



International Journal of Tourism and Hospitality

Publisher's Home Page: <https://www.svedbergopen.com/>



Research Paper

Open Access

The implementation of Total Quality Management (TQM) in the hotel industry

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Article Info

Volume 1, Issue 1, January 2021

Received : 06 November 2020

Accepted : 10 December 2020

Published : 04 January 2021

doi: [10.51483/IJTH.1.1.2021.25-34](https://doi.org/10.51483/IJTH.1.1.2021.25-34)

Abstract

This study sets out to explore the Critical Success Factors (CSFs) necessary for Total Quality Management (TQM) implementation in hotels. It also aims to classify participating hotels into groups based on their TQM adoption by using cluster analysis. A quantitative survey method was applied. Data were collected from a sample of managers from four- and five-star hotels in Jordan, 170 questionnaires were distributed to managers and 104 usable questionnaires were returned. The findings revealed that TQM is existed and implemented in the hotel industry. The researcher then confirmed that four- and five-star hotels can be classified into two groups, namely, "high TQM adopters" and "low TQM adopters".

Keywords: Total Quality Management (TQM), Critical Success Factors (CSFs) of TQM, Hotels, Jordan

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1. Introduction

Organizations in challenging environments are forced to apply new management approaches, one of which is Total Quality Management (TQM), and therefore many service organizations, including hotels, have responded to these challenges by adopting TQM in order to achieve competitiveness and business excellence (Samson and Terziowski, 1999; Pavlic *et al.*, 2004). Thus, Quality Management (QM) must become the way of life in the hospitality organizations to improve services (Motwani *et al.*, 1996). In addition, hotels are under pressure to increase profitability in the challenging situation (Daghfous and Barkhi, 2009). The concept of TQM appeared during 1980s and 1990s, both in developed and developing countries (Pavlic *et al.*, 2004). Organizations started to adopt TQM as a quality and productivity improvement programs in the early 1980s after the success in Japanese organizations enhancing competitive edge (Motwani, 2001; Kaynak, 2003), and therefore TQM has become an essential management philosophy used for improving quality and productivity in organizations (Karia and Asaari, 2006). TQM rapidly became a top priority in many organizations due to the globalization age and highly competitive environment forcing customers to search for better products and services (Thiagaragan *et al.*, 2001).

Implementing TQM is an important process for improving organizational efficiency within businesses (Yusof and Aspinwall, 2000). TQM appears to have been a universal remedy for solving organizational problems and improving

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organizational performance (Joiner, 2007). All organizations, private and public, manufacturing and service, are implementing TQM or are planning to implement it (Ho *et al.*, 1999). Despite the importance of TQM, the implementation of TQM is still a problematic practice in many organizations because they do not realize that the process of TQM implementation is a comprehensive organizational change (Hansson and Klefsjö, 2003). Thus, this study will investigate the Critical Success Factors (CSFs) for successful TQM implementation needed overcome the difficulties related to TQM implementation.

2. Literature review

In the early 1920s, the origin of the TQM movement started when Shewhart introduced the concept of Statistical Process Control (SPC) to monitor quality in mass production manufacturing for the first time (Shewhart, 1931). This was followed by the application of Statistical Control (SC) methods at the Bell Telephone Company in 1926. Quality Control (QC) was started in Japan in 1949 when the Union of Japanese Scientists and Engineers (JUSE) invited a group of specialists to provide a program for promoting QC in Japanese organizations (Lakhe and Mohanty, 1994). In 1950, Deming introduced a comprehensive management system “Japanese-Style Management Model”. Feigenbaum, who worked with the Japanese like Deming and Juran, in 1961 introduced Total Quality Control (TQC), as the forerunner of TQM as known today (Omachonu and Ross, 1995; Martinez-Lorente *et al.*, 1998). However, many of the dimensions that have formed TQM were developed earlier during the 1950s to 1970s (Martinez-Lorente *et al.*, 1998; Lau and Anderson, 1998). Later, in 1985, the TQM term appeared for the first time when the Naval Air Systems Command named its Japanese-style management approach as TQM. The first study identifying the CSFs of quality management emerged by Saraph *et al.* (1989).

