

## **IMPACT OF TQM ON ORGANIZATIONAL PERFORMANCE: THE MEDIATING ROLE OF BUSINESS INNOVATIVENESS AND LEARNING CAPABILITY**

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### **ABSTRACT**

*Previous literature has focused on the impact of Total Quality management (TQM) on firm's financial performance (FP), but not checked the relationship of TQM on firm's operational performance (OP) through mediators like organizational learning capability and business innovativeness. That is why the main purpose of this study is to check out the relationship among TQM, operational and financial performance through mediators like organizational learning capability (OLC) and Business innovativeness (BI). Cross sectional research design and deductive approach has been used in this study. The data has been collected from 244 companies which were from Gujranwala, Lahore and Sialkot region. This study proposed the interconnected relationship between TQM, organizational learning capability, Business innovativeness operational and financial performance. By our findings we get that there is a Positive significant relationship between TQM and organizational learning capability, TQM and Business innovativeness, business innovativeness and financial performance, organizational learning capability and financial performance, organizational learning capability and operational performance, Business innovativeness and operational performance. We also found that there is a partial mediation between Total quality management (TQM) and Operational performance (OP) through organizational learning capability (OLC) and between Total quality management (TQM) and financial performance (FP) through organizational learning capability (OLC). There is Full mediation between TQM and OP through Business innovativeness (BI) and between TQM and FP through BI. Organizational operational and financial performance depends upon the successful implications of the TQM practices in the organization and OLC by which employees can seek more knowledge to apply in business operations and by innovating the business operations. By fulfilling this criterion, firms can improve their operational and financial performance. Organizations reacted as very low response rate and those organizations which have just certification of ISO quality standards but not properly implemented the standards are the limitations of this study. Although*

*this study is conducted in Asian context especially in Pakistan for the first time through mediators like Business innovativeness (BI) and organizational learning capability (OLC), it is expected that results of our study may have relevance to the other countries.*

**Keywords:** *Total quality management (TQM), organizational learning capability (OLC), Business innovativeness (BI), Financial performance (FP), Operational performance (OP)*

## **1) INTRODUCTION**

It is very well discussed in the literature that companies which adopted Quality oriented practices and strategies have achieved high level of organizational performance as a whole (Fuentes-Fuentes, Lloréns-Montes, & Albacete-Sáez, 2007; Vanichchinchai & Igel, 2011). For example Ho, Duffy, & Shih, (2001) said that TQM has many aspects through which it can be evaluated as a tool that improves the quality principles, tools and techniques. TQM increased process and performance management, used for the betterment of products and services, helps to Increase employee morale and reduced errors, plays a role to Increase social responsibility and ethics, improve financial performance, improve employee relations and satisfaction and enhance the organizational management. But despite the fact some researchers have pointed out that TQM practices are not adequate alone for improving organizational financial performance specifically and organizational performance as a whole (Zhang, Linderman, & Schroeder, 2012).

Researchers have been made few attempts to analyze the mediating roles of business innovativeness and OLC in relationship between TQM and organizational financial performance particularly and organizational performance as a whole. Previous literature have supported the relationship that OLC enhances the Business innovativeness (Hung, Lien, Yang, Wu, & Kuo, 2011), which ultimately improves the financial performance of the company but there are just few facts about the relationship between OLC and Business Innovativeness particularly. We have followed the study of Akgün et al., (2014), which was conducted in Turkey we followed their research model with the addition of a variable as “Operational performance” and tested in Asian context specifically in Pakistan (Punjab). Because Akgun didn’t check the relationship between

TQM and Operational Performance (OP). So, this argument made our study unique by other studies

Many researchers have already worked on TQM and firm's financial performance but no one has tested the relationship among TQM and firm's operational performance through the mediation of Business innovativeness and organizational learning capability, especially in Pakistani context. So, the purpose of our thesis is to investigate the complex relationships between TQM practices, Business innovativeness, Organizational learning capability (OLC), Organizational financial and operational performance. This study will enhance the literature for TQM and financial performance, organizational learning capability, business innovativeness and Operational performance also. This study will help the organizations to improve their operational and financial performances by adopting the TQM practices through business innovativeness and organizational learning.

## **2) LITERATURE REVIEW**

### **2.1) Total quality management**

Total Quality management (TQM) has many aspects through which it can be evaluated as a tool that improves the quality principles, tools and techniques. It seems as systematic form of organizational behavior and development (Ho et al., 2001). "TQM as an approach to improve effectiveness, flexibility, and competitiveness of a business to meet customers' requirements, as the source of sustainable competitive advantage for business organizations (Terziovski, 2006), as a source of attaining excellence, creating a right first-time attitude, acquiring efficient business solutions, delighting customers and suppliers etc. (Mohanty & Behera, 1996), and above all as a source of enhancing organizational performance through continuous improvement in organization's activities"(Claver-Cortés, Pereira-Moliner, José Tarí, & Molina-Azorín, 2008). According to Dean & Bowen, (1994) "TQM is a system approach which is an integral part of organizational strategy aimed at people-focused management featuring participation of all firm members and a culture of cooperation to create value for all stakeholders through continuous improvement". Many researchers and institutions which have been working on TQM has found many of the quality standards that set a guideline for the implementation of TQM Practices to check the success of

TQM practices (Adebanjo, 2001). We took all these components of TQM on the basis of Akgun because he used these components in his study because these components have been commonly used in previous studies that's why followed the study of Akgun.

## **2.2) Organizational learning capability (OLC)**

Presently researchers also proposed that routine and learning related practices (e.g OLC) can better help that how the organizational performance can be enhanced by TQM contributions (Linderman, Schroeder, Zaheer, Liedtke, & Choo, 2004). "Organizational learning capability (OLC) is defined as the organizational and managerial characteristics, practices, skills or factors that facilitate the organizational learning process (e.g. generating, acquiring, disseminating and integrating information/knowledge) and allow an organization to learn" (Jerez-Gomez, Céspedes-Lorente, & Valle-Cabrera, 2005). Jerez-Gomez et al., (2005) said that OLC have four dimensions managerial commitment, openness and experimentation, knowledge transfer and integration, and systems perspective. Managerial commitment indicates the development of managerial support for and leadership commitment to the learning process and employee motivation (Jerez-Gomez et al., 2005). Systems perspective refers to bringing the organization's members together around a common identity and a shared vision, interconnecting the activities of employees, and developing relationships based on the exchange of information and shared mental models (Jerez-Gomez et al., 2005). Openness and experimentation denotes a climate of accepting new ideas and points of view and allowing individual knowledge to be constantly renewed, widened and improved through experimentation (Jerez-Gomez et al., 2005). Knowledge transfer and integration refers to the internal spreading of knowledge through verbal and non-verbal communication and the information systems (Jerez-Gomez et al., 2005).

Primarily, organizational learning is beheld as a progression or set of doings and knowledge is professed as to be inherent in individuals (Tsang, 1997).

