Critical Success Factors of TQM and its Impact on Increased Service Quality: A Case from Service Sector of Pakistan

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Abstract: Recent global economic competitive environment compels the organizations to become customer focused and meet the rising demands of customers for superior quality service. Quality had emerged as an essential business management strategy and implementation of Total Quality Management (TQM) at all levels had become a source of competitive advantage for the organizations. Literature on TQM advocates that TQM supports organizations to accelerate and enable them for continuously delivering at higher levels of quality service that surpass both the internal and external customers' expectations. The key factor that contributes in success of TQM implementation is termed as Critical Success Factors (CSFs). In Pakistan, service sector is one major sector which contributes more than 53% of GDP. The paper aims to identify a set of critical factors for TQM implementation in service organizations and how these CSFs can trigger and shape their performance in terms of service quality. Our quantitative study suggests that organizations implement TQM more effectively with the six CSFs: Top management commitment and visionary leadership, Customer focused, Information analysis and system, Service culture, Human resource management and Social responsibility. We empirically tested the relationship using a sample of (255) and found a significant positive association between TQM and service quality. Structure Equation Modeling (SEM) approach was employed to test the criteria relationships.

Key words: Total Quality Management (TQM) · Service Quality · Critical Success Factors (CSFs) · Service Organizations · Pakistan

INTRODUCTION

Recent year's financial crunch, rapid economic changes around the globe and knowledgeable customers has built a tremendous pressure on the organizations to deliver products or services that are, of superior quality, lowest cost and surpass customer expectations [1]. It has also been realized by the organizations that quality is the way to survive and compete at local and international marketplace. Quality has been considered as a market variable of prime prominence after the success of Japanese organizations in the late 20th century [2]. The realization that superior quality service is critical to the functioning of operations has led to a need for integrating 'Total Quality Management' (TQM) as a strategic choice in the organizations.

To address the quality issues and to meet the challenges set by the knowledgeable customers and globalization, many organizations has allocated a substantial amount of resources in adopting and implementing TQM strategies [3] in order to gain sustainable competitive advantage over their competitors [4]. TQM has evolved through four main stages identified as Quality Inspection, Quality Control, Quality Assurance and TQM. Today, TQM is a comprehensive management approach that integrate both the Eastern and Western way of thinking and practice and three core areas of management -- processes/operations management, human resource management and strategic management [5-7]. Effective TQM implementation aids to improve customer satisfaction and business performance in a most efficient and cost effective way

It is evident from literature that TQM is widely adopted and its successful implementation helps to boost organizational performance in almost all types of industries. TQM benefited the organizations in gaining organizational performance through effective operations, financial results, customers and employees satisfaction and these results had been empirically verified [8-14].

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Majority of the TQM literature was related to manufacturing sector [15, 16] and latter studies verified that TQM approach is equally relevant to service organizations [17]. According to Huq [18], there is still a shortage of TQM studies in the service sector. Yasin and Alavi [19] pointed out that service organizations are still lagging behind in TQM adoption as compare to the manufacturing sector. Successful implementation of TQM in the organizations had resulted in increased productivity, reduced cost, less rejections, customer satisfaction, improved quality and competitive advantage [20, 21]. It is essential for the organizations to incorporate TQM tactically and strategically to gain a competitive benefit [22].

During the last decade there is a tremendous growth in services sector around the globe and According to International Monetary Fund (IMF) world economic outlook database (2012), contribution of world services sector was 63.6% GDP of world economy where as Pakistan service sector is contributing 54.6% of GDP of Pakistan economy which was 53% during the years 2010-2011. By taking advantage of this rapid growth in service sector of Pakistan, there is a need for services organizations to adopt TQM as a strategy to deliver best quality of services to their customers. Rising costs due to energy crisis in Pakistan, is also critical for both the service providers and customers in delivering high quality of services at the lowest cost to their customer is critical. Majority of the services organizations in Pakistan; universities, banking sector, telecommunication sector and software industry has implemented ISO-series of standards as a first step towards TQM adoption and commitment.

Compared to the developed and developing countries, there is a little empirical research that establishes the link between TQM and performance in terms of increased service quality in Pakistan. This study extends the debate in the literature on TQM and performance in the context of Pakistan service sector and the empirical results of this study will shed the light on this phenomenon. Objective of this study is to twofold: first is to investigate the CSFs that are critical for the success of service organizations and how secondly, how these CSFs contributes in increasing the service quality of the service companies in Pakistan. Results of this study will be examined using structure equation modeling (SEM) which is the most useful technique in to analyze the casual relationship among the observed variables.

