

Classifying Jordanian Hotels Based on their TQM Implementations

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ABSTRACT

This study aims at classifying hotels in Jordan into groups based on their Total Quality Management (TQM) implementation. Using a survey methodology, the TQM questionnaire was designed to measure the level of TQM implementation throughout Critical Success Factors (CSFs) which are necessary for TQM implementation. A total of 345 TQM questionnaires were distributed to managers, working in 17 four- and five-star Jordanian hotels. The researcher obtained 227 usable TQM questionnaires. The results classified Jordanian hotels based on the CSFs for TQM implementation. More specifically, using cluster analysis on the CSFs of TQM resulted in two groups of hotels: 'low TQM adopters' and 'high TQM adopters'. These two groups showed significant differences across the TQM CSFs.

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

Introduction

All organisations around the world are faced with various unprecedented changes; these rapid changes in the world economy and international market create real challenges for organisations such as high technology, open international markets,

globalisation, and ultimately, intensifying competition (Anjard, 1998). In these environments, organisations are forced to apply new management approaches, one of which is TQM, in order to achieve competitiveness (Samson and Terziovski, 1999; Pavlic et al., 2004). Thus, many organisations have widely adopted TQM as a response to these changes (Anjard, 1998). Hotels are under pressure to increase profitability in this challenging situation (Daghfous and Barkhi, 2009).

Organisations started to adopt TQM as a quality and productivity improvement programmes in the early 1980s after the success in Japanese organisations enhancing competitive edge (Motwani, 2001; Kaynak, 2003), and therefore TQM has become an essential management philosophy used for improving quality and productivity in organisations (Karia and Asaari, 2006). TQM has developed primarily because of the changes that have appeared in the global economy and the demands of

market forces (Al-Zomany, 2002).

TQM rapidly became the preferred management philosophy among organisations in the 1990s (Samson and Terziovski, 1999), and became a top priority in many organisations due to the globalisation 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 solving organisational problems, and improving organisational performance and efficiency (Yusof and Aspinwall, 2000; Joiner, 2007).

This study focused on classifying Jordanian hotels based on the CSFs associated with a successful TQM implementation in the hotel industry. It aims to investigate the level of TQM implementation in hotel industry. This will be useful to those hotels are planning to implement TQM, and also to those which are implementing TQM. The current study will cover different sections, including TQM theory, research approach, results, discussion and conclusions.

Theory

Origin of the TQM movement started in the early 1920s, when Shewhart introduced the concept of Statistical Process Control (SPC) to monitor quality in mass production manufacturing for the first time in Japan (Shewhart, 1931). 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

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first time when the Naval Air Systems Command named its Japanese-style management approach as TQM. However, the concept of TQM appeared during 1980s and 1990s, both in developed and developing countries (Pavlic et al., 2004).

Today, 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). 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 organisational 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". Generally, most of the definitions of TQM are focused on TQM as a philosophy of management that fosters an organisational culture committed to customer satisfaction throughout continuous improvement.

The first study identifying the CSFs of quality management emerged by Saraph et al. (1989). 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). 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.'s (1989) empirical study was the first systematic attempt to classify and organise 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.

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). A new stage in the history of quality in hotels started with the awarding of the Malcolm Baldrige National Quality Award (MBNQA) in 1992, and again in 1999 to the Ritz-Carlton Hotel Company, the first hotel company in the world to be considered worthy of a prestigious award.

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 organisational systems, and implementation. While, Sila and Ebrahimpour (2003) examined the 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 programme. They also revealed that leadership and customer focus are the two main factors most often integrated by hotels into their TQM programmes.

A study was conducted by Mohsen (2009), who 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. Al-Ababneh and Lockwood (2012) conducted another study on TQM implementation in hotels, they revealed that TQM is existed and implemented in the hotel industry. This study provided strong evidence that the level of TQM implementation was different among hotels, it was found that there are strong significant differences between two groups of hotels in terms to CSFs of TQM.

