

**Critical Success Factors for
Implementing Total Quality
Management in the Libyan Public
Health Sector**

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Abstract:

The purpose of this paper is to investigate total quality management (TQM) implementation in the Libyan Public Health Sector (LPHS), in order to assist Libyan public health sector to effectively implement their TQM initiatives. Using existing measures in the literature, five factors have been identified as being critical for successful TQM in the Libyan public health sector, namely; top management support, education and training, patients focus and satisfaction, supplier management, continuous improvement culture. The data used in this study were obtained using a survey questionnaire by (64) managers in the Libyan Public Health Sector. The results revealed that the LPHS is at a low level for TQM implementation and does not make sufficient efforts to improve its quality. This paper contributes to the existing knowledge by investigating the five critical success factors implementation of TQM in a different context. Results from this paper will help any future efforts to develop a framework for implementing TQM in Libyan public health sector in the future.

Keywords: Public Health Sector, Critical Success Factors, Total Quality Management, Libya.

1. Introduction:

The concept of TQM has been developed in the last forty years. During the last decades, TQM has become the most important issue in the public and private

sectors (Jarrett, 2016). Lee, (2012, p. 387) stated that: "Any organization's effort to achieve continuous quality improvements must involve applying various

quality related programs and tools". Such efforts are important for improving the quality of services, especially in the health sector since the quality of care and service is a top priority (Boulter et al, 2013). This has driven many sectors to work with quality issues on a high level and quality management (Liu et al., 2015).

TQM has been used as an approach to developing the organisation's initiatives quality strategies (Hansson and Klefsjo, 2003). Implementing TQM in Public health sector will be better monitored and the quality of life will improve for all especially in places where public sector development is undertaking rapid changes. Increases in productivity and continuous improvement follow when managers in the public health sector implement TQM activities upstream (Halis et al., 2017).TQM has arrived to the health services system and offers a unique opportunity to adopt a powerful tool for strengthening management and to improve performance (Sabella et al., 2015).

2. Literature Review:

In the literature on the health public sector, a significant investigation has been conducted towards the implementation of TQM in the public sector in developed countries (e.g., Jarrett, 2016; Papaioannon et al., 2010; Sonesson and Bock, 2003; Woodall, 2005) In contrast, in developing countries, a few studies have been conducted concerning the TQM implementation in the health public sector (Sabella et al., 2015; Al-Adham, 2004; Manjunath, 2007). However, these countries have faced problems of instability, low productivity, lack of standards, high cost operation, poor quality of services, high storage risks, lack of staff skills(Ajinah; 2009; Hassin 2009; Saad et al., 2014).

In this context, some of the research in Libya has been conducted. Such as considering some studies within a Libyan context, Youseef (2006) five oil companies have been studied. Najeh and Zaitri(2006) have developed a roadmap for implementing TQM in Libyan oil industry. Moreover, Hassin (2009) studied the Libyan electrical

power through investigating nine critical success factors. Halis et al., (2017) studied the applied principles to achieve TQM at Libyan healthcare institutions.

These previous researches in Libya regarding studying TQM within the health sector have been still very low. On the other hand, until now, investigations have neglected critical success factors for TQM implementation in the LPHS. Therefore, this paper is considered to fill the gap by studying critical success factors for implementing TQM, which provides the foundation for the improvement of Libyan public health activities, and programs in general. As one of the largest public sectors in Libya today, the importance of implementing TQM for the health public sector cannot be overstated. The Libyan public health sector needs to change towards TQM implementation. Implementing TQM will help them to achieve better performance and support their competitive position in the Libyan context.

In fact, the Libyan government has spent a large amount of money in the past fifty years

to achieve a better performance in the public health sector. However, the sector is still suffering from high operation cost, a lot of waste; none enhances the recycling of materials, low quality of service, (Libyan Ministry of health, 2010). Subsequently, The Libyan public health sector seeks to maximize efficiency and effectiveness but at the same time must minimize their impacts on the environment. These issues can be resolved by adapting TQM (Mora et al., 2014). In current practice, the ideas of TQM are the key to health sector practice. This paper introduces TQM philosophy to achieve the best results of health service operations in the LPHS.