### **2.3) Business innovativeness**

With the addition of OLC, another critical factor to evaluate the impact of TQM on organizational performance is Business innovativeness. In previous literature, researchers have tested different types of innovation. Creation and capturing of new values of business innovativeness can be accessed by not necessarily through the process or product development projects (Kennedy, 2007) but these values can be accessed by implementation of new methods and practices in business operations, workplace companies, or external relations, changing and improvement of managerial policies and business models to compete with business climates (Camisón & Villar López, 2010). According to Robson & Kenchatt, (2010) business innovativeness is a broader term of innovativeness that can exist in combination of product and process innovativeness but that is an individual means by which companies improve their competitive advantages.

**“An organizational/business innovation** is the implementation of a new organizational method in the firm’s business practices, workplace organization or external relations. Organizational innovations have a tendency to increase firm performance by reducing administrative and transaction costs, improving workplace satisfaction (and thus labor productivity), gaining access to non-tradable assets (such as non-codified external knowledge) or reducing costs of supplies” (Oslo, 2005).

## **3) THEORETICAL FRAMEWORK**

### **3.1) Relationship between TQM and OLC**

Akgün et al., (2014a) proposed that TQM practices permits organizations to capture, understand, organize and translate the knowledge, approach and abilities of people (employees) throughout the company to launch a combined organizational learning capability. For example, knowledge and information acquired by organizational members (employees) becomes collective or the knowledge of organizational level by TQM practices through continuous improvements (i.e. collaboration with organizational members and teamwork) and organizational view (combining organization as a whole and shared learning) (Linderman et al., 2004). Fine, (1986) conducted a research on the topic of quality management and organizational learning. He explored an analytical model that analyzes

their relationship between conformance cost and failure cost, and originated that the best quality level increases due to organizational learning. Other analytical type studies range from checking the impact of quality management on organizational learning (Dada & Marcellus, 1994; Tapiero, 1987) to the exercise more difficult models integrating learning curves and pricing. Organizations cannot achieve a regular and sustainable growth and excellence, they need continuous learning for regular improvement of quality excellence (Senge, 1990). Barrow (1993) mentioned that TQM closely have impact on organizational learning and stated the Organizational learning as a type of TQM. Barrow's study suggested that, when organizations applying TQM practices, organizations should concentrate on learning at three levels, individual, group and organizational level. With this process individuals are used too with new techniques and information and force the organizational groups in distributing relevant knowledge and achieving organizational goals. TQM practices also helps the organization to learn that how to increase and improve the productivity. Instead this, the variety of TQM dimensions replicates the various characteristics of organizational behaviors and cultures (Zeitz, Johannesson, & Ritchie, 1997). The procedure for organizational learning permits the organizations to apply cooperative relationships and obtain the resources that praise organization or capabilities in cooperative research and development processes (Van Aken & Weggeman, 2000). The knowledge sharing culture and the knowledge transferring with in the cross functional teams are developed by the organizations which successfully implemented the TQM (O'Dell & Essaides, 1998). The companies which implemented the TQM have the more tendency of learning capability (Martinez-Costa & Jimenez-Jimenez, 2008).

Sitkin, Sutcliffe, & Schroeder, (1994) argued that TQM comprises of both organization's learning and total quality management. Furthermore, (Sitkin et al., 1994) said that in high uncertainty conditions and taking complex goals and tasks of learning approach gives the results of high performance than a just total quality control approach.

So, we hypothesize that

**H1:** TQM is positively related with OLC.

### **3.2) The relationship between TQM and business innovativeness**

Miguel & Santiago, (2010) argued that TQM plays an important role on business innovativeness by encouraging the participation of employees in innovative processes and procedures. People managing their tasks and goals by adopting alternative ways, recognize out dated observations, and take change and apply new business models and ideas with information and knowledge sharing and by cooperating with each other (Luzon & Pasola, 2011). Furthermore, TQM practices facilitates the organizations to increase new market relationships and bench mark of the business, to understand customer needs and wants, customer related problems and their solutions (Akgün et al., 2014b). These actions nurture the organizational attempt to transfer the organizational practices, novel strategies took place of the existing strategies and achieve developed type or organization.

There are just some researchers who analyze the relationships between TQM and business innovation. Some researchers analyze that TQM have a negative impact on business innovation but some analyze that TQM have a positive impact on business innovation (Martínez-Costa & Martínez-Lorente, 2008). For example, (Prajogo & Sohal, 2001) have done a research in Australia to analyze the impact of TQM on Business innovation by taking a sample of 194 Australian companies and he finalize the results that TQM has positive impact on business innovation and organizational performance also. Although, (Singh & Smith, 2004a) have done study to check the relationship between TQM and business innovation with the with the vast range of Australian in companies sample but they are unable to find their relationship. (Perdomo-Ortiz, González-Benito, & Galende, 2006) have done the research on same topic and they also have positive relationship between TQM and business innovation. Experimentally proved that TQM have positive relationship with business innovation (Abrunhosa & Sa, 2008; Feng, Prajogo, Chuan Tan, & Sohal, 2006; Martinez-Costa & Jimenez-Jimenez, 2008; Perdomo-Ortiz et al., 2006; Thai Hoang, Igel, & Laosirihongthong, 2006).

Here are some arguments which are supporting positive relationship and some supporting negative relationship. The studies of Total quality management practices have.

*Table 3-1: Arguments for Relationships*

<b>Arguments supporting positive relationship</b>	<b>Arguments supporting negative relationship</b>
Empowerment: teamwork, collaboration and involvement.	TQM can make hurdles in organizations for incremental innovations or improvements.
Customer focus: supporting organizational members to investigate the new customer needs and desires	TQM can hold back for creativity because of formalization or standardization.
Continuous improvement: supports the members for collaboration, creative thinking, that how the work is conducted and organized	As far as, TQM considers the cost efficiency so it can limits the opportunity and capacity for the innovation.

*(Prajogo & Sohal, 2001)*

Hence, we postulated that

**H2:** TQM is positively related to business innovativeness

### **3.3) The relationship between OLC and business innovativeness**

According to (Chiva & Alegre, 2009) by enhancing employees' creativeness, and developing their knowledge clearly by its roots like, dissemination and use of knowledge business operations can be innovate. For example, when people/employees of a firm or group are supported to learn and authorized to develop new business ideas, then they will be in favor and support the application of new business model and organizational methods and practices including new business strategies (Hurley & Hult, 1998; Lemon & Sahota, 2004). According to (Jerez-Gomez et al., 2005) dissemination of knowledge and information within the organization created through interaction and communication between organizational employees or groups, furthermore its explanation and integration, develops the suitable organizational environment for the collective attempt of business innovativeness. Furthermore, Salim & Sulaiman, (2011) supported these results in a study that organizational learning capability is a critical factor for organizational innovativeness in SME's operating in Malaysia, and same results were found in Uganda.