Recently, Moghadam1 et al. (2013) explored TQM in the hotel industry of sports, they found that the factor of focus on customer has the most pleasant conditions and

leadership factor has the worst conditions, and factors of strategy and policy, leadership, focus on customer, information's analysis, focus on human resources, management process and business results had meaningful difference. Their study also showed the poor conditions of TQM strategy in the hotel industry of sports that requires more efforts in this field.

Other studies were conducted in the service industry, Mittal et al. (2011), and Kumar et al. (2011) identified the ranking of the CSFs of TQM in the service industry, these two studies obtained the same findings. Their results indicated the rank of factors based on the importance of each factor for implementation of TQM in the service industry, and they are: customer focus, teamwork & involvement, continuous improvement, top management commitment & recognition, employee training & development, measurement & feedback, effective communication respectively.

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. Al-Ababneh and Lockwood (2012) confirmed in their study that four- and five-star hotels can be classified into two groups, namely, "high TQM adopters" and "low TQM adopters".

This study considers the CSFs as necessary practices for successful TQM implementation in order to achieve the benefits of TQM in the hotel industry. 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 as shown in Table 1, 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).

Research Approach

Research design is a crucial part in any research as it is concerned with turning research questions into projects. The choice of research design depends on the purpose(s) of research, and hence there are three types of

research design which are: exploratory study, descriptive study, explanatory study (Saunders et al., 2009). Exploratory study focuses on investigating what is happening, asking questions, seeking new insights, assessing phenomena in a new light, as well generating ideas and hypothesis for future researches (Robson, 2002). While, descriptive study is conducted in order to determine and describe the characteristics of the variables in the situation. Therefore, this type of study aims to provide researcher a profile or describe aspects of the phenomena being researched (Sekaran, 2003). Finally, explanatory study seeks an explanation of a situation or problem being studied and not necessary to be in causal relationship, and explain of patterns relating to studied phenomenon (Robson, 2002; Saunders et al., 2009). The researcher found that descriptive study is suitable for this study based on its aim, and therefore other types are excluded from this study. Descriptive study will be used to describe the level of TQM implementation in the hotel industry.

Survey strategy is considered a positivistic methodology and it related to deductive approach. Survey strategy tends to be used in exploratory study and descriptive study, and therefore this strategy allows researcher to collect quantitative data and analyse these data quantitatively through descriptive and inferential statistics (Saunders et al., 2009). This study follows survey design by collecting quantitative data. More specifically, quantitative data were collected from managers by survey questionnaire. 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 as shown in Table 2.

This study used a six-point Likert-type scale that had more higher trend of discrimination and reliability than Likert's scale 5 points (Chomeya, 2010), it anchored at (1) not at all and (6) to a very large extent in order to force respondents to give their answer regarding the level of TQM implementation. The respondents will be asked about the implementation of CSFs of TQM in their current hotels by investigating their agreement toward TQM implementation.

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, and the unit of sample was at the managerial level, with 345 questionnaires being sent to these managers. A

total of 237 questionnaires were returned, a response rate of 68.7%. However, ten questionnaires were invalid due to incomplete data and the researchers obtained 227 usable responses.