3. Purpose of the Paper:

The purpose of this paper is to consider the importance of TQM implementation in the Libyan public health sector, and to assist Libyan public health sector to effectively implement their TQM initiatives. This paper is intended to assist LPHS to improve employees' confidence, skills, and performance, and help them to achieve high-quality service, whilst enabling and facilitating competitiveness

with the health public sector.

This paper contributes to the investigating of TQM implementation in the LPHS. As such, this study work will not change the ongoing quality activities, but it will facilitate the performance of TQM and improve services and processes in the Libyan public health sector. Additionally, the researcher seeks to explore any positive aspects that may encourage the implementation of TQM in the LPHS. Results obtained from this paper will help any future efforts to develop a framework for implementing TQM in the Libyan public health sector.

4. Research Objectives:

The following three objectives were formulated:

1. To identify critical success factors for TQM implementation in the LPHS.
2. To identify current problems with TQM implementation in the LPHS.
3. Proposal of practical recommendation to resolve any problems with TQM implementation in the LPHS.

5. Critical Success Factors (CSFs) for TQM implementation in the LPHS:

During the 1990s, quality management has become one of the main issues many sectors (food, electric, oil, etc..) face and is usually referred to as TQM consequently; TQM has been generally adopted throughout the world (Mora et al., 2014).

Pfau (1989) defined TQM as *"an approach for continuous process improvement the quality of products and service delivered through the participation at all levels and functions of the organization"*.

According to Oakland (2003) *"A comprehensive approach for improving competitiveness and flexibility through planning, organizing and understanding each activity, and involving everyone at each level"*.

It can be seen that the definitions of TQM it is a management approach aimed to develop both the managers, and employees to help them to be creative through a culture of working together (Mora et al., 2014).

To investigate TQM implementation in the LPHS it is important to identify the factors required for the implementation. According to Saraph et al (1989) CSFs as "*critical areas of managerial planning and action that must be practiced to achieve effective quality management in a business unit*".

TQM literature reveals that there are some different countries that have adopted similar CSFs as criteria for quality awards under different titles (Metri, 2005). These quality awards are derived from three basic awards: the European Foundation for Quality Management (EFQM), the Malcolm Baldrige National Quality Award (MBNQA), and the Deming Prize (DP).

In an attempt to establish empirically validated CSFs and to consider the possibility to implement TQM in the Libyan public health sector. The researcher has identified previous researches relating to CSFs for TQM implementation, and by combining empirical and seeking opinions in the Libyan sectors (Haliset al., 2017; Najeh and Kara-Zaitri, 2004; Sayehet al., 2005; Shembesh and Tulti,

2005; Youssef, 2006, Mora et al., 2014, Saad, 2016). Five factors have been identified as being critical for successful TQM in the Libyan public health sector, namely:

1. Top management support;
2. Education and training;
3. Patients focus and satisfaction;
4. Supplier management;
5. Continuous improvement culture.

As mentioned above in this study, five CSFs of TQM implementation in the Libyan public health sector will be investigated. The empirical analysis aims to investigate these five factors as constructs through which the TQM practices in the Libyan public health sector.

6. Methods:

The questionnaire approach was used to achieve the research objectives mentioned previously. This study has adopted quantitative methods in order to provide more reliable and valid information. Bryman, 2012 stated that "*Quantitative methods rely on a specific enquiry into a problem in order*

to produce numerical data which can be analyzed statistically". Many researchers in the fields of TQM have approved such a method.

6.1 Questionnaire Validity and Reliability:

The validity of the questionnaire was tested by academics and the research staff in the university of Benghazi and by (10) managers in the LPHS. This testing was conducted before the questionnaire distribution in order to ensure an accurate assessment. The Arabic version of the questionnaire was then given to a sample by hand. The back translation method (English - Arabic - English) was used to ensure that the Arabic version of the questionnaire conveyed identical meaning to the respondents.

Amaratunga, (2002) stated that *'The reliability of the data derived refers to the extent to which any procedure produces similar results when repeated, under similar or constant conditions, at all attempts'*. An analysis of internal consistency was carried out on (25) questions about five CSFs in LPHS.

