

# The Role of Applying Total Quality Management in Improving Incentives: A Comparative Study between Jordanian and United Arab Emirate Hospitals

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## Abstract

This study aims to identify the reality of a Total Quality Management (TQM) system and the level of its application on a sample of hospitals in Jordan and United Arab Emirates (UAE), together with determining the differences between both the Jordanian hospitals and UAE hospitals in their application of TQM. It also aims to identify the monetary and non-monetary incentives in hospitals, and to study the role of each dimension of various TQM dimensions on monetary and non-monetary incentives. A total of 160 questionnaires were distributed in six hospitals that were selected using a convenient sampling method. A total of 129 questionnaires were received, 74 of them were from Jordanian hospitals and 55 questionnaires were from UAE hospitals. The participants were doctors, nurses, technicians, and administrators of six hospitals in Jordan and the UAE. An independent samples T-test and multiple regression analysis was used to test the hypotheses. The results showed that the application of TQM in both Jordanian and UAE hospitals was good, of a high level, and with a relative advantage for UAE hospitals. The results also showed that the incentives in Jordanian hospitals were generally better than those of the UAE hospitals, particularly in terms of the monetary incentives, while non-monetary incentives were the advantage for UAE hospitals. Moreover, it was found that only one dimension of the TQM dimensions, the participation of employees, had a significant effect on the monetary and non-monetary incentives in each of the Jordanian and the UAE hospitals ( $P$  value  $\leq 0.05$ ). While the rest of the dimensions of TQM (focus on the customer, continuous improvement, top management commitment, and teamwork) had no significant effect on both monetary and non-monetary incentives in both the Jordanian and the UAE hospitals.

**Keywords:** Total Quality Management (TQM), incentives, hospitals, Jordan, United Arab Emirates (UAE).

## 1. Introduction

Healthcare in developing countries, such as in Jordan and the UAE, like healthcare in developed countries, has changed (Al-Ali, 2014). The government is no longer the principle provider of healthcare; instead healthcare has a customer-orientated focus, stemming from public pressures and customer influences. The customer may now be a strategic partner, participating in healthcare decisions, or simply be a customer of the country's healthcare. Changes in political policies, society and the environment also have considerable effects on hospital management. Difficulties arise in hospital management where there is a competitive market, and a low level of support from official organisations in small developing countries, such as UEA and Jordan.

Research has suggested that it is not easy to improve the performance of healthcare workers. Research by Matsudaira (2012) has demonstrated that there are difficulties in improving quality in the healthcare in some nursing homes. The research focused on the effect on the quality of the provision of healthcare as a result of a health regulation that stipulates that there should be a minimum level of nurses working at one time. Matsudaira (2012) noted that healthcare organisation consequently increased the employment of qualified nurses to fill the

shortfall in the proportion of nurses and the stipulated minimum level. The researcher examined the idea that if a higher level of nurses results in higher quality, then the outcomes of the quality in the nursing homes should mirror the changes in the level of staff. The researcher found that despite an increase in the hours that nurse aids work up to ten percent more hours, and in some organisation up to thirty percent more hours, there was no impact of the health regulation on either quality or patient health outcomes. The findings in this research, suggest that there is room for a new form of management to improve the quality of healthcare provision in situations such as this, where healthcare regulations have no impact on the quality of healthcare provision.

Research suggests there are improvements to be made in the health care and services offered by hospitals. In his study of the perspective of stakeholders' on performance in healthcare, Hassan (2005) used Kanji's model of Business Excellence that is based on a multidisciplinary integrated approach. The purpose of the research was to identify the opportunities for any improvement in the performance of organisations, based on the findings of the research. Using a cross-sectional survey, of the non-financial performance of a government hospital with 400 beds. A sample of 250 patients and 250 staff were randomly selected to participate and were interviewed. A further 200 patients completed a survey questionnaire and 60 hospital staff completed a self-assessment. The researcher found that there are many opportunities for improvement in the hospital. Patients appeared satisfied with the services of the hospital. It was found that the leadership in the hospital focused attention on external customers, whereas less attention was placed on the expectations and needs of internal customers. The results of this study suggest that opportunities are available to improve the performance of the hospital in this research. The findings in Hassan's work against suggest another management system might be required improve the performance of the hospital.