Table 1: A Comprehensive List of CSFs of TQM and Literature Support

No.	CSFs of TQM	Supporting Literature
F1	Top management commitment	(Saraph et al., 1989), (Black, 1993), (Flynn et al., 1994), (Black and Porter, 1996), (Ahire et al., 1996), (Tamimi, 1998), (Joseph et al., 1999), (Zhang et al., 2000), (Motwani, 2001), (Antony et al., 2002), (Claver et al., 2003), (Tari, 2005), (Lewis et al. 2006), (Ju et al., 2006), (Yusuf et al., 2007), (Al-Marri et al., 2007), (Fotopoulos and Psomas, 2009), (Talib and Rahman, 2010).
F2	Leadership support	(Zhang et al., 2000), (Tsang and Antony, 2001), (Sadikoglu and Zehir, 2010), Talib and Rahman, 2010).
F3	The role of quality department	(Saraph et al., 1989), (Joseph et al., 1999), (Antony et al., 2002), (Al-Marri et al., 2007).
F4	Supplier quality management	Saraph et al., 1989), (Black, 1993), (Flynn et al., 1994), (Black and Porter, 1996), (Ahire et al., 1996), (Tamimi, 1998), (Joseph et al., 1999), (Zhang et al., 2000), (Motwani, 2001), (Antony et al., 2002), (Claver et al., 2003), (Tari, 2005), (Lewis et al. 2006), (Ju et al., 2006), (Fotopoulos and Psomas, 2009), (Talib and Rahman, 2010).
F5	Quality data and reporting	Saraph et al., 1989), (Black, 1993), (Flynn et al., 1994), (Black & Porter, 1996), (Ahire et al., 1996), (Tamimi, 1998), (Joseph et al., 1999), (Zhang et al., 2000), (Motwani, 2001), (Antony et al., 2002), (Lewis et al. 2006), (Lewis et al. 2006), (Ju et al., 2006), (Yusuf et al., 2007), (Al-Marri et al., 2007), (Fotopoulos and Psomas, 2009), (Talib and Rahman, 2010).
F6	Product/service design	(Saraph et al., 1989), (Flynn et al., 1994), (Ahire et al., 1996), (Tamimi, 1998), (Joseph et al., 1999), (Zhang et al., 2000), (Motwani, 2001), (Antony et al., 2002), (Ju et al., 2006), (Al-Marri et al., 2007), (Yusuf et al., 2007).
F7	Employee management	(Saraph et al., 1989), (Black, 1993), (Flynn et al., 1994), (Black and Porter, 1996), (Ahire et al., 1996), (Tamimi, 1998), (Joseph et al., 1999), (Zhang et al., 2000), (Motwani, 2001), (Antony et al., 2002), (Tari, 2005), (Lewis et al. 2006), (Ju et al., 2006), (Yusuf et al., 2007), (Yusuf et al., 2007), (Al-Marri et al., 2007), (Fotopoulos and Psomas, 2009), (Talib and Rahman, 2010).
F8	Process management	(Saraph et al., 1989), (Flynn et al., 1994), (Ahire et al., 1996), (Joseph et al., 1999), (Zhang et al., 2000), (Motwani, 2001), (Antony et al., 2002), (Claver et al., 2003), (Tari, 2005), (Lewis et al. 2006), (Ju et al., 2006), (Yusuf et al., 2007), (Al-Marri et al., 2007), (Fotopoulos and Psomas, 2009).
F9	Education and training	Saraph et al., 1989), (Ahire et al., 1996), (Tamimi, 1998), (Joseph et al., 1999), (Zhang et al., 2000), (Motwani, 2001), (Antony et al., 2002), (Claver et al., 2003), (Tari, 2005), (Lewis et al. 2006), (Ju et al., 2006), (Yusuf et al., 2007), (Fotopoulos and Psomas, 2009), (Talib and Rahman, 2010).
F10	Continuous improvement	(Zhang et al., 2000), (Antony et al., 2002), (Claver et al., 2003), (Tari, 2005), (Lewis et al. 2006), (Yusuf et al., 2007) (Al-Marri et al., 2007), (Fotopoulos and Psomas, 2009), (Talib and Rahman, 2010).
F11	Customer focus	(Black, 1993), (Flynn et al., 1994), (Black and Porter, 1996), (Ahire et al., 1996), (Zhang et al., 2000), (Motwani, 2001), (Antony et al., 2002), (Tari, 2005), (Lewis et al. 2006), (Yusuf et al., 2007), (Al-Marri et al., 2007), (Fotopoulos and Psomas, 2009), (Talib and Rahman, 2010).
F12	Quality planning	(Black, 1993), (Black & Porter, 1996), (Joseph et al., 1999), (Zhang et al., 2000), (Claver et al., 2003), (Tari, 2005), (Lewis et al. 2006), (Yusuf et al., 2007), (Al-Marri et al., 2007), (Fotopoulos and Psomas, 2009).