Hence, we proposed that

**H3:** OLC is positively related to business innovativeness.



### **3.4) The effects of TQM and OLC on organizational performance**

Organizational learning capability is important for organizational performance which has been already discussed in previous literatures (Ellinger, Ellinger, Yang, & Howton, 2002). With the addition of OLC, organizational performance can be increased through increased customer satisfaction and loyalty, improved quality and reduction of waste because previous studies indicated that there is positive relationship between TQM and performance (Kaynak, 2003a; Kumar, Garg, & Garg, 2011).

We should also consider that OLC is developed by the influence of TQM practices. In this regard, we proposed that OLC acts as a mediator between the relationship of TQM and Financial performance. The total TQM practices like, process management customer focus creates a knowledge sharing and mutual trust culture between organizational members and influences the relationship of OLC on organizational financial performance. So, we proposed that,

**H4:** OLC has the positive impact on financial performance.

**H4A:** OLC positively mediates the relationship between TQM and a firm's financial performance.

### **3.5) The mediating effect of business innovativeness between TQM and Financial performance**

Existing literature have no proper and pet definition of business innovativeness (Armbruster, Bikfalvi, Kinkel, & Lay, 2008) but Oslo, (2005) develops the definition of the term innovation for first time in 2005. The application of new organizational methods business models in organization's business practices, external relations or workplace organizations refers to as business innovativeness (Oslo, 2005). Business innovativeness in workplace organizations involve decision making for division of work among employees, new methods for distributing responsibilities and new ideas and concepts for developing the activities (Oslo, 2005). For instance, TQM develops a culture and arrangement that provides a productive environment for organizations to innovations and to increase their financial performance (Prajogo & Sohal, 2001). Certainly, TQM established a greater cultural commitment for business innovativeness which in results provides a greater level of organizational performance. Therefore,

**H5:** Business innovativeness has positive impact on financial performance

**H5A:** Business innovativeness positively mediates the relationship between TQM and a firm's financial performance.

### **3.6) Impact of TQM on operational and financial performance**

Many of the previous studies have stated that all TQM practices have been positively related to manufacturing performance and productivity (Chenhall, 1997), employee satisfaction or performance (Fuentes, Montes, & Fernández, 2006; Sadikoglu & Zehir, 2010), quality performance (Curkovic, Vickery, & Dröge, 2000; Prajogo & Hong, 2008), innovation performance (Sadikoglu & Zehir, 2010), competitive advantage (Agus & Sagir, 2001; Brah, Tee, & Madhu Rao, 2002), customer results/satisfaction (Choi & Eboch, 1998; Das, Handfield, Calantone, & Ghosh, 2000; Fuentes et al., 2006; Mann & Kehoe, 1994), financial performance (Agus & Sagir, 2001; Easton & Jarrell, 1998; Fuentes et al., 2006; Tena, Llusar, & Puig, 2001), and comprehensive organizational performance (Douglas & Judge, 2001; Kaynak, 2003a; Sharma, 2006). Customer focus have positive impact on operational performance (Claver-Cortés et al., 2008), employee performance (Ahire & O'shaughnessy, 1998; Claver & Tarí, 2008; Dow, Samson, & Ford, 1999), inventory management performance (Phan, Abdallah, & Matsui, 2011), customer satisfaction (Phan et al., 2011), innovation performance (Kim, Kumar, & Kumar, 2012; Phan et al., 2011; Zehir & Sadikoglu, 2012), sales (Joiner, 2007) and overall performance (Zehir & Sadikoglu, 2012).

Strategic planning has positively correlated with inventory management and operational performance (Phan et al., 2011), customer results and market performance (Macinati, 2008).

A follow up study of (Hendricks & Singhal, 2001) stated with a larger dataset in post implementation duration that the sample which implements the TQM practices are significantly outperformed the matched control groups. Douglas & Judge, (2001) took perceptual performance measures, their study results revealed that TQM practices implementation have positive and significant relationship with perceived financial performance of the hospitals and its industry expert related performance. So the assumed that the implementation of TQM philosophy is strongly

associated with financial performance perception (Kaynak, 2003b). Evidences got mixes when the firm size taken into interpretation some TQM researchers said that TQM cannot yield a consistent financial performance for SME's (Powell, 1995; Schmidt & Finnigan, 1992; Struebing & Klaus, 1997) but some researchers found the positive relation by implementing the TQM practices in SMEs (Ahire, Golhar, & Waller, 1996; Hendricks & Singhal, 2001). The study of (Hendricks & Singhal, 2001) reveals that the smaller organizations got more benefits by adopting/ implementing TQM practices rather than the larger organizations.

No doubt, the ultimate purpose of the businesses is their financial performance but the non-financial/operational performance is also equally important to the business while implementing the TQM applications. TQM practice may not directly affect the financial performance (Kaynak, 2003b), but through some indirect ways like innovation (Singh & Smith, 2004b), market competitiveness (Chong & Rundus, 2004), overall organizational performance (Powell, 1995).

**H6:** TQM positively impacts on financial performance.

**H7:** TQM positively impacts on operational performance.

### **3.7) Impact of OLC on operational performance**

Many of the scholars have focused on the importance of learning capability to overall performance of the organizations (Slater & Narver, 1994). A learning capability effects the degree to which the organizations are going to promote productive learning as a core competency (Sinkula, Baker, & Noordewier, 1997). Akgün et al., (2014a) have done his study in turkey and suggested in his study that OLC will have impact on operational performance like it have on financial performance because both comes under organizational performance as a whole. "Organizational learning capability (OLC) is defined as the organizational and managerial characteristics, practices, skills or factors that facilitate the organizational learning process (e.g. generating, acquiring, disseminating and integrating information/knowledge) and allow an organization to learn" (Jerez-Gomez et al., 2005). Jerez-Gomez et al., (2005) said that OLC have four dimensions managerial commitment, openness and experimentation, knowledge transfer and integration, and systems perspective. Managerial commitment indicates the development of managerial support for and

leadership commitment to the learning process and employee motivation. All the dimensions will help to improve the operational performance of the firm as they help to increase the financial performance of the firm.

