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TOTAL QUALITY MANAGEMENT APPROACH AND HOW IT AFFECTS THE INSTITUTIONAL PERFORMANCE A CASE STUDY FROM THE KINGDOM OF BAHRAIN

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ABSTRACT

This paper aims to examine the impact of applying a Total Quality Management approach on the institutional performance of an industrial company in Bahrain. A total of 20 managers working at different levels in the company were surveyed through a specifically designed questionnaire, date collected of which were subject to the analysis using SPSS software. Findings revealed a significant relationship between applying the principles of TQM with its different dimensions such as Total quality oriented leadership, continuous improvement, empowering employees and focus on the production process, and the institutional performance dimensions, such as profitability, productivity, operating efficiency and level of customers' satisfaction in the study company, with concentration on the principle of the production process. Findings also revealed a significant relationship between applying the dimensions of TQM and the dimensions of institutional performance in the study company that could be attributed to demographic variables, such as gender, age, qualifications, experience, and job position.

Contribution/ Originality: This study contributes to the existing literature addressing the relationship between Total Quality Management and institutional performance. It used the descriptive analytic methodology of a case study from the Kingdom of Bahrain.

1. INTRODUCTION

According to Rosa and Amaral (2007) it could be impossible to establish a unique definition to Total Quality Management, and that it is better that one establishes a group of principles to underlie most of the Total Quality Management approaches.

TQM is "an approach to management characterized by the definition of some general and Total Quality Management has several definitions. United States Department of Defense defines it as "a strategy for continuously improving performance at every level, and in all areas of responsibility. It combines fundamental management techniques, existing improvement efforts, and specialized technical tools under a disciplined structure focused on continuously improving all processes. Improved performance is directed at satisfying such broad goals as cost, quality, schedule, and mission need and suitability. Increasing user satisfaction is the overriding objective", while British Standards Institution defines it as "A management philosophy and company practices that aim to harness

the human and material resources of an organization in the most effective way to achieve the objectives of the organization", and the International Organization for Standardization defines it as "A management approach of an organization centered on quality, based on the participation of all its members and aiming at long term success through customer satisfaction and benefits to all members of the organization and society", we find that The American Society for Quality defines it as "A term first used to describe a management approach to quality improvement. Since then, TQM has taken on many meanings. Simply put, it is a management approach to long-term success through customer satisfaction. TQM is based on all members of an organization participating in improving processes, products, services and the culture in which they work".

Today, the world witnesses quick changes in the areas of technology, information, communication, and management philosophies that made the whole world as a small village exposed to all of its inhabitants. Such changes affected the way any organization performs its functions in all sectors, whether in the industry or in the service sectors. In the light of the fierce competition and the trade wars among business organizations to attract customers, quality of products and services became the prime determinant of customer attraction. This urged such organizations to adopt managerial and supervisory approaches that support increasing the quality of produced products and services. Hence, the quality became a strategic objective for each organization that aims at surviving and competing in the jungle of today's business environment.

Even though the Total Quality Management was implemented in several industrial and service organizations and proved efficient for the success of many organizations, American, European, and Japanese, in addition to the adoption by a wide range of organizations in the developing countries, it has not yet received the complete implementation, convention, or acceptance by some organizations in the middle east, and has not yet been listed among their top priorities.

Total Quality Management is one of the recent managerial concepts that depend on a group of thoughts and principles that could be adopted by any organization to achieve the best possible performance and enhance the productivity, and increase profitability in the light of the huge increase in the number of organizations and institutions and fierce national and international competition among them. The culture of quality invaded the world especially after the adoption of WTO laws and regulations and the wide participation of the world countries in it as the protecting umbrella that regulate the economic relations among them.

2. THEORETICAL BACKGROUND

Total Quality Management term was used first to depict the management approach to improving the quality, and since it appeared, it had taken on many definitions. Simply, it is the approach of management to long-run success via satisfaction of customers. As Arawati (2005) put it "TQM is based on all members of an organization participating in improving processes, products, services and the culture in which they work". It heavily draws on the previously-developed quality control's techniques and tools. It is a strategy "for continuously improving performance at every level, and in all areas of responsibility. It combines fundamental management techniques, existing improvement efforts, and specialized technical tools under a disciplined structure focused on continuously improving all processes" with the ultimate objective of increasing customer satisfaction.