There are many definitions of TQM have been given by quality researchers. It is difficult to introduce a single universal definition of TQM (Lau and Anderson, 1998). However, all quality researchers provide their own definitions, and therefore there is no universal agreement about the definition of TQM (Martinez-Lorente *et al.*, 1998; Sila and Ebrahimpour, 2003; Boon *et al.*, 2007). Consequently, TQM means different things to different people (Eriksson and Hansson, 2003). For example, Berry (1991) defined TQM as a total corporate focus on meeting and exceeding customers’ expectations and significantly reducing costs resulting from poor quality by adopting a new management system and corporate culture. Kanji (2002) defined TQM as a management philosophy that fosters an organizational culture committed to customer satisfaction through continuous improvement. A similar definition was provided by Antony *et al.* (2002: p. 551), who regarded TQM as “*an integrative management philosophy aimed at continuously improving the performance of products, processes and services to achieve and exceed customer expectations*”. A comprehensive definition for TQ was presented by Al-Ababneh (2011), He defined TQM as “*A management philosophy which involves a set of principles, techniques, and tools that are used for continuously improving the quality of processes, products, services and people by involving all employees to achieve superior customer satisfaction*”. Generally, most of the definitions of TQM are focused on TQM as a philosophy of management that fosters an organizational culture committed to customer satisfaction throughout continuous improvement.

The CSFs of TQM can be described as the best practices of TQM implementation (Thiagarajan and Zairi, 1998; Sila, 2005). Specifically, the TQM implementation process stands a good chance of ending in failure if this CSF is not included, and the more critical a quality factor is, the higher the chances of failure if it is not part of TQM (Thiagarajan and Zairi, 1998: p.291). Successful TQM implementation is often linked with the CSFs which are responsible for achieving business excellence (Talib and Rahman, 2010). Thus, it is important to understand TQM practices and its CSFs in order to determine the level of resources and commitment needed for achieving successful implementation (Zairi and Youssef, 1995). The literature identified that the CSFs of TQM range between four and twelve factors (Karuppusami and Gandhinathan, 2006). Saraph *et al.* (1989) empirical study was the first systematic attempt to classify and organize the important critical factors of quality management practice based on literature into eight critical factors, namely, the role of top management leadership, the role of quality department, training, product/service design, supplier quality management, process management, quality data and reporting, and employee relations. A study conducted by Al-Dhaafri, Saleh and Al-Swidi (2016) found 10 CSFs of TQM which were critically important including; strategic quality policy, quality culture, customer and employee’s relationship, supplier management, leadership, communication, teamwork, and quality improvement. Furthermore, a recent study conducted by a study Amin *et al.* (2017) presented seven critical factors of TQM implementation namely; leadership, continuous improvement, supplier quality, employee satisfaction, customer focus, training and process management. TQM practices has been classified as hard and soft phase by different authors, some practices are considered as hard elements of TQM (where focus is more on manufacturing and production side, less human factors involved, such as quality control, quality measurement, quality tools and techniques, etc.) and others considered as soft elements of TQM (when focus of the practices on service sector and human factors are involved, such as customer satisfaction, training, quality policy, customer focus, etc.) (Ali *et al.*, 2018).

In the hotel industry, TQM was first used when Quality Assurance (QA) was introduced in the 1980s (Hall, 1990). Specifically, the implementation of quality management in the hospitality industry started from 1982 when the American hospitality industry implemented QA systems and achieved excellence outcomes (Walker and Salameh, 1990). Quality has a great importance in the hospitality industry (Saunders and Graham, 1992). However, few hotels have heard about TQM (Walker and Salameh, 1990), and therefore there is still a lack of literature about TQM in hotels. In the last decade, many hospitality organizations have shown more interest in the concept of TQM. As expectations of customers and potential customers have escalated, hospitality organizations have found the implementation of quality to be an important competitive component in the global market (Cannon, 2002).

There are a limited number of empirically researched studies of TQM in the hotel industry. For example, Breiter and Kline (1995) identified that leadership, customer focus, and vision and values as CSFs of TQM in the hotel industry, followed by training, communications, empowerment, alignment of organizational systems, and implementation. While, Sila and Ebrahimpour (2003) examined the Malcolm Baldrige National Quality Award (MBNQA) to investigate TQM practices in US luxury hotels. They found that a major barrier to successful TQM implementation was failure of top management to support a TQM program. They also revealed that leadership and customer focus are the two main factors most often integrated by hotels into their TQM programs. Recently, Shahbazipour (2007) showed the importance of CSFs of TQM in hotels. The study supported the theory that the CSFs of TQM implementation may have different importance to performance in different hotels, that there may be a different level of relationship between each factor and performance, and the level of CSFs is different from one hotel to another. Mohsen (2009) identified the CSFs relating to the introduction of a TQM culture in five-star hotels, namely staff empowerment, teams, staff suggestion and reward schemes, training, leadership, communication and customer focus. Further, Arasli (2012) found in the hotel industry 7-key factors namely; top management role, training, employee satisfaction, empowerment, participation, teamwork and change.