**H8:** OLC have positive impact on operational performance

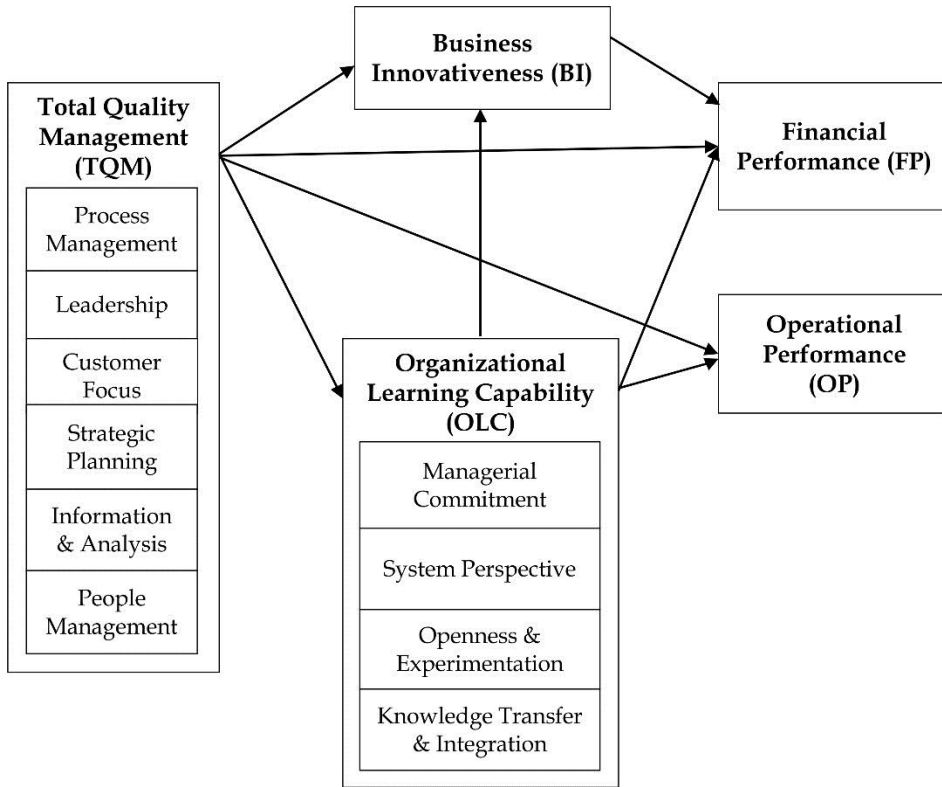
**H8A:** OLC positively mediates the relationship between TQM and operational performance

### **3.8) Impact of business innovativeness on operational performance**

We have found no any study in which the researcher proposed the impact of Business innovativeness on operational performance. But (Akgün et al., 2014a) have done his study in turkey and suggested in his study that Business innovativeness will have impact on operational performance like it have on financial performance because both comes under organizational performance as a whole. Operational performance is the capability of an organization to share information, process and routines, activities and methods with suppliers and customers. Skills, expertise, experience, capabilities core competencies, reduce cost and time, improve quality consideration and ability to act are used to improve the organizational efficiency in identifying and utilizing available resources. These core competencies help to find solutions for running business problems and in getting competitive advantages (Habtay, 2012) that directly helps to achieve higher level of operational performance. With innovating the business operations there can be increase in goods delivered on time, increase in inventory levels, and control on the scrap rates, increase in product quality, and increase in product line and can be improvement in capacity utilization as operational performance.

**H9:** Business innovativeness has positive impact on operational performance.

**H9A:** Business innovativeness positively mediates the relationship between TQM and operational performance.



*Figure 3-1: Proposed Research Model*

#### 4) METHODOLOGY

As we have done this study in natural setting so the Positivism research philosophy has been adopted. This study followed the quantitative research method so the deductive approach is adopted because it goes from theory to test hypothesis and confirmation of results. We collect the data through survey questionnaires so the study is related to survey research. As a type of investigation we are doing correlation research study. The data was collected by using nonrandom purposive sampling technique from ISO certified companies. The sample size for our study is 540 respondents. For TQM the instrument is adopted from (Prajogo & Hong, 2008; Samson & Terziovski, 1999; Santos-Vijande & Álvarez-González, 2007b) which contains six dimensions as process management, customer focus, leadership, strategic planning, information and analysis, and people management. For organizational learning capability the instrument is adopted from (Jerez-Gomez et al., 2005) it contains four dimensions as

managerial commitment, system perspective, openness and experimentation and knowledge transfer and integration. For business innovativeness the instrument is adopted from (Wang & Ahmed, 2004). For organizational performance (Financial performance) we adopted the instrument from (Green & Inman\*, 2005). For operational performance we adopted the instrument from (Zhu, Sarkis, & Lai, 2008). We measured TQM, OLC, Business innovativeness, operational performance and financial performance by using 7 point likert scale ranging from strongly disagree (1) to strongly agree (7).

#### **4.1) Data analysis**

For data analysis we apply structured equation modeling technique (SEM). Because this is a latest technique and more than one analysis can be run simultaneously. SPSS version 21, and AMOS version 22 is also used for the purpose of data analysis.

#### **4.2) Results and discussion**

To apply the CFA and SEM techniques on our data set, the Reliability and normality issue of the data are considered very carefully. The data should be pure and there should be no reliability and normality issue. The respondents were CEO's of the organizations (14.8%), General Managers were (23.8%), Product/Project managers were (3.7%), Department managers were (56.1%), and the senior engineers were (1.6%). The number of the employees in respondent's firm less than 50 (3.5%), 50-100 (2.5%), 100-150 (1%), 150-200 (33%), and more than 200 were (60%). The manufacturing types of the responding firms were Mass production (29.1%), Batch production (51.6%), and the job production were (19.3%).

At first attempt the mean and standard deviation have been checked according to the Dimensions wise. The mean of all the dimensions were from 5.8967 to 6.2859 and their standard deviations are from 0.60225 to 0.784 which means that there is no normality issue in the data. It means that our majority respondents gave us the responses on likert scale between "agree (5) to extremely agree (7)". There can be many ways to check the reliability of the data but the standard which we followed to check the reliability of the data is Cronbach's Alpha approach. According to the Cronbach, (1951) the value of the reliability must be greater than 0.7. As shown in the table 4-1 of descriptive statistics, all the values of Cronbach's

alpha are greater than 0.7 which means that there is no reliability issue in the data set. Then we check the factor loadings of all the constructs of the dimensions that all the questions are loaded in relevant particular dimension. The table 4-1 of descriptive statistics shows that all the questions are loaded in their respective dimensions (variables).

After that we check the mean, standard deviation and cronbach’s alpha of all the variables according to the variables vise. The mean values of all the variables are from 6.000 to 6.2618 and their standard deviations are from 0.3644 to 0.3276 which depict that there is no normality issue in whole data whether we check it by dimensions vise or we check it by variables vise. All the values can be seen in the table 4-2 of descriptive statistics. Then we check the reliability of all the variables. Which should be greater than 0.7 and all the values of cronbach alpha in table 4-2 are greater than 0.7 which means that there is no reliability issue in the whole data.