In more recent research, it has been observed by Palmer (2012) that the National Health Service (NHS) in England has endeavoured to improve its quality of service in the face of decreasing performance even though it is constrained by limited resources. Over the past decade the NHS has increased its spending on reforms. However, performance in services have not increased in line with the scale of expenditure, although there have been a reduction in waiting times and improvement in infection control. Costs for staff have increased considerably (Audit Commission, 2010). A total of seventy hospital trusts have not managed to achieve the level of quality necessary to become autonomous Foundation Trusts (Palmer, 2012). Furthermore, there is an increasing gap in both the financial performance and service quality between worst and the best performing trust. Additionally, almost twenty-five NHS hospital trusts are almost in a state of failure. It may be that TQM could improve the performance of the healthcare and service of hospitals, since it could make significant improvements to staff incentive and target the service of internal customers. TQM will be discussed next.

TQM: As we would expect, the concept of TQM has been defined in various ways. McDonald (1993) provided a definition of each separate element of the concept. He argued that 'total' referred to every individual working in an organisation engaging in the service provided for the customer or final product. 'Quality' referred to full conformance to the requirements of the job. Finally, TQM entailed systems, techniques and people. Whereas, Kanji (1990) divided the concept up in a different way: by defining TQM as ensuring 'Quality' by satisfying customers' continuous requirements, ensuring 'Total Quality' by obtaining low cost quality, and ensuring 'Total Quality Management' through the daily commitment of all individuals. These two definitions of TQM combined, therefore, indicate that TQM involves many components and it is a continuous process to improve an organisation's quality, particularly by increasing employee performance (Rawlins, 2008). The theory of TQM is framed in top management leadership, continuous improvement, and a commitment to employee empowerment, customer focus, and customer satisfaction (Ugboro & Obeng, 2000). Indeed, although TQM has been applied extensively so as to improve systems (Øvretveit, 2000), there continues to be a difficulty in that although a large number of healthcare practitioners and managers consider that action is necessary, they are not sure how to act upon their beliefs, particularly within their many constraints on their resources(Catsambas 2000; Øvretveit & Gustafsson, 2002). Interestingly, Savsar and Al-Ajmi (2010) argued that although there are a considerable number of research projects that demonstrate that approaches used in order to improve quality continuously can be worthwhile and effective (Grimshaw 2003), they tend to focus on a number of different strategies (WHO 2003). Additionally, although the research was well founded (Øvretveit & Gustafsson, 2002), it seldom has a scientific base and that it is not possible to recommend a particular quality strategy which is based on costs, easy implementation or on effectiveness. Indeed, as much of the research is problem specific and case orientated, it is generally considered that each individual system of healthcare should be carefully studied, with any problem areas being identified in order that appropriate procedures for improvement of quality care are able to be implemented (Savsar & Al-Ajmi, 2010).

The quality of care for patients is a term still to be exactly agreed upon, with no specific definition to date. This

is partially due to the quality of healthcare guidelines being highly probabilistic as a result of uncertain outcomes. It is necessary, therefore, to consider both the processes involved in the caring and the outcomes of the provided care in order to measure the quality of the care offered. The patient-provider relationship needs to be carefully examined and evaluated and should be a correct implementation of a patient-provider agreement with regards to any medical intervention practiced by the organisation itself.

The TQM team should be alert to possible problems, and able to consider measures leading to problem identification, examination and possible solution/s. It should set itself “up to improve the quality of care through the use of quality tools” (Al-Ali 2014, p. 899). By every involved person practicing continuous improvement, the hospital services are able to change to being proactive, rather than merely reactive. They are able to focus on the systems themselves rather than the self-determining organisations. This can be directed to form a continuous loop of improvement of quality of service offered in a quality improvement cycle (Chang, 2006). This loop can be utilised by the TQM with the foundations for corrective management activity requiring continued feedback of information indicating the quality of the performance occurring. Not only should this type of data be continually collected, but it also needs to be effectively communicated to all individuals involved. This demand on the communication process to be two-way, and open results in many benefits all of which affect the employees’ attitudes towards the organisation itself, empowering employees, encouraging them to take full and active parts in teamwork, training and generally motivating them to continue to improve the service (Claver, Tari, & Molina, 2003; Cua, McKone, & Schroeder, 2001; Fok & Hartman, 2001).

**Incentives:** An incentive system is important for an organisation. Under the system of TQM, employees receive incentives when they identify any problems with quality. However, incentives are given to teams of workers rather than individual workers. This ensures any problems are dealt with effectively by an organisation. Management needs to specify what the incentives are, so as to ensure employee’s continued good service to customers. Although employees seek financial incentives, they also seek appreciation and respect (Shah and Harsha 2011). TQM is a growing issue in importance for both employees and for customers—patients, along with the need to increase the productivity of a hospital organisation (Savsar & Al-Ajmi, 2010). Many approaches have been explored and it has been noted that the most effective ones are those that are both cost effective and appropriate for each hospital individually. This creates the need for each situation to be investigated separately so as to suggest possible courses of action.