Structure of the remaining part of the paper starts with review of literature on TQM and performance, followed by methodology section and finally, results and conclusion section highlights the findings of this empirical study.

Literature Review: TQM is accepted as holistic management approach that helps the organization in integrating all organizational functions to focus on meeting customer requirement and organizational goals and objectives through improvement in quality productivity and competiveness [23]. TQM philosophy emphasized the involvement of everyone in the organization, role of internal and external customers including suppliers in pursuit of continuous improvement [11, 24]. While Wruck and Jensen [25] suggested that TQM is a science based approach because individuals at all levels of the organization are well trained about the functionality of their job, processes and systems and use scientific methods in everyday decision making. Baker and Jensen [26] in their studies concluded that TQM is a comprehensive approach and the management practices falling under the TQM paradigm is a source of creating innovation in organizational technology that enables firms to increase productivity of employees and financial assets. Yasin and Alavi [19] viewed TQM as an approach in improving the effectiveness and flexibility of business as a whole, meeting customer requirements both external and internal to the organization and also an essential way of organizing and involving the whole organization including every department and every member at all level. More precisely, TQM is an integrated management approach based on both quality management principles, tools and techniques that enable the organizations to accelerate and continuously providing products and services that surpass both the internal and external customers' expectations.

There have been numerous studies conducted to examine what constitute TQM, what are the common barriers and what factors are critical for the successful implementation of TQM [27-30]. Although these studies has reported different results such as CSFs consisting of set of practices that are essential for the success of TQM implementation.

Sureshchandar and Rajendran [31] in their studies examined that CSFs of TQM are not industry specific, however due to dominance of manufacturing these factors were first practiced in manufacturing and later it was transferred to service industry. However, literature on CSFs for TQM implementations suggests that CSFs cannot be generalized or considered it as industry specific.

Critical Success Factors of TQM: Researchers have put forth a number of definitions of Critical Success Factors (CSFs). In this paper we use the term to mean the critical areas which organizations had to accomplish to attain its mission by examining and categorizing its impacts. According to Joyce and Green [32], CSFs can be defined as a limited number of areas which help to provide satisfactory results and ensure the organizational competitive performance. Horng and Huarng [33] considered CSFs as an essential thing that must be achieved by the organization or it can be those areas that will help to yield greatest competitive influence. They also emphasized that CSFs should be considered as actions and process that should be controlled by the administration to attain organizational goals and objectives. Boynton and Zmud [34] viewed CSFs as "those few things that must go well to ensure success".

Saraph and Benson [28] were the first who came with eight factors for both services and manufacturing after a comprehensive review of teachings of quality gurus (Deming, Crosby, Juran, Ishikawa, Garvin) are critical for the successful implementation of TQM. These eight factors are: role of management, leadership and quality policy, role of quality department, training, product or service design, supplier quality mangement, process management, quality data and reporting and employees relations. Sureshchandar and Rajendran [35] identified 12 dimensions of service quality that were critical in service set up and these dimensions were: top management commitment and visionary leadership, design and management of processes, human resource management, information and analysis, union intervention, benchmarking, continuous improvement, employee satisfaction and customer focus and social responsibility, services capes and service culture.

Brah and Tee [8] identified that, top management support, customer focus, employee involvement, employee training, employee empowerment, supplier quality management, process improvement, service design, quality improvement rewards, benchmarking and cleanliness and organization are the critical factors for TQM implementation and helps to improve business performance of service sector of Singapore. Recently, Talib and Rahman [36] proposed that top management commitment, customer focus, training and education, continuous improvement and innovation, supplier management, employee involvement, information and analysis, process management, quality systems, benchmarking and quality culture are critical for the service sector.

Sila and Ebrahimpour [37] after a comprehensive review of literature between 1989 to 2002 examined the CSFs of TQM in manufacturing and service sector and identified that 25 factors that were critical for the successful implementation of TQM and these practices are: top management commitment /role of divisional top management and quality policy, social responsibility, strategic planning,customer focus and satisfaction, quality information and performance measurement, benchmarking, HRM , training, employees involvement, employees empowerment, employee satisfaction, teamwork, employees appraisal and reward system, process management, process control, product and service design, supplier management, continuous improvement and innovation, quality assurance, zero defect, quality culture, communication, quality system, just in time and flexibility.

