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The Mediating Role of Total Quality Management between Human Resource Practices, Information Technology Infrastructure and Performance of Pakistan Public Hospitals

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Abstract

Health care sector in developing countries is striving for sustainable performance, where total quality management and national culture has considered as a key strategy for the hospitals to become more effective. Although, to understand the diverse perceptions of health care sector performance, this study aims to examine the impact of information technology infrastructure (ITI), human resource management practices (HRM) on the health care sector performance in Pakistan with the mediating effect of total quality management and the moderating role of national culture. However, this research used SmartPLS (SEM) 3.0 for the analysis of survey data (n = 249) collected from doctors working in public hospitals of Pakistan. Empirical results found that from six direct hypothesis,five have a direct strong relationship with total quality management (TQM) and organization performance (OP). Where, total quality management mediates the relationship between HRM and organization performance except ITI. Finally, national culture moderated the relationship between TQM and organization performance.

Keywords: Human resource management practices, Total quality management, IT infrastructure, National Culture, SmartPLS SEM.

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1. Introduction

The performance of healthcare sector attained huge concentration due to its significance as an essential sector of the economy (Ghosh and Sobek II, 2015). Among its the association of human life, healthcare sector plays one of the most significant roles in the society and have to need the constant development and investment (Cheng *et al.*, 2015). According to the latest Web World Hospitals Ranking (2016), out of 20 top hospitals in South Asia, 19 hospitals are based in India, one hospital is based in Bangladesh and none has been based in Pakistan. Furthermore, according to this ranking the best public sector hospital in Pakistan rank 5,911 in the world. The aforementioned statistics showed that the performance of Pakistan healthcare sector (hospitals) in South Asian region, Asian region as well as in the world is not satisfactory.

According to Kashif *et al.* (2014), health care sector generate big opportunities for the employment of low-trained workers as well as they served as a pull factor (i.e. quick access to care, availability of higher technology and expertise, low cost of health care, availability of high-quality services) for the health tourism industry. Medical Tourism Index (2016) considers 41 countries from Afercia, Europe, North America, South America, Central America Asia and the Middle East which are best for medical tourism where as it did not considered Pakistan as a medical tourism country in the Asian region which shows that medical tourism in Pakistan is not consider good due to poor health services as compared to neighboring countries like India and China. From the research background, following research motivations can be derived. First TQM in the service sector as compared to manufacturing sector is not yet considering worthy for research and have not been researched adequately. Second importance of health care sector in a service based economy is not ignorable from both academically and practically. Lastly, Pakistan is not considering being rank as a health tourist country both in the Asian region as well as in the world due to their poor health services.

Although, the service sector of Pakistan generates 34% of employment, contribute more than 50% of the Gross Domestic Product (GDP), as well as get US$ 4 billion in term of payment from the abroad (Ahmed and Ahsan, 2011). Pakistan is the 2nd largest Muslim populous country and the 6th largest world populous country where 70% peoples reside in rural areas (Kashif *et al.*, 2014). Public health sector which includes child healthcare centers, maternity centers, dispensaries and public hospitals is the major source of providing healthcare services that lead citizens towards a healthy life style, so they can contribute to the national development of the economy. According to the World Bank's South Asian Economic Report (2015), Pakistan has positioned at the bottom of the eight economies in South Asia, projecting a modest growth rate of 4.4% the second-lowest after Afghanistan. Furthermore, in 2016 growth rate is 4.6% of Pakistan the first lowest in south Asian countries. Healthcare sector becomes an utmost important sector in a service based economy that served as a catalyst in a weaken economy like Pakistan.

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These decades, quality management practices play an important roles in advancing firms in the competitive market. Thus, it is assumed that the quality management is an essential practices for organization survival, and nowadays, many organizations have embedded quality management practices into their operations (Lee and Lee, 2014). Earlier studies Talib *et al.* (2013); Ju and Park (2016); Parvadavardini *et al.* (2016); Al-Hyari *et al.* (2016) agreed that total quality management leads organization towards better performance. Organization implement TQM because it delivers tangible and intangible benefits such as increased productivity, reduced cost of operation, improved quality and less rework, enhanced customer satisfaction, enrich employee commitment, improved communication, enhanced sustainable competitive advantage, improved customer service and loyalty, enrich employee relations and satisfaction, improved organization management, enhanced ethics and social responsibility, reduced errors and improved employee morale, endorse continuous progress and innovation, enhance process and improved financial performance of the organization. However, Abu-Doleh (2012); suggested that future research should be on the relationship between human resource management and total quality management. Therefore, this research should investigate the effect of HR practices on TQM.

