

# Assessment of TQM implementation level in Palestinian healthcare organizations

## The case of Gaza Strip hospitals

Samir D. Baidoun

*Faculty of Business and Economics, Birzeit University, Birzeit, Palestine*

Mohammed Z. Salem

*University College of Applied Sciences, Gaza, Palestine, and*

Omar A. Omran

*Business Administration and Marketing, Birzeit University, Birzeit, Palestine*

### Abstract

**Purpose** – The purpose of this paper is to assess the level of total quality management (TQM) implementation in Palestinian governmental and non-governmental hospitals using the Malcolm Baldrige National Quality Award (MBNQA) framework.

**Design/methodology/approach** – The study is based on collecting data using a survey questionnaire that was designed according to the MBNQA criteria. In total, 363 questionnaires from governmental and non-governmental hospitals operating in Gaza Strip were analyzed to assess the level of TQM implementation level in all hospitals (governmental and non-governmental).

**Findings** – The main results of this study indicate that Palestinian hospitals operating in Gaza Strip perform at a relatively acceptable level. Comparing results shows that the performance of non-governmental hospitals is better with higher degree of TQM implementation than the governmental hospitals. Detailed analysis identifies improvement opportunities-related specific aspects of the human resources focus and the performance results.

**Research limitations/implications** – Although this study has collected data from one Palestinian Territory, the Gaza Strip, it still identifies the critical factors and practices for TQM implementation within the Palestinian healthcare organizations to improve performance.

**Practical implications** – This paper suggests that business excellence models such as the MBNQA criteria can be used to assess the level of implementation of quality practices and identify the strengths and weaknesses to improve the quality of service delivery, processes, and performance of hospitals.

**Originality/value** – Despite the widespread use of TQM in the developed countries, little attention has been placed to implement and assess the quality initiatives by organizations in the developing countries and even fewer in low-income Arab countries (Aamer *et al.*, 2017; Øvretveit and Al Serouri, 2006). In addition, a very few number of studies in reference to the assessment of TQM implementation in the Palestinian context, in general, and in healthcare organizations, in particular, highlight the need for this study. To move the field in that direction, the goal of this research was to assess the level of TQM implementation in the healthcare organizations (mainly hospitals) in Gaza Strip (one of the least fortunate areas of the Palestinian-occupied territories) where no prior similar research studies could be found. Therefore, this study contributes to filling this gap in the literature by providing empirical assessment of TQM level of implementation in Gaza Strip hospitals.

**Keywords** Hospitals, Palestine, Gaza Strip, Total quality management (TQM), MBNQA

**Paper type** Research paper

### Introduction

Total quality management (TQM) has enjoyed worldwide popularity in all types of industries for the past 30 years since its early development stages in the mid-1980s. The widespread use of TQM reflects the recent changes in the competitive environment which forced organizations in many industries to formulate new strategic responses aiming



at improving internal efficiency and external effectiveness (Alavi and Yasin, 2008; Van Schoten *et al.*, 2016). A wide range of literature focusing on TQM is dominated by the manufacturing industries as they pioneered the TQM approach in the developed economies like Japan, Europe, and North America (Calvo-Mora *et al.*, 2014; Chavez *et al.*, 2013; Zylfijaj and Pira, 2017). Nevertheless, the service sector is not left behind. In the last decade, there is a great deal of literature and authors that have assessed the service sector and its link to the TQM as a new direction toward quality service provision (Zylfijaj and Pira, 2017).

TQM is defined as a holistic management philosophy that requires organizational culture change (Fu *et al.*, 2015; Gimenez-Espin, 2013; Baird, 2011). For other researchers (Aladwan and Forrester, 2016; Giaccio, 2013; Vanichchinchai and Igel, 2011; Weckenmann *et al.*, 2015), TQM is a management philosophy that encompasses the entire organization activities to reach operational excellence. The interesting substance of TQM is the concept of total quality in achieving the goals of organization, such as top management commitment, gradual principle in achieving quality, continuous improvement, commitment refraction of top management in the cultivation of culture, and work ethic in all organizational lines (Jarrett, 2016). Empirical studies reported various benefits of TQM implementation including among others improvement in productivity and efficiency, improved employee morale, better market shares, quality improvement, cost savings, improved financial performance, an increase in employee performance, and competitive advantages (Mosadeghrad, 2015; Sadikoglu and Zehir, 2010; Weckenmann *et al.*, 2015; Zairi, 2013).

The TQM success in industry has encouraged healthcare managers to examine whether it can work in the health sector, accordingly, many healthcare organizations increasingly implemented TQM principles to improve the quality of outcomes and efficiency of healthcare service delivery (Mosadeghrad, 2015). TQM enables healthcare organizations to identify customer requirements, benchmark for best practices and improve processes to deliver appropriate care, and reduce the frequency and severity of medical errors. TQM implementation may lead to higher quality care, improved patient satisfaction, better employee morale, and increased productivity and profitability (Alexander *et al.*, 2006; Cauchick, 2006; Kunst and Lemmink, 2000; Macinati, 2008).

Despite the widespread use of TQM in the developed countries and the major role that quality plays in the global competitiveness of products and services, little attention has been placed to implement and assess the quality initiatives by organizations in the developing countries and even fewer in low-income Arab countries (Aamer *et al.*, 2017; Øvretveit, and Al Serouri, 2006). A very few number of studies in reference to the assessment of TQM implementation in the Palestinian context, in general, and in healthcare organizations, in particular, highlight the need for this study as well as other studies aimed at promoting awareness toward TQM (Baidoun, 2003, 2004; Sabella *et al.*, 2015). To move the field in that direction, the goal of this research was to assess the level of TQM implementation in the healthcare organizations (mainly hospitals) in Gaza Strip (one of the least fortunate areas of the Palestinian-occupied territories) where no prior similar research studies could be found. Palestine represents not only a different location on the globe but also differs from others by size, age, economy, political situation being the last occupied country in the globe to date. The assessment utilizes the Malcolm Baldrige National Quality Award (MBNQA) criteria for healthcare institutions. The study will provide empirical assessment of TQM level of implementation in Gaza Strip hospitals (governmental/non-governmental) compared to West Bank Hospitals.

## **Palestinian context**

### *Political context*

Palestine has a complicated political context with three different and separated geographical areas (regions), namely, West Bank, Gaza Strip, and East Jerusalem. The Palestinian

---

National Authority (PNA) was formed in 1994, pursuant to the Oslo Accords between the Palestine Liberation Organization and the Government of Israel, as a five-year interim agreement. Since then, no progress was achieved to establish the Independent State of Palestine. Borders, resources, and mobility of people and goods are still under full control of the Israeli Government.

The Palestinian territories of the West Bank with a population of 2.94 million and Gaza Strip with a population of 1.88 million (The Palestinian Central Bureau of Statistics, 2016, population estimates) had been effectively split since June 2007. Following the 2006 elections, a Hamas-led government (Islamic government) was formed and in response many donors withdrew their assistance to the PNA, while the Israeli Government intensified its economic and security restrictions. In June 2007, Hamas took control of Gaza by force. The continued deterioration of conditions in Gaza led to a widening political, social, and economic gap between the West Bank and Gaza. Freedom of movement within the West Bank, to the other occupied Palestinian territories, between West Bank and Gaza, and abroad is seriously restricted by checkpoints, closed areas, and a complex system of permits.