With regards to the issue of offering awards as a means of employing TQM, Wilford (2007) urges a note of caution in that there is a significant relationship between an organisation with a high level of performance and being an award winner, in that award winners tend to be high performers, a considerable length of time prior to an application for an award, and this means that awards become methods of recognising incidents of high performance, as opposed to actively driving and encouraging excellence.

On the other hand, financial incentives may not be necessary for sustainable improvements in healthcare organisations, according to work by Anderson, Idvall, Perseius and Elg (2013). In their study of financial and non-financial incentives, the researchers investigated the question of, are financial incentive the determining elements for improvements in organisations? The researchers analysed all projects that had applied for financial funding between the years 2007 and 2010, from an improvement programme offered by the county council in the United Kingdom. The researchers established if the projects they were awarded funding or were denied funding. Additionally, the intentions of the projects were analysed. It was found that some of the projects were continuing, however, a total of fifty projects were later implemented and continued over two years following finalisation. It was also found that the improvements existed on many different levels. Starting at the micro-level, up to the macro level organisation. A total of twenty-seven projects that were rejected for funding were finalised anyway, without receiving any funding. Out of that total, eighteen were sustainably implemented. Consequently, the researchers argued that their results indicated that non-financial incentives have a role if a county council improvement programme adds to the sustainable improvements in an organisation.

## 2. Research Problem and Questions

Hospitals that seek excellence nowadays are facing wide challenges in various dynamic ways. The continuous dynamic environment has imposed high levels of competition on the performance of hospitals in order to provide the best services to customers. It is argued that hospitals need to change their traditional management techniques and seek more modern management concepts enabling them to achieve their goals as effectively as possible. One important concept is TQM. Hospitals are trying to adopt the concept of TQM to improve the level of their services, to reduce waste in resources and to reduce customer complaints. As long as the success in applying this management philosophy depends on the efficiency of human resources, hospitals continue to pay attention to

their employees by providing them with incentives and a reward system helping them to perform their tasks both efficiency and effectively.

Therefore, the research problem evolves around the identification of the role of applying TQM in improving the incentives system applied in hospitals in this research, by answering the following questions:

1. What is the perception of hospitals employees about the importance of the application of TQM?
2. What is the level of knowledge of the dimensions of TQM in the hospitals?
3. What is the level of the incentives system prevailing in the hospitals?
4. Does a hospital's application of TQM in terms of their incentive systems differ in different countries?
5. Is there an effect of the application of TQM systems on incentives, and does this effect differ between Jordanian and UAE hospitals in the research sample?

### **3. Objectives and Importance of the Research**

The objectives of this research are:

- To recognise the reality of the TQM system and the level of its application in hospitals.
- To identify the prevailing monetary and non-monetary incentive systems in hospitals.
- To study the impact of each dimension of TQM on the prevailing incentive systems for workers in the hospitals.
- To identify the differences between Jordanian and UAE hospitals in terms of the application of the concept of 'total quality' and incentive systems used by each hospital's management.
- To provide a set of recommendations to the hospitals in the study for the development of an appropriate incentive system for a comprehensive system of 'quality management'.

Importance of the research: This research is important because quality is crucial in organisations such as hospitals that are primarily concerned with the continued provision of health care. Quality is important for three main reasons: firstly for the outcomes of patients' health care; secondly, quality care keeps health care costs down, and thirdly, quality increases consumer choice and information. Employee incentives may help to improve the level of quality in hospitals and ensure that these three factors of health care are operating at optimum level for patients. The findings from this research will help establish what incentive systems are in operation in the research samples. It is considered that the findings will be of use to hospitals so that they can enhance and improve their quality of health care.

### **4. Theoretical Framework and Hypotheses Development**

#### **4.1 TQM**

There are various principles associated with the TQM method that are used to implement TQM (Thamizhmanii & Hasan, 2010). Such principles include: commitment; leadership; total involvement by management and employees; complete customer satisfaction; error prevention; continuous improvement; recognition and reward; ownership; cooperation; education training and teamwork. The two researchers argued that each of these ten principles needed to be fully implemented in order that the TQM could be a success. The administrators and clinicians in healthcare organisations such as hospitals, are all responsible for the quality of the healthcare under a TQM system (Al-Ali, 2014). In this system, administrative and clinical problems are prevented, patient satisfaction is increased, the quality of the healthcare provision should be better, or as good as competitors, and continuous improvement of quality is the underlying principle of the management system.

##### **4.1.1 Focusing on Customer**

TQM systems should make customer's requirements and interests the most important priority. An element of the TQM system is that quality involves fulfilling customer requirements. Therefore, quality means 'meeting customer requirements exactly' (Wilkinson & Witcher, 1993, p. 48). A focus on the customer makes sure that service provision is exactly what the customers want.