To survive in today's business environment, organizations globally are adopting total quality management to improve their ways of doing business and increase their customer satisfaction. TQM is held onto as a legitimate quality improvement approach for the board of the whole association with the goal of upgrading execution regarding benefit, representative execution, consumer loyalty and quality. As per Powell (1995) TQM is a vital asset that achieves financial esteem and gives an association upper hand over its rivals. TQM relies on the quality and all individuals from the association participating in the issues of the association and go for long haul accomplishment through consumer loyalty and advantages to individuals from the association and the general public (ISO 8402, 1994). As per Ombati *et al.* (2010) execution of TQM improves quality and efficiency in

associations and it works crosswise overboard in an association to incorporate all representatives and divisions and stretches out in reverse and forward to use on the providers and customers/clients connections. TQM supplies a casing of reference for actualizing compelling quality and profitability genius that can expand the benefits and ability to the content of an organization.

A previous study by Ahmad *et al.* (2008) examined top administration responsibility job in upkeep of ISO 9001:2008 and in results of QM framework in Algeria, practices and execution in two expansive administration associations. The examination worried about top administration duty and initiative from various methodologies, for example, inclusion in quality improvement, giving vital assets and demonstrating relentless promise to quality flawlessness. Through applying distinctive investigation methods, the outcomes demonstrated a variation in the degree of top administration duty job in ISO 9001:2008 upkeep and TQM framework and practices between the two associations. The respondents of the primary organization thought about higher positive proclamations their top administration. The last finish of the investigation underlined on the positive job of top administration in ISO 9001:2008 support and TQM framework results (Ahmad *et al.*, 2008). Please refer to Figure 1 for the most recent framework.

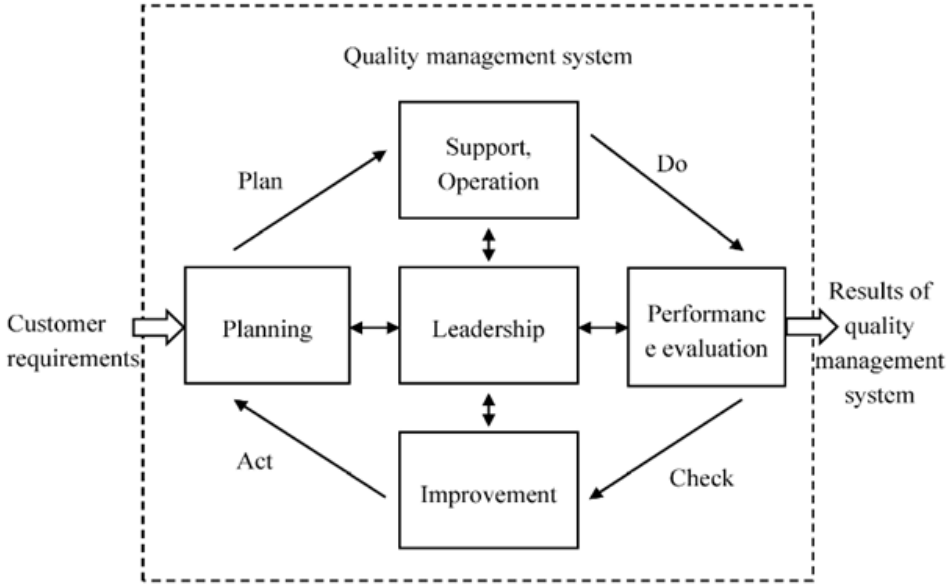


Figure-1. Framework of ISO 9001: 2015 Standards.
Source: Quality Management System- Requirements. ISO 9001:2015.

TQM is seen as a great locomotive of change for the better and a fundamental measure of differentiation between organizations, as many of them have adopted its paramount importance to increase its effectiveness and viability in the competitive market. Factors that have led to the increasing importance of TQM include the following:

- Increasing competition between organizations based on providing the best products at the lowest price possible in the market.
- The transfer of competition between organizations from the local level to the global level and the creation of new management methods to keep pace with global developments in the field of quality.
- Reducing customer complaints and quality costs.
- Increasing the percentage of profits and productivity achieved leading to an increase in market share.
- Reducing accidents and work problems, this contributes to raising production efficiency.
- Improving communication between different levels of the organization, and ensuring effective participation of all members in improving performance (Al Daradka and Al Shalabi, 2012).