Previous studies by Sadeh (2017), Mohapatra and Murarka (2016), Nair and Choudhary (2016), Al-Hyari *et al.* (2016), Lashgari *et al.* (2015) agreed that total quality management leads health organization towards better performance. There is no compromise between TQM experts, researchers, professionals and consultants about TQM vital principles and critical success factors (CSFs). Different quality gurus integrated different principles, practices, and CSFs in their TQM models. Therefore, managers are puzzled where to establish and what is mandatory to implement TQM (Mohammad, 2014). In a similar vein, it was argued by Aquilani *et al.* (2017), that previous studies with respected to critical success factors of TQM implementation are mixed and diverse. This clearly reveals a gap in the literature.

In spite of the critical importance of EFQM model in the healthcare sector, past researchers predominantly ignore the application of EFQM model in Pakistani healthcare sector (Irfan and Ijaz, 2011; Irfan *et al.*, 2012). Moreover, to the researcher's information, there is no prior empirical study in Pakistan that has been conducted to investigate the healthcare sector performance by utilized EFQM model as underpinning theory. Hence, this study attempt to narrow down this gap by investigating human resource management practices, information technological infrastructure as TQM enablers that leads health organization towards better performance. In addition, based on the recommendation of Ali and Brandl (2017), the culture should be investigated in the context of nation, therefore the current study has selected the national culture as a moderating construct between TQM and hospital performance to strengthen the relationship as well as to identify the significance of culture enhancing the quality as well as performance of public hospitals in Pakistan.

Improved information technology infrastructure is essential for TQM implementation in the healthcare sector (Hariharan and Dey, 2010). It is indicated by Mohapatra and Murarka (2016) that information technology helped us to improve the quality of healthcare services. In a similar vein Barata *et al.* (2018) suggested that healthcare organizations should address IT if they want to maintain quality standards. In spite of the importance of IT in the healthcare sector that leads towards better innovating and digital economy, Pakistan ranked at 110 among 139 countries in the Global Information Technology Report (2016). It is quite evident from the above information that penetration of information technology (IT) in Pakistan economy is quite dismal. Hence, at this juncture, it is necessary for the researcher to study information technology infrastructure in the healthcare sector of Pakistan.

In an era of rapid and continuous change, HRM play avital role to gain the competitive advantage of the organization (Asrar-ul-Haq and Kuchinke, 2016). HRM is pivotal for effective TQM implementation that leads organization towards excellence (Usrof and Elmorsey, 2016). Due to intense competition, globalization and advancement in technology organization pay more attention to the association of HRM and total quality management (Izvercian *et al.*, 2014). HRM practices such as recruitment and selection or training and development are necessary for TQM implementation (Abu-Doleh, 2012; Usrof and Elmorsey, 2016).

As the empirical results of the studies examining the relationship between total quality management (TQM) and organization performance (OP) are inconsistent, the relationship between total quality management and organization performance also show varying results and lack of consistency, this condition calls for further research to be performed by incorporating some new aspects that may help to clarify the results (Al-Dhaafri *et al.*, 2016). Literature suggested that national culture can significantly impact TQM context, furthermore, Mardani and Kazemilari (2012) indicate that future research should be carried out on national culture in TQM context. In a similar vein, Alharbi (2012) also emphasize to study moderated the effect of national culture in TQM context. In addition, to the best of researcher knowledge, none of the earlier studies have discussed the moderating effect of national culture on the association of total quality management and organizational performance. Hence, it is appropriate to add national culture as a moderating variable on the relationship between total quality management and organization performance to overcome the literature gap. Based on the aforementioned debate this study seeks to examine the critical success factors or enablers of TQM as well as a moderating effect of national culture on the relationship TQM and hospitals performance in the healthcare sector of Pakistan.

However, this research extends past literature of TQM to health care sector performance in developing countries, particularly in the public hospitals of Pakistan and indicates the relevance of current study theories and empirical findings. Furthermore, in this study, the exclusive role of TQM as an intervening construct based on EFQM model in association with human resource management practice, information technology infrastructure have established by the human capital theory, innovation theory and national culture theory to support current study framework. Though, past literature ignored the exclusive role of TQM and national culture as a mediated moderation in this study. Because counting these constructs in combination with Human Capital Theory (HCT), and National

Culture (NC) theory makes extensive knowledge of existing literature and established theories. Therefore, this research will examine the amalgamation of these constructs and theories, which was ignored by the past literature. Practically, the results of this research will allow the policy makers, doctors, hospital management/staff and mainly the government to make advancement successfully to enhance the performance of the hospitals.