##### **4.1.2 Continuous Improvement**

Continuous improvement is associated with organisations that seek profit and operate in competitive markets. However, seeking continuous improvement is also important for organisations that are non-profit organisations, such as hospitals, since, as stated in 'the importance of the research' (p. 4), improving quality is crucial in health care so as to increase good health outcomes for patients (Tenner & deToro, 1992).

#### 4.1.3 Top Management Commitment

The commitment of top management is important in the process of TQM. It was argued by Ugboro and Obeng (2000), that top management commitment and leadership are factors ensuring the ability of an organisation to obtain customer satisfaction, by the creation of an organisational environment that both focuses on the fulfilment of customer satisfaction and the empowerment of their employees.

#### 4.1.4 Teamwork

Teamwork is an important factor in TQM. Teamwork permits separate elements of an organisation to work in a team to meet customer requirements. This is not so easy to achieve by employees working in one area or department of an organisation. The process of TQM encourages the interdependence of the different areas or departments of an organisation and teams are used to coordinate the work required. Teams can respond rapidly to any changes in customer needs, demands or requirements (Thamizhmanii & Hasan, 2010).

#### 4.1.5 Employee Participation

Employees' participation is an essential element of TQM. Top management delegates involvement in the process of decision-making and the authority to make decisions to employees. This empowers the employees. It is important that employees are empowered with the authority to understand what their quality of work is and they should be fully involved in the organisation's objectives for improving that quality (Kennedy & Schleifer, 2006).

Based on the aforementioned review, the following hypothesis has been formulated:

H1: There are no significant differences between Jordanian hospitals and UAE hospitals in terms of application of TQM.

### 4.2 Incentives

Incentives are used by employers to encourage their employees to provide the best work they can. In TQM systems, incentives are paid to teams of employees when they identify weaknesses in quality (Chauhan, 2015).

#### 4.2.1 Monetary Incentives

Monetary incentives are those financial payments made to employees over and above their normal salary. These are designed to encourage the employee, working in teams in the TQM system to observe and report any problems in the quality of the organisation.

#### 4.2.2 Non-monetary Incentives

Non-monetary incentives consist of training, flexible working hours, paid sabbaticals and health savings (Chauhan, 2015). The researcher found that the employee might perceive non-monetary incentives as an example of a caring and supporting organisation. This was also found to increase job satisfaction and lead to improvements in the quality of the service to customers.

Thus the following hypothesis was formulated:

H2: There are no significant differences between Jordanian hospitals and UAE hospitals in terms of the level of incentives.

### 4.3 The Relationship between TQM and Incentives

#### 4.3.1 The Relationship between TQM and Monetary Incentives

Investigated the impact of an incentive code for diabetes, set up for physicians in Canada, on the quality of care for diabetics in both patients and the population level (Chauhan, 2015). The researchers found that the incentive code for diabetes resulted in a low level of improvement in the level of quality. Those physicians who gave the highest level of quality care before incentives, appeared to be those that were highly likely to request incentive payments. Incentives underlie the empowerment of employees, according to one of Bowen and Lawler's (1995) constructs of their empowerment model.

Based on the aforementioned review, the following hypotheses are formulated:

H3a: Focusing on the customer has no significant effect on monetary incentives.

H3b: Continuous improvement has no significant effect on monetary incentives.

H3c: Top management commitment has no significant effect on monetary incentives.

H3d: Teamwork has no significant effect on monetary incentives.

H3e: Employee participation has no significant effect on monetary incentives.

#### 4.3.2 The Relationship between TQM and Non-Monetary Incentives

Non-monetary incentives are paid to teams rather than individuals when they identify problems with the quality of the organisation. Teams are rewarded when this situation arises (Kitazawa & Sarkis, 2000).

Thus the following hypotheses were formulated:

H4a: Focusing on customers has no significant effect on non-monetary incentives.

H4b: Continuous improvement has no significant effect on non-monetary incentives.

H4c: Top management commitment has no significant effect on non-monetary incentives.

H4d: Teamwork has no significant effect on non-monetary incentives.

H4e: Employee participation has no significant effect on non-monetary incentives.