Source: The Researcher

Table 2: The Constructs of TQM Questionnaire in this Study

No.	Construct	Items	Source
F1	Top management commitment	6	Ahire et al. (1996)
F2	Leadership support	4	Claver et al. (2003)
F3	The role of quality department	5	Saraph et al. (1989)
F4	Supplier quality management	4	Flynn et al. (1994)
F5	Quality data and reporting	8	Saraph et al. (1989)
F6	Product/service design	6	Saraph et al. (1989)
F7	Employee management	8	Ahire et al. (1996)
F8	Process management	10	Saraph et al. (1989)
F9	Education and training	6	Zhang et al. (2000)
10	Continuous improvement	5	Claver et al. (2003)
F11	Customer focus	4	Ahire et al. (1996)
F12	Quality planning	5	Claver et al. (2003)
Total items		71	

Some data analysis techniques were used in this study such as factor analysis, Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA), which will ascertain the underlying structure in a data matrix (Hair et al., 2010), descriptive analysis which will transform raw data to an another form that will present data in understanding and interpreting way through ordering, manipulating, and rearranging data to make descriptive information (Zikmund, 2003), cluster analysis was used to classify hotels based on specific characteristics in which the researcher is interested (Gordon, 1981). A normality of data can be tested through numerical methods that present a statistical summary such as Skewness and Kurtosis (Park, 2008). More specifically, Skewness has to do with the symmetry of the distribution; a skewed variable is a variable whose mean is not the centre of the distribution. Kurtosis has to do with the peakedness of a distribution; a distribution is either too peaked (with short, thick tails) or too flat (with long, thin tails) (Tabachimck and Fidell, 2007: p.79).

Results

TQM data gathered from 17 four- and five-star hotels in Jordan, in an attempt to classify hotels based on the CSFs of TQM practices. The study sample was managers, and therefore the CSFs of TQM applications were studied to investigate the differences among hotels based on CSFs of TQM practices. Descriptive analysis indicated that the majority of the managers sample was Jordanian males, and educated young people with age less than 35 years, experienced people with 2-4 years of

service in their current work, and they were middle managers as shown in Table 3.

An Exploratory Factor Analysis (EFA) using SPSS version 18 was performed for 71 items; all items in the scales were used in the EFA before eliminating any item for maximizing reliability as shown in Table 4.

The results revealed that the CSFs of TQM obtained an Eigenvalue greater than 1, with high percentage of variance that was 68.917 which is greater than 0.60. It was clear from the results that the majority of items had factor loadings greater than 0.40 ranging from 0.490 to 0.799. Furthermore, 12 items (Q14, Q2, Q28, Q60, Q6, Q62, Q9, Q33, Q7, Q27, Q8, and Q65) were dropped due to those items had cross factor loadings or their factor loadings less than 0.40. As a result, the EFA showed that the 59 items formed 12 factors of TQM.

Confirmatory Factor Analysis (CFA) with AMOS 18 using maximum likelihood procedure was undertaken to assess the overall fit of the model on each scale as shown in Table 8, using the items remaining after excluding those items eliminated for EFA.

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 0.05 for most scales (Byrne, 2001), and X^2/df ranged from 0.26 to 1.258 fell within a range of acceptable values (less than 2) as suggested by Bollen (1989), all of the factor loadings for constructs ranged from 0.724 to 0.949 were very high significant ($p < .001$). Consequently, the goodness-of-fit indexes were excellent that showed good fit for the 12 scales.

Table 3: Demographic Profile of Participants

Variable	Frequency	Percent (%)
Gender: Male	204	90 %
Female	23	10 %
Age: 25 years or less	27	12 %
26-35 years	80	35 %
36-45 years	95	42 %
46-55 years	18	8 %
56 years or more	7	3 %
Nationality: Jordanian	209	92 %
Non-Jordanian	18	8 %
Education: Less than secondary education	11	5 %
Secondary education	46	20 %
Undergraduate Degree	136	60 %
Postgraduate Degree	34	15 %
Length of service: 1 year or less	57	25 %
2-4 years	80	35 %
5-7 years	45	20 %
8 years or more	45	20 %
Position: First line Manager	86	38 %
Middle Manager	102	45 %
Top Manager	39	17 %