Sureshchandar and Rajendran [31] pointed out that; top management commitment and visionary leadership, human resource management, design and management of processes, information and analysis, benchmarking, continuous improvement, employee satisfaction and customer focus and satisfaction were the major TQM factors, whereas union intervention and social responsibility were nevertheless the TQM dimensions and finally servicescapes and service culture are unique to service organizations. As Sureshchandar and Rajendran [31] suggested that TQM model for services can be used effectively by academicians and practitioners in various service organizations to measure the level of TQM implementation (financial and non-financial institutions,, insurance, construction, travel, healthcare and education sector).

Based on Saraph and Benson [28] review as a starting point, we did a thorough literature review and our analysis identified six key CSFs which we think were crucial for implementation of TQM in Pakistani service organizations: top management commitment and visionary leadership, information and analysis system; customer focus, human resource management, social responsibility and service culture as suggested by [35]. These factors has also been verified in another study conducted in the banking sector of India by [38] and for this study we adopted this already tested instrument due to the reason because of the similarities between, culture and organizational working environment of India and Pakistan.

Relationship between TQM CSFs and Service Quality: Service quality has become an area of prominence interest and importance and the focus areas are service marketing,
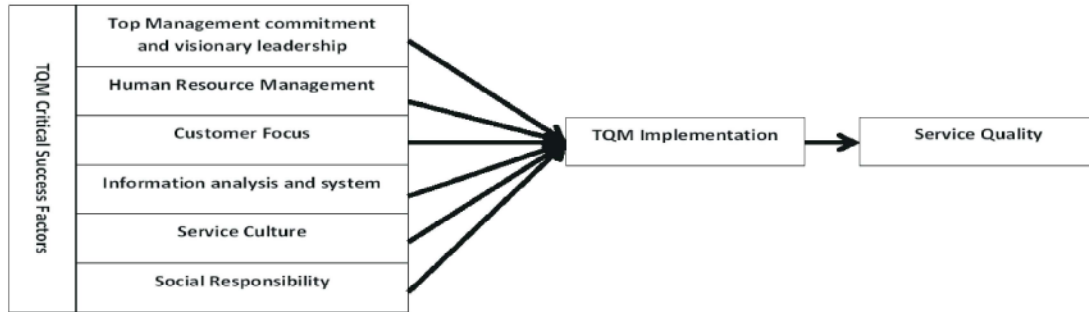
Fig. 1: Conceptual Model

service operations and also a critical factor for the service providers [39]. Measuring and defining service quality is complex and hard aspect as it is dependent on customer expectations and perceptions and also due to its intangible in nature. Its measurement and its definition got considerable attentions in the earlier marketing literature [40]. Feigenbaum [41] defines that service quality is the outcome of customer comparison between expected services and their perceptions how these services are performed. Earlier two models were presented to measure the service quality, first was presented by Grönroos and Christian [42] model that service quality can be measured with technical and functional quality, second was presented by Grönroos and Shostack [43] and it was 'SERVQUAL' which is most widely used to measure the service quality, although a lot of criticism is found on it in literature but still it is successfully used to measure the service quality.

TQM is the most comprehensive management approach to ensure the higher levels of quality of the products or services. TQM is not limited only to ensure the quality of products but it is equally important to increase the quality of services and also covers a wider aspects of quality in services sector [17]. Empirical studies conducted on TQM and organizational performance as well as service quality have reported significant and positive results [17, 29, 44-47]. After a comprehensive review of literature and to reaffirm the above findings the following hypotheses were developed:

H1: Top management commitment and visionary leadership has a positive impact on TQM implementation

H2: Human resource management has a positive impact on TQM implementation

H3: Customer focused processes has a positive impact on TQM implementation

H4: Information and analysis system has a positive impact on TQM implementation

H5: A healthy service culture in the organization has a positive impact on TQM implementation

H6: Practicing social responsibility practices in the organization has a positive impact on TQM implementation

H7: Effective implementation of TQM helps to increase performance of service quality

We adopted the TQM measures developed by Sureshchandar and Rajendran [35] and further these constructs were represented by 38 items to check its effectiveness for TQM implementation and its impact on service quality. In the questionnaire these items were placed in random order and later these items were collected back while data entry. Questionnaire was divided into two sections: First section was about the general information about respondent and second section was about TQM practices that were critical to successful implementation of TQM and its impact on service quality. Two items were deleted due to poor loading, 1 item from customer focus and 1 item from top management commitment and support. Finally, these items were operationalized with a five-point Likert scale and grouped into six categories: top management commitment and visionary leadership (4 items), information and analysis system (5 items), customer focus (6 items), human resource management (10 items), social responsibility (5 items) and service culture (4 items). Service quality is considered as dependent variable and it comprised of two items. The items showed a consistently high reliability ranging from.70 and.88. Table 2 contains the Mean, standard deviation and correlation among the studied variables.