TQM has become popular in the hospitality industry, and therefore TQM has become increasingly important for management in hotels due to high global competition. However, hotels can be classified into groups based on the level of TQM implementation. For example, Tari *et al.* (2010) classified hotels into three clusters based on commitment to QM, namely, QM proactive hotels, QM committed hotels, and QM reactive hotels. They also argued that QM proactive hotels had a higher star rating, and were more likely to be chain-affiliated, have more rooms and facilities, and more resources. Although TQM has become more important in the hotel industry, and the implementation of TQM has had positive effects on hotel performance. The researcher concluded that few studies have been conducted to investigate the implementation of TQM in the hotel industry. Accordingly, more research is needed to fill this gap in the literature on the hotel industry. This study considers the CSFs as necessary practices for successful TQM implementation in order to achieve the benefits of TQM in the hotel industry. As a

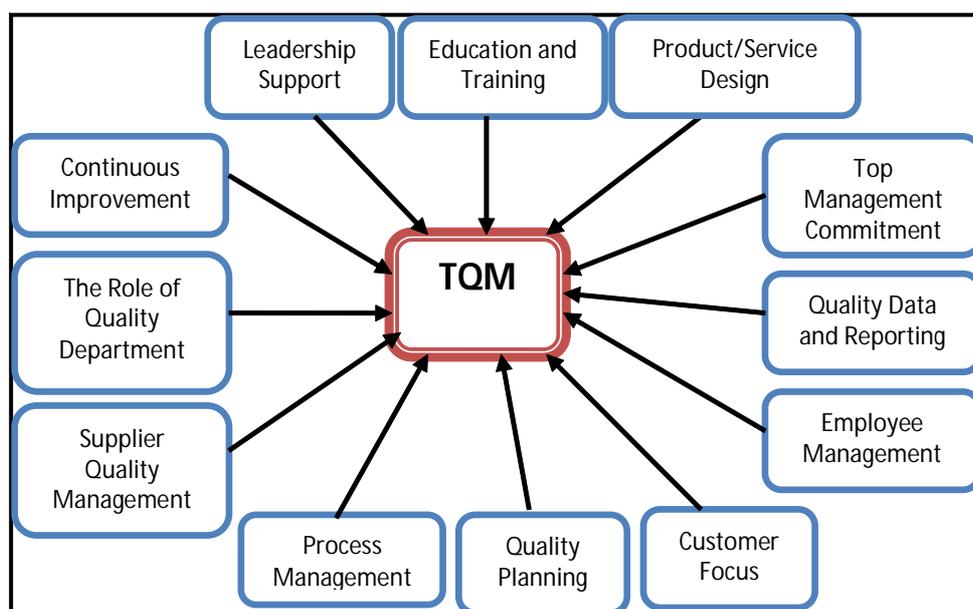


Figure 1: Critical Success Factors (CSFs) of TQM implementation

result, the specific CSFs of TQM are not completely agreed among researcher. Thus, reviewing the main empirical studies in CSFs of TQM, the researcher found that there are 12-key CSFs for the successful implementation of TQM across more than 35 empirical studies conducted in both manufacturing and service organizations, namely: Top Management Commitment (F1), Leadership Support (F2), The Role Of Quality Department (F3), Supplier Quality Management (F4), Quality Data And Reporting (F5), Product/Service Design (F6), Employee Management (F7), Process Management (F8), Education and Training (F9), Continuous Improvement (F10), Customer Focus (F11), and Quality Planning (F12) as shown in Figure 1.