The Palestinian economy operates within an environment that poses numerous internal and external threats and challenges. According to the World Bank (2016), the Palestinian economy is not growing enough to raise living standards and reduce high unemployment. According to UNCTAD (2016), the unemployment rate in the occupied Palestinian territory was 26 percent in 2015 (38 percent in Gaza Strip and 19 percent in the West Bank). The real gross domestic product (GDP) growth has been extremely unstable and determined by political events and donor support (UNCTAD, 2015).

#### *Palestinian healthcare*

The Palestinian healthcare sector is characterized by incoherency and inadequacy (Barghouthi and Lennox, 1997; Massad *et al.*, 2011). Over the past few years, a number of organizations, primarily the Palestinian Ministry of Health with other several healthcare providers from the private, non-governmental organizations, charitable organizations, and United Nations Relief and Work Agency (UNRWA), have undertaken several initiatives to enhance the healthcare sector and the services offered, with quality improvement being the focal point of these initiatives.

The Palestinian healthcare sector suffers from several obstacles. To mention is the ongoing occupation, the internal division with two different ministries of health (one in West Bank and the other in Gaza Strip), inefficiencies in the healthcare system, lack of funding and a shortage of specialists in many fields, etc. (Matariya *et al.*, 2009). With about five million Palestinians living in the West Bank (about three million) and Gaza Strip (about two million), the total health expenditure was 10.7 percent of GDP, representing \$282 per capita (The Palestinian Central Bureau of Statistics, 2015). This clearly reflects the great difficulties hindering the availability, accessibility, and, ultimately, quality of healthcare services.

The structure of the Palestinian healthcare system includes primary healthcare centers (PHCs), secondary healthcare centers (i.e. hospitals), and tertiary healthcare providers. In 2015, the total number of PHCs was 760, an increase from 672 in 2010. The UNRWA operates 62 PHCs, whereas NGOs operate 206 PHCs, with the remaining PHCs under the administrative control of the Ministry of Health (Ministry of Health, 2016a). According to the PMoH (Ministry of Health, 2016b), there are 80 hospitals operating in the occupied Palestinian territories with a total number of beds of 6,006. Of the 80 hospitals, 50 are located in the West Bank and 30 are located in Gaza Strip with a total of 2,437 beds as shown in Table I. As presented in the table, hospitals are only owned by the government (the Gaza Strip Ministry of Health and the Military Services) with about 75 percent of the hospital beds, while the non-governmental organizations provide about 25 percent of the hospital beds in Gaza Strip.

According to Giacaman *et al.* (2009), patient referrals by the Ministry of Health to countries such as Egypt, Jordan, and Israel continue to highlight the lack of adequate quality in the healthcare services. The lack of desired quality levels can be attributed to restricted mobility, management and accountability, as well as the presence of under-qualified healthcare providers, and weak institutional capacity for monitoring and assessment.

### Theoretical framework

Empirical TQM studies started to increase after 1989 when the critical success factors (CSFs) of TQM were first operationalized by Saraph *et al.* (1989). Similar studies were also conducted by Flynn *et al.* (1994), Ahire *et al.* (1996), Badri *et al.* (1995), Black and Porter (1995, 1996), Grandzol and Gershon (1998), Quazi and Padibjo (1998), Wilson and Collier (2000), and Wali *et al.* (2003). These studies identified TQM frameworks with CSFs ranging between 4 and 12. The critical factors of TQM found in the literature vary from one author to another, although there is a common core of such factors (Claver *et al.*, 2003; Jaeger and Adair, 2016). The most common factors reported by the literature are leadership commitment, employee involvement, customer focus, supplier relationship, performance measurement, and continuous improvement (Teixeira *et al.*, 2015; Fotopoulos, 2010; Hellsten and Klefsjo, 2000; Scharitzer and Korunka, 2000; Ugboro and Obeng, 2000; Woon, 2000; Young *et al.*, 2001; Maistry *et al.*, 2017; Aquilani *et al.*, 2017). Therefore, each organization may require different approaches for TQM implementation. Other studies found a positive relationship between leadership – among other factors – and quality management (Laohavichien *et al.*, 2011), soft and hard TQM factors and key business results (Calvo-Mora *et al.*, 2014), lean practices and organizational performance (Chavez *et al.*, 2013). According to Mosadeghrad (2013) “excellent results with respect to organisation, customer, employee, supplier and society are achieved through leadership and management, strategic quality planning, quality culture, education and training, employee management, customer management, supplier management, resource management, information management and process management.” In addition, literature review provides evidence that most empirically examined TQM factors comprise more than one indicator, supporting the use of latent variable model (Sila and Ebrahimpour, 2005). This is quite similar to the logic in the excellence models (European Foundation for Quality Management (EFQM) and MBNQA) frameworks, where each factor is measured by a group of indicators (items) as there are sufficient differences among the indicators that support the use of a latent variable model (Forza and Filippini, 1998; Kanji and Wallace, 2000).

Alongside these factors, identified both in theoretical and empirical studies, there are standardized quality models used by firms in practice as a guide for their implementation, or in order to carry out self-evaluations of their quality practices. According to Bou-Llusar *et al.* (2009), they reproduce TQM by capturing its main constituent parts and by replicating its core ideas in clear and accessible language. The main models are the MBNQA model in the USA, the EFQM excellence model in Europe, and the Deming Application Prize model in Japan. The MBNQA has evolved from a means of recognizing and promoting exemplary

Type of health provider	No. of hospitals	No. of beds	Percentage of beds
Ministry of Health – Gaza	13	1,680	69
UNRWA	0	0	0
Non-governmental	14	619	25
Private	0	0	0
Military services	3	138	6
Total	30	2,437	100

**Table I.**  
Distribution of Gaza  
Strip hospitals by  
service providers

quality management practices to a comprehensive framework for world-class performance, widely used as a model for improvement. Several studies used MBNQA for its ability to correspond with the basic principles of TQM (Evans and Jack, 2003; Wilson and Collier, 2000; Ahire *et al.*, 1996; Black, 1993). O'Rourke *et al.* (2001) and Lau *et al.* (2004) used the MBNQA award because of its international standard for performance excellence and its ability to provide a comprehensive framework for both practitioners and administrators by identifying organizational strengths and weaknesses, as well as key areas for improvement. Bemowski and Stratton (1996) examined the usefulness of the MBNQA criteria; the study revealed that MBNQA criteria exceeded user expectations and were used as a source of information to accomplish business excellence. Finally, a more regionally related study (Jaeger *et al.*, 2013) used MBNQA to provide the ranking of quality criteria used in the Gulf Cooperation Council countries.

There are several studies that have used the MBNQA of healthcare criteria. Meyer and Collier (2001) empirically tested the MBNQA of quality management for the healthcare industry using data from 220 US hospitals and determined the causal relationships among the Baldrige healthcare pilot criteria. The results show that many of the causal relationships in the Baldrige model are statistically significant. For example, leadership is identified as a driver of all components in the Baldrige System, including information and analysis, strategic planning, human resource development and management, and process management. This study also clarifies and improves understanding of within-system performance relationships. Another study by Manjunath *et al.* (2007) concluded that the MBNQA healthcare criteria would provide a good framework to analyze quality management practices in a 300-bed hospital in South India that has obtained ISO certification and strives for continuous improvement based on TQM principles. Sabella *et al.* (2015) conducted a study to provide an assessment of the quality of management practices and implementation in hospitals operating in the West Bank of Palestine using the MBNQA criteria. The results show that the MBNQA healthcare criteria are a good framework to analyze quality management practices within West Bank hospitals.