We find that there are a set of requirements that the management can follow when applying the overall quality in the organization, and it lies in the steps that follow:

Step 1: Commitment of senior management to implement the program and train leaders and officials on the concepts of Total Quality Management and methods of its application and the formation of teams of improving the quality.

Step 2: Creating a clear philosophy for the organization, and finding a clear text for the organization's mission that contains the general objectives and quality objectives and all this, to be delivered to all individuals.

Step 3: Formation of the board of directors that includes the executive directors and head of departments in the organization. This board oversees the planning, implementation and evaluation of the program.

Step 4: Developing a comprehensive quality management strategy to define the organizational structure of quality management and integrate the activities of TQM into organization's strategies to create a system within the organizational units to set specific objectives for TQM and to determine how to involve the employees in implementing the quality improvement program.

Step 5: Taking the decision on the scope of the application of TQM and whether it will be in the whole organization or choose a unit or department to implement the program and determine the readiness of this section to the change.

Step 6: Analysis of the needs of the training of executive managers, heads of departments and staff on the concepts of TWM, and determining the types of training programs required for each group, the subjects to be trained, the resources required for the training and the time table and the required training cadres.

Step 7: Ensuring that the division of the organization have developed the criteria to measure the extent of conformity of goods and services produced to the needs of users and to modify standards and systems to measure the degree to which these needs are met.

Step 8: Introducing and implementing the TQM program in the organizational structure and developing the necessary details for the implementation of the program such as how to implement and how to delegate powers and authorities to individuals and practical procedures and resources required to facilitate the implementation of the program.

Step 9: Monitoring and evaluating results consistently to track the alignment of improvement efforts with the objectives of the organization and assessing the sources used in efforts to optimize these sources.

Step 10: The announcement of success, reward and appreciation of employees involved in the improvement efforts and the modification of the TQM program strategies and the expansion of the improvement efforts to include all the organizational units (Al Okaili, 2008).

The execution of Total Quality Management practices in an association requires two unique kinds of choices: what to do (content: the degree to which the distinctive Total Quality Management practices ought to be utilized) and how to do it (process: how to lead the change procedure by which the picked Total Quality Management practices are settled in an organization). Execution of Total Quality Management in an association requires another working society that influences the entire hierarchical procedures, all representatives and requests the designation of critical authoritative assets. Total Quality Management can't quickly be embedded onto existing administrative structures and frameworks, it might require the updating of work, the reclassifying of administrative jobs, the upgrading of authoritative structures, the learning of new abilities by representatives at all dimensions, and then on occasion the difference in hierarchical objectives.

Institutional performance is the integrated system of the work of the organization in light of its interaction with elements of its internal and external environment and includes the performance of the individuals in their organizational units which is measured by a variety of interfaces to ensure that the work systems and the means of implementation in each department achieve the maximum possible production at the lowest cost in the least time and at an appropriate level of quality. Also, the performance of organizational units within the overall policies in the

organizational as well as the performance of the organization within the framework of the social, economic, cultural, political, technological, competitive, legal and natural environment (Javier *et al.*, 2003).