The study main focuses on managerial employees from service sectors in Lahore, Pakistan. These companies involved in banking, telecommunication, postal services,

insurance companies and software development companies. These respondents were working at managerial and officer level. These organizations are well established and have been in the industries for more than 10 years therefore the organizations has some forms of TQM and its organizational structure and reporting relationships are clearly defined. A total of 550 questionnaires were distributed among these organizations and 255 questionnaires were return and thus providing a good response rate of 46.36%. The selected organizations were located in Lahore, the second largest and highly populated city of Pakistan and are also a major hub of country's business activities.

This research employed structural equation modeling technique (SEM) by using statistical software AMOS 20.0 and SPSS 20.0. SEM is a useful technique in order to measure the casual relationship among the observed or latent variables [48]. A confirmatory factor analysis (CFA) is considered a pre-requisite before testing the structural relationship among independent and dependent variables. It also helps to identify how the proposed constructs are measured in terms of observed variables. To conduct analysis using SEM a two stage model building is proposed [49] and it requires observations between 50 to 400 [50]. Therefore, our sample size comprised of 225 responses, which meets the minimum requirement of the desirable observations.

Demographic of this study is reported in Table 1. Over half of the respondents were male (65.3%). Majority of them were from the banking (34.7%) followed by telecommunication (32.0%), postal services (16.4%), insurance companies and software development companies (8.4%). In terms of job category, top management merely contributed close to 6.7% while mainly serves for those who hold the position of department head and above while more than 90% were made up of middle management (between section head and section manager). Slightly over one third of the respondents were attached to their current organization for less than five years and only 14.2% of the respondents were with their current organization for at least 10 years. Of the responses received, all respondents were highly educated with over half of them were holding master's degree. (64.9%), followed by, 21.8% of the respondents were MS/MPhil degree and only 13.3% of the respondents were graduates. In Pakistani education system, graduate means 14 years of education, graduate mean 16 years of education and MS/MPhil is 17 years or 18 years of education.

To examine the bivariate relationships among the studied variables a Pearson's correlation analysis was carried out. The correlation matrix in table 6 indicates that correlation coefficients between the 6 independent variables used in this study. The correlation coefficients indicate the strength among the independent variables and it is significant, if the p-value is less than 1. Results in the table 2 indicate that there is a positive correlation among all the independent variables. Highest correlation is observed among IAS (information analysis and system) and SRP (social responsibility) which is (r=0.543, p<0.01) and the weakest correlation is between TMC (top management commitment and visionary leadership) and SRP (social responsibility) which is (r=0.127, p<0.01). Therefore, results indicated in table 2 shows the positive correlation among all the independent variables.

While performing the confirmatory factor analysis (CFA), two items were deleted due to poor loadings; 1 item from customer focus and 1 item from top management commitment and visionary. Finally, the number of items discussed for each construct is: top management commitment and visionary leadership (4 items), information and analysis system (5 items), customer focus (6 items), human resource management (10 items), social responsibility (5 items) and service culture (4 items) and service quality is considered as dependent variable, comprised to two items. Finally, this study includes 36 items representing 7 constructs.

To study the results obtained from CFA and path model, statistical theory suggest several goodness of fit values, which are essential to observe the studied model. It includes, chi-square statistics, normed chi-square, goodness of fit index (GFI), adjusted goodness of fit index (AGFI), comparative fit index (CFI), normed fit index (NFI) and root mean square error of approximation [51, 52]. According to Marsh and Hocevar [53] Value of normed chi-square should be as low as 2 and as high as 5. Values of goodness of fit index (GFI), comparative fit index and normed fit index should be less than 1 and the value closer to 1 provides a very good fit [54-56] and the value of root mean square error approximation (RMSEA), less than 0.05 provides a close a fit and value less than 0.08 provides a reasonable fit. Values of all the goodness fit index of CFA is given in the table 4. Results of CFA for this study shows that all the values extracted from the analysis are meeting the requirements and results shows that our proposed constructs are suitable for path model.