2. Literature Review

2.1. Human Resource Management Practices, Total Quality Management and Hospital Performance

Organizations utilized suitable HRM practices to gain competitive advantage (Albrecht *et al.*, 2015). Human resource management practices are a set of planned practices implemented by an organization to lead and manage human capital to attain the organizational performance in term of quality, productivity and effectiveness (Delery and Gupta, 2016). Furthermore, Asrar-ul-Haq and Kuchinke (2016) indicated that in an era of rapid and continuous change, HRM plays an essential role to gain the competitive advantages of the organization.

HRM is pivotal for effective TQM implementation that leads organization towards excellence. Past literature argued that the integration of HRM and TQM are vital in any organization success. HRM practices include such as recruitment and selection or training and development are necessary for TQM implementation (Abu-Doleh, 2012; Usrof and Elmorsey, 2016). Abu-Doleh (2012) suggested that future research should be made on the relationship between HRM and TQM to enhance the hospital performance. Hence, to overcome and bridge literature gap this study developed hypothesis as follows;

H1: Human resource management practices positively effects on organization performance

H2: Human resource management practices positively effect on total quality management

H3: TQM mediates the relationship between HRM practices and organization performance

2.3. Information Technology Infrastructure, Total Quality Management and Hospital Performance

Information technology plays a vital and significant role than ever before in hospitals (Baysari *et al.*, 2016). Information technology in the hospitals has potential to improve patient care, minimize medical errors and minor costs (Reddy *et al.*, 2008). Information technology infrastructure is a combination of technological and human components. Technological infrastructure is referring to the hardware, software, communications technologies, and data application, while the human component is referring to the commitments, expertise, skills, norms, competencies, values,intellectual capital and knowledge of the employee (Broadbent *et al.*, 1999). Improved information technology infrastructure is essential for TQM implementation in the healthcare sector (Hariharan and Dey, 2010).

It is indicated by Mohapatra and Murarka (2016) that information technology helped us to get the better quality of healthcare services. The selection of organizational IT infrastructure and innovation is increasingly accepted as one of the critical steps for the firm to become competitive (Khalil *et al.*, 2019). It is particularly important for organizations to made a dynamic change on business processes and extensive international business operations (Broadbent *et al.*, 1999). The well manages of IT infrastructure enables firms to reduced production time, improved communication among employees, improve production cost, improve interconnectivity, and best support demand-side initiatives. In spite of the critical importance of IT infrastructure in healthcare sector, pervious researchers predominantly ignore the association of IT infrastructure and TQM in healthcare sector of the developing country to enhance their performance. Hence to bridge the literature gap this study develop the following hypothesis

H4: Information technology infrastructure positively effects on organization performance

H5: Information technology infrastructure positively effects on total quality management.

H6:TQM mediates the relationship between information technology infrastructure and organization performance

2.4. TQM and Hospital Performance

In the literature of TQM, past researches reported a positive relationship between TQM practices and organizational performance. Previous studies Talib *et al.* (2013), Ju and Park (2016), Parvadavardini *et al.* (2016), Al-Hyari *et al.* (2016) agreed that total quality management leads organization towards better performance. Moreover, it was found by many researchers that TQM practices affect both financial and non-financial performance since they enhance innovative; enhance market competitiveness; enhance employee's morale; enhance productivity; increase market shares and enhance overall organizational performance. In contrast, Al-Hyari *et al.* (2016) indicated that the relationship between total quality management (TQM) and organization performance (OP) are inconsistent, the relationship between total quality management and organization performance also show varying results and lack of consistency. Hence, to bridge the literature gap this study developed the following hypothesis.

H7: Total quality management significantly effects on organization performance.

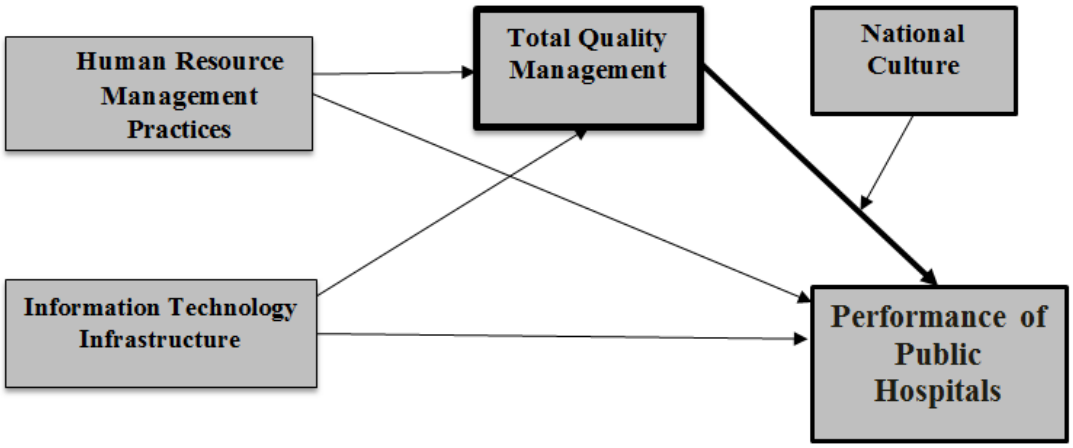
2.4. National Culture (Mediated-Moderation Analysis)