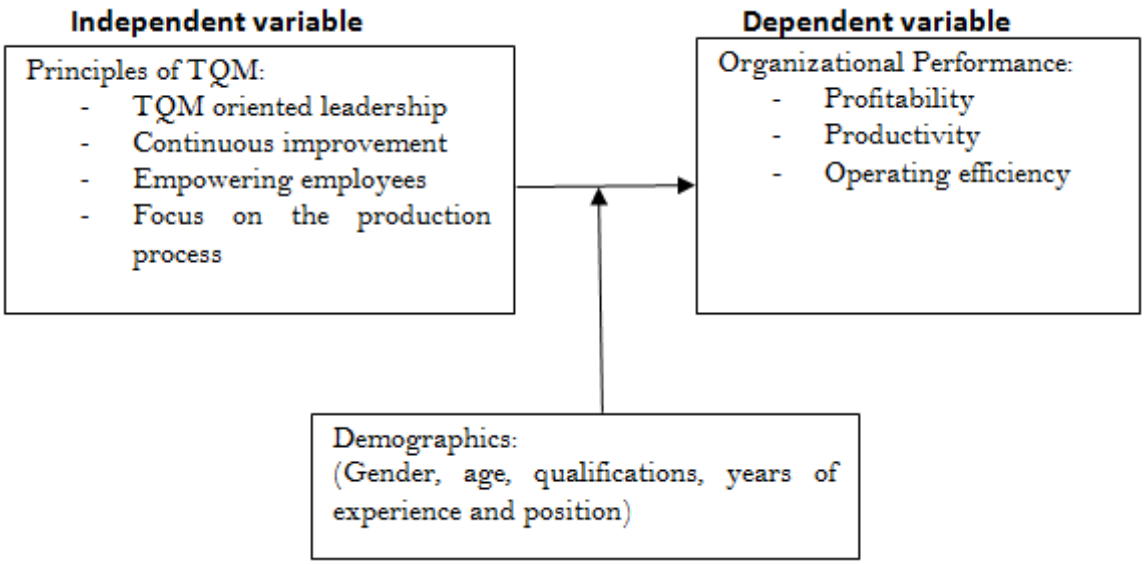
As Richard *et al.* (2009) argued that "In recent years, many organizations have attempted to manage organizational performance using the balanced scorecard methodology where performance is tracked and measured in multiple dimensions such as financial performance (such as shareholder return), customer service, social responsibility (such as corporate citizenship and community outreach) and employee stewardship".

Organizational performance is a definitive ward variable of enthusiasm for analysts concerned about pretty much any side of management. This wide develop is fundamental in enabling analysts and managers to assess firms after some time and contrast them with adversaries. To put it plainly, organizational performance is the most essential rule in assessing companies, their activities, and status. This significance is reflected in the inescapable utilization of organizational performance as a needy variable. Richard *et al.* (2009) put it simply that "Organizational performance encompasses three specific areas of firm outcomes: financial performance, market sales and market share and shareholder return, organizational effectiveness is broader and captures organizational performance plus the plethora of internal performance outcomes normally associated with more efficient or effective operations and other external measures that relate to considerations that are broader than those simply associated with economic valuation (either by shareholders, managers or customers), such as reputation".

The main objectives of TQM are to improve the quality of products offered to customers and to improve and develop the institutional performance by responding to the needs and requirements of the customers through the continuous development of administrative processes through and review and analysis and search for ways and means to raise the level of performance and reduce the time of completion and evasion of errors, for the benefit of the customers and the production process in order to increase the profitability and reduce the cost.

3. ANALYTICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

In this paper, an analytical framework is developed to depict the relationship between Total Quality Management with its dimensions and the organizational performance with its dimensions, and the relative demographic variable that might affect the responses of the paper sample. Please refer to Figure 2 for the paper conceptual framework:



Environment of an industrial company in the Kingdom of Bahrain.

Figure-2. Illustration of the paper framework.

Paper Hypotheses

H1: There is a significant relationship between applying the principles of TQM (Total Quality Oriented leadership, continuous improvement, empowering employees and focus on the production process), and the institutional performance elements (profitability, productivity and operating) in an industrial company in the Kingdom of Bahrain.

H11: There is a significant relationship between total quality oriented leadership and the institutional performance in an industrial company in the Kingdom Of Bahrain.

H12: There is a significant relationship between continuous improvement and the institutional performance in an industrial company in the Kingdom Of Bahrain.

H13: There is a significant relationship between empowering employees and the institutional performance in an industrial company in the Kingdom Of Bahrain.

H14: There is a significant relationship between focus on the production process and the institutional performance in an industrial company in the Kingdom of Bahrain.

H2: There is significant differences relating to the relationship between applying the principles of TQM (Total quality oriented leadership, continuous improvement, empowering employees and focus on the production process), and the institutional performance elements (profitability, productivity and operating efficiency) in an industrial company in the Kingdom of Bahrain due to the demographic characteristics (Gender, age, qualifications, years of experience and position).

4. METHODOLOGY

4.1. Data Collection

Data collection was conducted by the use of a specific developed survey that consisted of 42 statements distributed on 2 sections, 40 statements are categorized in in 4 principles of TQM and 20 elements are categorized in 4 components of institutional performance, in addition to the demographic part. Survey was disseminated among the sample individual at the study organization at Bahrain.