To test the above defined hypothesis of the proposed model mostly regression analysis were used but for this study, we used structural equation modeling (SEM) technique. SEM is most useful technique to observe the structural relationship among observed variables [57] and also to analyze the causal relationship between categorical variables. Therefore, due to the growing

Table 1: Demographic of the study

Profile	Respondents	Category	Frequency	Percentage
Gender	225	Male	147	65.3
		Female	78	34.7
Service Sector	225	Telecommunication	72	32
		Postal Service	37	16.4
		Banks	78	34.7
		Insurance Companies	19	8.4
		Software Development	19	8.4
Designation	225	HR Managers	61	27.1
		Managers (QA)	64	28.4
		Officers	85	37.8
		General Managers/Incharge Department	15	6.7
Length of Service	225	less than 5 year	78	34.7
		Between 5 to 10 years	115	51.1
		More than 10 years	32	14.2
Qualification	225	Graduation (14 years Education)	30	13.3
		Masters (16 years education)	146	64.9
		MS/MPhil (17 or 18 years of education)	49	21.8

Table 2: Correlation among Constructs

	MEAN	S.D	TMC	HRM	IAS	CUS	SRP	SQC
TMC	4.58	1.177	1					
HRM	4.16	1.087	.530**	1				
IAS	4.34	1.10	.199**	.240**	1			
CUS	4.84	0.84	.163**	.350**	.167**	1		
SRP	4.61	0.88	.127*	.329**	.342**	.369**	1	
SQC	3.69	1.10	.291**	.313**	.153**	.178**	.322**	1

**. Correlation is significant at the 0.01 level (2-tailed).

Table 3: Constructs used in the study

Labels	Variables used	*S.R.W	Cronbach Alpha
	Top management commitment and visionary leadership (TMC)	.877	0.72
TMC1	Commitment to the TQM philosophy	.595	
TMC2	Allocation of resources and time for quality improvement	.453	
TMC3	Tendency to view employees a valuable resource	.366	
TMC4	Integrate quality in strategic planning	.582	
	Human Resource Management (HRM)	.990	0.88
HRM1	Selective hiring	.533	
HRM2	Fairness at all levels	.525	
HRM3	Training programs on TQM effectiveness	.501	
HRM4	Effective communication training programs	.711	
HRM5	Employees involvement	.471	
HRM6	Fair and attractive reward system	.577	
HRM7	Cross functional and quality teams	.628	
HRM8	Employees empowerment	.569	
HRM9	Employee encouragement for quality initiative	.537	
HRM10	Employees satisfaction	.618	

Table 3: Continue

Labels	Variables used	*S.R.W	Cronbach Alpha
	Information and Analysis System (IAS)	.155	0.73
IAS1	Effective customer care system	.137	
IAS2	Effective communication system	.257	
IAS3	Use of advance technology	.262	
IAS4	Effective use of data	.997	
IAS5	Documented procedures	.997	
	Service Culture (SQC)	.717	0.81
SQC1	Customer services is our first priority	.304	
SQC2	TQM critical for success	.123	
SQC3	Involvement of everyone at all levels	.697	
SQC4	Strong relationship among employees and employer	.446	
	Social Responsibility (SRP)	.580	0.79
SRP1	Organization believes in Corporate citizenship	.575	
SRP2	Aimed to make customer happy	.140	
SRP3	Treating all type of customer at equal level	.572	
SRP4	Service centers are at easy access to the customers	.468	
SRP5	Sense of public responsibility	.403	
	Customer Focus (CUS)	.458	0.83
CUS1	Services as promised	.604	
CUS2	Service at promised time and schedule	.592	
CUS3	Effective use of customer feedback	.463	
CUS4	Providing services right the first time	.454	
CUS5	Quick respond to customer complaints	.623	
CUS6	Meeting customer expectations	.532	
	Service Quality	.758	0.73
SER1	Customer satisfaction with service delivery and response to complaints	2.69	
SER2	Employee satisfaction and increased efficiency to deliver improved quality of services	3.21	

*S.R.W represents the standardized regression weights

Table 4: Goodness of fit index for CFA

Fit indices	TMC	HRM	IAS	CUS	SQC	SRP	Model
Chi-square	4.048	72.496	53.240	36.499	3.446	3.011	1063.531
Degree of freedom	2	35	5	9	2	5	512
Normed Chi-square	2.024	2.071	3.972	4.052	1.723	0.602	2.077
p-value	0.012	0.000	0.000	0.000	0.017	0.000	0.000
CFI	0.935	0.947	0.967	0.906	0.971	0.991	0.844
GFI	0.993	0.954	0.933	0.963	0.995	0.996	0.853
AGFI	0.966	0.927	0.799	0..914	0.973	0.988	0.808
NFI	0.970	0.904	0.963	0.881	0.938	0.999	0.741
RMSEA	0.058	0.059	0.079	0.043	0.49	0.039	0.059