Improving the quality of healthcare has become a concern for patients, governments, managers, and professionals working in low-income countries, where many people do not have access to services. Many healthcare organizations utilized various industrial quality management strategies such as quality assurance, continuous quality improvement, TQM, business process reengineering, Six Sigma, and quality function deployment to improve the quality of care. Therefore, the integration of TQM principles within the healthcare system management framework is a key enabler for healthcare excellence. It is critical that healthcare service providers should realize that the long-term sustainability of quality healthcare services requires the adoption of innovative quality management practices, theories, and techniques, not only in patient contact areas but also in the overall system of healthcare delivery (Pui-Mun Lee, 2006). For this reason, combined with the universality of such quality awards (models), this study adopts MBNQA as a guiding framework to provide a holistic approach capturing the main factors of TQM. The MBNQA model lists in seven categories the main concepts and values in quality management: leadership, strategic planning, human resources orientation, process management, information and analysis, customer and market focus, and business results. The empirical analysis aims to validate these seven factors as constructs through which the quality of management practices in the Palestinian hospitals can be assessed.

## **Methodology**

### *Study design and sample*

The primary methodology of this study was survey research with data collected by field visits to secure a high response rate using the validated research study questionnaire

developed by Sabella *et al.* (2015). The original questionnaire was translated to Arabic to adapt to the local language by a professional and the questionnaire was reviewed by the researchers and pilot tested for accuracy in translation. For this survey, the Arabic version was reviewed and pilot tested for content validity.

The study population represented the total healthcare personnel as reported by the Gaza Ministry of Health (Ministry of Health, 2016b). The total population was 12,937 individuals working in the healthcare sector. A sample of 374 was calculated at the confidence level of 95 percent as shown in Table II. The respondents represented different professions found in healthcare organizations: physicians, nurses, technicians, and management.

To secure a high response rate, a total of 450 questionnaires were distributed in Gaza Strip hospitals (75 percent “340” to governmental hospitals and 25 percent “110” to non-governmental hospitals) within three regional areas of the Gaza Strip (Gaza, North Gaza, and South). The data collection of questionnaires was administered by handing in the questionnaires to hospital officials who were asked to maintain the percentages of the various professions when distributing and collecting the questionnaire. Follow-up calls and field visits were made to collect the questionnaires in person. As expected, the response rate was high. There were 363 completed and usable questionnaires from the three areas with a response rate of 80.7 percent.

### Measures

This research study used 62 indicators (items) directly derived from the MBNQA criteria (factors) and were used as a tool to evaluate quality at the targeted hospitals. A questionnaire of eight parts was used as the measurement instrument, out of which seven parts had a total of 62 questions addressing the seven criteria of the MBNQA framework used to assess the degree of TQM implementation in each hospital. Part eight sought general information about the hospitals and demographic information of the respondents. A Likert scale which corresponded with Baldrige National Quality Program Report (2009/2010), and the 2017-2018 Baldrige Performance Excellence Framework (Health Care) of 1-5 was used to rate each question with 1 being “low level of implementation” of the item to 5 being “very high level of implementation.” Respondents’ ratings were averaged for each MBNQA criteria. The average rating was converted to MBNQA points with reference to its maximum points (Lau *et al.*, 2004; Manjunath *et al.*, 2007; Del Rio-Rama *et al.*, 2017; Sabella *et al.*, 2015).

### Validity and reliability

Content validity for this study was conducted by comparing between the measurement items of each variable with an extensive review of the literature related to the CSFs of TQM implementation and evaluation criteria of international quality awards (business excellence models); measures used in this study were capable of capturing TQM factors.

Factor analysis was performed in order to establish the sub-dimensions of the scales consisting of the quality constructs (factors). In order to determine the factor structure,

Profession	Total of each profession	Percentage	Targeted out of the 450	Governmental (75%)	Non-governmental (25%)
Physicians	2,892	22.3	100	75	25
Nurses	3,630	28.1	126	96	30
Technicians	2,063	14.6	67	51	16
Management and support	4,352	35	157	118	39
Total	12,937	2,437	450	340	110

**Table II.**  
Sample distribution  
by healthcare  
profession and type of  
hospital

principal components factor analysis was applied to the scores obtained from the responses given by the 363 participants. In addition, Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity were used to evaluate data appropriateness for factor analysis.

The KMO test checks if the original variables can be factorized efficiently. The KMO index compares the values of correlations between variables and those of the partial correlations. Bartlett's test checks if there is a certain redundancy between the variables that can be summarized with a few number of factors. Thus, the KMO value should be higher than 0.50 and the  $\chi^2$  value of Bartlett's test must be significant at the 0.05 level. The KMO value is 0.921 (higher than the recommended KMO value of 0.50), and Bartlett's test is statistically significant at the  $p < 0.00$  level. These results show that the sample can be subjected to the principal components analysis in order to uncover the underlying patterns of the independent variables.

As shown in Table IV, construct validity was confirmed by conducting principal components factor analysis. The factor analysis of all measurement items produced factor loadings of more than 0.50 (Hair *et al.*, 2010). The results of the analysis did not lead to the removal of any item; in all cases, the factor loadings were higher than the recommended 0.5 minimum and the cumulative percentage of variance explained is greater than the recommended 50 percent. Therefore, all factors were acceptably good with a minimum value of 0.547 (Q4.3 related to staff understanding the indicators linked to their performance).

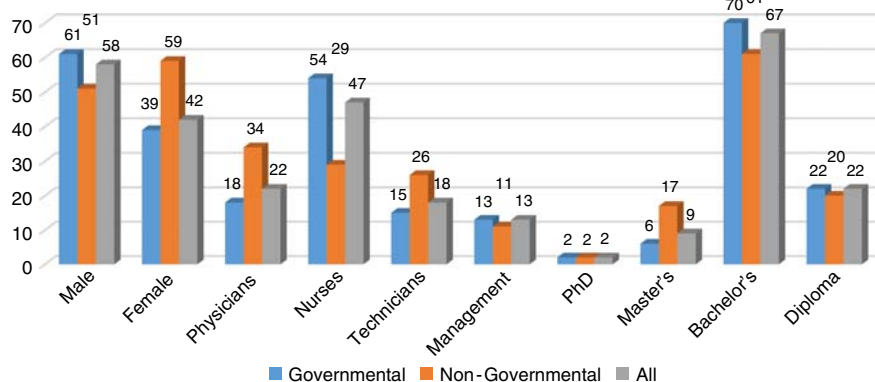
For this study, the questionnaire was pilot tested in three hospitals in Gaza Strip among 30 participants to secure content clarity on words and formatting and to calculate content reliability. As for reliability, an internal consistency for the seven factors was calculated using the reliability coefficient Cronbach's  $\alpha$ . This was indicative of the criterion validity of the measurement instrument where Cronbach's  $\alpha$  was computed separately for the items of each factor (criteria). As shown in Table III, an internal consistency was performed separately for each of the seven factors. Cronbach's  $\alpha$  values of the seven factors all exceed the 0.70 standard of reliability for the survey instrument (Sekaran, 2003, p. 206). The results show that all values range between 0.857 and 0.961, indicating that all scale variables demonstrate an acceptable level of reliability.