4.2. Research Population and Sample

The researchers selected a purposive sample (n=20) of managers working in an industrial company in the Kingdom of Bahrain, as they are the most capable ones to provide the required information for the research.

4.3. Research Instruments

Survey consisted of the following:

a- First Section: the demographic variables, to include the elements of age, gender, qualifications, experience, and job title.

b- Second Section: TQM, to include:

1) Total Quality Oriented Leadership,
2) Continuous improvement,
3) Empowering employees,
4) Focus on the production process.

c- Institutional performance, to include:

1) Profitability,
2) Productivity,
3) Operating efficiency,
4) Level of customers' satisfaction.

4.4. Response Scale

The study depended upon Likert Scale, which is a 5-point scale that offers a range of answer options — from one extreme attitude to another as follows:

Table-1. Used Likert Scale.

Response	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Level	5	4	3	2	1

5. DATA ANALYSIS AND DISCUSSION

5.1. Characteristics of the Sample and ANOVA analysis of Demographics

Gender Variable:

Table-2. Study sample as per Gender

Variable	Male (16)		Female (4)		t Value	Level of Freedom	Significance
	Mean	SD	Mean	SD			
TQM Principles	4.08	0.49	3.97	0.58	0.380	18	0.709
Institutional Performance	4.21	0.48	4.26	0.24	-0.200	18	0.844

Age Variable:

Table-3. ANOVA Analysis for Age Variable.

Variable	Source of Variation	Degree of Freedom	Correlation Coefficient R	Coefficient of Determination R2	F Value	Level of Significance at (F)
TQM Principles	Among Groups	12	0.867	0.434	1.931	0.175
	Within Groups	17	3.816	0.224		
	Total	19	4.683			
Institutional Performance	Among Groups	2	0.102	0.051	0.206	0.784
	Within Groups	17	3.501	0.206		
	Total	19	3.602			

Qualification Variable:

Table-4. ANOVA Analysis for Qualification Variable.

Variable	Source of Variation	Degree of Freedom	Correlation Coefficient R	Coefficient of Determination R2	F Value	Level of Significance at (F)
TQM Principles	Among Groups	3	0.989	0.330	1.429	0.271
	Within Groups	16	3.694	0.231		
	Total	19	4.683			
Institutional Performance	Among Groups	3	0.336	0.112	0.549	0.656
	Within Groups	16	3.266	0.204		
	Total	19	3.602			

Position Variable:

Table-5. ANOVA Analysis for Position Variable.

Variable	Source of Variation	Degree of Freedom	Correlation Coefficient R	Coefficient of Determination R2	F Value	Level of Significance at (F)
TQM Principles	Among Groups	2	0.059	0.030	0.109	0.897
	Within Groups	17	4.624	0.272		
	Total	19	4.683			
Institutional Performance	Among Groups	2	0.025	0.013	0.059	0.942
	Within Groups	17	3.577	0.210		
	Total	19	3.602			

Experience Variable:

Table-6. ANOVA Analysis for Experience Variable.

Variable	Source of Variation	Degree of Freedom	Correlation Coefficient R	Coefficient of Determination R2	F Value	Level of Significance at (F)
TQM Principles	Among Groups	2	0.595	0.198	0.777	0.524
	Within Groups	16	4.088	0.265		
	Total	19	4.683			
Institutional Performance	Among Groups	3	0.918	0.306	1.824	0.183
	Within Groups	16	2.684	0.168		
	Total	19	3.602			

5.2. Statistical Results of Pearson Correlation are as Follows

Table-7. Pearson Correlation Co-Efficient.

