



Total Quality Management Tools: Are they Necessary for Improving Service Quality and Customer Satisfaction?

Tasneem F. Alfalah*

Department of Business Administration, Faculty of Economics and Administrative Sciences, Applied Science Private University, Jordan. *Email: tasneem_alabady@hotmail.com

ABSTRACT

Achieving service quality and customer satisfaction is necessary to obtain profitability and competitive advantage in any industry. Moreover, in any society, services are the core of economics, such as communications and transportation, and form the essential links among all sectors of the economy. However, the requests and needs of customers are continuously increasing, so that many social and technological improvements are needed, therefore it becomes apparent that the concept of service should be approached from a customer perspective. Many critical factors affect the development of total quality management (TQM) in service sector, one of these factors is TQM tools, and for service quality continues improvement. This research carried out an empirical study in the Jordanians five stars hotels to prove the importance of TQM tools in order to improve service quality and customer satisfaction.

Keywords: Total Quality Management Tools, Service Quality, Customer Satisfaction, Five Stars Hotels, Jordan

JEL Classifications: L1, L8, M1

1. INTRODUCTION

Surviving the cut-throat competition in the services industry demands attaining and maintaining a sustainable competitive edge based on improving service quality and customer satisfaction. Service quality is a substantial part of corporate and it is needed in the formation of customer satisfaction (Fujun et al., 2009). Consequently, it becomes more and more critical to re-design and improve the product and service delivery process in order to meet the quality standard that customer's request. In addition, the service organizations must use its resources to provide a better service to meet customer demands. Offering a very high and better service quality can help an organization to become more profitable and to sustain a competitive advantage in their market (Raharjo, 2010). Total quality management (TQM) tools and techniques enable the organizations to capture and re-design the services to meet customers' requirements.

2. CONCEPTUAL FRAMEWORK

2.1. Service Quality and Customer Satisfaction

According to Ooi et al. (2001, p. 411) illustrates the importance of service quality concepts in the last decades; this is because

although a vast amount of literature has addressed this important topic, such as banking (Arasli et al., 2005) and tourism (Alén et al., 2007). Parasuraman et al. (1994) defined service quality as "difference or gap between customers perceptions of services provided and expected quality." Though Edward (2004) defined perceived quality as the customer's opinion about the service they have received, expected quality explains their anticipation of the service they will receive (Seker kaya, 1997). Customer satisfaction is depending on the outcome of "customers' overall assessments of their perceptions and experience of the service compared to their prior expectations" (Johnston et al., 2012), if it's lower than the expected or anticipated quality, they will be dissatisfied (Johnston and Clark, 2008). Service quality is therefore a measure the gap between delivered services and customer expectations. It is also conceptualized as the consumer's overall feelings about the relative weakness or superiority of the services they have received (Parasuraman et al., 1994).

Customer satisfaction is the main focus in the service industry studies, due to its significant in concentrated competition (Bodet, 2008). Recently, in a business life measuring customer

satisfaction is an approach for quality development (Cengiz, 2012). Parasuraman et al. (1998) used the five dimensions (tangibles, reliability, responsiveness, assurance and empathy), as an assessment of service quality, based on the comparison of differences between expected and perceived services, as shown in Table 1.

Table 1 shows that service dimensions consist of all the factors needed in delivering the service. Customers use Parasuraman five dimensions model to form their judgments of service quality, which, as explained above, are based on a comparison between expected and perceived service. The gap between expected and perceived service is a measure of service quality; satisfaction is either negative or positive. The expectations from customers range between sufficient, appropriate and superior standards, or low levels of service quality which will lead to poor customer perceptions and the customer may take action in the latter case such as switching their service provider or discussing their unsatisfactory expectations with other customers (Zeithaml et al., 1993; Liljander, 1995). These actions will negatively affect the organization's reputation, which will lead it to losing customers in the future.