3. Research methodology

TQM measurement was developed consisted of 12 scales based on the previous instruments (i.e., [Saraph et al., 1989](#); [Flynn et al., 1994](#); [Ahire et al., 1996](#); [Zhang et al., 2000](#); [Claver et al., 2003](#)) to measure managers perceptions of the extent of TQM implementation. The researcher adapted 71 items for 12 TQM factors from the previous studies. These scales used a six-point Likert-type scale anchored at (1) not at all and (6) to a very large extent. The respondents will be asked about their perceptions towards the implementation of CSFs of TQM in their current hotels by investigating their agreement toward TQM implementation.

This study used a cross-sectional survey methodology, and the unit of sample was at the managerial level. The empirical data collection for the study was conducted in four- and five-star hotels in Jordan, which may have implemented quality management practices due to their offering high levels of service to meet customers' expectations. The sample was all managers among 17 hotels, with 170 questionnaires being sent to these managers. A total of 107 questionnaires were returned, a response rate of 62.3%. However, three questionnaires were invalid due to incomplete data and the researcher obtained 104 usable responses.

4. Results

In this study, the TQM instrument consisted of 71 items covering 12 scales. Using SPSS, the reliability and validity of TQM instrument were confirmed in this study. The reliability alpha coefficients for the TQM factors were generally high ranging from 0.805 to 0.958, but some items in the TQM scales were eliminated as necessary to increase the reliability for each scale. As a result, the high Cronbach's alpha coefficients achieved support the view that the study's scales are reliable. In addition, the study scales conformed to the two types of validity: content validity, and construct validity.

According to [Hair et al. \(2010\)](#), factor loadings greater than 0.30 are considered significant; loadings of 0.40 are considered more important; if the loadings are 0.50 or greater, they are considered very significant. In this study, a factor loading of 0.40 was used as the cut-off point. An Exploratory Factor Analysis (EFA) using SPSS version 18 was performed for each scale separately; all items in the scales were used in the EFA before eliminating any item for maximizing reliability. It was clear from the results that all of the items had high factor loadings greater than 0.40 ranging from 0.715 to 0.948. Additionally, the results revealed that each of the 12 factors obtained an Eigenvalue greater than 1. As a result, the factor analysis showed that the items in 12 scales of TQM formed a single factor. On the other hand, Confirmatory Factor Analysis (CFA) with AMOS 18 using maximum likelihood procedure was undertaken to assess the overall fit of the model on each scale, using the items remaining after excluding those items eliminated for maximizing reliability. The results of CFA indicated that the CFI, IFI, NFI, and TLI of the 12 scales exceeded the 0.90 criterion as suggested by [Hoyle and Panter \(1995\)](#), and RMSEA values below .05 for most scales ([Byrne, 2001](#)), and X^2/df ranged from 0.26 to 3.363 fell within a range of acceptable values (2 to 5) as suggested by [Bollen \(1989\)](#), All of the factor loadings for constructs ranged from 0.662 to 0.949 were very high significant ($p < 0.001$). Consequently, the goodness-of-fit indexes were excellent that showed good fit for the 12 scales.

The main purpose of this study is classifying the sampled hotels based on their TQM score which representing the level of TQM implementation into different groups. The overall score of TQM was measured by accounting the scores of 12 CSFs. The results indicated that there are huge differences between hotels in terms of overall TQM score ranging from 1.82 to 5.69, these differences influence the average TQM score for all hotels. Thus, it was necessary to run cluster analysis in order to classify hotels into group. K-means cluster analysis was conducted which indicated that there are two main clusters based on the 12 CSFs of TQM and overall TQM. In order to investigate the previous two clusters as shown in Table 1, a two-step cluster analysis was conducted to determine hotels in each cluster based on the 12 CSFs of TQM and overall TQM, the results of cluster analysis confirmed two groups of hotels based on their TQM implementation, and the sampled hotels loaded clearly in those clusters as shown in Table 1.

