table 2 (Step 1a and Step 1b), that the control variables (i.e. *age* and *size* of the organization) do not significantly associate with the organizational learning capability and organizational performance. Table 2 also presents the results of study hypotheses. In step 2a the results reveal that TQM practices positively affect organizational learning capability ($\beta = 0.248$, $p < 0.05$). Thus, there is a strong support for the $H_1$.

**Table 1: Descriptive Statistics and 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 | | | | | |

In step 2b the results reveal that TQM practices positively affect organizational performance ($\beta = 0.285$, $p < 0.01$). Thus, there is a strong support for $H_2$. In step 3b the results reveal that organizational learning capability positively affects organizational performance ($\beta = 0.279$, $p < 0.01$). Thus, there is a strong support for $H_3$.

### *4.3 Mediation Effect*

According to the fourth hypothesis, 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 beta for independent variable predicting the dependent variable should also drop (Barron and Kenny's, 1986; Harris el al., 2011; Zagenczyk et al., 2011).

**Table 2: 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 |
| $\Delta R^2$ | | 0.058 | | 0.077 | 0.072 |

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

Step 2a, 2b and 3b (Table 2) 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, beta 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, *$H_4$ is fully supported.*

**5. Discussion**

The main goal of the study was 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. The findings suggest that TQM practices have a positive and significant relationship with

organizational learning capability. 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). 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 second finding shows that there is a positive and significant relationship between TQM practices and organizational performance. This result also replicates the previous studies (Agus, 2004; Fotopolus and Posmas, 2010; Martinez Costa and Jimenez-Jimenez, 2008; McAdam and Armstrong, 2001; Prajogo and Sohal, 2003).

The explanatory variable in both the above results 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 that most of the previous studies have selected the manufacturing contexts for testing these hypotheses. However, particularly Textile sector has rarely been contextualized for this purpose. These findings in the context of present study (i.e. textile manufacturers of a developing country) suggest a convergence trend on the phenomenon understood and predicted through these two results.

The third result indicates that the organizational learning capability has a positive and significant effect on organizational performance. 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 also find an empirical relation between organizational learning and performance. The relationship between 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.

Finally, we find 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. Now we can empirically claim that organizational learning capability is an explanatory mechanism that helps to understand the TQM-performance relation. The fact that beta value of TQM practices after inclusion of organizational learning capability 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.

This study contributes in the existing literature by number of ways. Firstly, the study uses a sample of textile sector of a developing country like Pakistan, a perspective in which the empirical literature is scantly available. In particular, 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 process 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. Finally, 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.

### *5.1 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, it is suggested 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, we propose that the top management can achieve the excellent performance if they use their resources for learning capability along with TQM practices. 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. Keeping in view that we focused only on those TQM practices which are most important in enhancing performance in manufacturing sector, the practitioners of manufacturing organizations should give more concentration to these four practices while implementing and managing TQM.

### *5.2 Limitations and Directions*

The paper contributes in the existing literature by number of ways, there are some limitations also. First, this study focuses only on manufacturing sector (i.e. textile sector), hence the results may not be generalized to all other sectors such as service sector. Second, it is a cross-sectional study as the data is collected at one point of time may suffer from response biases. The third limitation of the study is that, although the source of data for the independent variable is different from that of the dependent variable, both variables are measured on the perceptional data provided by the managers. The same problem may be relevant for the measurement of organizational learning capability (mediator). However, the aggregation of responses of two or more managers at an organizational level for each of the study variable would have mitigated this problem.

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). 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).

## 6. 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 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 capabilities along with TQM in order to enhance the performance.

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