National culture means the set of norms, practices, convictions and traditions that exist in the population of a sovereign country. National culture is characterized by Van Oudenhoven (2001) as "profound beliefs and values and practices that are shared by the vast majority of people belonging to a certain nation". National culture significantly effects on TQM implementation in the organization (Mardani and Kazemilari, 2012). The inconsistent results and

lack of consistency between the association of TQM and organizational performance leads for further research to be accomplished by incorporating some new aspects that may help to make clear the results (Al-Dhaafri *et al.*, 2016). Alharbi (2012) emphasize to study moderated the effect of national culture in TQM context. Furthermore, to the best of researcher knowledge, none of the previous studies have discussed the moderating effect of national culture between total quality management and organization performance. Hence to overcome the literature gap this study develop the following hypothesis;

H8: National culture moderates the relationship between total quality management and organization performance.

Fig-1. Conceptual Framework



3. Research Design

3.1. Data collection and Sampling technique

The research population consisted of all public hospitals 438 (i.e. Teaching hospitals, the District headquarter, Tehsil headquarter and Rural health center) located in the Punjab province of Pakistan. There are four provinces namely, Baluchistan, Khyber Pakhtunkhwa, Punjab and Sindh in Pakistan. The rationale for choosing Punjab province is that because Punjab is considered as a hub of economic activities. Punjab is Pakistan's largest province, both in terms of population and size of the economy. Pakistan's economic growth and development are inextricably linked to its largest province, for income and employment generation.The Population of this study consisted of all the 438 public hospitals located in Punjab province of Pakistan. From Krejcie and Morgan (1970) population and sample size table, the ideal sample size for a population of 438 is 205. Thus 205 hospitals are studied. The response rate in developing countries like Pakistan is very low. Hence, to achieve required response rate researcher distributes 410 questionnaires.

This study adopted probability (random) sampling. Probability sampling design is adopted because of the need to generalize the findings of this study. Recall that the population of this study consists of all the 438 public hospitals located in the province of Punjab Pakistan, and the sample size is 205. The hospitals are grouped according to their operational category. Thus, in determining the sample size per hospital, a disproportionate stratified random sampling technique will be adopted. Table 1 shows the distribution of the questionnaire.

Table-1. Distribution of questionnaire

Type of hospital	No of hospital	No of questionnaire distributed
Teaching hospital	23	10
District headquarter	34	16
Tehsil headquarter	88	41
Rural health center	293	138
Total	438	205

3.2. Research Measures

Human resource management adapted from (Ahmad and Schroeder, 2002; Al-Hyari *et al.*, 2016) and measured with eight items. Moreover, Informational technology infrastructure is adapted from Jain (2007); Terry (2000) and measured with six items. Additionally, national culture is adopted from Wu *et al.* (2001); Xiaoxia and Jing (2006) and national culture consists of 6 items and these items reflects the concept of Power distance, Uncertainty avoidance, Individualism/Collectivism and Masculinity/Femininity. Total quality management is adopted from Al-Hyari *et al.* (2016) and measured with four items. Finally, the organizational performance is adapted from Al-Hyari *et al.* (2016) and measured with seven items.

4. Data Analysis and Findings

4.1. Measurement Model Assessment

PLS (SEM) 3.0 was used in this study to evaluate the outer model (measurement model) and the inner model (structural model). In other words, PLS-SEM was used to analyze the direct, mediating and moderating results of this study. Moreover, SmartPLS 3.0 by Ringle *et al.* (2015) was used to determine causal links in the theoretical model. It is vital to note that model configuration approach in testing the reflective measurement model is quite diverse from approach used in testing the formative measurement model (Hair and Lukas, 2014; Lowry and Gaskin, 2014). In this study, all the indicators of latent variables are reflective.

Reliability and validity are the two key criteria used in PLS-SEM analysis to assess the outer model (Hair and Lukas, 2014; Hulland, 1999; Ramayah *et al.*, 2011). The suitability of the outer model can be assessed by looking at: (1) individual item reliabilities, i.e., indicator reliability and internal consistency reliability using composite reliability (CR); (2) convergent validity of the measures related to individual variables using average variance extracted (AVE); and (3) discriminant validity by means of Fornell-Larcker criterion and the indicators outer loading.