Therefore, the proposed research model was formulated as follows (Figure 1)

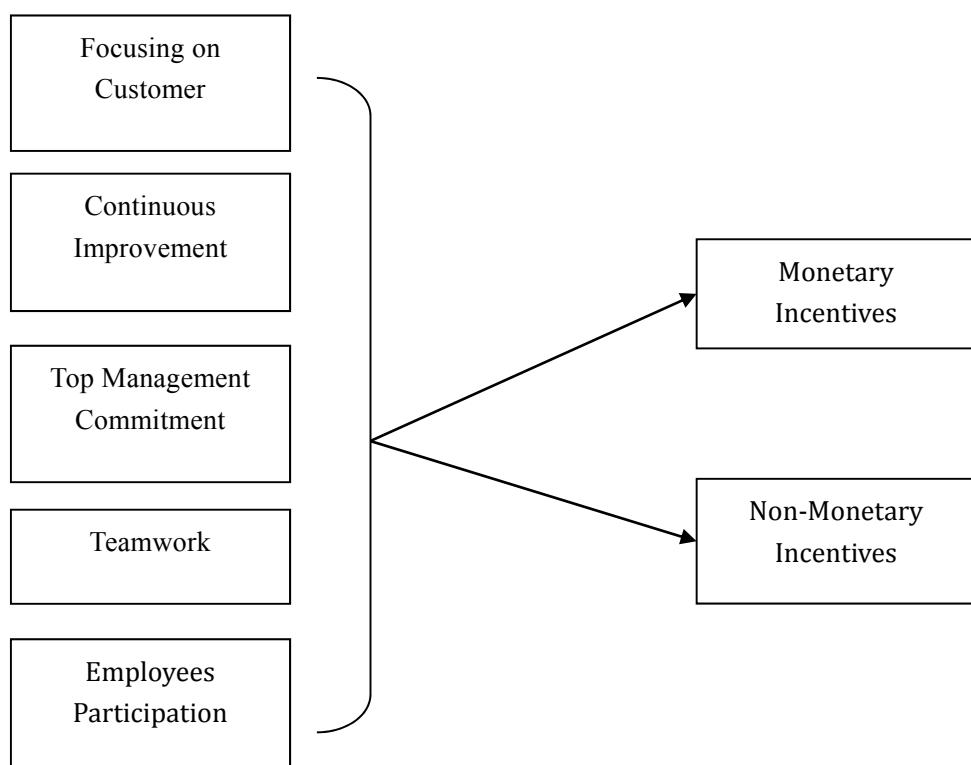


Figure 1. Study model

## 5. Methodology

### 5.1 Design

The current study used a comparative approach in that it was based on the comparison between two samples in order to identify the similarities and differences between them.

### 5.2 Population and Samples

The study population consisted of particular hospitals that implement a TQM system in each of the Jordan and the UAE hospitals. It involved hospital employees from four specialties, consisting of doctors, nurses, technicians, and administrators. Six hospitals were selected to assess their application of TQM, three of them were in Jordan and the other three were in the UAE. A total of 160 questionnaires were distributed in six hospitals that were selected using a convenient sampling method. A total of 129 questionnaires were received, 74 of them were from Jordanian hospitals and 55 questionnaires were from UAEs hospitals, as illustrated in Table 1, below.

Table 1. The sample distribution to hospitals

No	Hospital	Country	Sample
1	Istishari	Jordan	30
2	Specialty	Jordan	24
3	Essra	Jordan	20
4	Mediclinic	UAE	15
5	University	UAE	19
6	Rashid	UAE	21
Sum	6	2	129

### 5.3 Measures

To collect the research data, TQM and incentives questionnaire was developed from existing measurement scales. The TQM scale consisted of five dimensions which includes twenty-five statements. The dimensions were focusing on the customer; Continuous improvement; Top management commitment; Teamwork; and Employee participation. The incentives scale consists of two dimensions, which include ten statements. The dimensions were monetary incentives and non-monetary incentives.

### 5.4 Statistical Analysis Methods

The SPSS computer programme was used to test the research hypotheses of the study, through the use of statistical methods, such as the Mean, Standard Deviations, Correlation Coefficient, Independent Samples T-Test, and Multiple Regression Analysis.

## 6. Results

### 6.1 Scale Validity and Reliability

The questionnaire was sent to many researchers to obtain feedback about validity, clarity, and the content of the statements. The reliability of the scale was estimated using Cronbach's Alpha where the results showed high values of consistency, as illustrated in Table 3.

### 6.2 Correlation Test

Hair et al. (2006) stated that if a coefficient of correlation was more than 80% that meant that there was a strong correlation between the variables, which required the integration of some variables. Table 2 showed that the coefficients of the correlation were less than 80%.