*Table 4-1: Descriptive Statistics*

<b>Variables</b>	<b>No of Items</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Cronbach’s α value</b>	<b>Factor loading</b>
TQM_PM	5	5.8967	.63956	0.929	.921, .846, .761, .796, .952
TQM_L	3	6.1025	.63719	0.908	.804, .960, .884
TQM_CF	4	6.0205	.62038	0.861	.891, .841, .720, .692
TQM_SP	3	6.1301	.69996	0.906	.844, .825, .848
TQM_IA	4	6.0891	.69166	0.904	.937, .775, .965, .639
TQM_PPM	4	6.0256	.66288	0.879	.784, .847, .776, .823
OLC_MP	4	6.1352	.65082	0.852	.730, .742, .931, .699
OLC_SP	3	6.0956	.61360	0.859	.724, .791, .965
OLC_OE	3	6.2859	.65525	0.823	.777, .742, .826
OLC_KT	3	6.1028	.60225	0.808	.839, .731, .718
BI	4	6.28	.784	0.888	.767, .958, .801, .805
FP	6	6.14	.775	0.915	.902, .692, .821, .805, .839, .719
OP	6	6.08	.779	0.903	.835, .774, .907, .699, .751, .718

After analyzing the descriptive statistics of all the variables the next step is towards the Confirmatory factor analysis (CFA), which should be performed after checking the descriptive statistics. For checking the

confirmatory factor analysis (CFA) Gerbing & Anderson, (1988) given the two step approach to perform the CFA. According to them CFA has to be performed first. After getting the results of CFA, next step is to check the results of hypothesis (hypothesis testing) by applying the structured equation modeling (SEM). Now for First CFA, first of all we draw out all the variables with their respective dimensions and their relative constructs on AMOS. After drawing the variables we create the links between them by following our theoretical framework. After that we draw the covariance between all the variables to covariate them with each other. Then we calculate the results of first CFA. According to Kline & hair the model fit indices are, as Normed chi-square(chi-square (CMIN)/Degree of freedom (DF)) should be less 3 and non-significant, CFI should be >.95, Goodness of fit indices (GFI) should be >.95, adjusted Goodness of fit indices (AGFI) should be >.80, tucker-lewis coefficient (TLI) which value should be greater than 0.9,

*Table 4-2: Descriptive Statistics*

<b>Variables</b>	<b>No. of Items</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Cronbach's α value</b>	<b>Factor Loadings</b>
Total quality management (TQM)	6	6.0441	0.43765	0.917	0.366, 0.433, 0.663, 0.674, 0.509, 0.659
Organizational learning capability (OLC)	4	6.2618	0.36443	0.800	0.667, 0.711, 0.720, 0.770
Business innovativeness (BI)	4	6.2039	0.63276	0.888	0.762, 0.695, 0.965, 0.794
Financial Performance (FP)	6	6.0212	0.62003	0.915	0.920, 0.732, 0.810, 0.791, 0.828, 0.721
Operational performance (OP)	6	6.0000	0.60858	0.903	0.794, 0.791, 0.870, 0.721, 0.759, 0.738

Comparative fit indices (CFI) which value should be greater than 0.9, RMR should be <.09, Root mean square error of approximation (RMSEA) should be <.05, and PCLOSE should be >.05. By our data analysis Chi-square=676.248, DF=282.00, Normed Chi-square=2.398 is in acceptable range, GFI=0.832 is moderate, AGFI=0.791 is also a moderate value, RMR=0.031 is strongly in acceptable range, TLI=0.877,



CFI=0.893, RMSEA=.076 is close to accepting level that's why is accepted to describe the results more clear. All the values are approximately in acceptable range so that the model is good fit and successfully run. After that reliability and validity of the data is tested. During the execution of first order CFA according to Gerbing & Anderson, (1988) we have to clear that there should be no validity and reliability issue in the data. To check the validity of the data we follow Kline 2011. Here validity means the convergent validity and discriminant validity. Furthermore, in the process of performing the CFA to analyze the Convergent and Discriminant validity we follow the (Fornell & Larcker, 1981) three step approach.

Fornell & Larcker, (1981) stated that, for convergent validity the value of square root of AVE should be greater by comparing with other variable's correlational values. Composite reliability of all the variables should be greater than 0.8, factor loading of all the constructs should be higher than 0.7, and average variance extracted (AVE) should be greater than 0.5. If all the values lie in this range then it means that there is no Convergent validity issue. In table 4-3 we showed square root of Ave bold in diagonal elements. For analyzing discriminant validity of the data we take square root of AVE which should be greater than the correlational values of all the variables. If the resulting values meeting the criteria then it will be understood that there is no Discriminant validity issue. When Discriminant validity and Convergent validity will be found out of issues and will be exact then it means that our first CFA has been successfully executed. Here in table 4-1, factor loading of all the variables are higher than 0.7, which means there is no issue of Convergent validity. The Composite reliability and AVE of all the variables are presented in table 4-3 of psychometric properties (First order).

According to the first order CFA, all the values of Average variance extracted (AVE) are greater than 0.5 and all the values of Composite reliability (CR) are greater than 0.8 as shown in the table 4-3 which means that there is no convergent validity issue in the CFA model and CFA has run successfully. For Discriminant validity the square root of AVE should be greater than the correlational values of all the variables which depict that our discriminant validity has also proved. As in

shown in the table 4-3 of psychometric properties (First order) the square root of AVE is greater than the correlational values of all the variables, so there is no discriminant validity issue in our model.

Now we check the second order CFA according to the main variables, it has some problem with TQM because AVE of TQM is less than 0.5, while according to the requirement it should be greater than 0.5, CR of TQM is less than 0.8 while by the standards the value of CR should be greater than 0.8. The values can be seen in the table 4-4 of psychometric properties (2<sup>nd</sup> order CFA). We cannot say that there is convergent and discriminant validity issue in the whole model but the entire model is exactly fitting except the TQM. The reason can be that some respondents may not understand the questions and due to this may not be responded well as we required. All tests which have been taken yet had proved the Convergent validity and discriminant validity.

Because there is no validity issue in the second order CFA, So we are going to perform the Structured equation modeling (SEM) for postulated hypothesis testing. For testing the hypothesis, we converted our model into structural model by drawing the paths for our proposed relationships. According to Kline & hair the model fit indices are, as Normed chi-square should be less 3, CFI should be  $>.95$ , GFI should be  $>.95$ , AGFI should be  $>.80$ , RMR should be  $<.09$ , RMSEA should be  $<.05$ , and PCLOSE should be  $>.05$ . The fit indices of the structural equation model are Chi-square=677.714, normed Chi Square=2.395 is in acceptable range, GFI=0.833 moderate, AGFI=0.793 moderate, TLI=0.877, CFI=0.893, RMSEA=0.076 is also moderate and upto some extent is acceptable. All the values of model fit are approximately in acceptable range.

### **4.3) Structural equation modeling (SEM)**

Hypothesis of the study has been tested through the SEM technique. In our first hypothesis (H1) we postulated that total quality management (TQM) positively impacts on organizational learning capability (OLC). For TQM and OLC (Unstandardized  $\beta=0.690$ , Standardized  $\beta=0.642$ , SE=0.102, C.R=6.773, P=000) which shows that our results are strongly supporting our H1. Our second hypothesis (H2) is TQM strongly

impacts on Business innovativeness. The values for TQM and Business innovativeness are (Unstandardized  $\beta=0.681$ , Standardized  $\beta=0.529$ , SE=0.148, C.R=64.614, P=000). These values strongly support our H2. Our third hypothesis (H3) is OLC significantly impacts on Business innovativeness. The extracted values for this hypothesis are (Unstandardized  $\beta=0.079$ , Standardized  $\beta=0.066$ , SE=0.118, C.R=0.671, P=0,503/NS) these values are not supporting the H3 because of the executed values which are below than the desired standard values.