## Results

In total, 153 females (about 48 percent of the respondents) and 210 males (about 52 percent of the respondents) completed the questionnaire. Most of the data were collected from the governmental hospitals with 72.5 percent (263) of the respondents, while 27.5 percent (100) of the respondents are employed by the non-governmental hospitals. This is attributed to the fact that more than 50 percent of the hospitals in Gaza Strip are governmental and employ the vast majority of healthcare staff (71 percent of healthcare personnel – Ministry of Health, 2016b). As Figure 1 reveals, most of the respondents are physicians and nurses (69 percent), while

**Table III.**  
Internal consistency  
analysis for individual  
factors and overall  
construct

TQM factor	No. of items	Cronbach's $\alpha$
Leadership	8	0.915
Strategic planning	10	0.961
Patient and sector focus	7	0.928
Information and analysis	5	0.882
Human resources focus	8	0.897
Process management	11	0.857
Performance results	13	0.868
Overall TQM factors	62	0.966



**Figure 1.**  
Percentage  
distribution of  
respondents by type  
of hospital

technicians come second with 18 percent, and the management (administrative) staff come last with 13 percent of all respondents. It is also apparent from Figure 1 that the vast majority of the staff employed by the governmental and non-governmental hospitals are highly trained with 80 percent hold at least a bachelor's degree.

In order to analyze the degree of implementation of the seven MBNQA criteria/factors, namely, leadership, strategic planning, patient and sector focus, information and analysis, human resource focus, process management, and performance results, a descriptive analysis of the data was performed. In addition to the mean score obtained on a five-point Likert scale for the MBNQA factors, the percentage degree of implementation was calculated for each of the items by dividing the mean by the maximum possible rate on the five-point Likert-type response format, in this case, 5. The results of the analysis are summarized in Table IV, which shows the mean, factor loadings, and degree of implementation for each measurement item for the seven factors in addition to Cronbach's  $\alpha$  scores for each factor.

Table V presents the degree of TQM implementation of the seven factors for the governmental hospitals, the non-governmental hospitals, and for both (all hospitals). The degree of TQM implementation represents the mean of the measurement items of each corresponding factor by all respondents divided by the maximum possible rating on the five-point Likert scale, i.e. 5. The average scores were computed using the MBNQA points system. The MBNQA scores were obtained by multiplying the weighted average of each factor by the MBNQA maximum score for each factor (last column of the table). This information is used to compare the results of the varying levels of performance between the two types of hospitals in Gaza Strip on the one hand, and with the results of similar studies (the West Bank – the other part of Palestine) study, on the other hand.

## Discussion

### *Discussion of findings*

The analysis of the results of each criterion/factor of the MBNQA reveals that leadership and strategic planning scored the highest levels of implementation with an overall average of 64.6 and 64.5 percent, respectively. These results indicate that hospital leadership emphasizes the importance of and focuses on improving patient care applying ethical practices with clear vision and strategic objectives. Nonetheless, as illustrated in Table IV, hospital leadership needs to seek feedback more frequently to improve processes and overall performance, communicate strategic objectives and plans more effectively to all staff, and select suppliers according to hospitals' quality requirement.



Factor (criteria)/items (questions)	Mean	Factor loading	Item degree of Implementation	Cronbach's $\alpha$
<i>Q1: leadership</i>				0.915
Q1.1. Senior management in your hospital always emphasizes the importance of patient care	3.84	0.760	0.768	
Q1.2. Senior management in your hospital focuses on improving patients' care	3.7	0.755	0.740	
Q1.3. Senior management in your hospital is accessible to patients	3.28	0.643	0.656	
Q1.4. Senior management adapts its operational strategies to sector trends	3.26	0.670	0.652	
Q1.5. The hospital always employs ethical practices relative to the rest of the sector	3.51	0.674	0.702	
Q1.6. The hospital anticipates public concerns about its products, services, and operations	3.4	0.735	0.680	
Q1.7. The hospital participates enthusiastically in social or community services	3.47	0.668	0.694	
Q1.8. Senior management actively seeks feedback	3.19	0.681	0.638	
<i>Q2: strategic planning</i>				0.961
Q2.1. Our hospital has clear, strategic objectives	3.52	0.780	0.704	
Q2.2. In defining our strategic objectives, we are fully concerned about the various potential external factors such as [...]	3.37	0.705	0.674	
Q2.3. In defining our Institution's strategic objectives, we are fully concerned about the various potential internal factors	3.11	0.739	0.622	
Q2.4. Strategic objectives and plans are effectively communicated to all staff	2.91	0.755	0.582	
Q2.5. Every staff member in our hospital is aware of our strategic objectives and the action plans to be accomplished	3.12	0.756	0.624	
Q2.6. Staff members in our hospital are committed toward our strategic objectives and action plans	3.36	0.660	0.672	
Q2.7. Supplier capabilities to meet our quality requirements are essential when selecting our suppliers	2.81	0.729	0.562	
Q2.8. We integrate public responsibility into performance improvement efforts	3.52	0.739	0.704	
Q2.9. Our staff adhere to a formal code of ethics	3.29	0.718	0.658	
Q2.10. We lead the efforts to improve community services	3.74	0.735	0.748	
<i>Q3: patient and sector focus</i>				0.928
Q3.1. The hospital identifies its target patients well	3.64	0.645	0.728	
Q3.2. The hospital addresses our patients' opinions and suggestions seriously	3.44	0.564	0.688	
Q3.3. The hospital analyzes and disseminates patients' needs in a timely manner	3.19	0.632	0.638	
Q3.4. We as an hospital have a well-established communication channel with our patients	3.19	0.682	0.638	
Q3.5. The hospital has an effective Patient management system	3.04	0.761	0.608	
Q3.6. We as hospital closely monitor other institutions' actions in the same sector	3.02	0.715	0.604	
Q3.7. The hospital is fully aware of sector trends	3.47	0.603	0.694	
<i>Q4: information and analysis</i>				0.882
Q4.1. The hospital has an effective system to assess its operational performance	3.27	0.587	0.654	

**Table IV.**  
Assessment of TQM  
implementation  
degree: mean and  
factor loading

(continued)

Factor (criteria)/items (questions)	Mean	Factor loading	Item degree of Implementation	Cronbach's $\alpha$
Q4.2. The hospital has a clear, comprehensive performance management system	2.93	0.707	0.586	
Q4.3. All staff understand the indicators linked to their performance well and take them seriously	3.16	0.547	0.632	
Q4.4. The hospital adjusts its performance according to the changes in the environment	3.13	0.750	0.626	
Q4.5. Senior management adjusts the hospital's policy and strategy by analyzing information and facts	3.04	0.822	0.608	
<i>Q5: human resources focus</i>				0.897
Q5.1. The hospital empowers its staff	3.02	0.704	0.604	
Q5.2. The hospital has an effective staff performance appraisal system	2.87	0.748	0.574	
Q5.3. The hospital encourages teamwork and team spirit	3.82	0.727	0.764	
Q5.4. Our management motivates staff and fully develops their potential	2.97	0.745	0.594	
Q5.5. The hospital trains its staff in quality concepts	2.88	0.788	0.576	
Q5.6. The hospital provides training and development for staff members	2.85	0.739	0.570	
Q5.7. The hospital provides a safe and healthy work environment	3.06	0.711	0.612	
Q5.8. The hospital provides staff with patient-focused training	3.04	0.768	0.608	
<i>Q6: process management</i>				0.857
Q6.1. In designing processes factors like quality, costs, and productivity are considered	3.49	0.692	0.698	
Q6.2. Before applying new procedures or delivery processes, the hospital conducts comprehensive tests to assure quality	3.23	0.775	0.646	
Q6.3. The hospital has appropriate management measures to control and improve delivery processes	3.15	0.810	0.630	
Q6.4. The hospital continuously improves its delivery processes, to enhance the overall service quality development	3.14	0.671	0.628	
Q6.5. Process improvement initiatives are shared among departments	2.98	0.686	0.596	
Q6.6. Individual departments work to improve their processes	3.02	0.615	0.604	
Q6.7. The hospital closely cooperates with its suppliers	3.22	0.721	0.644	
Q6.8. We evaluate services on the basis of efficiency, including cost and timeliness	3.16	0.721	0.632	
Q6.9. We evaluate services on the basis of effectiveness, including appropriateness and risk	3.17	0.736	0.634	
Q6.10. Work procedures and possible outcomes are explained in advance to patients	3.1	0.739	0.620	
Q6.11. Healthcare services are contingent according to patients' needs	3.33	0.638	0.666	
<i>Q7: performance results</i>				0.868
Q7.1. Patients are satisfied with our healthcare services	3.26	0.621	0.652	
Q7.2. Our hospital is able to meet its financial obligations	2.96	0.717	0.592	
Q7.3. Our system of remuneration and benefits is satisfactory	2.49	0.734	0.498	
Q7.4. In general the staff is satisfied with their respective department	3.27	0.717	0.654	

(continued)

Table IV.