Table 4. Rotated Factor Matrix of the Critical Factors of TQM

No.	Item	TQM Factors											
		F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12
1	Q56	.724											
2	Q26	.715											
3	Q49	.713											
4	Q38	.706											
5	Q14	.485	.453							.444			
6	Q2	.439						.422					
7	Q46		.710										
8	Q22		.681										
9	Q10		.667										
10	Q34		.648										
11	Q40			.693									
12	Q4			.675									
13	Q51			.668									
14	Q16			.618									
15	Q28			.463		.432							.412
16	Q25				.703								
17	Q13				.701								
18	Q37				.681								
19	Q1				.600								
20	Q57					.790							
21	Q18					.784							
22	Q30					.683							
23	Q53					.670							
24	Q67					.668							
25	Q42					.665							

26	Q60			.445		.460							
27	Q6			.464		.449	.420						
28	Q41						.735						
29	Q52						.694						
30	Q66						.677						
31	Q17						.653						
32	Q5						.637						
33	Q29						.590						
34	Q69							.799					
35	Q59							.774					
36	Q45							.760					
37	Q21							.678					
38	Q55							.625					
39	Q62	.441	.479					.485					
40	Q9	.442						.456					
41	Q33							.333					
42	Q71								.618				
43	Q58								.605				
44	Q64								.561				
45	Q54								.543				
46	Q19								.531				
47	Q61								.520				
48	Q43								.509				
49	Q68								.498				
50	Q31								.490				
51	Q7						.461	.444					
52	Q50								.688				
53	Q63								.610				
54	Q3								.595				
55	Q15								.582				
56	Q39								.567				
57	Q27		.435					.447	.458				
58	Q24									.715			
59	Q48									.692			
60	Q12									.686			
61	Q36									.635			
62	Q70									.580			
63	Q32										.700		
64	Q20										.610		
65	Q44										.597		
66	Q8										.319		
67	Q35											.645	
68	Q23											.633	
69	Q47											.622	
70	Q11											.628	
71	Q65			.429		.447						.453	
Eigenvalue		3.726	3.415	3.048	2.890	2.771	2.480	2.303	2.088	1.949	1.729	1.575	1.317
% of Variance		22.918	8.175	6.619	5.379	5.138	4.103	3.535	2.879	2.751	2.719	2.686	2.015
Cumulative %		22.918	31.093	37.712	43.091	48.229	52.332	55.867	58.746	61.497	64.216	66.902	68.917

Table 8: Summary of Goodness-of-fit Statistics for CFA

Fit Measures										
			Absolute Fit Measures		Model Comparison				Parsimonious Fit Measures	
Factor	Item	Factor loading	RMSEA	PCLOSE	TLI	NFI	IFI	CFI	X ²	X ² /df
1. Top Management Commitment (F1)	Q26	.905	.020	.807	.995	.993	.985	.950	2.939	.588
	Q38	.833								
	Q49	.902								
	Q56	.919								
2. Leadership Support (F2)	Q10	.888	.0034	.899	.984	.999	.940	.948	.275	.138
	Q22	.913								
	Q34	.791								
	Q46	.921								
3. Quality Department (F3)	Q4	.853	.0083	.667	.980	.996	.970	.942	1.040	.520
	Q16	.825								
	Q40	.923								
	Q51	.865								
4. Supplier Relationship (F4)	Q1	.662	.0053	.980	1.076	1.000	1.014	1.000	.052	.26
	Q13	.775								
	Q25	.809								
	Q37	.724								
5. Quality Data & Reporting (F5)	Q18	.740	.022	.591	.997	.977	.999	.999	9.431	1.048
	Q30	.850								
	Q42	.781								
	Q53	.861								
	Q57	.899								
	Q67	.769								
6. Product/ Service Design (F6)	Q5	.843	.032	.537	.996	.983	.998	.998	10.077	1.120
	Q17	.858								
	Q29	.809								
	Q41	.932								
	Q52	.910								
	Q66	.875								
7. Employee Management (F7)	Q21	.893	.046	.470	.993	.983	.997	.997	10.926	1.214
	Q45	.874								
	Q55	.876								
	Q59	.918								
	Q69	.926								
8. Process Management (F8)	Q19	.884	.050	.469	.986	.959	.991	.991	44.044	1.258
	Q31	.781								
	Q43	.879								
	Q54	.893								
	Q58	.912								
	Q61	.884								
	Q64	.899								
	Q68	.792								
	Q71	.904								
9. Education & Training (F9)	Q3	.859	.042	.848	1.000	.993	.995	.987	2.575	.515
	Q15	.840								
	Q39	.793								
	Q50	.899								
	Q63	.883								
10. Continuous Improvement (F10)	Q12	.861	.049	.424	.992	.986	.997	.997	6.238	1.248
	Q24	.928								
	Q36	.863								
	Q48	.894								
	Q70	.837								
11. Customer Focus (F11)	Q20	.928	.027	.595	.992	.996	.983	.975	1.329	.664
	Q32	.940								
	Q44	.892								
12. Quality Planning (F12)	Q11	.845	.022	.439	.999	.995	.992	.982	2.098	1.049
	Q23	.949								
	Q35	.930								
	Q47	.913								