Cluster	Hotel code	N. of Hotels	% of Total hotels	TQM	
				Mean	Std. Deviation
1	6, 8, 10, 14, 16	5	29.4%	2.11	0.413
2	1, 2, 3, 4, 5, 7, 9, 11,12, 13, 15, 17	12	70.6%	4.84	0.679
Combined	All hotels	17	100%	4.19	1.33

As Table 1 showed that hotels can be classified into two groups, five out of 17 hotels were in the first cluster had low level of TQM implementation (mean = 2.11) which was less than the midpoint (3.5) that indicated TQM are implemented at low level in this cluster of hotels. Whereas, the other 12 hotels were in the second cluster had high level of TQM implementation (mean = 4.84) greater than the midpoint. The results explored that there are two groups of hotels, namely, (Cluster 1) “low TQM adopters” and (Cluster 2) “high TQM adopters”. Furthermore, *t*-test was conducted in order to

Dimension	TQM level	Mean	SD	Mean difference	<i>t</i>	Sig. (2-tailed)
1.Top Management Commitment(F1)	High	4.86	0.82	2.97	16.42	0.000
	Low	1.89	0.66			
2. Leadership Support (F2)	High	4.89	0.84	2.71	15.40	0.000
	Low	2.18	0.45			
3. Quality Department (F3)	High	4.73	0.93	2.71	13.47	0.000
	Low	2.02	0.67			
4. Supplier Relationship (F4)	High	4.64	0.82	2.32	13.21	0.000
	Low	2.32	0.55			
5. Quality Data and Reporting (F5)	High	4.58	0.83	2.49	14.17	0.000
	Low	2.09	0.51			
6. Product/Service Design (F6)	High	4.90	0.78	2.68	15.97	0.000
	Low	2.22	0.56			
7. Employee Management (F7)	High	4.80	0.80	2.70	15.88	0.000
	Low	2.10	0.48			
8. Process Management (F8)	High	4.76	0.78	2.61	15.72	0.000
	Low	2.15	0.47			
9. Education and Training (F9)	High	4.85	0.78	2.70	15.96	0.000
	Low	2.15	0.58			
10. Continuous Improvement (F10)	High	4.89	0.80	2.87	16.66	0.000
	Low	2.02	0.57			
11. Customer Focus (F11)	High	5.15	0.81	3.09	17.74	0.000
	Low	2.06	0.59			
12. Quality Planning (F12)	High	5.07	0.76	2.97	18.32	0.000
	Low	2.10	0.51			
Overall TQM	Low	2.11	0.41	2.73	19.01	0.000
	High	4.84	0.68			

distinguish between the two groups of TQM adopters, the comparative results of these two groups are shown in Table 2.

As shown in Table 2, the results revealed that there are strong significant differences between two groups of hotels in terms to 12 CSFs of TQM, and overall TQM. Specifically, the mean scores for all variables in “low TQM adopters” group were less than then midpoint (3.5), whereas they were greater than the midpoint for “high TQM adopters” group. For instance, the highest difference between high and low TQM adopters at the factor level was regarding ‘customer focus’ (F11) with mean difference (3.09), this followed by two factors, are: ‘top management commitment’ (F1) and ‘quality planning’ (F12) (mean differences = 2.97), then ‘continuous improvement’ (F10) with mean difference (2.87). While, the lowest difference was in term to ‘supplier relationship’ (F4) with mean difference (2.32), followed by ‘quality data & reporting’ (F5) (mean differences = 2.97). Finally, overall TQM had a mean difference was 2.73.

The *t*-test results suggested that the “high TQM adopters” and “low TQM adopters” were significantly different in TQM level. More specifically, “high TQM adopters” had higher TQM implementation (mean = 4.84) which was significantly different from “low TQM adopters” who had lower TQM implementation (mean = 2.11) ($t = 19.01, p = 0.00$). These findings were supported by Al-Khawaldeh (2001), who classified industrial organizations in Jordan into two groups based on their level of TQM implementation: low TQM organizations and high TQM organizations, while Kuei *et al.* (1997) suggested that the high quality-tendency groups are already in the mature stage of quality movement, medium quality-tendency groups are still in the transforming stage, while low quality-tendency groups are still in the early stage of quality movement.

The study’s findings indicated that TQM practices as well as all CSFs of TQM are moderately implemented in Jordanian hotels as reported by managers. At the factor level, it was found that the highest five mean scores were for customer focus, quality planning, product/service design, leadership support, continuous improvement, and education and training, while the lowest mean score was for quality data and reporting. The current findings suggested that hotels focused more on customer satisfaction, quality planning and product/service design through continuous improvement, and employee education and training, which are supported by leadership. This study also confirmed that both hard factors and soft factors exist in the service industry and more specifically in hotels. The above results were supported by Zhang *et al.* (2000), who found that the mean scores of 11 TQM factors in Chinese manufacturing organizations ranged from (3.57) for process control and improvement to (4.00) for customer focus. In contrast, Flynn *et al.* (1994) revealed that the mean scores of 11 TQM factors in plants were low ranged from (2.17) for customer interaction to (3.28) for quality improvement rewards.