Our Fourth hypothesis (H4) was Business innovativeness significantly impacts on Financial performance. The executed values are (Unstandardized  $\beta=0.206$ , Standardized  $\beta=0.173$ , SE=0.101, C.R=2.043, P=0.041) which show that there is strong relationship between Business innovativeness and Financial performance. So, the results are supporting the Fourth hypothesis (H4). The next H5 is OLC strongly impacts on Financial performance. The values for H5 are (Unstandardized  $\beta=0.310$ , Standardized  $\beta=0.217$ , SE=0.148, C.R=2.100, P=0.036) these values are supporting our H5. Our H6 is TQM impacts on financial performance. The executed values are (Unstandardized  $\beta=0.139$ , Standardized  $\beta=0.091$ , SE=0.189, C.R=0.737, P=0.461) the values are not supporting the H6. Then our H7 is OLC impacts on Operational performance. The extracted values are (Unstandardized  $\beta=0.386$ , Standardized  $\beta=0.311$ , SE=0.124, C.R=3.107, P=0.002) these values are strongly supporting our H7. The next Hypothesis is H8 that is Business innovativeness strongly impacts on Operational performance. The values for H8 are (Unstandardized  $\beta=0.162$ , Standardized  $\beta=0.157$ , SE=0.083, C.R=1.947, P=0.052) these values are in support of H8. The H9 of the study is TQM strongly impacts on Operational performance. The desired values are (Unstandardized  $\beta=0.234$ , Standardized  $\beta=0.176$ , SE=0.157, C.R=1.494, P=0.135) these values are not in the favor of H9 and does not supporting the H9. All the values can be seen in the table 4-5 of regression weights.

*Table 4-3: Psychometric Properties (First order CFA)*

	CR	AVE	IA	MC	SP	OE	KTI	BI	OP	FP	PRM	L	CF	SP	PPM
IA	0.911	0.720	<b>0.849</b>												
MC	0.860	0.610	0.278**	<b>0.781</b>											
SP	0.870	0.694	0.053**	0.195**	<b>0.833</b>										
OE	0.825	0.612	0.114**	0.011**	0.245**	<b>0.782</b>									
KTI	0.808	0.585	0.314**	0.301**	0.228**	0.261**	<b>0.765</b>								
BI	0.891	0.673	0.293**	0.103**	0.160**	0.272**	0.210**	<b>0.820</b>							
OP	0.904	0.612	0.199**	0.149**	0.207**	0.118**	0.363**	0.391**	<b>0.782</b>						
FP	0.917	0.650	0.019**	0.043**	0.082**	0.242**	0.170**	0.329**	0.270**	<b>0.806</b>					
PRM	0.936	0.745	0.325**	0.250**	0.240**	0.325**	0.393**	0.410**	0.281**	0.200**	<b>0.863</b>				
L	0.915	0.783	0.163**	0.237**	0.120**	0.228**	0.032**	0.367**	0.234**	0.194**	0.308**	<b>0.885</b>			
CF	0.868	0.624	0.248**	0.226**	0.171**	0.324**	0.264**	0.436**	0.322**	0.306**	0.478**	0.303**	<b>0.790</b>		
SP	0.908	0.714	0.258**	0.392**	0.185**	0.151**	0.317**	0.266**	0.269**	0.247**	0.381**	0.392**	0.468**	<b>0.845</b>	
PPM	0.881	0.649	0.529**	0.369**	0.190**	0.155**	0.273**	0.259**	0.163**	0.037**	0.306**	0.204**	0.166**	0.442**	<b>0.805</b>

Codings which are used in this table are given below:

Information and analysis (IA), Managerial Commitment (MC), System perspective (SP), Openness and Experimentation (OE), Knowledge transfer and integration (KTI), Business innovativeness (BI), Operational performance (OP), Financial performance (FP), Performance management (PRM), Leadership (L), Customer focus (CF), Strategic Planning (SP), People management (PPM).

*Table 4-4: Psychometric Properties (2nd order CFA)*

	CR	AVE	TQMM	OLCC	OPP	BII	FPP
TQMM	0.727	0.318	<b>0.564</b>				
OLCC	0.809	0.515	0.642**	<b>0.718</b>			
OPP	0.903	0.609	0.463**	0.485**	<b>0.780</b>		
BII	0.883	0.656	0.571**	0.405**	0.382**	<b>0.810</b>	
FPP	0.915	0.645	0.324**	0.337**	0.279**	0.312**	<b>0.803</b>

There can be many reasons of non-significant relationship between the variables of H3, H6, and H9. Non-significant relationships are because of those companies which have ISO certification but not implementing the rules and regulations of the ISO standards, that's why the results of said hypothesis are not supporting the H3, H6 and H9 at the desired level.

To check the mediation related hypothesis the (Baron & Kenny, 1986) four step approach is followed with indirect effects of the mediation. According to (Baron & Kenny, 1986) the mediation is of two types, one is full mediation and the second is partial mediation. Now the rule for full

mediation is, effect of independent variable to dependent variable, dependent variable to mediator variable, mediating variable to dependent variable, and indirect impact of independent variable to dependent variable through mediating variable should be significant but the impact of independent variable to dependent variable and controlling mediating variable should be zero or insignificant. For partial mediation the rule is impact of total paths, from independent variable to dependent variable, independent variable to mediating variable, mediating variable to dependent variable, indirect impact of independent variable to dependent variable through mediator and the impact of independent variable to dependent variable and controlling variable should be important. If the effects of independent variable to mediating variable, mediating to dependent variable and independent to dependent indirectly through the mediating variable are insignificant then it shows that there is no mediating effect between the variables. OLC had fully mediated the relationship between TQM and Operational performance. Like TQM has positive impact on OLC (Unstandardized  $\beta=0.693$ , Standardized  $\beta=0.648$ ,  $P=0.001$ ) while OLC had showed significant impact on operational performance (Unstandardized  $\beta=0.404$ , Standardized  $\beta=0.341$ ,  $P=0.012$ ). TQM has showed the significant indirect impact on the operational performance through OLC (Unstandardized  $\beta=0.280$ , Standardized  $\beta=0.221$ ,  $P=0.012$ ), lower bias-corrected confidence interval (lower BCCI=0.072, Upper BCCI=0.278), while TQM had no significant impact on operational performance by controlling the OLC (Unstandardized  $\beta=0.302$ , Standardized  $\beta=0.239$ ,  $P=0.065$ ). These all values fulfilled the requirement of the full mediation, and proved the full mediation of OLC between TQM and operational performance. OLC has also showed the full mediation between TQM and Financial performance. TQM showed significant impact on OLC (Unstandardized  $\beta=0.608$ , Standardized  $\beta=0.638$ ,  $P=0.001$ ), there is no significant relationship between OLC and Financial performance (Unstandardized  $\beta=0.404$ , Standardized  $\beta=0.270$ ,  $P=0.087$ ), TQM has showed the insignificant indirect impact on the financial performance through OLC (Unstandardized  $\beta=0.245$ , Standardized  $\beta=0.172$ ,  $P=0.087$ ), lower bias-corrected confidence interval (lower BCCI=0.007, Upper BCCI=0.352), and TQM had no significant impact on financial performance by controlling the OLC (Unstandardized  $\beta=0.223$ , Standardized  $\beta=0.156$ ,  $P=0.087$ ). Full mediation of OLC between TQM and financial performance has been proved due to all these extracted values.