Table 5: Goodness of Fit Index of Propose Model

Index	Values for the proposed model
Chi-Square	1235.123
Degree of freedom	589
Normed Chi-square	2.097
Goodness of fit index (GFI)	0.820
Comparative fit index (CFI)	0.821
Root mean square error Approximation (RMSEA)	0.60

Table 6: Hypothesis Testing of Propose Model

Relationship Among Constructs			Standardized Estimates	Hypothesis Test
TMC	<---	TQM Implementation	0.877	H1 Supports
HRM	<---	TQM Implementation	0.990	H2 Supports
CUS	<---	TQM Implementation	0.458	H3 Supports
IAS	<---	TQM Implementation	0.155	H4 Supports
SQC	<---	TQM Implementation	0.717	H5 Supports
SRP	<---	TQM Implementation	0.580	H6 Supports
Service Quality	<---	TQM Implementation	0.758	H7 Supports
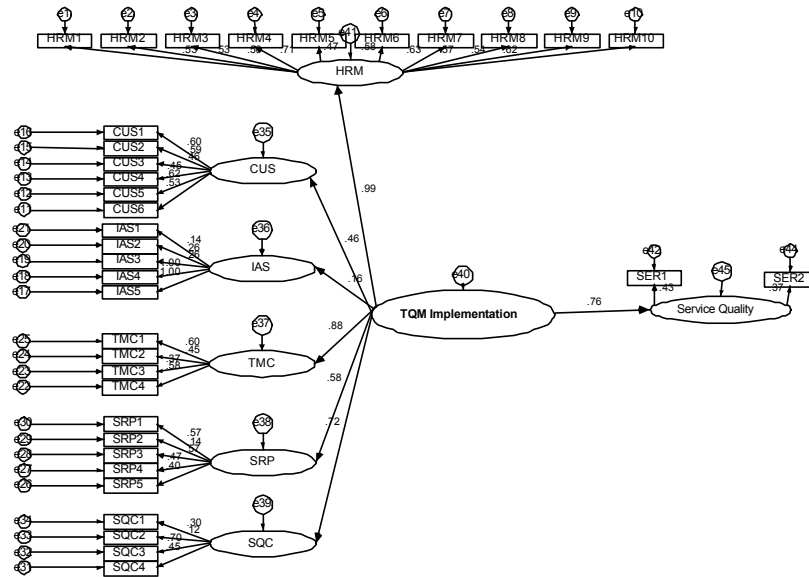
Chi-Square=1235.123, df=589, Normed Chi-square=2.097, CFI=.821, GFI=.820, AGFI=.797, NFI=.708, RMSEA=.060

Fig. 2: Proposed TQM CSFs and Service Quality

importance of SEM in majority of the social sciences research, this study employed SEM technique to test the developed hypothesis.

Path analyses are performed to check the relationship among constructs. We used maximum likelihood estimation (MLE) to establish relationship among the constructs. Jöreskog and Sörbom [58] suggested that to check the goodness of fit of a SEM model; normed chi-square test, comparative fit index (CFI), goodness of fit index (GFI) and the root mean squared error of approximation (RMSEA) must be checked. Also values of chi-square (p >0.05) shows that entire relationship among constructs provides adequate relationship and its values should not be more than 5 [59].

The path diagram of the proposed CFS's for TQM implementation and service quality is presented in figure 1. Which provides us insights that proposed model is quite satisfactory as all values of our model are meeting the given criterion of goodness of fit. The values of the chi-square is 1235.123, degree of freedom is 589, p-value

is.000 indicating that specified model is correct and the departure of the data from the model is significant at the.05 level. The values of goodness of fit index of the proposed model are reported in Table 5. Values of the indices of path diagram of the proposed model for goodness of fit are also shown in the Figure 1.

Figure 2 shows the proposed model had achieved the flexible level of normed chi-square, goodness of fit index, comparative fit index and root mean square error approximation and our results are falling within the described range of values and we can say that our proposed model provides a reasonable fit.

The results of this SEM provide strong support to the following relationships.