Institutional Performance				Total Quality Oriented Leadership		Continuous Improvement		Empowering Employees		Focus on the production process	
Statement	Correlation co-efficient	Statement	Correlation Co-efficient	Statement	Correlation Co-efficient	Statement	Correlation Co-efficient	Statement	Correlation Co-efficient	Statement	Correlation Co-efficient
1	0.872**	**11**	0.780**	**1**	0.603**	**1**	0.600**	**1**	0.806**	**1**	0.653**
2	0.867**	**12**	0.703**	**2**	0.759**	**2**	0.579**	**2**	0.805**	**2**	0.568**
3	0.932**	**13**	0.749**	**3**	0.761**	**3**	0.794**	**3**	0.717**	**3**	0.815**
4	0.895**	**14**	0.443**	**4**	0.739**	**4**	0.707**	**4**	0.561**	**4**	0.309*
5	0.862**	**15**	0.433**	**5**	0.828**	**5**	0.586**	**5**	0.526**	**5**	0.717**
6	0.822**	**16**	0.670**	**6**	0.657**	**6**	0.654**	**6**	0.707**	**6**	0.433*
7	0.857**	**17**	0.615**	**7**	0.615**	**7**	0.355**	**7**	0.648**	**7**	0.537**
8	0.812**	**18**	0.510**	**8**	0.590**	**8**	0.465**	**8**	0.576**	**8**	0.512**
9	0.748**	**19**	0.780**	**9**	0.678**	**9**	0.311*	**9**	0.678**	**9**	0.413*
10	0.561**	**20**	0.433*	**10**	0.557**	**10**	0.815**	**10**	0.828**	**10**	0.723**

** Significant at the level (0.01)
*Significant at the level (0.05)

The Tables 2-6 reveal that there are no significant differences in the responses of the sample individuals that could be attributed to the used demographic variables. This could be attributed to several factors, such as the fair treatment of employees regardless of their gender and that age difference has nothing to do with TQM elements and dimensions of institutional performance. In addition, in the study organization, the educational qualification is not the only criterion to go up the ladder of career path to the leadership positions, among other factors that could be studied separately.

Table 7 Shows that all correlation co-efficient are significant at the level (0.01) and most of them at (0.05) which indicates the validity of the scale.

5.3. Reliability

The data were analyzed using SPSS and statistical results of Cronbach Alpha are as follows:

Table-8. Cronbach's Alpha.

Reliability		
	Dimensions	**Cronbach's Alpha**
1	Total Quality Oriented leadership	0.701
2	Continuous improvement	0.788
3	Empowering employees	0.737
4	Focus on the production process	0.899
Total Quality Management		0.781
Institutional performance		0.803
Total		**0.792**

Table 8 shows that the Cronbach's Alpha is 0.792. This result indicates a high level of internal consistency for the research questionnaire with the specific sample which confirms that the measurements used in this research indicate a high level of internal consistency for the research questionnaire.

5.4. General Results of the Questionnaire

Table-9. Arithmetic Means and the percentages of the questionnaire variables.

Variables	**Elements**	**Arithmetic Means**	**Percentages**
Principle of Total Quality management	Total quality oriented leadership	4.12	82.40%
	Continuous improvement	4.14	82.80%
	Empowering of employees	3.69	73.80%
	Focus on the production process	4.27	85.40%
Total		**4.06**	**81.10%**
Institutional performance		**4.22**	**84.45%**

According to Table 9 that shows that the mean for the principles of total quality management was (4.06) with a percentage of (81.10%), while the mean for the institutional performance was (4.22) with a percentage of (84.45%). The results indicate that the focus on the production process has achieved the highest percentage in the organization in question, which shows that it focuses on productivity rather than the rest of the principles of total quality management.

5.4.1. Analysis of sample answers to the questionnaire dimension of Total Quality Management (Total Quality Oriented Leadership) (n=20) Table 1 in the Appendices.