Table 2. Classification sample according to personal variables

Variable	Category	Frequency	Percent
Sex	Male	64	49.6
	Female	65	50.4
	Less than 30	64	49.6
Age	From 30 to less than 40	35	27.1
	From 40 to less than 50	22	17.1
	5 or more	8	6.2
Experience	Less than 5	53	41.1
	From 5 to less than 10	33	25.6
	From 10 to less than 15	23	17.8
Qualification	15 and more	20	15.5
	Below university	40	31.0
	Bachelor	74	57.4
Job	Postgraduate	15	11.6
	Doctor	15	11.6
	Nurse	17	13.2
Total	Technical	30	23.3
	Administrative	67	51.9
Total		129	100

Table 3. Items No. 1-7, Cronbach's alpha and correlations among variables

No	Variables	Items No.	1	2	3	4	5	6	7
1	Focusing on Customer	5	(.855)						
2	Continuous Improvement	5	.619**	(.851)					
3	Top Management Commitment	5	.614**	.787**	(.859)				
4	Teamwork	5	.476**	.616**	.649**	(.871)			
5	Employees Participation	5	.431**	.571**	.660**	.730**	(.874)		
6	Monetary Incentives	5	.269**	.357**	.444**	.450**	.693**	(.919)	
7	Non-monetary Incentives	5	.289**	.436*	.506**	.563**	.723**	.798**	(.893)

Values in parentheses indicate the Cronbach's alpha reliability, \*\*.

Correlation is significant at the 0.01 level.

Table 4. Mean and standard deviation

No	Variables	Jordan	UAE		Total	
		Mean	St.D	Mean	St.D	Mean
1	Focusing on Customer	3.991	.6785	3.818	.8021	3.975
2	Continuous Improvement	3.800	.6999	3.876	.7625	3.832
3	Top Management Commitment	3.732	.7500	3.814	.8396	3.767
4	Teamwork	3.678	.9113	3.912	.7838	3.778
5	Employees Participation	3.521	.8912	3.505	.9434	3.514
TQM		3.764	.6303	3.785	.7279	3.773
6	Monetary Incentives	3.000	1.156	2.690	1.163	2.868
7	Non-monetary Incentives	3.032	1.130	3.109	1.041	3.065
Incentives		3.016	1.092	2.900	1.047	2.966
						1.070

### 6.3 Descriptive Statistics

Table 4 showed that the practice dimensions of TQM by employees at the hospitals were generally good, where the mean of all of the dimensions of the TQM was less than four. The dimension of focusing on customers gave the highest mean, and dimension of Employee Participation gave the lowest mean. Also, Table 4 showed that the practice of TQM in both Jordanian and UAE's hospitals was very close with some simple advantages for the UAE hospitals.

Table 4 showed that the levels of incentives at the hospitals were medium, where the mean of all of the dimensions of incentives was less than 3.40, especially the mean for monetary incentives which were very low. The results showed that the incentives in the Jordanian hospitals were generally better than the UAE hospitals, particularly in terms of monetary incentives, while non-monetary incentives were an advantage for the hospitals of UAE.

### 6.4 Hypotheses Testing

Using the statistical programme, SPSS version 17, the independent Samples T-Test was used to test the hypotheses 1 and 2, whilst a Multiple Regression Analysis was used to test the hypotheses 3 and 4 – that were tested once in the Jordanian hospitals, and again in the UAE hospitals.

H1: There were no significant differences between the Jordanian hospitals and UAE hospitals in terms of the application of TQM.

Table 5. Independent samples t-test for TQM

Variable	Mean Jordanian Hospitals	Mean UAE Hospitals	Mean Difference	T	Sig	Statistical Significance
TQM	3.764	3.785	-.020	-.172	0.864	Not Significant

Table 5 shows that the mean differences between the application of TQM in the Jordanian and UAE Hospitals was -0.020, which meant that the application of TQM in both countries was very evenly matched with a simple

difference for the UAE hospitals. The value 't' was -0.172 with the level of significance of 0.864, which was greater than 0.05 and thus, there were no significant differences between Jordanian and UAE Hospitals regarding TQM. Accordingly, the first hypothesis was accepted.

H2: There were no significant differences between Jordanian hospitals and UAE hospitals in terms of the level of incentives.

Table 6. Independent samples t-test for Incentives

Variable	Mean Hospitals	Jordanian	Mean Hospitals	UAE	Mean Difference	T	Sig	Statistical Significance
Incentives	3.016		2.900		.116	.608	.544	Non Significant

Table 6 shows that the mean differences between Jordanian and UAE hospitals in terms of the level of incentives was 0.116, which meant that the level of incentives in Jordanian hospitals were a little better than those in the UAE hospitals. The value 't' was 0.608, with the level of significance of 0.544, which was greater than 0.05 and thus, there were no significant differences between Jordanian and UAE hospitals regarding incentives. Accordingly, the second hypothesis was accepted.