Fig-2. Measurement Model

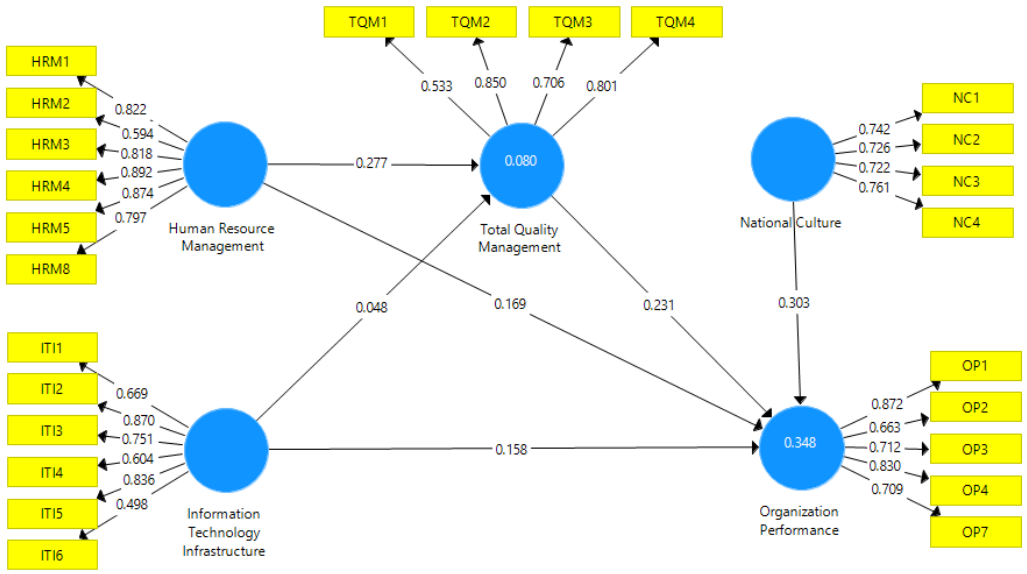


Table-2. Findings of the Measurement Model

Variables	Items	Factor loading	Cronbach Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
Human Resource Management Practices	**HRM1**	0.822	0.890	0.916	0.649
	HRM2	0.594			
	HRM3	0.818			
	HRM4	0.892			
	HRM5	0.874			
	HRM8	0.797			
Information Technology Infrastructure	**ITI1**	0.669	0.811	0.860	0.513
	ITI2	0.870			
	ITI3	0.751			
	ITI4	0.604			
	ITI5	0.836			
	ITI6	0.498			
National Culture	**NC1**	0.742	0.757	0.827	0.545
	NC2	0.726			
	NC3	0.722			
	NC4	0.761			
Organization Performance	**OP1**	0.872			
	OP2	0.663	0.821	0.872	0.580
	OP3	0.712			
	OP4	0.830			
	OP7	0.709			
Total Quality Management	**TQM1**	0.533	0.701	0.819	0.537
	TQM2	0.850			
	TQM3	0.706			
	TQM4	0.801			

AVE value of 0.50 indicates adequate convergent validity. In this study, convergent validity was assessed by examining AVE values. Results in Table 2 indictaed that AVE value of all the constructs exceeds the threshold value of 0.50 (Hair *et al.*, 2012; Henseler *et al.*, 2009). The result reveals AVE values range from 0.513 to 0.649; so it can be concluded that convergent validity is established.

Then, discriminant validity was considered, which concerns with the extent to which one construct is actually dissimilar from another construct. In other words, the measures of constructs that are theoretically not related to each other are actually not related to each other (Churchill, 1979; Hair *et al.*, 2014). Thus, in this research, discriminant validity is evaluated by comparison of square root of AVE of each variable with the correlations mentioned in the correlation matrix. Table 3 revealed that the result of Fornell Larcker Criterion evaluation with the square root of the variables. The square root of AVE in bold form is greater than its highest construct's correlation with any other constructs. Thus, it is determined that discriminant validity of the variable has been established (Churchill, 1979; Hair *et al.*, 2014).

Table-3. Discriminant validity of the Variables

	HRM	ITI	NC	OP	TQM
HRM	**0.806**				
ITI	0.059	**0.717**			
NC	0.402	0.407	**0.738**		
OP	0.364	0.306	0.501	**0.762**	
TQM	0.279	0.064	0.285	0.375	**0.733**