The reliability of the questionnaire was confirmed using Cronbach Alpha measurements. In line with these measurements, achieving a score of (0.70) or more for a reliability coefficient is considered 'good' (Nunnally et al., 1994). As a result, the method developed to measure the items was considered to have high reliability and to be an acceptable instrument for this test. The reliability 'Cronbach's alpha measured of this research was (0.85). This was considered an acceptable instrument for this test.

6.2 Research Context in this Study:

The empirical research was conducted in the Libyan public health sector. The sector was selected because (1) the health public sector in Libya has not received enough of investigative, such as the Oil, Electricity, and Education, whilst the Libyan public health sector has not been researched significantly comparing to these sectors; (2) previous study investigations have neglected CSFs to TQM implementation in the Libyan public health sector; (3) given

that this is the first research in the Libyan public health sector, it is expected that its results will contribute to the development of both the Libyan managers and health public sector.

6.3 Research Sample:

Relating to time and the cost of fieldwork, this current research has limitations. Therefore, the researcher was unable to cover the completely Libyan public health sector. The public health sector that is in the city of Benghazi has been selected. Further, as this research focuses on the TQM implementation,

only the large public hospitals in this city are studied. This is because the quality management as a department in large hospitals appears in a higher position than in small hospitals.

The research sample was conducted within 64 managers (16 managers from each hospital at three levels (top, middle, and low) in three hospitals in the LPHS. The questionnaire was delivered to them all in person as a comprehensive survey. Table (1) shows the sample from the four selected hospitals in the LPHS.

Table (1) the Sample of Management Staff and Employees

Management level Hospitals	Top Management (staff number)	Middle Management (staff number)	Lower Management (staff number)	Total
Al-Jala hospital	2	7	7	16
Benghazi medical centre	2	7	7	16
Al-Kuifea hospital	2	7	7	16
Children hospital	2	7	7	16
Total	8	28	28	64

7. Data analysis:

As previously mentioned, this study used five CSFs in LPHS to investigate TQM implementation. The five CSFs are top management support, education

and training, patients focus and satisfaction, supplier management, continuous improvement culture. A total of (64) questionnaire were distributed by hand to the four LPHS, of which (54) were completed.

To process the data collected from the questionnaire, the questionnaires were coded and entered into a pre-set Statistical Package for the Social Sciences (SPSS) software. Descriptive analysis was used (i.e., the observation of frequencies, percentages, means, and standard deviations) as a method for data examination.

A five-point Likert scale was used in this research. The respondents were asked to score each of the questions (1= strongly disagree, 2= disagree, 3= neutral, 4= agree, 5= strongly agree) relating to perceived extent of five CSFs to TQM implementation in the LPHS. Table (2) shows the scale and score range in this research.

Table (2) the five point Likert scale and score range

scale	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Score	1	2	3	4	5
Score range	1-1.80	1.81-2.60	2.61-3.40	3.41-4.20	4.21-5
Level of implementation	Very low	Low	Medium	High	Very High

7.1 Top Management Support:

Table (3) presents the results that are related to top management support in the LPHS. The researcher measured this by five questions related to support improvement activities, motivate the employees to initiate continuous improvement, clear efforts to control and improve of mission, vision and plans related quality, reviewing quality issues

in the top management meetings, providing policies for promoting patients satisfaction.

Table (3) the Results of Data Analysis for Factor 1: Top Management Support

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
1. Support improvement activities.	12	14	17	7	4	2.574	1.191
2. Motivate the employees to initiate continuous improvement.	6	20	17	5	6	2.722	1.139
3. Improve of mission, vision and plans related quality.	10	13	20	7	4	3.407	1.149
4. Reviewing quality issues in the top management meetings.	4	6	19	14	11	3.407	1.157
5. Providing policies for promoting patients satisfaction.	10	12	20	8	4	2.704	1.159
Total of Mean &Std. Deviation						2.814	1.189

It can be deduced from Table (3) above that, 26 respondents (48%) answered with 'disagree' or 'strongly disagree' to the question concerning support improvement activities. 26 respondents (48%) answered with 'disagree' or 'strongly disagree' management a motivate the employees to initiate continuous improvement. 23 respondents (42%) answered with 'disagree' or 'strongly disagree' relating to management have clear efforts to control and improve of mission, vision and plans related quality. Results relating to reviewing quality issues in the top management meetings the majority of 25 respondents (46%) answered

this with 'strongly agree' or 'agree', 10 respondents (18%) answered with 'disagree' or 'strongly disagree'. Regarding management providing policies for promoting patients satisfaction, 22 (40%) of the 54 respondents answered 'disagree' or 'strongly disagree', 20 (37%) with 'neutral', and 12 (22%) answered 'strongly agree' or 'agree'.