Table IV.

Factor (criteria)/items (questions)	Mean	Factor loading	Item degree of Implementation	Cronbach's $\alpha$
Q7.5. Our healthcare services are expanding	3.21	0.833	0.642	
Q7.6. Overall service quality is improving steadily	3.26	0.763	0.652	
Q7.7. Our productivity is rising steadily	3.21	0.746	0.642	
Q7.8. Patient evaluations of our performance have been improving	3.12	0.720	0.624	
Q7.9. In our hospital the number of doctors is sufficient	2.64	0.749	0.528	
Q7.10. In our hospital the number of nurses is sufficient	2.48	0.789	0.496	
Q7.11. In our hospital the number of technicians is sufficient	2.58	0.796	0.516	
Q7.12. In our hospital the number of administrative employees is sufficient	2.86	0.644	0.572	
Q7.13. In our hospital the number of janitors is sufficient	2.73	0.723	0.546	

Table V.  
Degree of TQM implementation and MBNQA scores by type of hospital

TQM factor	Governmental hospitals		Non-governmental hospitals		All hospitals		Maximum MBNQA score
	Degree of implementation	MBNQA score	Degree of implementation	MBNQA score	Degree of implementation	MBNQA score	
Leadership	0.632	76	0.684	82	0.646	78	120
Strategic planning	0.633	54	0.675	57	0.645	55	85
Patient and sector focus	0.581	49	0.647	55	0.600	51	85
Information and analysis	0.619	56	0.627	56	0.621	56	90
Human resources focus	0.567	48	0.614	52	0.580	49	85
Process management	0.629	54	0.680	58	0.643	55	85
Performance results	0.545	245	0.663	299	0.578	260	450
Total score		582		659		603	1,000

On the other side, the lowest level of TQM implementation is realized with the human resources focus criterion (factor) achieving the lowest scores with an overall average of 58 percent. Generally, this can be explained by the low means of the measurement items related to this factor as shown in Table IV indicating ineffective performance appraisal system, lack of incentive systems to motivate staff and fully develop their potential, and the lack of training and development opportunities especially in quality-related programs. Local studies reported similar results indicating low morale of employees working in the Palestinian healthcare sector due to a lack of encouragement and incentives (Sabella *et al.*, 2015).

The comparison between the two types of hospitals in this study reveals that the governmental hospitals scored lower than the non-governmental hospitals according to the MBNQA criteria. The low overall score of governmental hospitals (582 points) can be attributed to several reasons. The main reason represents the fact that governmental hospitals serve the vast majority of the population in the Gaza Strip, which often exposes them to the largest number of patients with their diverse needs and requirements. Another reason is related to the size of the hospitals. According to Giacaman *et al.* (2009), governmental hospitals, on average, have the highest number of organizational units (departments), which indicates a lack of effective communication, coordination, and integration among this large number of different units within the hospitals. Another good reason is related to the limited financial resources available to the governmental hospitals which continuously suffer from chronic budget deficits (Ministry of Health, 2016b) hindering possible improvement and development opportunities.

On the other hand, non-governmental hospitals with a 659 points score have historically served as a link between various international agencies and Palestinians, thereby providing these hospitals with benefits such as financial support, increased exposure to international expertise, and more established administrative practices to comply with the international donor community's requirements (Matariya *et al.*, 2009).

Discussion of the MBNQA results criteria reveals very low scores achieved by all hospitals in Gaza Strip. With a maximum score of 450 points, the overall average score for hospitals in the Gaza Strip is 260 (57.8 percent). This score can be attributed to several factors that hinder potential progress and development of hospitals. Table IV identifies these reasons as those with low degree of implementation of the measurement items of the performance results criteria. As apparent from Table IV, the ability of all hospitals to meet their financial obligations is very low. The table also reveals the low level of employee satisfaction regarding the remuneration and benefits. Finally, the results indicate that there is a lack of staff (physicians, nurses, management, technicians, and janitorial staff) at all levels.

As presented in Table V, governmental hospitals scored lower than the non-governmental hospital in this particular criterion by 54 points (245 out of 450 compared to 299 out of 450). This could be attributed to the results-based strategies that non-governmental hospitals developed to improve both operational and financial management to improve their overall performance. Being exposed to the international donor community, they were able to secure more financial and human resources than the governmental hospitals to achieve results of providing more and better healthcare services at improved efficiency levels.

The total 603 points scored by all types of hospitals (Table V) out of a maximum 1,000 points indicates that Palestinian hospitals in the Gaza Strip are performing at relatively acceptable levels. According to the MBNQA scoring system, the achieved scores indicate that these hospitals are relatively effective and somewhat responsive to the overall requirements of the MBNQA criteria. The scores also reflect that some organizational learning and strategic improvement are in place through effective, well-deployed systems to help hospitals improve from the early stages of reacting to problems to the higher levels of improvement, refinement, and innovation. These results seem to be in tandem with other similar studies (Lau *et al.*, 2004; Manjunath *et al.*, 2007; Sabella *et al.*, 2015).

However, comparing the scoring of the governmental hospitals in Gaza Strip (582) with the governmental hospitals of the other part of Palestine in the West Bank (636) reveals that the level of TQM implementation in the West Bank is higher. The same observation is found when comparing the non-governmental hospitals in both areas with a total score of 659 in Gaza compared to 750 in the West bank. This could be attributed to the political and economic conditions presented earlier in the Palestinian political context.

### *Implications and conclusions*

This study assessed the level of TQM implementation in Gaza Strip hospitals utilizing the MBNQA criteria. The assessment of each criterion's items provided a detailed diagnostic process that identified the strengths and the potential areas of improvements for the healthcare providers. This assessment revealed that hospitals in Gaza Strip reached about 65 percent level of quality implementation related to leadership, strategic planning, and process management. Lower quality implementation levels of less than 65 percent related to information and analysis, and patient and sector focus with human resources focus scored the least level of implementation of 58 percent. These findings have several practical implications for the hospital senior management and decision makers.

Senior management should involve the staff in the strategic planning process and to improve communicating the vision and the strategic objections, and the action plans. In addition, senior management should seek continuous feedback from patients and staff to

---

improve delivery processes, communication channels with patients, and overall performance to meet the patients' needs in a timely manner. The information and analysis is critical to continuously improve service delivery which requires effective channels of communication for the proper flow of information with staff, patients, suppliers, and all other stakeholders.