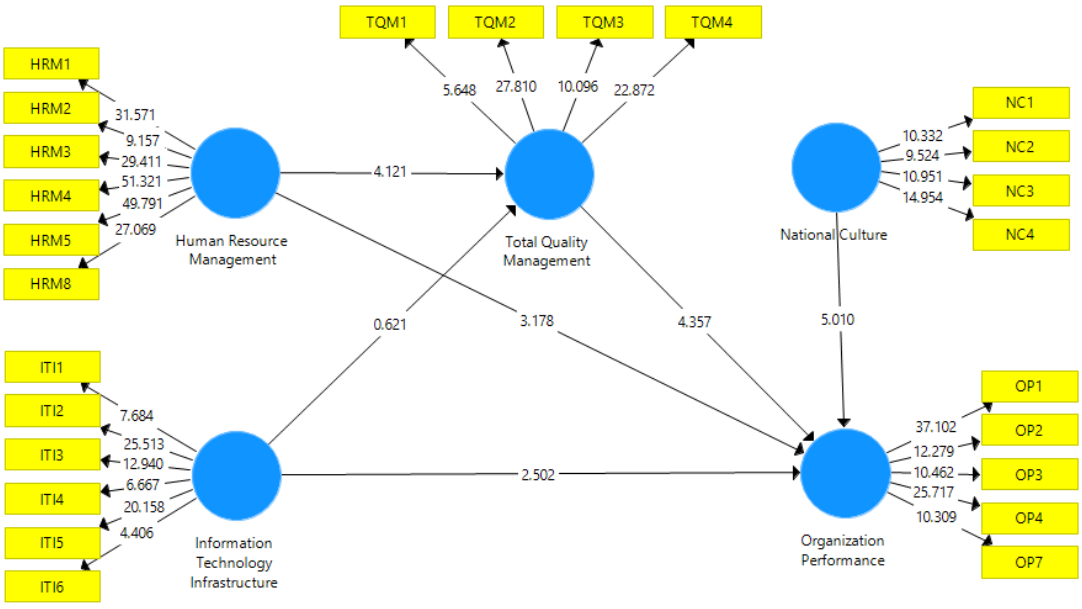
4.2. Structural Model Assessment

After evaluating the measurement model, further, the structural model assessment has been performed with the help of Smart PLS 3.0. Though, subsequent tests in the structural model assessment have performed.

4.3. Direct Effect and Hypothesis Testing

In SmartPLS, structure model gave an inner model examination of the direct link among the constructs of research comprise of path coefficients and t-value's. Yet, based on the rule of thumb suggested by Hair *et al.* (2014) clarifies that the bootstrapping method was performed with 5000 sampling-iterations for 249 cases to find the b-values of the co-efficient of the regressions and the t-value(s). Although, in this research, six (06) hypothesis with direct relationship has examined, in which, five (5) out of six (06) is found significant, but on the other hand, one (01) hypothesis is found insignificant which is information technology infrastructure in association with the mediating variable that is total quality management (TQM).

Fig-3. The Structural Model Direct Relationships



However, the R square value was found from the output result of SmartPLS (SEM) clarifies that, by driving all the variables together have the tendency of effecting the change in dependent variable by 35%.

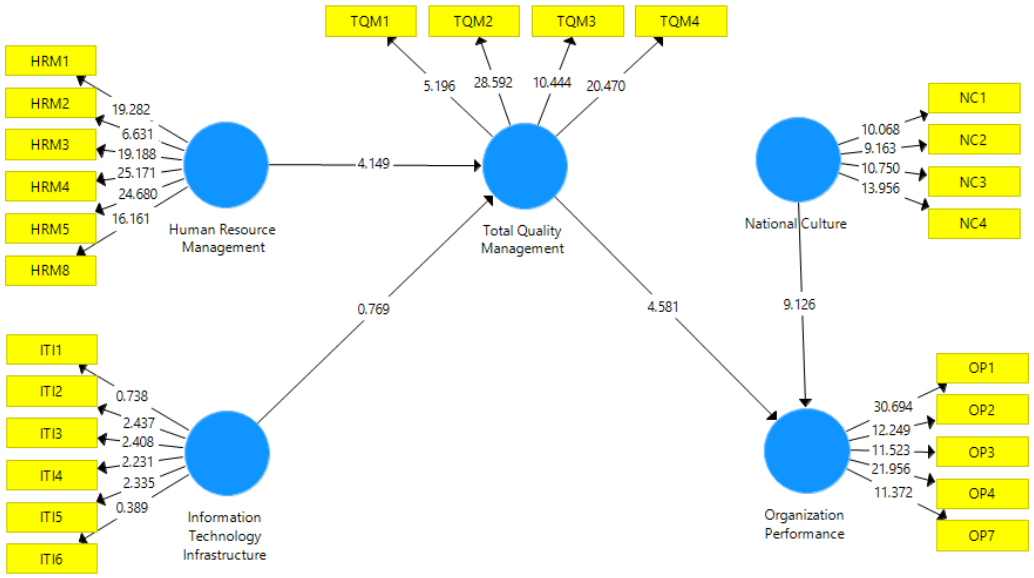
Table-4. Direct Hypothesis Summary

Hypothesis	Beta	SD	T Stats	P Values	Decision	F Square	R Square
HRM -> OP	0.169	0.053	3.178	0.001	Significant	0.035	0.348
HRM -> TQM	0.277	0.067	4.121	0.000	Significant	0.083	0.080
ITI -> OP	0.158	0.063	2.502	0.006	Significant	0.031	
ITI -> TQM	0.048	0.077	0.621	0.267	Insignificant	0.002	
NC -> OP	0.303	0.061	5.010	0.000	Significant	0.094	
TQM -> OP	0.231	0.053	4.357	0.000	Significant	0.073	