Table 4-5: Regression Weights

Relationships	Unstandardized $\beta$	Standardized $\beta$	S.E.	C.R.	P
TQM $\rightarrow$ OLC	0.690	0.642	0.102	6.773	***
TQM $\rightarrow$ BI	0.681	0.529	0.148	4.614	***
OLC $\rightarrow$ BI	0.079	0.066	0.118	0.671	Ns
BI $\rightarrow$ FP	0.206	0.173	0.101	2.043	*
OLC $\rightarrow$ FP	0.310	0.217	0.148	2.100	*
TQM $\rightarrow$ FP	0.139	0.091	0.189	0.737	Ns
OLC $\rightarrow$ OP	0.386	0.311	0.124	3.107	**
BI $\rightarrow$ OP	0.162	0.157	0.083	1.947	*
TQM $\rightarrow$ OP	0.234	0.176	0.157	1.494	Ns

Note: ns=not significant, \*= $p < 0.05$ , \*\*= $p < 0.01$ , \*\*\*= $p < 0.001$ .

Business innovativeness has showed the partial mediation between TQM and operational performance. TQM has significant direct relationship with business innovativeness (Unstandardized  $\beta=0.780$ , Standardized  $\beta=0.574$ ,  $P=0.001$ ), Business innovativeness has showed the insignificant direct relationship with operational performance (Unstandardized  $\beta=0.179$ , Standardized  $\beta=0.172$ ,  $P=0.054$ ), TQM has indirect insignificant relationship with operational performance through business innovativeness (Unstandardized  $\beta=0.140$ , Standardized  $\beta=0.099$ ,  $P=0.054$ ), lower bias-corrected confidence interval (lower BCCI=0.017, Upper BCCI=0.184), TQM has showed direct significant relationship with operational performance by controlling the business innovativeness (Unstandardized  $\beta=0.515$ , Standardized  $\beta=0.365$ ,  $P=0.002$ ). These all the values proved the partial mediation of business innovativeness between TQM and operational performance. Business innovativeness has also showed the partial mediation between TQM and financial performance. TQM has showed the significant direct relationship with business innovativeness (Unstandardized  $\beta=0.782$ , Standardized  $\beta=0.576$ ,  $P=0.001$ ), Business innovativeness has showed the significant relationship with financial performance (Unstandardized  $\beta=0.224$ , Standardized  $\beta=0.189$ ,  $P=0.046$ ), TQM has indirect significant relationship with financial performance through business innovativeness (Unstandardized  $\beta=0.175$ , Standardized  $\beta=0.109$ ,  $P=0.046$ ), lower bias-corrected confidence interval (lower BCCI=0.020, Upper BCCI=0.205), while QM has showed direct significant relationship with financial performance by controlling the

business innovativeness (Unstandardized  $\beta=0.347$ , Standardized  $\beta=0.215$ ,  $P=0.048$ ). These all the values proved the partial mediation of business innovativeness between TQM and financial performance. All the values have been showed in the table 4-6 of direct effects and 4-7 of indirect effects.

We have tested the hypothesis in two stages. At first stage we have tested those hypotheses in which we proposed that there is direct relationship between independent and dependent variables. The hypotheses which have direct relationships are H1, H2, H3, H5, H7, H8, and H9. The hypothesis which we have tested in first stage, some of them have already been tested in previous studies. Like H1, H2, H3, H4, H5, H6, H7, H8 and H9 have already been tested in previous studies by different researchers. H4A and H8A are not discussed in any previous study. This would be the novelty and contribution of our study in the literature. We have followed the study of (Akgün et al., 2014a), which is conducted in Turkey we followed his research model with the addition of a variable as “Operational performance” and tested in Asian context specifically in Pakistan. The H1, H2, H4 and H5 are supporting the previous studies (Akgün et al., 2014a) have done the study in turkey, and proposed the hypothesis as TQM have positive impact on OLC, TQM have positive impact on business innovativeness, OLC positively mediates the relationship between TQM and financial performance and OLC have positive impact on financial performance. (Akgün et al., 2014b) found all the hypotheses in acceptable premises. In H1 we proposed that TQM have positive impact on OLC, In H2 we proposed that TQM have significant impact on Business innovativeness, our results had proved this relationship as (Akgün et al., 2014a).

*Table 4-6: Direct Effects*

<b>RELATIONSHIPS</b>	<b>Unstandardized <math>\beta</math></b>	<b>Standardized <math>\beta</math></b>	<b>P</b>
TQM → OLC	0.693	0.648	0.001
OLC → OP	0.404	0.341	0.012
TQM → OP	0.302	0.239	Ns
TQM → BI	0.780	0.574	0.001
BI → OP	0.179	0.172	Ns
TQM → OP	0.515	0.365	0.002
TQM → OLC	0.608	0.638	0.001
OLC → FP	0.404	0.270	Ns
TQM → FP	0.223	0.156	Ns
TQM → BI	0.782	0.576	0.001
BI → FP	0.224	0.189	0.046
TQM → FP	0.347	0.215	0.048

*Note: ns=not significant, \*= $p < 0.05$ , \*\*= $p < 0.01$ , \*\*\*= $p < 0.001$ .*

H3 proposed that OLC have positive impact on Business innovativeness, but findings of the study cannot support this relation. The reason behind that May be people/organizations are unable to apply their learning capabilities on the business innovation improvements. H4 proposed that OLC have significant impact on FP, H5 postulated that Business innovativeness have significant impact on FP, and our results confirmed this hypothesis as (Akgün et al., 2014b) too.