The vast amount of literature available emphasizes its importance throughout all business as academics generally suggest that customer satisfaction should be recognized by organizations as one of their core objectives (Anderson et al., 1994; Wang and Lo, 2002). Customer satisfaction is significant because of its relationship to customer loyalty and customers' repurchase intentions (Deng et al., 2010; Taylor, 1995). Customer satisfaction helps organizations to reach economics aims such as profitability and enlarging their market share (Cengize, 2010). Iacobucci et al. (2001. p. 294) even concluded that service quality and customer satisfaction "might be parsimoniously considered as one construct" because of their similarity.

Table 1: Basic SERVQUAL dimensions

Dimensions	Definition	Original dimensions
Tangibles Reliability	The physical appearance. Ability to achieve the promised service consistently and correctly	Tangibles Reliability Competence Security
Responsiveness	Readiness to help clienteles and deliver quick service	Responsiveness
Assurance	Knowledge and gentility of employees and their ability to express trust and self-confidence	Credibility Communication Understanding/ knowing Access
Empathy	Politeness, helpful, admiration, consideration, and friendliness	Courtesy

Source: Parasuraman et al. (1990. p. 26), Buttle (1996. p. 9), Zeithaml and Bitner (2003. p. 22). SERVQUAL: Service quality

2.2. TQM Tools

Implement TQM tools help assisting creative thinking and problem solving and give continuous improvement in performance and customer satisfaction must be adopted. These tools are methods and frameworks, which help employees to communicate more effectively in formulating business problems and their solutions. One of the main TQM tools is quality function deployment (QFD), six sigma, plan; do; check; act and analyze (PDCA) cycle and European Foundation for Quality Management excellence model.

QFD provides a framework for an organization to understand its customers' requirements and to resolve problems, which customers have experienced. QFD gathers customer requirements and interprets them into the design and technical requirements in product and service development so that they meet customer requirements (Carnevali and Miguel, 2008). In addition the enhanced product is meeting customer requirements, by involving customers in the design and development process (Deros et al., 2009). QFD is an essential tool for achieving the benefits of TQM. Most TQM literature mentions that to increase the level of quality of a product and services, the first step is asking what the customer needs and wants; QFD is a useful and practical tool in facilitating answering this question (Thakkar et al., 2006). Service industries can greatly benefit from the use of QFD because QFD is one approach that directly addresses customer needs and wants, and it affects customer satisfaction levels significantly (Fisher and Schutta, 2003). Much published research references the use of QFD in the service industry. The overall aim of using QFD is to improve profitability by promoting and increasing the level of customer satisfaction (Griffin, 1992).

Six sigma is an efficient and structured approach to design and develop new products that focuses on "problem prevention" (Sokovic et al., 2010) to meet and exceed customer expectation. Six sigma provides tools and statistical methods during the product's development to design the product right the first time and every time (Mesec, 2005). Nilesh et al. (2012) illustrates that six sigma considered as a methodology to improve the quality by using statistical methods and analyzing the process to identify the root cause of any defect which cause the majority of quality problems. Six sigma is an approach of "Zero Defect" with only 3.4 defects per million (Nilesh et al., 2012), it's used and implement by several companies such as Delphi Automotive, General Electric, 3M and Healthcare (Treichler et al., 2002; Feng and Manuel, 2007; Hindo, 2007). There are several benefits of implementing six sigma such as sustainable benefits (Snee and Hoerl, 2003), goals improvement (Linderman et al., 2003), reducing political agenda (Brewer, 2004), improve employees performance and loyalty, although convert the organization strategy into tactical tasks (Barney, 2002), lower the manufacturing cost and improve the efficiency (Kaynak, 2003).

Deming cycle, PDCA developed to link the product/service with customer requirements, to continually looking for the best to improve the quality of product/service (Basu, 2004); it helps to do thing right from the first time (Nilesh et al., 2012). The organizations use EFQM excellence model for performance assessment, and the model based on customer and employee

satisfaction, and the impact on the society which results to business excellence (Westlund, 2001).