In the hotel industry, Cheung (2006) measured the implementation of TQM in four- and five-star hotels through four factors, namely, top management commitment, continuous improvement, customer focus and employee involvement. She found that the mean score of aggregate TQM was (5.56), suggesting that TQM practices were implemented in the hotel industry. Similarly, another study was conducted by Claver-Cortes *et al.* (2008) who investigated TQM commitment among managers in three- to five-star hotels in Spain. They revealed that the hotels had a high degree of TQM commitment (mean = 5.62), and those hotels were usually chain-affiliated since they own more resources to meet quality standards and to implement quality practices. These results supported and confirmed the findings of the current study, suggesting that TQM practices are highly implemented in the hotel industry. Additionally, the two groups of hotels showed different views of the relative importance of the CSFs of TQM implementation. The results revealed that the level of importance of CSFs for both groups was greater than the midpoint (3.5), but the highest values were for high TQM adopters. *T*-tests showed a significant difference between the two groups of hotels related to the importance of each factor of TQM. For example, the most important factors for high TQM adopters were customer focus, education and training, continuous improvement, employee management, and top management commitment respectively, while for low TQM adopters were employee management, education and training, customer focus, continuous improvement, and process management respectively.

Structural Equation Modeling (SEM) was used to confirm the structure of TQM model. As shown in Figure 2, the TQM model is represented as a single latent construct composed of 12 variables. The results revealed that the GFI was 0.78, while the AGFI was 0.68, indicating an adequate fit of the TQM model consisting of 12 factors, and these results are similar to Tamimi’s (1998) results that were obtained in the western context, his results found that the GFI was 0.75, and the AGFI was 0.71, which indicated an adequate fit of TQM model. The goodness-of-fit indexes were good. The results of this study confirmed that TQM model in the hotel industry.