Another implication is the need to invest in people. Decision makers should invest in training and development of staff to improve their competencies especially with the insufficient numbers of staff including physicians, nurses, technicians, administrative, and support staff. It is important to provide quality and patient relationship training courses to improve their performance. In addition, there is a need to develop comprehensive performance appraisal systems to evaluate staff performance and link the results with a clear and equitable incentive system. In a healthcare organization, the satisfaction of the internal customer (staff) could lead to the satisfaction of the external customers (patients); therefore, staff motivation is crucial to quality service delivery to patients.

With the very low score related to performance results, the final implication is the need to improve the results related to workforce, patients, and the financial performance. Similar to the hospitals operating in the West Bank, hospitals in Gaza Strip must develop performance management systems to achieve planned operational results (Sabella *et al.*, 2015) related to patients' satisfaction and staff satisfaction as well as financial results. These performance management systems aim at improving overall performance of the hospitals. This requires optimizing the limited financial and human resources to deliver quality services efficiently and effectively. Management teams at all hospitals should develop quality indicators to ensure that quality performance is measured against a set of criteria, thus allowing them to take action in improving quality. Therefore, almost all Gaza Strip governmental and non-governmental hospitals are required to improve their overall performance by improving their financial and operational performance. To improve their quality of healthcare services, these hospitals should work hard on developing their financial and human resources, in addition to improving the facilities to deliver better healthcare services. This might require considering administrative, financial, and organizational restructuring reform to improve decision-making process to allocate resources and implement more sustainable financing methods.

As a theoretical implication, this study highlights the importance of implementing TQM philosophy in healthcare organizations, particularly Palestinian hospitals operating in Gaza strip. A theoretical perspective possesses arguments in favor of applying TQM practices in hospitals. Some scholars argue that the implementation of TQM would lead to improvements of the hospital performance and consequently achieving one of the ultimate goals of hospitals, namely, patients' satisfaction. In addition, investing in healthcare staff to develop their capacities is a critical factor for successful implementation of TQM as people are the main driver for developing the performance of hospitals.

Finally, the findings of this study clearly emphasize that healthcare organizations cannot consider TQM simply as a fashion or a passing quality management program for achieving sustainable performance over time. In fact, TQM requires accumulation of organizational capabilities through its human resource management practices. Therefore, TQM implementation serves as a philosophy for hospitals to foster development capabilities and improve the quality of services based on continuous learning and improvement.

#### *Limitations and further research*

Although this study has used quantitative methodology utilizing the survey questionnaire to collect data from a relatively large sample, still like other studies, it has limitations. The study only collected data from one Palestinian territory, the Gaza Strip, the other two territories were not included. These territories are East Jerusalem, which is under complete

control of the Israeli Government, and the West Bank. Thus, the results cannot be generalized to all of Palestine. It is, thus, suggested that future study, while measuring the level of TQM implementation, can compare all Palestinian territories within the same period of time.

The data collection in this study used self-reported data. Therefore, it is recommended that further research include multiple measures and data triangulation to more accurately assess the variables in the TQM implementation framework. This study was also based on cross-sectional data collection, rather than a longitudinal study.

Future research should seek to improve on the limitations of the study. Researchers may make data collection less subjective by using other methods of obtaining data. Future research can take a longitudinal methodology rather than cross-sectional.

## References

- Aamer, M., Al-Awlaqi, M. and Alkibsi, M. (2017), "TQM implementation in a least developed country: an exploratory study of Yemen", *The TQM Journal*, Vol. 29 No. 3, pp. 467-487.
- Ahire, S.L., Gohar, D.Y. and Waller, M.A. (1996), "Development and validation of TQM implementation constructs", *Decision Sciences*, Vol. 27 No. 1, pp. 23-56.
- Aladwan, S. and Forrester, P. (2016), "The leadership criterion: challenges in pursuing excellence in the Jordanian public sector", *The TQM Journal*, Vol. 28 No. 2, pp. 295-316.
- Alavi, J. and Yasin, M. (2008), "The role of quality improvement initiatives in healthcare operational environments: changes, challenges and responses", *International Journal of Health Care Quality Assurance*, Vol. 21 No. 2, pp. 133-145.
- Alexander, J.A., Weiner, B.J. and Griffith, J. (2006), "Quality improvement and hospital financial performance", *Journal of Organisational Behaviour*, Vol. 27 No. 7, pp. 1003-1029.
- Aquilani, B., Silvestri, C., Alessandro Ruggieri, A. and Gatti, C. (2017), "A systematic literature review on total quality management critical success factors and the identification of new avenues of research", *The TQM Journal*, Vol. 29 No. 1, pp. 184-213, available at: <http://dx.doi.org/10.1108/TQM-01-2016-0003>
- Badri, M., Davis, D. and Davis, D. (1995), "A study measurement the critical factors of quality management", *International Journal of Quality and Reliability Management*, Vol. 12 No. 2, pp. 36-53.
- Baidoun, S. (2003), "An empirical study of critical factors of TQM in Palestinian organizations", *Logistics Information Management*, Vol. 16 No. 2, pp. 156-171.
- Baidoun, S. (2004), "The implementation of TQM philosophy in Palestinian organization: a proposed non-prescriptive generic framework", *The TQM Magazine*, Vol. 16 No. 3, pp. 174-185.
- Baird, K.J. (2011), "The relationships between organizational culture, total quality management principles and operational performance", *International Journal of Operations & Production Management*, Vol. 31 No. 7, pp. 789-814.
- Baldrige National Quality Program Report (2009/2010), *The Healthcare Criteria for Performance Excellence Gaithersburg*, National Institute of Standards and Technology, Gaithersburg, MD.
- Barghouthi, M. and Lennock, J. (1997), *Health in Palestine: Potential and Challenges*, Palestine Economic Policy Research Institute (MAS), Ramallah-Palestine.
- Bemowski, K. and Stratton, B. (1996), "How do people use the Baldrige award criteria", *Quality Progress*, Vol. 28 No. 5, pp. 43-47.
- Black, S. (1993), "Measuring the critical factors of total quality management", unpublished PhD thesis, University of Bradford, Bradford.
- Black, S. and Porter, L. (1995), "An empirical model for total quality management", *Total Quality Management*, Vol. 6 No. 2, pp. 149-164.
- Black, S.A. and Porter, L.J. (1996), "Identification of the critical factors of TQM", *Decision Sciences*, Vol. 27 No. 1, pp. 1-21.