All the previous tools are essential for achieving the benefits of TQM such as customer focus, employee involvement, continual process improvement, use scientific tools and methods, prevention process and increase the level of service/product quality which will improve profitability by promoting and increasing the level of customer satisfaction (Griffin, 1992).

2.3. TQM and Customer Satisfaction

Several researchers have studied the impact of TQM on customer satisfaction in the service and manufacturing industries and have shown that TQM can, for example, increase customer satisfaction in UK universities (Kanji et al., 1999), and in the electrical industry in Saudi Arabia (Al-Saggarf, 1997). Customers' requirements are becoming more complicated and increasingly hard to define and to meet. Customers demand a faster response to product or service issues, better value for money, and more product/service varieties and assortments. In addition they also expect lower prices, reliable delivery and product integrity (Rohaizan and Tan, 2011). TQM is an approach that is said to put quality at the heart of everything, and which aims to meet the needs and expectations of customers. TQM is a philosophy and approach to apply the concept of quality improvement (Slack et al., 2010. p. 508), and has developed from "traditional" approaches to quality, such as quality control (Slack et al., 2004. p. 509). "TQM is a philosophy of how to approach quality improvement" (Slack et al., 2010. p. 508). Therefore, the organization must identify and understand customer requirements, measure them and have the ability to meet them. To establish the true requirements for products or services, quality considerations within an organization begin with market research, and include all people, departments, functions and activities to provide a common language for improvement (Temtime and Solomon, 2002). The cooperation of these elements will achieve a total quality organization, and will then achieve organization-wide quality control (Ugboro and Obeng, 2000). Therefore, the business must plan strategically to fulfill these requirements by improving their services and in doing so will maintain a hold of its market share or even increase it. Kadasah and Curry (2002) outlined the study of Radvilskiz et al. (1996), which summarized 235 companies in products/services industries which had implemented TQM philosophy and tools, and revealed increases in profits of 21%, in productivity of 20%, and in market share of 9%, with reductions in defects at 24% and costs of achieving quality at 20%.

3. CONCEPTUAL RESEARCH MODEL

Figure 1 clarifies the research conceptual model, which explores the relationship between TQM tools, service quality and customer satisfaction. In this research the conceptual model developed to examine the role of using TQM tools in improving service quality and customer satisfaction.

The contribution of the present study is to enhance the five stars hotels managers' awareness about the role of TQM tools in improving service quality and customer satisfaction. And critically evaluate and measure if TQM tools improved the service quality and customer satisfaction.

Figure 1: Research conceptual model



Table 2: Hotels response rates

Hotel name	Distributed questionnaires	Number of collected questionnaires	Response rate (%)
Crown Plaza	50	42	0.84
La Royal	50	45	0.9
Marriott	50	40	0.8
Sheraton	50	39	0.78
Intercontinental	50	42	0.84
Total	250	208	0.83

Table 3: Research measurements

Variable	Measurement
TQM tools	Juran's (1964), Crosby (1979)
Service quality	Parasuraman et al. (1990)
Customer satisfaction	Oliver (1970)

TQM: Total quality management

Table 4: Values of Cronbach's alpha

Variables	Number of items	Cronbach's alpha
TQM tools	10	0.833
Service quality	12	0.847
Customer satisfaction	6	0.829

TQM: Total quality management

4. EMPIRICAL RESEARCH METHODOLOGY

4.1. Population and Sample

The research population consisted of all five stars hotels employees operating in Jordan. However, a convenience sampling technique has been used to gather data from respondents; which they are the employees from mid-high managerial levels, and who are working specifically in the operations department or marketing department. On the other hand, the researcher only targeted the most well-known five star hotels in Jordan which they are (Crown Plaza, La Royal, Marriot, Sheraton and Intercontinental) since they have a variety and advanced TQM tools, which was very clear throughout the pilot work carried out by the researcher with reputable figures from the hotel industry in Jordan. What's more, the size of the sample was 250 employees. Therefore, the researcher used face to face communication with all respondents, and most of them preferred to fill up the research questionnaire at homes and return it back to the researcher. Consequently, 208 questionnaires were returned after 2 months of field work, and the response rate 83.3% was relatively high, whereas the number of questionnaire which considered valid for statistical analysis was 193. Table 2 displays number of sent questionnaires, and the response rate for each hotel.