- Top management commitment and visionary leadership is the first construct of our study and path model shows that it has a significant and positive impact on TQM implementation. Top management

commitment is the major driver for TQM movement in the organization [35] and it's lacking is among the one major reasons of TQM failure [60]. Top management commitment is the critical driver for TQM implementation [61] business excellence [62] and also significantly affects the quality performance [63]. This construct was comprised of four items which includes commitment towards TQM, allocation of resources, imparting quality in organizational strategy and considering employees as a valuable resource. All these items provides a significant results and ultimately the latent variable TMC representing these items shows a significant positive impact on TQM implementation.

- Effective human resource management practices is predecessor to gain customer satisfaction [13, 64]. Employees involvement in quality decisions, quality teams, employees recognition, ongoing quality awareness are critical are critical for successful implementation of TQM [28]. Quality training is the pre-requisite for the successful implementation of TQM programs [65], essential factor for quality improvement [66] and enable the human resource to deliver quality of services at their most. It is also associated with employees performance and their satisfaction with job [67, 68]. But successful and effective training programs requires sufficient resources and also requires enthusiastic support from top management [69]. HRM is the second construct and represented as latent variable comprised of 10 items which includes employee involvement, empowerment, training and development and rewards and recognition. All these items provide statistically significant values of standardized coefficients more than 0.50. The latent variable representing HRM constructs provides highest standardized regression coefficient of 0.99. Thus shows that HRM has a providing significant positive link with TQM implementation.

- Information analysis and system (IAS) was the third construct of our study which includes customer care, communication system, use of advance technologies, effective utilization of data and documented procedures. These five items represents the latent variable IAS and all these items provide significant regression coefficients. However, this construct provides us the lowest standardized regression coefficient, but still provides positive regression coefficient 0.16 and thus contribute in effective implementation of TQM.

- Customer focus comprised of 6 items and all these items are provides statistically significant positive values. The latent variable CUS constructed by these items also provides significantly positive results.

- Service quality culture and social responsibility is represented by 4 and 5 items respectively and all these items are providing significant results and thus these two constructs represented by latent variables SQC and SRP are providing significant positive results with standardized regression coefficients 0.72 and 0.58 and thus has a positive impact on TQM implementation.

- Finally, effective implementation of TQM in the organization helps to increase the service quality. Standardized regression weight is 0.76 which proves our hypothesis H7. Therefore, our proposed model with proposed TQM practices in the service environment provides us evidence that these practices are critical for incorporating TQM in the organization and these practices were helpful in increasing performance of service organization.

DISCUSSIONS

The results of the present paper suggest a number of new insights into the CSFs of TQM that have important implications for research and practice. Our results make three major contributions that will serve to advance the theory and research on TQM. First, the SEM results clarify the findings of previous research regarding the types of CSFs that leads to effective implementation of TQM. Sila and Ebrahimpour [37] explored in their review article that human resource management factors and top management commitment, customer focus, were critical for TQM implementation and further pointed out that these dimension of TQM has been widely used in different studies in almost all studies on TQM. Sureshchandar and Rajendran [31] explained that social responsibility was nevertheless the key elements of TQM in both manufacturing and service organizations, whereas, service culture is the key element specifically for the service sector but social responsibility is now among the major factor in highly admired quality awards MBNQA. Our findings support that studied CSFs of TQM are critical for TQM implementation and also have a significant impact on increased service quality. In addition, social responsibility, a relatively new dimension, makes a significant impact in TQM implementation.

The second major contribution of the study is the support of our hypotheses. This is an important addition to the TQM theory. It helps to clarify and extend the work of Sureshchandar and Rajendran [31]. The results obtained from Pakistani service sector give positive information on each dimension of TQM and its importance in TQM effective implementation. It is obvious that each dimension plays an important role in TQM implementation and different dimension satisfy different needs in the service organization.

The third contribution of the study is the support of CSFs that leads to effective implementation of TQM which in turns helps to increased service quality. Service quality is an important tool to gain customer satisfaction and increase efficiency and effectiveness of employees.

Starting with the first latent variable 'top management commitment and visionary leadership' labeled as TMC, the path coefficient shows that TQM implementation is positively influenced by TMC. Since it is well known belief and the literature on TQM advocates that top management commitment is the pre-requisite of TQM implementation and all quality efforts is top management dependent [67]. Visionary leadership formulates long range vision for the organization for the development of the organization and also propagates this vision throughout the organization and then making strategies to accomplish this vision [35].