The mean average of top management support was (2.814). The responses, therefore, showed a medium level of support within the LPHS for implementing TQM, which may indicate managers' interest in improving quality in the LPHS.

7.2 Education and Training:

Table (4) shows the results of data analysis that are related to education and training in the LPHS and the response in each hospital. This factor measured by five questions related to encourages employees to suggest

ideas for work improvement, encourages for reporting work problems, reward to employees' quality achievement, TQM training programs in the hospital, received guidance to achieve their work.

Table (4) the Results of Data Analysis for Factor 2: Education and Training

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
6. Encourages employees to suggest ideas for work improvement.	30	13	9	1	1	1.703	.944
7. Encourages for reporting work problems.	8	14	22	8	2	2.667	1.028
8. Reward to employees' quality achievement.	12	15	17	8	2	2.500	1.112
9. TQM training in the hospital.	10	13	19	8	4	2.685	1.163
10. Received guidance to achieve their work.	11	18	8	10	7	2.704	1.341
Total of Mean & Std. Deviation						2.452	1.181

Majority of respondents representing 43 (80%) answered 'disagree' or 'strongly disagree', to the question concerning the hospital encourages employees to suggest ideas for work improvement. while 2 (3%) 'strongly agree' or 'agree', 9 (17%) were answered with 'neutral'. In providing responses to encourages for reporting work problems, 22 (41%) of respondents answered as 'disagree' or 'strongly disagree', 10 (18%) as 'strongly agree'

or 'agree'. Regarding to a system that links reward to employees 'quality achievement, 27 (50%) of the 54 respondents answered 'disagree' or 'strongly disagree'. As shown in Table (4), 23 (42%) of the respondents answered as 'disagree' or 'strongly disagree', to the question concerning TQM training programs available in the hospital. While 19 responses (35%) were answered with 'neutral'. With regard to employee receives the

guidance to achieve their work, 29 (54%) of respondents answered 'disagree' or 'strongly disagree'. while 17 (31%) 'strongly agree' or 'agree', 8 (15%) were answered with 'neutral'.

The mean average of education and training in the LPHS was (2.452). The responses therefore, showed a low level of support education and training within the LPHS for implementing TQM. This indicate the management in the LPHS have a little interest in education and training and recognise the importance of role for training to improve organizational per-

formance and improve the quality of health services.

7.3 Patients focus and satisfaction:

In this part, the researcher asked managers in the LPHS about establish system for measuring patients satisfaction, encourages employees to satisfy patients, patients surveys and feedback process, identify patients' needs for a long time, addresses patients' opinions and suggestions.

Table 5 shows the results of data analysis for patients focus and satisfaction in the LPHS.

Table (5) the Results of Data Analysis for Factor 3: Patients Focus and Satisfaction

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
11. Establish system for measuring patients satisfaction.	17	21	8	4	4	2.204	1.188
12. Encourages employees to satisfy patients.	10	19	13	6	6	2.611	1.235
13. Patients surveys and feedback process.	30	13	9	1	1	1.704	.994
14. Identify patients' needs for a long time.	12	19	17	4	2	2.352	1.031
15. Addresses patients' opinions and suggestions.	12	14	17	7	4	2.574	1.192
Total of Mean &Std. Deviation						2.289	1.124

It can observe that from Table (5) the respondents consider that there no establish system for measuring patients satisfaction. Here, 38 (70%) answer this question as 'disagree' or 'strongly disagree'. This result conforms to the 29 (53%) responses which were answered with 'disagree' or 'strongly disagree' relating to managers encourages employees to satisfy patients. Out of 43 (79%) of the respondents answered 'disagree' or 'strongly disagree' show that the hospital do not use of patients surveys and feedback process every year.