H6 postulated that TQM have significant impact on FP, but our findings cannot support the hypothesis because the study done by (Akgün et al., 2014a) in turkey have not found the direct relationship between TQM and financial performance, organizations should apply the TQM practices in all manners so that firm’s financial performance can be increased. H9 proposed that TQM have significant impact on OP. the reason behind the rejection of the hypotheses can be that people/organizations are not applying the TQM practices in the organizations in order to attain maximum performance of the organization, and because this relationship is not tested in previous studies so there can be deficiencies. H8 proposed that OLC have significant impact on OP, in H9 we proposed that BI have significant impact on OP, our results have confirmed the relationship these hypotheses also not tested in previous studies and told us that by applying



the OLC in the organizations and by innovating the business operations like product innovation, process innovation the operational performance can be enhanced. H8 and H9 were never tested in any study before. And these hypotheses are the contribution to the literature.

Table 4-7: Indirect Effects

Relationships	Unstandardized $\beta$	Standardized $\beta$	P	BCCI	
				Lower	Upper
TQM $\rightarrow$ OLC $\rightarrow$ OP	0.280	0.221	0.012	0.072	0.278
TQM $\rightarrow$ BI $\rightarrow$ OP	0.140	0.099	0.054	0.017	0.184
TQM $\rightarrow$ OLC $\rightarrow$ FP	0.245	0.172	0.087	0.007	0.352
TQM $\rightarrow$ BI $\rightarrow$ FP	0.175	0.109	0.046	0.020	0.205

Note: ns=not significant, \*=p<0.05, \*\*=p<0.01, \*\*\*=p<0.001.

Table 4-8: Hypothesis Testing -I

Hypotheses	Result
H1: TQM $\rightarrow$ OLC	Accepted
H2: TQM $\rightarrow$ BI	Accepted
H3: OLC $\rightarrow$ BI	Rejected
H4: OLC $\rightarrow$ FP	Accepted
H5: BI $\rightarrow$ FP	Accepted
H6: TQM $\rightarrow$ FP	Rejected
H7: TQM $\rightarrow$ OP	Rejected
H8: OLC $\rightarrow$ OP	Accepted
H9: BI $\rightarrow$ OP	Accepted

In H9A we proposed that OLC plays the mediating role between TQM and FP. Our findings proved the H9A that OLC partially mediate the relationship between TQM and FP. This means that by implementing TQM practices and using the OLC the financial performance will be increase. It also means that there is a direct relationship of OLC on FP. In H4A we proposed that OLC plays the mediating role between TQM and OP. our findings has proved the relationship that OLC partially mediate the relationship between TQM and OP. This means that by implementing TQM

practices and using the OLC the operational performance will be increase. In H3 we proposed that BI plays a mediating role between TQM and FP. Our results interpreted that BI fully mediated the relationship between TQM and FP. It means that there is no direct relationship between BI and FP. In H8A we postulated that BI plays the mediating role between TQM and OP. our results verify that BI fully mediated the relationship between TQM and OP. It depicts that there is no direct relationship between BI and OP. All the values are shown in table 4-8 of hypothesis testing I and 4-9 of hypotheses testing II.

*Table 4-9: Hypotheses Testing - II*

<b>Hypotheses</b>	<b>Result</b>	<b>Mediation Type</b>
H4A: TQM → OLC → FP	Accepted	Partial Mediation
H5A: TQM → BI → OP	Accepted	Full Mediation
H8A: TQM → OLC → OP	Accepted	Partial Mediation
H9A: TQM → BI → FP	Accepted	Full Mediation

## 5) DISCUSSION

Our study was about the TQM implementations and as a result its impacts on Financial and operational performance of the manufacturing organizations which have the ISO certification on quality standards. According to our knowledge and literature review we have not found any researcher which has checked the relationship of TQM on operational performance through mediators as Business innovativeness and organizational learning capability (OLC) in Asian context and specifically in Pakistan. This was the gap in previous studies so we fill this gap through our study and findings. We proposed our hypotheses in the beam of previous studies. We proposed factors of TQM practices, organizational learning capability (OLC) and business innovativeness (BI) as independent variables, financial performance (FP) and operational performance (OP) as Dependent variables. TQM have significant impact on business innovativeness (BI) and organizational learning capability (OLC), and organizational learning capability (OLC) has not significant impact on business innovativeness (BI). Because organizations do not implement the organizational learning capability (OLC) knowledge on the process of business innovativeness (BI) they used just typical things to survive. TQM have not significant impact on operational performance (OP) and financial

performance (FP), because organizations just have the ISO certificates to deal with the business operations but not properly implementation of TQM practices that's why there is an insignificant relationship between the TQM, operational performance (OP) and financial performance (FP). Organizational learning capability (OLC) has the major impact on operational performance (OP) and financial performance (FP), because by the use of some organizational learning capability (OLC) organizations have the higher operational performance (OP) and financial performance (FP). Same is the case with business innovativeness (BI), when the business operations will be innovating as we can say product innovativeness and process innovativeness the operational performance (OP) and financial performance (FP) will be increased resultantly. Some of the objectives are fulfilled through findings of the study but some have some problems due to organization's practices implementation failure. All the practices should be implemented in proper way and manner so the organizations can get higher output as financial and operational performance. As firms applied all the TQM practices in all manners of the business in the presence of business innovativeness and organizational learning capability the Financial and operational performance will be increased with a vast range. After that we check out the mediating effect of organizational learning capability (OLC) and business innovativeness (BI), TQM and operational performance (OP) and TQM and financial performance (FP). Organizational learning capability (OLC) plays the role as partial mediator between TQM and operational performance (OP) and between TQM and financial performance (FP). This means that there is a direct relationship between TQM and operational performance (OP) and TQM and financial performance (FP). Higher the value of organizational learning capability (OLC) there will be higher the value of financial operational performance. There is full mediation between TQM and operational performance (OP) and TQM and financial performance (FP) through business innovativeness (BI). It means that there is no direct relationship between TQM and operational and financial performance.

As far as other studies have the limitations in their work, this study also have the limitations. The first limitation of the study is that the data has been collected for this study is from the major cities of the Punjab, Pakistan. So the results may not be generalizable to all over the Pakistani companies. Secondly, people are not willing to participate in the research even they are the managers of the particular departments and also because they are too busy and have no time to participate in this research. Thirdly, the data was

collected from those companies which have ISO quality standard certification on the basis of TQM practices implementation. But there were some companies which have ISO quality standard certification but they don't have implemented the TQM practices in their organization. That's why this can also be a big reason of the issue with the generalizability and normality of the data. People/organizations have not responded back even we sent the Questionnaire to them with a cover letter and prepaid courier services. The CFA values are high for RMSEA so this is an additional limitation of the study.

## **6) CONCLUSION**

To concluding, it is recommended that the same study should be executed with a larger sample size in some future. Data should be collected from those organizations which are actually performing the total quality management practices and organizational learning capability. Data should be collected from other cities of the country, like Karachi, Faisalabad, Rawalpindi and Islamabad. Furthermore, the model presented in this study does not capture the alternative mediators that may influence the relationship between TQM and financial and operational performance, such as product and technological innovativeness. Moreover, organizational effectiveness can also be investigated in accumulation to financial performance.

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