After conducted both Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) for 12 factors, a reliability test was conducted for the rest items (59 items) by using Cronbach's alpha coefficient. The reliability alpha coefficients for the TQM factors were generally high ranging from .805 to .958 as shown in Table 9, and therefore there is no need to eliminate any items in the TQM scales 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. Thus, the reliability and validity of TQM instrument were confirmed in this study.

In the TQM instrument, the overall TQM score was computed by summing up the 12 factors sub-scales. The results in Table 10 showed that the mean score for overall TQM (4.19) with standard deviation at (1.33) that means TQM practices were implemented in hotels as reported by managers. At the construct level, all TQM factors were implemented in the sampled hotels due to they had mean scores above the scale midpoint (3.5), for instance, customer focus (F11) had the highest score (mean=4.41, SD=1.53), followed by quality planning (F12) (mean=4.36, SD=1.36), and the lowest score was for quality data and reporting (F5) (mean=3.98, SD=1.31).

The cut-off points for Skewness and Kurtosis between -1.0 to 1.0, Table 10 revealed that all variables in this study instrument are normally distributed. The values of Skewness and Kurtosis for overall TQM ranged from -0.433 to -0.963, these values fell within a range of acceptable values. These results confirmed the normality of data, and therefore the data are ready for further statistical analyses. Furthermore, classifying the sampled hotels based on their TQM score which representing the level of TQM implementation into different groups was the purpose of this study. 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 as shown in Table 11. In order to investigate the two clusters, 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 11.

Table 9: Internal Consistency Analysis Results for TQM Instrument

Scale TQM Constructs	Original Items	N. of items	Cronbach's Alpha (α)
1. Top Management Commitment	Q26, Q38, Q49, Q56	4	.935
2. Leadership Support	Q10, Q22, Q34, Q46	4	.927
3. Quality Department	Q4, Q16, Q40, Q51	4	.916
4. Supplier Relationship	Q1, Q13, Q25, Q37	4	.805
5. Quality Data & Reporting	Q18, Q30, Q42, Q53, Q57, Q67	6	.914
6. Product/Service Design	Q5, Q17, Q29, Q41, Q52, Q66	6	.943
7. Employee Management	Q21, Q45, Q55, Q59, Q69	5	.954
8. Process Management	Q19, Q31, Q43, Q54, Q58, Q61, Q64, Q68, Q71	9	.958
9. Education & Training	Q3, Q15, Q39, Q50, Q63	5	.922
10. Continuous Improvement	Q12, Q24, Q36, Q48, Q70	5	.938
11. Customer Focus	Q20, Q32, Q44	3	.943
12. Quality Planning	Q11, Q23, Q35, Q47	4	.948
Overall TQM Scale		59	.991

Table 10: Distribution of the Dimensions of the TQM Instrument

Extracted dimensions	Mean	SD	Skewness*	Kurtosis*
1. Top Management Commitment (F1)	4.15	1.50	-.685	-.722
2. Leadership Support (F2)	4.24	1.39	-.558	-.963
3. Quality Department (F3)	4.08	1.46	-.667	-.767
4. Supplier Relationship (F4)	4.08	1.25	-.433	-.802
5. Quality Data & Reporting (F5)	3.98	1.31	-.486	-.823
6. Product/Service Design (F6)	4.25	1.36	-.650	-.800
7. Employee Management (F7)	4.15	1.37	-.561	-.879
8. Process Management (F8)	4.13	1.33	-.589	-.938
9. Education & Training (F9)	4.20	1.37	-.636	-.711
10. Continuous Improvement(F10)	4.20	1.44	-.677	-.819
11. Customer Focus (F11)	4.41	1.53	-.786	-.789
12. Quality Planning (F12)	4.36	1.46	-.723	-.770
Overall TQM	4.19	1.33	-.696	-.813