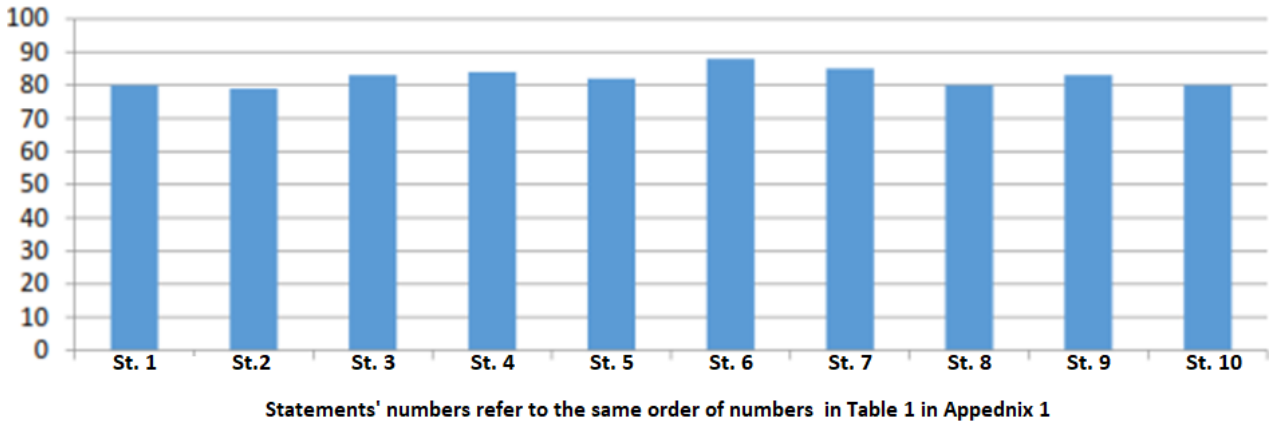


Figure-3. Analysis of sample answers to the questionnaire dimension of Total Quality Oriented Leadership.

According to Table 1 in the appendices, the mean for the dimension of (total quality oriented leadership) was (4.12) with a standard deviation (0.78). These results demonstrate the conviction of all the leaders of the organization in question of the importance of applying TQM.

5.4.2. Analysis of sample answers to the questionnaire dimension of Total Quality Management (Continuous improvement) (n=20) Table 2 in the Appendices

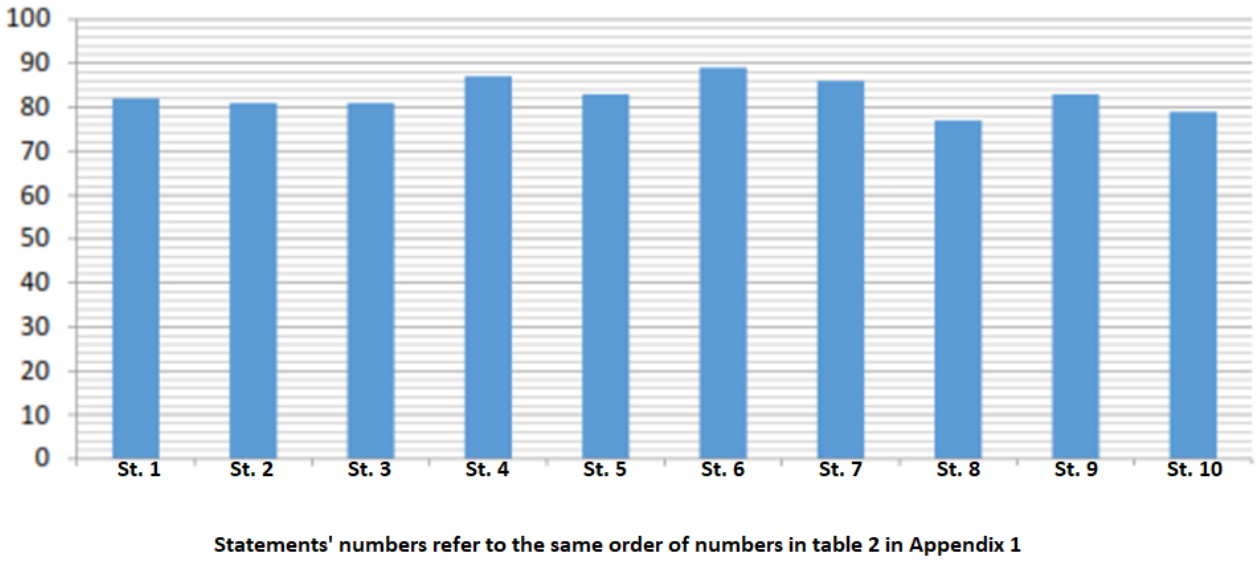


Figure-4. Analysis of sample answers to the questionnaire dimension of Continuous improvement.

According to Table 2 in the appendices the mean for the dimension of total quality management (continuous improvement) was (4.14) with a standard deviation (0.90). These results demonstrate the trial of the organization in question to increase its productivity through continuous improvement.