As shown in Table (5), 31 (57%) answered 'disagree' or 'strongly disagree', 17 (31%) as neutral, 6 (11%) as 'strongly agree' or agree' to the question concerning the hospital identify patients' needs for a long time. On the other hand, 26 (48%) of 54 responses show that the LPHS do not have addresses any patients' opinions and suggestions seriously.

The mean average of patients focus and satisfaction in the LPHS was (2.289). This average indicates that the level of pati-

ents focus and satisfaction was a low for implementing TQM in the LPHS.

7.4 Supplier Management:

Table (6) presents the results of data analysis to supplier management factor. This factor measured by five questions related to conducts supplier quality audit, selected supplier based on quality rather than price, establishes long-term relationship with suppliers, ensures the quality of supplier before delivery, detailed information about supplier performance.

Tables (6) shows summarize the responses of these questions. Out of the 38 (70%) respondents answered 'disagree' or 'strongly disagree' to the question concerning the hospital regularly conducts supplier quality audit. Out of 20 (37%) of the 54 respondents answered 'neutral', 23 (42%) answered 'disagree' or 'strongly disagree' to the question concerning the suppliers are selected based on quality rather than price. As shown in Table (6), 20 (37%) answered 'neutral', 22 (40%) answered 'disagree' or 'strongly disagree' to the question

Table (6) the Results of Data Analysis for Factor 4: Supplier Management

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
16. Conducts supplier quality audit.	17	21	8	4	4	2.204	1.187
17. Selected supplier based on quality rather than price.	10	13	20	7	4	2.667	1.149
18. Establishes long-term relationship with suppliers.	12	10	20	7	5	2.685	1.226
19. Ensures the quality of supplier before delivery.	10	13	20	7	4	2.667	1.149
20. Detailed information about supplier performance.	8	17	17	7	5	2.704	1.159
Total of Mean & Std. Deviation						2.585	1.182

concerning the hospital establishes long-term relationship with suppliers. Regarding the hospital ensures the quality of supplier before delivery, 20 (37%) of the 54 respondents answered 'neutral', 23 (42%) answered 'disagree' or 'strongly disagree', and 11 (20%) answered 'strongly agree' or 'agree'. Out of the 25 (46%) respondents answered 'disagree' or 'strongly disagree', 17 (31%) of respondents answered 'neutral' to the question concerning the hospital has detailed information about supplier performance. The mean average of supplier management in the LPHS was (2.585). The responses therefore, showed a low of

establishes a relationship with suppliers and ensures the quality supplier for implementing TQM.

7.5 Continuous Improvement Culture:

Table (7) shows the results of data analysis to continuous improvement culture factor related to: uses benchmarking to identify the needs for change, building quality culture around all organization's departments, a team approach is taken for problems solving and decision making, self-assessment tools to track and improve performance, tracking cost of quality process for continuous improvement.

**Table (7) the Results of Data Analysis for Factor 5:
Continuous Improvement Culture**

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
21. Uses benchmarking to identify the needs for change	8	15	22	7	2	2.629	1.015
22. Building quality culture around all hospital's departments.	13	15	17	7	2	2.444	1.110
23. A team approach is taken for problems solving and decision making.	10	13	20	7	4	2.667	1.149
24. Self-assessment tools to track and improve performance	11	18	8	10	7	2.704	1.341
25. Tracking cost of quality process for continuous improvement.	17	21	8	4	4	2.204	1.187
Total of Mean &Std. Deviation						2.529	1.171

As shown in Table (7), out of 9 (16%) responses answered 'strongly agree' or 'agree' with 23 (42%) 'disagree' or 'strongly disagree' about the question relating the hospital do not use benchmarking to identify the needs for change. On the other hand, 17 (31%) answered neutral with 28 (51%) answered 'disagree' or 'strongly disagree' when asked about building quality culture around all hospital's departments.

The results of the analysis shows that a team approach is not taken as the main feature for problems solving, decision making and continuous impro-

vement. This confirm to the 23 (42%) responses which were answered with 'disagree' or 'strongly disagree'. With regard to the use of self-assessment tools and other mechanisms to track and improve performance, 17 answered 'strongly agree' or 'agree', 8 (14%) 'neutral', 29 (53%) answered 'disagree' or 'strongly disagree'. From Table (7) about 38% confirm that the hospital do not tracking cost of quality process (rework, waste, rejects) for continuous improvement.