*The cut point between -1 and 1. SD: Standard Deviation, scale (1-6)

Table 11: Results of Cluster Analysis

Cluster	Hotel Code	N. of Hotels	% of Total Hotels	TQM	
				Mean	Std. Deviation
1	6, 8, 10, 14, 16	5	29.4%	2.11	.413
2	1, 2, 3, 4, 5, 7, 9, 11,12, 13, 15, 17	12	70.6%	4.84	.679
Combined	All hotels	17	100%	4.19	1.33

As Table 11 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, Unequal Variance t-test (Separate-variance *t* test) was conducted in order to distinguish between the two groups of TQM adopters, this type of t-test used when the samples have different numbers of subjects and they have different variances. The comparative results of these two groups are shown in Table 12.

As shown in Table 12, 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) ($t=19.01$, $P=.00$). These findings were supported by Al-Ababneh and Lockwood’ s (2012) results which confirmed that the hotels in Jordan can be classified into two groups, namely, low TQM hotels and high TQM hotels. As well Al-Khawaldeh (2001), who classified industrial organisations in Jordan into two groups based on their level of TQM implementation: low TQM organisations and high TQM organisations, 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. The above results were supported by Zhang et al. (2000), and Flynn et al. (1994).

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 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, and those hotels were usually chain-affiliated since they own more resources to meet quality standards and to implement quality practices. A recent study was conducted by Al-Ababneh and Lockwood (2012) revealed that TQM is moderately implemented in the hotel industry in general, and more specifically the TQM implementation was high in five-star international chain hotels. 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 values for the CSFs of TQM implementation, but the highest values were for high TQM adopters. These results were similar to those previous findings (i.e. Mittal et al., 2011; Kumar et al., 2011; Moghadam et al., 2013).

Table 12: T- test for Differences in the TQM Level by Hotel

Dimension	TQM level	Mean	Std. Deviation	Mean Difference	t	Sig. (2-tailed)
1. Top Management Commitment (F1)	High	4.86	0.82	2.97	16.42	.000
	Low	1.89	0.66			
2. Leadership Support (F2)	High	4.89	0.84	2.71	15.40	.000
	Low	2.18	0.45			
3. Quality Department (F3)	High	4.73	0.93	2.71	13.47	.000
	Low	2.02	0.67			
4. Supplier Relationship (F4)	High	4.64	0.82	2.32	13.21	.000
	Low	2.32	0.55			
5. Quality Data & Reporting (F5)	High	4.58	0.83	2.49	14.17	.000
	Low	2.09	0.51			
6. Product/Service Design (F6)	High	4.90	0.78	2.68	15.97	.000
	Low	2.22	0.56			
7. Employee Management (F7)	High	4.80	0.80	2.70	15.88	.000
	Low	2.10	0.48			
8. Process Management (F8)	High	4.76	0.78	2.61	15.72	.000
	Low	2.15	0.47			
9. Education & Training (F9)	High	4.85	0.78	2.70	15.96	.000
	Low	2.15	0.58			
10. Continuous Improvement (F10)	High	4.89	0.80	2.87	16.66	.000
	Low	2.02	0.57			
11. Customer Focus (F11)	High	5.15	0.81	3.09	17.74	.000
	Low	2.06	0.59			
12. Quality Planning (F12)	High	5.07	0.76	2.97	18.32	.000
	Low	2.10	0.51			
Overall TQM	Low	2.11	.41	2.73	19.01	.000
	High	4.84	.68			

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 study 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 programmes, 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.