H3a, b, c, d, e:

Table 7. Results of multiple regression analysis for the effect of TQM dimensions on monetary incentives

Variables	F- value		R2		B		P- value	
	JOR	UAE	JOR	UAE	JOR	UAE	JOR	UAE
Focusing on Customer					-.113	.020	.564	.923
Continuous Improvement					.045	-.347	.843	.238
Top Management Commitment	10.66*	15.02*	.439	.605	.046	.309	.839	.292
Teamwork					.014	-.475	.933	.078
Employees Participation					.840	1.217	.000	.000

\* is significant at the 0.05 level.

According to the data in Table 7, the dimension of employee participation had a significant effect on monetary incentives in each of the Jordanian and UAE hospitals. The rest of the dimensions - Focusing on Customer, Continuous Improvement, Top Management Commitment, and Teamwork -had no significant effect on monetary incentives in either country, in addition to the explanatory power of 43.9% in Jordan and 60.5% in UAE. Accordingly, the third hypothesis is rejected in the case of H3e, whilst hypotheses H3a, H3b, H3c, and H3d are accepted.

H4a, b, c, d, e:

Table 8. Results of multiple regression analysis for the effect of TQM dimensions on non-monetary incentives

Variables	F- value		R2		B		P- value	
	JOR	UAE	JOR	UAE	JOR	UAE	JOR	UAE
Focusing on Customer					-.105	-.112	.576	.523
Continuous Improvement					.141	-.228	.521	.355
Top Management Commitment	11.70*	18.31*	.468	.651	-.030	.312	.890	.206
Teamwork					.039	.187	.813	.403
Employees Participation					.822	.717	.000	.000

\* is significant at the 0.05 level.

According to the data in Table 8, the dimension of employee participation had a significant effect on non-monetary incentives in both the Jordanian and UAE hospitals. The rest of the dimensions - Focusing on Customer, Continuous Improvement, Top Management Commitment, and Teamwork-had no significant effect on non-monetary incentives, in either country, in addition to the explanatory power of 46.8% in Jordan and 65.1% in UAE. Accordingly, the fourth hypothesis was rejected for H4e, while hypotheses H4a, H4b, H4c, and H4d were accepted.

## 7. Discussion

The findings showed that the application of TQM in the Jordanian and the UAE hospitals was of a high level with a relative advantage for UAE hospitals. The value of mean for all of the TQM axes was 3.764 in Jordanian hospitals, and 3.785 in the UAE hospitals. This is argued to indicate the presence of interest, adoption and commitment, by the hospitals in both countries, to apply the principles of TQM, and ways in which an increase in understanding and awareness of the importance of TQM can be achieved by the management of these hospitals.

It has been noticed that the application level of TQM dimensions ranged in its means from 3.50 to less than 4.00. The highest level of TQM applied in the Jordanian hospitals was through the dimension of focus on the customer, followed by the dimension of continuous improvement, followed by the dimension of top management commitment. The teamwork dimension followed on from those and finally, the dimension of the employees' participation. Whereas the highest level of applying the dimensions of TQM in the UAE hospitals was to the dimension of teamwork followed by the dimension of continuous improvement, then dimension of focus on the customer, then dimension of top management commitment, and finally, the commitment of the participation of employees. There was a difference in arranging the dimensions between the hospitals in the two countries to the mechanism of work in these hospitals, and the extent of giving priority to some of the principles of TQM at the expense of the other dimensions. The difference in the work environment between the two hospitals was an additional important point.

On the other hand, however, the results showed a medium level of incentives in the hospitals under study in both countries, where the value of the mean of the incentives in the Jordanian hospitals was 3.016 and in the UAE hospitals it was 2.900. The data indicates dissatisfaction by the employees in these hospitals about the incentives they receive, and especially hospitals in the UAE as it disproportionate to the effort they were making, and the high cost of living. It was noted that the existence of substantial convergence between the average monetary incentives and non-monetary incentives in Jordanian hospitals reached 3.000 and 3.032, respectively. This finding means that the management of these hospitals have been working to achieve a balance between the types of incentive. In the UAE hospitals there was a clear difference between their monetary incentives and their non-monetary incentives, since there are relative advantages for non-monetary incentives amounting to averages of 3.109 and 2.690, respectively. This may be due to the lack of rewards given to employees and the compensation of financial incentives, whereas, there were limited non-monetary incentives, such as appreciation, praise and verbally thanking individuals for actions.

The results revealed that there were no significant differences between the Jordanian hospitals, and the UAE hospitals in terms of the applying TQM, due to the fact that TQM is a system that has a set of principles and foundations that should be used in any hospital, in any State and adhered to and applied regularly. The results also indicate that there were no significant differences between the Jordanian hospitals and the UAE hospitals in terms of the prevailing system of incentives, due to the fact that the incentives were below middle levels in both non-monetary and monetary incentives in both countries. Interestingly it did not live up to the desired level, especially monetary incentives, in a country wealthy in oil and high economic income, such as the UAE.