4.2. Research Instrument

The previous studies, literatures and measurements of TQM tools, service quality and customer satisfaction were the cornerstones to build up the research questionnaire, which have already adjusted by the researcher to be in line with hotels context. Furthermore,

Table 5: Multiple regression tests for H₁

Variable	R	R ²	T	F	Standardized coefficients Beta	Significant	(H ₁) Result
TQM tools	0.794 ^a	0.630	15.21	231.3	0.777	0.000 ^b	Supported

^aSignificance level at P≤0.005. TQM: Total quality management

Table 6: WLS test for H₂

R	R ²	F	Significant	H2 result
0.893 ^a	0.797	343.06	0.000	Supported

Coefficients					
Variables	Unstandardized coefficients		Standardized coefficients Beta	t	Significant
	B	Standard error			
(Constant)	2.888	0.155		18.522	0.000
TQM tools	0.173	0.030	0.410	2.466	0.000

^aSignificance level at P≤0.005. TQM: Total quality management, WLS: Weighted least square

the researcher used seven-point Likert' scale to reach the most accurate rate for each statement in the research questionnaire by respondents (Table 3).

4.3. Research Validity and Reliability

The researcher used both content and face validity in order to assess the research instrument, and that was depending on the pilot work with reputable figures from five star hotels and academics in related field. On the other hand, Cronbach's alpha has been applied to assess the instrument reliability which already identified by Sekaran and Bougie, (2013). Table 4 noticeably shows that all variables were greater than the cutoff point 60%; therefore, the coefficients of internal reliability have been met.

5. DATA ANALYSIS

5.1. Hypothesis Testing

The researcher has used (multiple regression models) to examine the effect of TQM tools on customer satisfaction, as well as, weighted least square test to explore the mediating effect of service quality.

Table 5 clarify that TQM tools can positively and significantly affect customer satisfaction, since (63.0%) in the variation of customer satisfaction can be interpreted by TQM tools, while the value of beta = 0.777 was insignificant at 0.000. Therefore, H1 can be accepted and supported.

Tables 6 clarify that 79.7% in the variation of customer satisfaction can be interpreted by TQM tools. Consequently, the R² value is greater than the R² values shown in the prior table, which undoubtedly points that the effect TQM tools on customer satisfaction can be stronger through service quality. Accordingly, the overall findings support accepting H₂ as shown in the Table 6.

6. CONCLUSION

The multiple regression findings have been established that TQM tools positively affecting customer satisfaction. Furthermore, service quality has a strong effect as mediating variable. In general,

these findings without a shred of doubt were consistent with TQM theories and literatures. However, conclusions and discussions are drawn from the evidence gathered and collected through a survey conducted. Based on this study using TQM tools improve service quality and customer satisfaction in the five stars hotel. In this industry improvement in service provision is strongly sought, and marketing and technical staff should work together rather than separately in order to provide customers with a better service; applying the TQM tools will enable cross functional effort.

7. RECOMMENDATIONS

The empirical research in this study adds to the understanding, the linkage of using TQM tools in improving service quality and customer satisfaction. The first recommendation in this study is the awareness of top management is a solution for the "lack of support from upper management" issue, as if the management believe in the project's benefits; it will support the project (Carnvalli and Miguel, 2008). The second recommendation in this study, it is important for every hotel select and use the appropriate TQM tools and method according to the needs and demands of the continual improvement program. Finally, since the five stars hotel are working in high standardized environment; it's very important for the hotels top management to apply different TQM tools to gain strong and sustainable competitive advantage.

8. ACKNOWLEDGMENT

The author is grateful to the Applied Science Private University, Amman, Jordan, for the full financial support granted to this research project.

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