The current findings were supported by Arasli (2002a, 2002b) who distinguished between hotels based on their level of TQM readiness, The current findings were also 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. Al-Ababneh and Lockwood (2012) supported the current

findings, who revealed that the high level of TQM implementation was in five-star international chain hotels.

This study added important theoretical contributions to the current literature related to TQM. The first contribution of this study is in the area of scale development and testing. A TQM adoption scale that consists of 12 factors, namely: top management commitment, leadership support, the role of quality department, supplier relationship, quality data and reporting, product/service design, employee management, process management, education and training, continuous improvement, customer focus and quality planning. The validity and reliability of the new TQM scale was confirmed for use in the hotel industry and potentially also in other industry sectors. The second contribution of this study is in classifying hotels into groups, based on their level of TQM practices, namely: ‘high TQM adopters’ with a high level of TQM implementation and ‘low TQM adopters’ with a low level of TQM implementation. Finally, the third contribution is that new knowledge has been added by this study in term of TQM. This study established the CSFs of TQM implementation in the hotel industry, while most previous empirical studies have focused on TQM implementation in manufacturing and service industries rather than in the hotel industry. The findings of this study identified 12 CSFs of TQM implementation in hotels, which indicates that hotels are considered a workable context for TQM implementation. Thus, researchers will be able to use the TQM scale to develop quality management theory.

The findings of this study provide several practical implications for practitioners and managers in the hotel industry. Managers can use the TQM instrument developed in this study to assess the level of TQM practices in their hotels and to identify problem areas that should be improved, as well as to classify their hotels based on TQM implementation as confirmed in this study. 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 organisations and to identify problem areas that should be improved. Further studies could be conducted by measuring TQM implementation from the same sample based on employees’ perspectives; this would help more in

confirming the classification of hotels in term of TQM implementation. This study used cross-sectional survey methodology, and therefore a longitudinal study could prove fruitful for future research, especially in exploring the level of TQM practices over time. Furthermore, a future study could be conducted to investigate the impact of TQM on hotels' performance.

Conclusions

Since there is a shortage of this kind of research in the hospitality industry and in developing countries such as Jordan, this study can be seen as an important study especially for the Jordanian hotel industry. The importance of this study was shown through measuring the levels of TQM implementation in Jordanian hotels, and then classifying these hotels based on their TQM implementation into groups. 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. These groups of hotels showed different level for each factor of TQM CSFs.

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. The current study suggested that TQM practices were strongly implemented in chain-affiliated hotels, since these hotels own more resources to meet quality standards and to implement quality practices. However, this study must recognise 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 percent 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.

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تصنيف الفنادق الأردنية على أساس تطبيقاتها لإدارة الجودة الشاملة

مخلص منصور العبابنة *

ملخص

تهدف هذه الدراسة إلى تصنيف الفنادق الأردنية على أساس عوامل النجاح الحاسمة (CSFs) لإدارة الجودة الشاملة (TQM). باستخدام أسلوب منهجية المسح، فقد تم تصميم استبانة الدراسة لقياس تطبيقات إدارة الجودة الشاملة من خلال عوامل النجاح الحاسمة والضرورية لتطبيق إدارة الجودة الشاملة. وقد تم توزيع ما مجموعه 345 استبانة على المديرين العاملين في 17 فندقاً في الأردن من فئة الأربع والخمس نجوم. فقد حصل الباحث على 227 استبانة قابلة للاستخدام والتحليل.

فقد توصلت النتائج إلى تصنيف الفنادق الأردنية بناءً على مستوى تطبيقات إدارة الجودة الشاملة من خلال استخدام التحليل العنقودي، على عوامل النجاح الحاسمة لإدارة الجودة الشاملة والتي أكدت وجود مجموعتين من الفنادق: 'مبتنوا إدارة الجودة الشاملة المنخفضة ومبتنوا إدارة الجودة الشاملة العالية'. وأظهرت هاتان المجموعتان فروقاً ذات دلالة إحصائية في جميع عوامل النجاح الحاسمة لإدارة الجودة الشاملة.

الكلمات الدالة: إدارة الجودة الشاملة (TQM)، عوامل النجاح الحاسمة (CSFs)، الفنادق في الأردن.

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