The mean average of continuous improvement culture in the LPHS was (2.529). The responses,

therefore, showed a low level of supporting continuous improvement culture within the LPHS for implementing TQM.

8. Findings and Discussion:

The main results of this study indicate that LPHS at an unacceptable level to TQM implementation. The results show that the performance is a lower degree of TQM implementation. The findings identified five CSFs including: top management support, education and training, patients focus and satisfaction, supplier management, and continuous improvement culture. This section presents the results and discussions relating to CSFs for Implementing TQM in the Libyan public health sector.

8.1 Top Management Support:

It can be observed in Table (3) that the first item (support improvement activities) shows as disagree with a mean of (2.574). While the other items show as a neutral with a mean of (2.704 to 3.407). This indicated that managers in the LPHS are at in the medium level to support TQM implementation. The find-

ings for this factor are:

- The responses have revealed that top management in the LPHS has a lack of support in regard to improvement activities they do not have the knowledge and the tools to motivate the employees to initiate continuous improvement, which could improve the quality of their services.
- The questionnaire responses show that top management has a little clear efforts to control and improve of mission, vision and plans related quality.
- Manager in the LPHS are given little importance to reviewing quality issues in the top management meetings.
- Top management in the LPHS have a little activities that are focused providing policies for promoting patients satisfaction.

8.2 Education and Training:

In Table (4) that the first and third items shows as strongly disagree and disagree with a mean of (1.073 and 2.500). While the other items show as a neutral with a mean of (2.667 to 2.704). Data analysis shows that the employees in the LPHS have a low level of education and

training and they still need more effort to be focused on improving practices, for TQM implementation. The findings for the factor of education and training for implementing TQM are:

- LPHS are has a little of support in relation to accepting employee's suggestions that might improve their work.
- The LPHS being researched has little encourages employees about the reporting work problems in the hospital.
- LPHS do not have a system that links reward to employees' quality achievement.
- A TQM training programs for all levels in the LPHS is at medium level and they still need more efforts to be focused on improving receives the guidance to achieve their work.

8.3 Patients Focus and Satisfaction:

It can be seen that from Table (5) the five items show as strongly disagree and with a mean of (1.704 to 2.611). Patients are not satisfied with the services from the LPHS being

researched. There is no comprehensive identification of patients satisfactions and alignment of processes to satisfy the needs. The findings for this factor are:

- LPHS do not establish a system for measuring customer satisfaction and encourages employees to satisfy patients.
- The hospitals do not use patients surveys and feedback process every year.
- The LPHS do not have activities that are focused on satisfying their patient has needs for a long time and addresses patients' opinions and suggestions.
- The hospitals do not comprehensive identification of patients' needs and alignment of processes to satisfy the needs and satisfactions.

8.4 Supplier Management:

Although managers in the LPHS are not aware of the importance of supplier management, their knowledge about a supplier is limited. This confirms that in Table (6) that the five-item shows as a disagree and neutral with a mean of (2.204 to 2.704). This study has revealed that the key findings regarding supplier

management in the LPHS are:

- The hospitals do not have regularly conducts supplier quality audit.
- Suppliers within LPHS are selected based on price rather than quality.
- LPHS no establishes long-term relationship with suppliers.
- The hospitals use a little ensures the quality of the supplier before delivery.
- LPHS have a little detailed information about supplier performance.

8.5 Continuous Improvement Culture:

As shown in Table (7) that the second item in part (5) (building quality culture around all hospital's departments) shows as disagree with a mean of (2.444). In addition, the fifth item in the same part (tracking cost of the quality process for continuous improvement) shows as disagree with a mean of (2.204). While the other items show as a neutral with a mean of (2.629 to 2.704). Data analysis shows that the tracking cost of quality process for continuous improvement and Key processes are not regularly

reviewed in the LPHS to see if they can be improved. The findings for the factor of continuous improvement culture for implementing TQM are:

- Managers in the LPHS do not encourage employees to undertake their individual responsibilities to initiate continuous improvement.
- Continuous improvement culture has not been given attention by managers in the LPHS and it does not play a part in influencing an organisation's level of quality management practices.
- A team approach is not taken (such as quality circles, cross-functional teams) as the main feature for problems solving, decision making and continuous improvement.
- Quality culture around all hospital's departments under research are not given attention by managers in the LPHS.
- Quality improvement culture does not spread across the hospital's departments.