- Bou-Llusar, J., Escrig-Tena, A., Roca-Puig, V. and Beltrán-Martin, I. (2009), "An empirical assessment of the EFQM excellence model: evaluation as a TQM framework relative to the MBNQA model", *Journal of Operations Management*, Vol. 27 No. 1, pp. 1-22.
- Calvo-Mora, A., Picon, A., Ruiz, C. and Cauzo, L. (2014), "The relationships between soft-hard TQM factors and key business results", *International Journal of Operations & Productions Management*, Vol. 34 No. 1, pp. 115-143.
- Cauchick, M. (2006), "Quality management through a national quality award framework: the experience of a hospital in Brazil", *The TQM Magazine*, Vol. 18 No. 6, pp. 626-637.
- Chavez, R., Gimenez, C., Fynes, B., Wiengarten, F. and Yu, W. (2013), "Internal lean practices and operational performance", *International Journal of Operation & Productions Management*, Vol. 33 No. 5, pp. 562-588.
- Claver, E., Tari, J. and Molina, J. (2003), "Critical factors and results of quality management: an empirical study", *Total Quality Management and Business Excellence*, Vol. 14 No. 1, pp. 91-118.
- Del Rio-Rama, M., Alvarez Garcia, J. and Simonetti, B. (2017), "Quality, key tool in tourist destinations. Implementation in rural accommodation", *Revista Portuguesa de Estudos Regionais*, No. 44, pp. 23-37.
- Evans, J.R. and Jack, E.P. (2003), "Validating key results linkages in the Baldrige performance excellence model", *Quality Management Journal*, Vol. 10 No. 2, pp. 7-24.
- Flynn, B., Schroeder, R. and Sakakibara, S. (1994), "A framework for quality management research and an associated measurement instrument", *Journal of Operations Management*, Vol. 11 No. 4, pp. 339-366.
- Forza, C. and Filippini, R. (1998), "TQM impact on quality conformance and customer satisfaction: a causal model", *International Journal of Production Economics*, Vol. 55 No. 1, pp. 1-20.
- Fotopoulos, C.A. (2010), "The structural relationships between TQM factors and organizational performance", *The TQM Journal*, Vol. 22 No. 5, pp. 539-552.
- Fu, S.-L., Shou, S.-Y., Chen, K.-C. and Wang, C.-W. (2015), "Assessment and cultivation of total quality management organizational culture – an empirical investigation", *Total Quality Management & Business Excellence*, Vol. 26 Nos 1-2, pp. 123-139.
- Giacaman, R., Khatib, R., Shabaneh, L., Ramlawi, A., Sabri, B., Sabatinelli, G., Khawaja, M. and Laurance, T. (2009), "Health status and health services in the occupied Palestinian territory", *Lancet*, Vol. 373 No. 9666, pp. 837-849.
- Giaccio, M.C. (2013), "The first theorization of quality: Deutscher Werkbund", *Total Quality Management & Business Excellence*, Vol. 24 Nos 3-4, pp. 225-242.
- Gimenez-Espin, J. (2013), "Organizational culture for total quality management", *Total Quality Management & Business Excellence*, Vol. 24 Nos 5-6, pp. 678-692.
- Grandzol, J. and Gershon, M. (1998), "A survey instrument for standardizing TQM modeling research", *International Journal of Quality Science*, Vol. 3 No. 1, pp. 80-105.
- Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2010), *Multivariate Data Analysis: A Global Perspective*, 7th ed., Prentice Hall, Englewood Cliffs, NJ.
- Hellsten, U. and Klefsjo, B. (2000), "TQM as a management system consisting of values, techniques and tools", *The TQM Magazine*, Vol. 12 No. 4, pp. 238-244.
- Jaeger, M. and Adair, D. (2016), "Perception of TQM benefits, practices and obstacles: the case of project managers and quality management representatives in Kuwait", *The TQM Journal*, Vol. 28 No. 2, pp. 317-336.
- Jaeger, M., Adair, D. and Al-Qudah, S. (2013), "MBNQA criteria used in the GCC countries", *The TQM Journal*, Vol. 25 No. 2, pp. 110-123.
- Jarrett, J. (2016), "Total quality management (TQM) movement in public health", *International Journal of Quality & Reliability Management*, Vol. 33 No. 1, pp. 25-41, available at: <http://dx.doi.org/10.1108/IJQRM-12-2013-0193>

- Kanji, G.K. and Wallace, W. (2000), "Business excellence through customer satisfaction", *Total Quality Management*, Vol. 11 No. 7, pp. S979-S998.
- Kunst, P. and Lemmink, J. (2000), "Quality management and business performance in hospitals: a search for success parameters", *Total Quality Management*, Vol. 11 No. 8, pp. 1123-1133.
- Laohavichien, T., Fredendall, L.D. and Cantrell, R.S. (2011), "Leadership and quality management practices in Thailand", *International Journal of Operations & Productions Management*, Vol. 31 No. 10, pp. 1048-1070.
- Lau, R.S.M., Zhao, X. and Xiao, M. (2004), "Assessing quality management in China with MBNQA criteria", *International Journal of Quality and Reliability Management*, Vol. 21 No. 7, pp. 699-713.
- Macinati, M.S. (2008), "The relationship between quality management systems and organisational performance in the Italian national health service", *Health Policy*, Vol. 85 No. 2, pp. 228-241.
- Maistry, K., Kumar, D. and Ramessur, H. (2017), "Total quality management and innovation: relationships and effects on performance of agricultural R & D organisations", *International Journal of Quality & Reliability Management*, Vol. 34 No. 3, pp. 418-437, available at: <http://dx.doi.org/10.1108/IJQRM-04-2015-0061>
- Manjunath, U., Metri, B. and Ramachandran, S. (2007), "Quality management in a healthcare organization: a case of South Indian hospital", *The TQM Magazine*, Vol. 19 No. 2, pp. 129-139.
- Massad, S., Nieto, F., Palta, M., Smith, M., Clark, R. and Thabet, A. (2011), "Health related quality of life of Palestinian preschoolers in the Gaza Strip: a cross sectional study", *BMC Public Health*, Vol. 11 No. 253, pp. 1-13.
- Matariya, A., Kahtib, R., Donaldson, C., Bossert, T., Hunter, D., Alsayed, F. and Moatti, J.P. (2009), "The healthcare system: an assessment and reform agenda", *Lancet*, Vol. 373 No. 9670, pp. 1207-1217.
- Meyer, S. and Collier, D. (2001), "An empirical test of the causal relationships in the Baldrige Health Care Pilot Criteria", *Journal of Operations Management*, Vol. 19 No. 4, pp. 403-425.
- Ministry of Health (2016a), "Health annual report, Palestine 2015", Ramallah, West Bank, available at: [www.moh.ps/index/Books/BookType/2/Language/ar](http://www.moh.ps/index/Books/BookType/2/Language/ar) (accessed November 15, 2016).
- Ministry of Health (2016b), "Annual report: healthcare workforce", Gaza, Gaza Strip, available at: [www.moh.gov.ps/portal/category/s5-2011-06-02-06-26-44/c45-2011-06-22-10-31-14/](http://www.moh.gov.ps/portal/category/s5-2011-06-02-06-26-44/c45-2011-06-22-10-31-14/) (accessed November 15, 2016).
- Mosadeghrad, A. (2015), "Developing and validating a total quality management model for healthcare organizations", *The TQM Journal*, Vol. 27 No. 5, pp. 544-564, available at: <http://dx.doi.org/10.1108/TQM-04-2013-0051>
- Mosadeghrad, A.M. (2013), "Verification of a quality management theory: using a Delphi study", *International Journal of Health Policy and Management*, Vol. 1 No. 4, pp. 261-271.
- O'Rourke, M., Juegmans, J., Sonin, S., Dashzeveg, G. and Batsuury, R. (2001), "Developing quality health systems in Mongolia", *International Journal of Healthcare Quality Assurance*, Vol. 14 No. 5, pp. 212-217.
- Øvretveit, J. and Al Serouri, A. (2006), "Hospital quality management system in a low income Arabic country: an evaluation", *International Journal of Health Care Quality Assurance*, Vol. 19 No. 6, pp. 516-532, available at: <http://dx.doi.org/10.1108/09526860610686999>
- Pui-Mun Lee (2006), "Sustainable quality services in the healthcare industry", *The TQM Magazine*, Vol. 18 No. 6, pp. 563-571.
- Quazi, H. and Padibjo, S. (1998), "A journey toward total quality management through ISO 9000 certification – a study on small- and medium-sized enterprises in Singapore", *International Journal of Quality & Reliability Management*, Vol. 15 No. 5, pp. 489-508.
- Sabella, A., Kashou, R. and Omran, O. (2015), "Assessing quality of management practices in Palestinian hospitals", *International Journal of Organizational Analysis*, Vol. 23 No. 2, pp. 213-232, available at: <http://dx.doi.org/10.1108/IJOA-03-2014-0747>