Human resource management (HRM) is a critical issue for the organizations as it helps the organizations to manage their employee and utilize their abilities to achieve their goals and objectives. In a TQM environment, employee involvement, empowerment, quality training programs and the fair reward system are the important factors of HRM domain. Dean and Helms [70] suggested that employees at all levels in the organization should be committed and have trust among them to the successful accomplishment of TQM implementation. Employee involvement builds trust and confidence that they are part of the system [71] and it brings an increased flow of information and knowledge from the bottom of the organization to resolve quality related issues and problems in a better way [72]. Path coefficient of this latent variable shows that this latent variable 'Human resource management' HRM is heavily influenced by TQM implementation. This shows that majority of the service organizations in Pakistan has adopted practices of employees involvement, empowerment, training and development and best compensation system for getting support in TQM implementation and increase quality of services.

TQM initiatives, its implementation and get benefited from its results is rendered if there is not an effective dissemination of information in the organization. Useful information about the product, efficiently handling customer complaints, customer services and interaction with the customer requires plenty of information and data about the services delivered to the customer to make them happy. Therefore, the employees involved in services must have plenty of information regarding the process, organizational system that can be best used to handle the customer. In TQM environment, employees have to communicate about the product lines, organizational functions and across the organizational level, different type of customers and at different work locations to sort out current problems and to take preventive measures [23]. Therefore, organizations instituting TQM requires to develop an effective communication system that is essential to espouse the quality improvement processes [35]. However, for this study all items are significantly contribute with positive path coefficient and the latent variable representing these items is 'information analysis and system' represented by IAS shows that latent variable TQM implementation is linked with IAS. This variable provides the lowest path coefficient but still provides a positive link with TQM implementation. Major reasons of this low impact are due to lack of sharing of data about the customers and employees by the organization. There is a big difference what is communicated or what is written by majority of the service organizations in Pakistan and due to these reason respondents has poor perceptions about this construct.

Another import CSF of TQM is 'Customer focus' leads the organization to have better understand about requirements and expectations of customers and its translation by the organizations leads towards customer satisfaction and is also a step towards continuously upgrading their services according to customer desires [73]. It has also been confirmed by another study conducted by Hoang and Igel [74] that organizations focusing on customers' current and future demands leads to gain customer satisfaction through innovation in products and services. Ultimately for this study latent variable 'customer focus' consisting of service delivery at promised and scheduled time, respond to customer complaints, effort for improved services to make the customer happy shows a positive link in implementation of TQM. Results of this study indicate that respondents perceive that service organization knows the importance of this construct for TQM effectiveness and its importance for service quality.

. 'Service culture' is another important construct in TQM context and it is also another intangible factor that is difficult to measure and describe. According to Sureshchandar and Rajendran [35] culture is degree to which all employees of an organization realizes that their major objective is to server the customer and it is an organizational strategy that create motivation among employees to become service oriented in all aspects. In this study all the items representing the latent variable SQC provides significant path coefficients and thus having a strong link with TQM implementation.

Finally social responsibility is very rarely used in the TQM literature. During the last decade a number of studies on this topic added in the literature and highlighted the importance of corporate citizenship concept. Today, many organizations has put this concept in practice to excel and progress towards achieving business excellence [35]. Due to the growing importance of this factor it has also been included as an important factor in Malcolm Baldrige National Quality Award (MBNQA). All the items included in our study reflect this idea and has a significant and positive impact on the latent variable SRP and thus established a positive link with TQM implementation.

The above discussion shows that all the CSFs of TQM are supporting for TQM implementation and thus has a strong and positive impact on service quality. Results of this study shows that all the selected CSFs of TQM in services provides us insights that these factors are significantly contributing in increasing service quality by gaining satisfaction of their internal and external customers, meeting their requirements and increased productivity of the employees by focusing on customer satisfaction. There are strong evidences from the literature that effective implementation of TQM practices helps to increase the quality and services of the organization [75, 76].

However, there are some limitation of this study as we have used selected TQM practices in services context as defined by [35] and this study is conducted at small level. Therefore, there is a need to conduct a comprehensive study that studies all the factors and its impact on organizational performance.

CONCLUSIONS

We have advanced the TQM theory by suggesting that six critical elements of CSFs (top management commitment and visionary leadership, human resource management, information analysis and system and customer focus, social responsibility and service culture) that leads to effective implementation of TQM. This provides us with evidence how Pakistani service managers perceive and interpret the CSFs that leads to effective implementation of TQM. In addition, it suggests that management should understand the importance of these dimensions of TQM in order to effectively implement TQM. TQM is an integral concept of organizational performance and its effectiveness; hence there is greater value in extending this concept of TQM dimensions and incorporate it in a wider service context in Pakistan.

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