The results of the study showed that only one dimension of the TQM dimensions -the participation of employees-had a significant effect on the monetary and non-monetary incentives in each of the Jordanian hospitals and UAE hospitals. The reason for this was that whenever the employee participated in a different job, administrative level in decision-making, and the development of plans and strategies in the hospital according to their role, and were given sufficient authority and responsibility, that process reflected positively on the level of incentives they would receive, they made a greater effort and provided a higher level of performance so as to be rewarded.

The results this study indicated that the rest of the dimensions of the TQM-focus on the customer, continuous improvement, top management commitment, and teamwork-had no significant effect on incentives both monetary and non-monetary in Jordanian hospitals, or in the UAE hospitals. The reason for this was because the management had not placed a priority on the development of a system of incentives when applying TQM. In

addition, employees would have low levels of satisfaction with low incentives, and due to this absence of these dimensions-to enable employees to have greater responsibilities and obligations and rising levels of required performance when applying TQM - this was reflected in monetary incentives or even non-monetary incentives in those hospitals.

### **8. Implications, Limitations and Suggestions for Future Research**

Our results showed that the TQM principles applied in Jordanian hospitals and UAE hospitals were at generally good levels, especially in the UAE hospitals. This practice requires the hospitals in the sample to make more effort to enhance the use of the TQM concepts, and to try to have a large impact on employees in these hospitals. They should not focus on one particular principle, ignoring other principles, because they are connected with each other in all aspects of the management practices. The success of the application of TQM appears to depend primarily on the belief and commitment of the top management and the support for this approach. Consequently, the top management in these hospitals should take care when applying TQM, they should work to re-evaluate the understanding and practice of the top management of TQM, and emphasise that the TQM intentions are to improve the quality of the hospital services, achieving external customer satisfaction based on internal customer satisfaction. TQM, it is suggested, also strengthens the principle of focusing on customers, i.e. the patients, because they constitute the main axis in the TQM process, and that by continuing to listen to customers, the management comes to know more about their needs and expectations and increase their ability to meet them. The management should organise employees to take part in teamwork instead of relying on individuals working alone, and such teams need to be characterised by cohesion and mutual trust among their team members, possessing a similar demographic basis, along with functional and cultural diversity. The team needs to be able to draw on a leadership style that focuses on the achievement of the whole team. This teamwork is in addition to attention placed on continuous improvement in the hospitals' work. The active participation of employees tends to empower them and provides them with responsibilities, which they can delegate to appropriate authorities.

It is recommended that the two samples of hospitals find a suitable formula for the development of the system of incentives in hospitals in which they can apply the TQM in both countries-Jordan and UAE. Such TQM is based on the outcome of a central decision-making process.

It is also recommended that such hospitals use motivational tools as an incentive for individual excellence and collective excellence. There needs to be an incentive of additional time in order to install the foundations of a TQM system and practices among employees in these hospitals. Giving priority to improving the level of incentives, especially monetary incentives linked to the quality of performance and excellence, and redirecting part of the monetary incentives to raise the efficiency of employees and their skills, should be practised through a system of customised rewards for training programmes, seminars and scientific conferences.

There were three main limitations of this study. The first limitation was that the sample used contained employees from four particular specialisations: doctors, nurses, technicians, and administrators, together with the fact that the data was collected through convenient sample. The second limitation was that the study was conducted in hospitals that applied TQM principles in Jordan and the United Arab Emirates alone. Finally, the third limitation of this study was that the main variables were focused specifically on TQM and incentives.

The present study provided different paths for researchers in the future, to explore the potential relationships between TQM and other variables, such as, job performance, organisational loyalty, job satisfaction, and organisational culture. It is suggested that similar research could be carried out in other organisations, such as, hotels and other companies.

### **9. Conclusion**

In this study, the relationship between TQM and incentives were analysed through a set of data obtained from survey questionnaires completed in Jordanian and UAE hospitals. Based on the results of the study, it can be concluded that although there is medium level of application of TQM, there is low level of incentive among employees at both Jordanian and UAE hospitals. The correlation between all of the dimensions of TQM and the dimensions of incentives were positive and significant. Additionally, the dimension of the employees' participation had a significant effect on monetary and non-monetary incentives in each of the Jordanian and UAE hospitals. However, none of the rest of the TQM dimensions- focusing on customers, continuous improvement, top management commitment, and teamwork-had any significant effect on monetary and non-monetary incentives in either of the two countries.

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