9. Recommendations:

1. Top management of these hospitals should develop quality

manual and see to its implementation;

2. Encouragement of the employee's suggestions is an important issue for implementing TQM in the LPHS; thus the satisfying those employees and to enhancing their suggestions within the LPHS should pay attention;

3. Training must be given to the employees for all level of the hospital. LPHS need to provide training for employees to improve interactive skills (such as communication skills, effective meeting skills, and leadership skills);

4. Managers in the LPHS and supervisors should involve in determine the training needs of the employees under their supervision;

5. Employees in the LPHS need the guidance to achieve their work;

6. Managers in the LPHS should encourage their employees to satisfy patients focus and satisfaction, and works to enhance patients loyalty on the basis of distinctive quality, care for the health, and a shared commitment to social values.

7. Managers at all levels in LPHS should adopt new information systems in their departments to promote high-quality planning and information for employees and to provide all the information needed by the patients about the services of a hospital.

8. The Ministry of Libyan Health (MLH) should support LPHS in delivering the latest technology, which supports the local hospital's contribution to support quality management;

9. The Libyan government should establish new regulations to encourage LPHS to take responsibility for quality issues that cause risks to health, safety, or the environment.

10. Conclusion and Further Research:

The data analysis from the questionnaire identified five CSFs of TQM implementation were empirically identified, which are top management support, education and training, patients focus and satisfaction, supplier management, and continuous improvement culture. The results from this study have indicated that LPHS are not aware of

the importance of quality. Generally, it can be seen that the top management in the LPHS do not have effective quality management program in place to ensure patients satisfaction. Most of the hospitals under research do not provide any formal training for their employees about TQM. The analysis indicated that the LPHS mainly are suffering from a lack of conducts supplier quality audit and do not encourage employees to undertake their individual responsibilities to initiate quality management.

In concluding, this research investigated five critical success factors for implementing TQM which have been derived from literature and empirically studies of fieldwork. This paper will contribute to the LPHS to establish a framework model for the implementation of the TQM in the Libyan context. Particular with the absence of any implementation framework. This study could be replicated in other sectors (education) to investigate these five critical success factors for TQM implementation in the Libyan education sector. Future research is needed to identify the impact of the five CSFs stu-

died in this research for implementation in the Libyan context.

References:

- Ajinah, H. M., 2009. *The Islamic TQM Model an Empirical Study for the Implementation of Total Quality Management in the Saudi Arabian Process Manufacturing Sector*. PhD, Thesis, University of Portsmouth.
- Al-Adham, M., 2004. *Assessment of perceived healthcare service quality at Palestinian hospitals: a model for good hospital management practice*. Master's Annajah National University-Nablus.
- Amaratunga D, David Baldry, Marjan Sarshar, Rita Newton. *Quantitative and qualitative research in the built environment: Application of mixed research approach*. Work Study. 2002; 51(1):17-31.
- Anton Robert Sabella. Rami Kashou. Omar Omran .2015., Assessing quality of management practices in Palestinian hospitals. *International Journal of Organizational Analysis*, Vol. 23 Iss 2, pp. 213 – 232.
- Boulter, L., Bendell, T. and Dahlgard, J. , 2013. Total quality beyond North America. *International Journal of Operations & Productions Management*, Vol. 33 No. 2, pp. 197-215.
- Bryman, A., 2012. *Social research methods, 4th edition*. Oxford University.
- 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 & Production Management*, Vol. 34 No. 1, pp.115-143.
- D. Kaluzny, Curtis P. Mclaughlin, Kit Simpson. Applying Total Quality Management Concepts to Public Health Organizations. *public health report* May-June 1992, Vol. 107, No. 3, pp. 257-264.
- Hansson, J., and Klefsjo, B., 2003. A core value model for implementing total quality management in small organisations. *The TQM Magazine*, Vol. 15, No. 2, pp. 71-81.
- Hassin, E. M., 2009. *Total Quality Management in Libya: A Study of Its Use in the Electrical Power Generation Industry*. PhD, Thesis, Glasgow Caledonian University.
- Mine Halis1., Mohammed R. and Twati, Muhsin Halis. 2017. Total quality management implementation in the healthcare industry: Findings from Libya. *Management Issues in Healthcare System*, Vol. 3 ,pp. 4-21.
- Irhoma, A., Su, D., and Higginson, M., 2014. Investigating the barriers to Environmental Management Systems implementation in the Libyan oil industry. *Key Engineering Materials*, Vol. 572, pp. 672-677.
- Ivana Škarica, Ana-Marija Vrtodušić Hrgović. 2018. Implementation of Total Quality Management Principles in Public Health Institutes in the Republic of Croatia. *International Journal of Productivity Management and Assessment Technologies* 6:1, 1-16.
- James, P. T. J., 1996. *Total Quality Management*. Prentice Hall Europe.
- Jeffrey E. Jarrett .2016. Total quality management (TQM) movement in public health. *International Journal of Quality & Reliability Management*, Vol. 33 Issue: 1, pp. 25-41.
- Liu, Y., Saitoh, S., Nakada, S., Zhang, X., and Hirawake, T., 2015. Impact of Oceanographic Environmental Shifts and Atmospheric Events on the Sustainable Development of Coastal Aquaculture: A Case Study of Kelp and Scallops in Southern Hokkaido, Japan. *Sustainability Journal*, 7, pp. 1263-1279.
- Loren D. pfau. 1989 . Total Quality Management Gives Companies A way To Enhance Position In Global Marketplace. *Industrial Engineering*, April, pp. 17-21.
- 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, pp. 129-139.
- Najeh, R., and Zaitri K. C., 2006. A TQM Roadmap in an Oil-Based Economy: A Case Study of the Libya Oil Industry. *Proceedings of the International Association for Management of Technology (IAMOT) conference*, Tsinghua University, Beijing, China, pp. 1-9.
- Nunnally J, Bemstein I., 1994. *Psychometric Theory*. New York, NY, McGraw- Hill Inc;
- Oakland, J. S., 2003. *Total Quality Management*. London: Butterworth-Heinemann Ltd.
- Papaioannon, A. et al., 2010a. Application of multivariate statistical methods for groundwater and boil-

ological quality assessment in the context of public health. *Environ Monit Assess*, Vol. 170 Nos 1-4, pp. 87-97.

- Saad, A., Su, D., Marsh, P., and Wu, Z., 2014. Total Quality Environmental Management toward Sustainability: Need and Implementation in Libyan food Industry. *Key Engineering Materials*, Vol. 572, pp. 84-89.

- Saad, A., Su, D., Marsh, P., and Wu, Z., 2015. Investigating Environmental Management and Quality Management Issues in the Libyan Food Industry. *British Journal of Economics, Management & Trade*, Vol. 9, No.3, pp. 1-16.

- Saraph, J.V., Benson, G.P., & Schroeder, R.G., 1989. An Instrument for Measuring the Critical Factors of Quality Management. *Decision Sciences*, Vol. 20, pp. 810-829.

- Sonesson, C. and Bock, D., 2003. A review and discussion of prospective statistical surveillance in public health. *Journal of the Royal Statistical Society, Series A*, Vol. 166No. 1, pp. 5-21.

- Libyan Ministry of Health. Annual report. Tripoli: Libyan Ministry of Health; 2010.

- Twaiissi NM. *An evaluation of the implementation of total quality management (TQM) within the information and communications technology (ICT) sector Jordan*. PhD thesis, University of Huddersfield, Huddersfield, U.K.; 2008.

- Woodall, W.H., 2005. .The use of control-charts in health care and public health surveillance. *Journal of Quality Technology*, Vol. 38 No. 2, pp. 89-104.

- Youssef, S., 2006. *Total Quality Management, Framework for Libyan Process and Manufacturing Industries*. Ph.D. thesis, Cranfield University.