- Sadikoglu, E. and Zehir, C. (2010), "Investigating the effects of innovation and employee performance on the relationship between total quality management practices and firm performance: an empirical study of Turkish firms", *International Journal of Production Economics*, Vol. 127 No. 1, pp. 13-26.
- Saraph, J., Benson, P. and Schroeder, R. (1989), "An instrument for measuring the critical factors of quality management", *Decision Sciences*, Vol. 20 No. 4, pp. 810-829.
- Scharitzer, D. and Korunka, C. (2000), "New public management: evaluating the success of total quality management and change management interventions in public services from the employees' and customers' perspectives", *Total Quality Management*, Vol. 11 No. 7, pp. 941-953.
- Sekaran, U. (2003), *Research Methods for Business: A Skill Building Approach*, John Wiley & Sons, West Sussex.
- Sila, I. and Ebrahimpour, M. (2005), "Critical linkages among TQM factors and business results", *International Journal of Operations & Production Management*, Vol. 25 No. 11, pp. 1123-1155.
- Teixeira, H., Lopes, I. and Sousa, S. (2015), "Prioritizing quality problems in SMEs: a methodology", *The TQM Journal*, Vol. 27 No. 1, pp. 2-21.
- The Palestinian Central Bureau of Statistics (2015), "The national health accounts", available at: [www.pcbs.gov.ps/Portals/\\_Rainbow/Documents/Main%20Ind%202015E.htm](http://www.pcbs.gov.ps/Portals/_Rainbow/Documents/Main%20Ind%202015E.htm) (accessed January 25, 2017).
- The Palestinian Central Bureau of Statistics (2016), "Estimated population in the palestinian territory mid-year by governorate,1997-2016", available at: [www.pcbs.gov.ps/Portals/\\_Rainbow/Documents/gover\\_e.htm](http://www.pcbs.gov.ps/Portals/_Rainbow/Documents/gover_e.htm) (accessed January 25, 2017).
- Ugboro, I. and Obeng, K. (2000), "Top management leadership, employee empowerment, job satisfaction, and customer satisfaction in TQM organizations: an empirical study", *Journal of Quality Management*, Vol. 5 No. 2, pp. 247-272.
- UNCTAD (2015), "Report on UNCTAD assistance to the Palestinian people: developments in the economy of the occupied Palestinian territory", Geneva, available at: [http://unctad.org/en/PublicationsLibrary/app2016d1\\_en.pdf](http://unctad.org/en/PublicationsLibrary/app2016d1_en.pdf) (accessed January 3, 2017).
- UNCTAD (2016), "Report on UNCTAD assistance to the Palestinian people: developments in the economy of the occupied Palestinian territory", Geneva, available at: [http://unctad.org/en/PublicationsLibrary/tdb62d3\\_en.pdf](http://unctad.org/en/PublicationsLibrary/tdb62d3_en.pdf) (accessed January 3, 2017).
- Van Schoten, S., de Blok, C., Spreeuwenberg, P., Groenewegen, P. and Wagner, C. (2016), "The EFQM Model as a framework for total quality management in healthcare results of a longitudinal quantitative study", *International Journal of Operations & Production Management*, Vol. 36 No. 8, pp. 901-922.
- Vanichchinchai, A. and Igel, B. (2011), "The impact of total quality management on supply chain management and firm's supply performance", *International Journal of Production Research*, Vol. 49 No. 11, pp. 3405-3424.
- Wali, A.A., Deshmukh, S.G. and Gupta, A.D. (2003), "Critical success factors of TQM: a select study of Indian organizations", *Production Planning & Control*, Vol. 14 No. 1, pp. 3-14.
- Weckenmann, A., Akkasoglu, G. and Werner, T. (2015), "Quality management – history and trends", *The TQM Journal*, Vol. 27 No. 3, pp. 281-293, available at: <http://dx.doi.org/10.1108/TQM-11-2013-0125>
- Wilson, D. and Collier, D. (2000), "An empirical investigation of the Malcolm Baldrige national award causal model", *Decision Sciences*, Vol. 31 No. 2, pp. 361-390.
- Woon, K.C. (2000), "Assessment of TQM implementation: benchmarking Singapore's productivity leaders", *Business Process Management Journal*, Vol. 6 No. 4, pp. 314-330.
- World Bank (2015), *Economic Monitoring Report to the Ad Hoc Liaison Committee (English)*, World Bank Group, Washington, DC, available at: <http://documents.worldbank.org/curated/en/563181468182960504/Economic-monitoring-report-to-the-ad-hoc-liaison-committee> (accessed December 12, 2016).

- Young, G., Chams, M. and Shortell, S. (2001), "Top manager and network effects on the adoption of innovative management practices: a study of TQM in a public hospital system", *Strategic Management Journal*, Vol. 22 No. 10, pp. 935-951.
- Zairi, M. (2013), "The TQM legacy – Gurus' contributions and theoretical impact", *The TQM Journal*, Vol. 25 No. 6, pp. 659-676.
- Zylfijaj, R. and Pira, B. (2017), "Assessment of critical success factors of TQM culture in hospitality sector in Kosovo", *International Journal of Research in Business and Social Science*, Vol. 6 No. 1, pp. 65-77.

### Further reading

- David, F. (2001), *Strategic Management: Concepts and Cases*, Pearson-Prentice Hall, New York, NY.
- Deming, W.E. (1986), *Out of the Crisis*, Massachusetts Institute of Technology, Center for Advanced Engineering Study, Cambridge, MA.
- Doyle, M. (2000), "Managing development in an era of radical change: evolving a relational perspective", *Journal of Management Development*, Vol. 19 No. 7, pp. 579-601.
- Lee, P.M. and Quazi, H.A. (2001), "A methodology for developing a self-assessment tool to measure quality performance in organisations", *International Journal of Quality and Reliability Management*, Vol. 18 No. 2, pp. 118-141.
- Metri, B.A. (2005), "TQM critical success factors for construction firms", *Management*, Vol. 10 No. 2, pp. 61-72.
- Mosadeghrad, A.M. (2005), "A survey of total quality management in Iran: barriers to successful implementation in health care organisations", *International Journal of Health Care Quality Assurance Incorporating Leadership in Health Services*, Vol. 18 No. 3, pp. 12-34.
- National Institute of Standards and Technology (2015a), "Baldrige Excellence Framework: a system approach to improve your organizations performance", United States Department of Commerce, Gaithersburg, Md, available at: [www.nist.gov/baldrige/publications/baldrige-excellence-framework/businessnonprofit](http://www.nist.gov/baldrige/publications/baldrige-excellence-framework/businessnonprofit)
- National Institute of Standards and Technology (2015b), "Baldrige excellence builder: key questions for improving your organizations performance", United States Department of Commerce, Gaithersburg, Md, available at: [www.nist.gov/baldrige/publications/baldrige-excellence-framework/businessnonprofit](http://www.nist.gov/baldrige/publications/baldrige-excellence-framework/businessnonprofit)
- Soltani, E., Van Der Meer, R., Gennard, J. and Willimas, T. (2003), "A TQM approach to HR performance evaluation criteria", *European Management Journal*, Vol. 21 No. 3, pp. 323-337.

### Corresponding author

Samir D. Baidoun can be contacted at: [sbaidoun@birzeit.edu](mailto:sbaidoun@birzeit.edu)