4.5. Mediation Model

Re-sampling mediation method by performing bootstrapping has performed in this research to observe the indirect effect of every predictor on dependent variable (OP) through total quality management as a mediating variable..

Fig-4. The indirect Effect of Total Quality Management



This research has scrutinized the effect of total quality management (TQM) as an intervening variable (Ringle *et al.*, 2015) by applying the boot-strapping procedure and performing resampling of 5000 cases to examine the t-values based on the mediating procedure of (Preacher and Hayes, 2004;2008).

In current research, the structural model assessment revealed that only one predictor; human resource management practices were established significantly related with total quality management and performance of public hospitals in Pakistan where as information technology infrastructure failed to established a relationship with organization performance through total quality management. Moreover, Table-5 shows the results of the mediation effects between the latent constructs and a dependent variable.

Table-5. *Mediation results*

Hypothesis Relationships	Beta	SD	T Stats	P Values	5.0%	95.0%
HRM -> TQM -> OP	0.068	0.027	2.552	0.005	0.033	0.119
ITI -> TQM -> OP	0.030	0.040	0.742	0.229	-0.054	0.069

4.6. Moderator Model Analysis

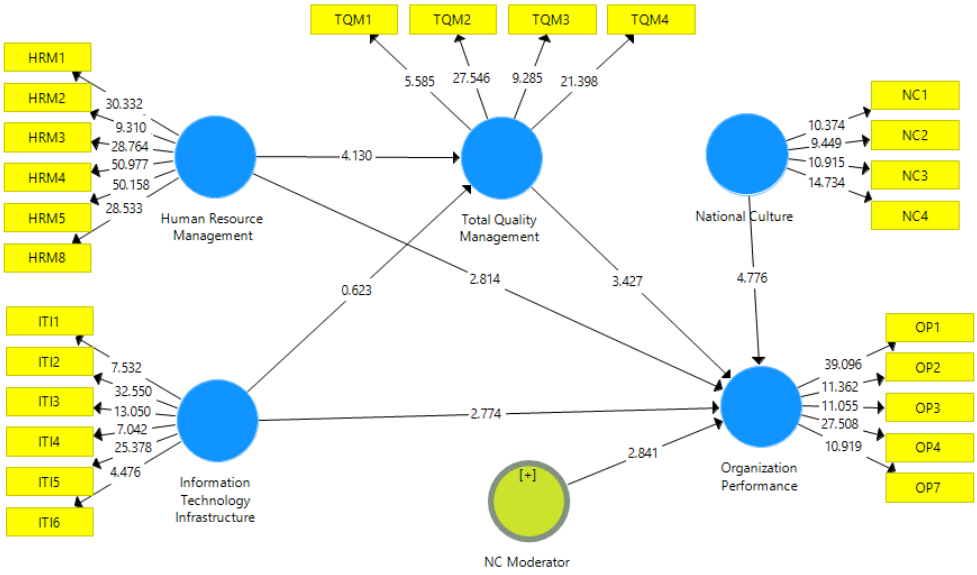
The moderator variable is selected for the study between the mediaiton and dependent variable also called mediated moderation analysis. However, moderator variable (s) are normally introduced when there is inconsistent relationship or weak relationship between the independent variable and dependent variable. However the technique used to test the moderating variable is product indicator approach (Chin *et al.*, 2003).

Table-6. *Mediated-Moderation Analysis*

S. NO	Hypothesized Path	Path coefficient	Standard Error (STERR)	T Value	P Value	Decision
1	TQM * NC -> OP	0.130	0.046	2.841	0.002	**Supported**

To obtain the t-values the researcher run bootstrapping, after bootstrapping the results in Table 6 deals with the moderating effect of national culture (NC) in predicting the organization performance. The results shown in Table 6 support the last hypothesis, which demonstrate that national culture moderates the relationship between the total quality management and organization performance (β= 0.130, T= 2.841, p-value < 0.05). Also after including national culture (NC) has increased the effect on DV by approx. 2% that is R square 0.367.