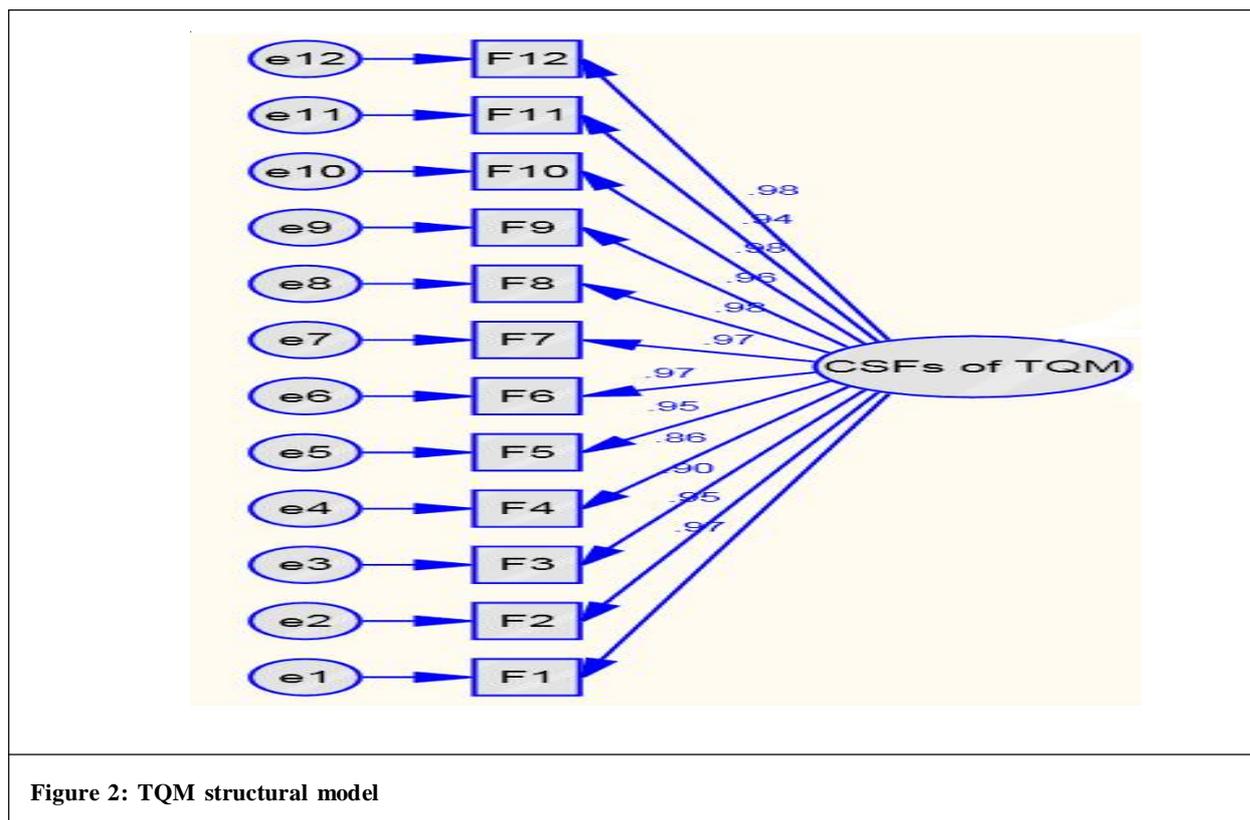


Figure 2: TQM structural model

5. Discussion

Compared to the other quality management instruments developed by Saraph *et al.* (1989), Flynn *et al.* (1994), Ahire *et al.* (1996), Zhang *et al.* (2000), and Claver *et al.* (2003), the TQM instrument presented in this paper has high reliability and validity for the hotel industry in general and for Jordanian hotels in particular. This study was the first to develop an instrument based on an extensive literature review for measuring TQM implementation in the Jordanian hotel industry. The instrument was empirically tested and validated using the data from the Jordanian hotel industry. The TQM instrument consisting of 12 TQM scales (59 items) was reliable and valid.

This study was able to confirm, regarding the different levels of TQM implementation among Jordanian hotels, that the majority of “high TQM adopters” were five-star international chain hotels, managed by management contract, while “low TQM adopters” were four- and five- star independent hotels, either managed by management contract or owner managed. This is because international chain hotels in Jordan follow specific quality standards through planning for quality, providing education and training for employees, allocating sufficient resources, introducing the latest quality programs, improving quality continuously, and finally, implementing quality management practices at a high level, to meet customer’s needs and expectations. On the other hand, independent hotels in Jordan, unfortunately, still follow traditional management in managing their operations which is lacking any sense of quality and improvement, and they prefer to keep work going as it is without any improvement or change, ignoring customer’s needs and expectations. These hotels consider quality to be an extra cost, which is unnecessary for them to pursue, and that leads to a very low level of implementation of quality management practices. The current study suggested that TQM practices are strongly implemented in chain-affiliated hotels. These findings were supported by Claver-Cortes *et al.* (2008) who revealed that there was a high degree of TQM commitment in three- to five-star hotels in Spain, and those hotels were usually chain-affiliated and own more resources to meet quality standards and to implement quality practices.

This study provided strong evidence that the level of TQM implementation could be different among hotels. Thus, the instrument could be used directly in other studies for different populations. For example, managers can use the TQM instrument developed in this study to assess the level of TQM practices in their organizations and to identify problem areas that should be improved. While, the researchers being able to use this instrument to develop quality management theory. Furthermore, a future study could be conducted to investigate the impact of TQM on hotels’ performance. However, this study must recognize several limitations: for example, data were collected about the level of TQM practices based on managers’ perceptions, where some respondents from the same hotel might have different perceptions, although a detailed cluster analysis did not reveal this to be significant. As 35% of the respondents were first-level managers, it is possible that this level of manager might not have evaluated correctly the current level of TQM practices.

6. Conclusion

A small number of studies have focused on investigating TQM in the hotel industry. The majority of the relevant literature, however, supports the view that TQM can be implemented in hotels. The results of this study highlight the importance of implementing TQM practices in the hotel industry by revealing the moderate level of TQM. Additionally, the current study has been able to classify hotels in Jordan into two groups, based on their level of adoption of TQM practices, namely, 'low TQM adopters' and 'high TQM adopters', with these groups having significantly different approaches to TQM.

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Cite this article as: Mukhles, M. Al-Ababneh (2021). The implementation of Total Quality Management (TQM) in the hotel industry. *International Journal of Tourism and Hospitality*. 1(1), 25-34. doi: 10.51483/IJTH.1.1.2021.25-34.