Figure-5. Structural Model with moderating variable



5. Discussions and Conclusion

The major purpose of the existing research were to find that whether total quality management mediates the relationship between HRM practices, information technology infrastructure and organization performance. To answer the objective and hypothesis of the study, the current research founds that total quality management mediates the relationship between HRM practices and organization performance. Which implies that more willing to improve the quality of HRM practice can bring high organization performance.Whereas information technology infrastructure found insignificant with organization performance through total quality management as later it has found direct relationship with organization performance.

Moreover, the current study has achieved another main objective, which is testing the direct relationship of predictors with organization performance as well as with total quality management, however the findings showed thatHRM practices has a significant positive effect on the performance of public hospitals in Pakistan. This implies that when a firm perceives bringing HRM practices in the firm it increases the performance of the firm particularly in health sector of Pakistan. Thus, it can be argued that firms who focuses more on HRM practices will preferably brings new strategies in the firms which ultimately increases the firm performance.On the other than, study has also found significant positive relationship between HRM practices and total quality management which clarify that higher the HRM practices, higher will be the total quality management of public hospitals in Pakistan.

Next, the findings of current study also revealed that information technologhy infrastructure is significant positively related with organization performance. It implies that if the information technology infrastructure will increase in the firms it will increases the overall organization performance. Apart from this side, ITI has found insignificant with total quality management, it implies higher the ITI lower will be the total quality management.

The study come up with another important finding which illustrates that TQM has a direct significant positive relation with organization performance, here TQM worked as a strong predictor of organization performance. It implies that, if organization will focus more on continuous improvement of the departmental operations and strategies then it will bring more revenues in the firm and also increase the overall functioning of the organization.

The empirical findings of this study enhance the vision of the researcher by exploring the new expects regarding the relationship between TQM and OP by introducing a new moderating variable which is national culture (NC). The findings explained that national culture moderates the relationship between TQM and OP. The result implies that, in public hospitals of Pakistan, the culture plays a very important role, like where that public hospital is located is considered to be more important, for instance; the hospitals established in villages or rural areas are not much focus on the patients, also doctors and staff are not regular on their jobs, where no proper check and balance has been made on them. Therefore, if the total quality management was applied within the hospitals and awareness program given to the top management, it will push the government to take necessary action against those hospitals which will ultimately brings performance in the hospitals.

This research has filled the gap in the existing literature of a firms total quality management and national culture, where existing clarifications have engrossed on hospitals performance through the awareness of national culture, total quality management with help of several antecedents.Finally, the present research has conveyedthe significant results and outcome, generally in the organization performance both directly and indirectly with including total quality management (TQM) as an intervening variable. Our studyconcludes that, to understand the array of total

quality management and national culture to get better organizational performance is furtherimportant in managing the technological infrastructure development as well as human resource management of the firm.

6. Implications

Application of this recommended model may expand the understanding ofdoctors and staff working in the hospitals, policy makers and government departments dealing with hospitals management and organization performance by using TQM in the business process. Based on literature,HRM, ITI and NChaveestablishedoperationalfactors of business performance. On the other side, this research identified that TQMis a valuablestrategical technique that would beconsidered by the policy makers and hospitals management who are seeking to improve the over-all performance of the hospitals.

Public hospitals have been renowned as one of the main contributors in health sector such asservice economic development, poverty alleviation and emolyment. Government and policymakers have to distinguish that their results linking to thepublic hospitals have a direct impact on activities of the enterprises. However, it is necessary to expose that, what government and guiding policy makers can make to get the better performance and sustainability of public hospitals in Pakistan. Since the literature analysis, this study has recognized that the public hospitals lacks of continuous improvement also called as total quality management in their business activities and working in an unfriendly atmosphere is the keyreason of public hospitals is an under or low performance.

Based on this study's the result and findingsnumerous past studies, it is empirically identified that total quality management based on EFQM model and national culture based on national culture theory has extending the knowledge of existing literature. Therefore, public hospital managmentshould to acknowledge the importance of the total quality management, human resource management practices, national culture, IT infrastructure in enhancing the hospital performance indirectly as weall as directly, based on human capital theory, innovation theory, national culture theory and EFQM model.

7. Limitation and Future Recommendations

This researchimproves and contributes to the existing knowledge and the growing works on EFQM model, national culture, IT infrastructure, HRM practices and organization performance. The limited sample size of 249 respondents which was selected in this researchindicates that more caution is essential in the analysis of the outcomessince these findings are not appropriate on other regions or provinces of the state. Further suggested that, future research may also employlongitudinal data for more understanding. Although, the future guidelinesfollowed from our results are to examine the TQM and hospital performance with several TQM theories and predictors by choosing other sizes of corporations for example; micro companies, medium sizedcompanies or even large corporationsbased on the projected reasons produced in the current research.

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