5.4.3. Analysis of sample answers to the questionnaire dimension of Total Quality Management (empowering employees) (n=20). Table 3 in the Appendices

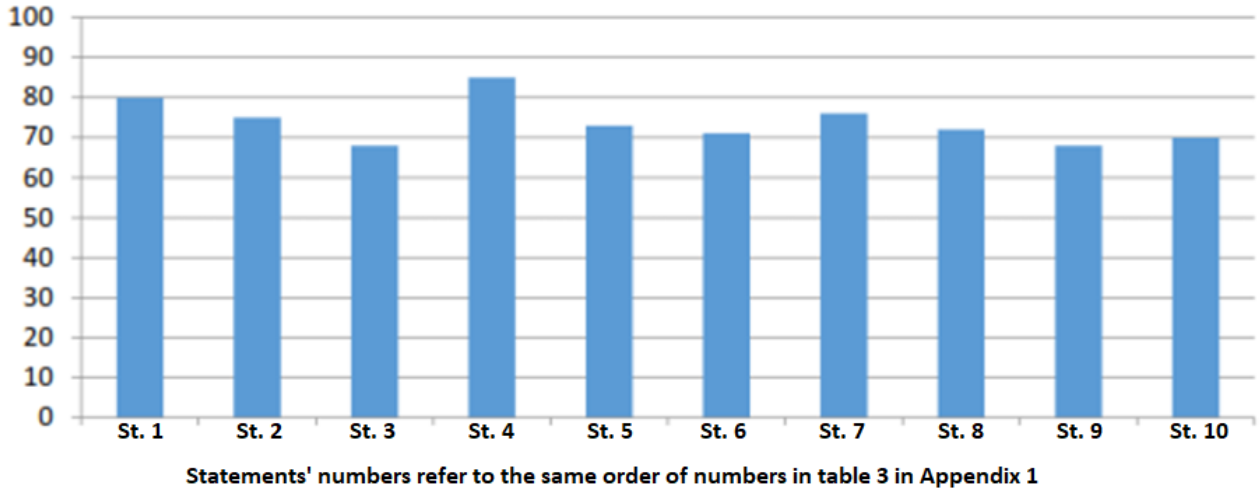


Figure-5. Analysis of sample answers to the questionnaire dimension of empowering employees.

According to Table 3 in the appendices the mean for the dimension of Total Quality Management (empowering employees) was (3.69) with a standard deviation (1.20). These results demonstrate the trial of the organization in question to empower its employees but the system of salaries and incentives should be revised to suit the employee's efforts.

5.4.4. Analysis of sample answers to the questionnaire dimension of Total Quality Management (focus on the production process) (n=20)

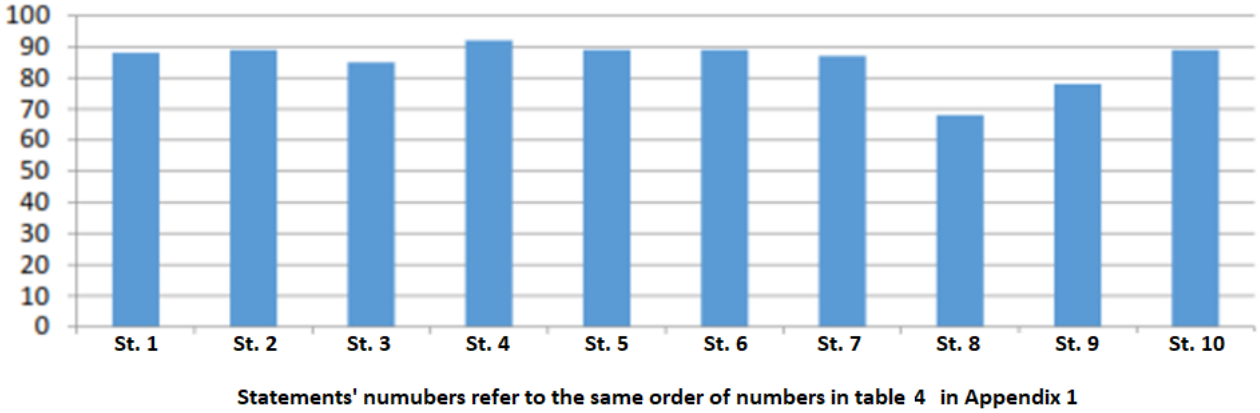


Figure-6. Analysis of sample answers to the questionnaire dimension of focus on the production process.

According to Table 4 in the appendices the mean for the dimension of Total Quality Management (focus on the production process) was (4.27) with a standard deviation (0.78). These results demonstrate the organization interest in the production process.

5.4.5. Analysis of sample answers to the questionnaire dimension of institutional performance (n=20)

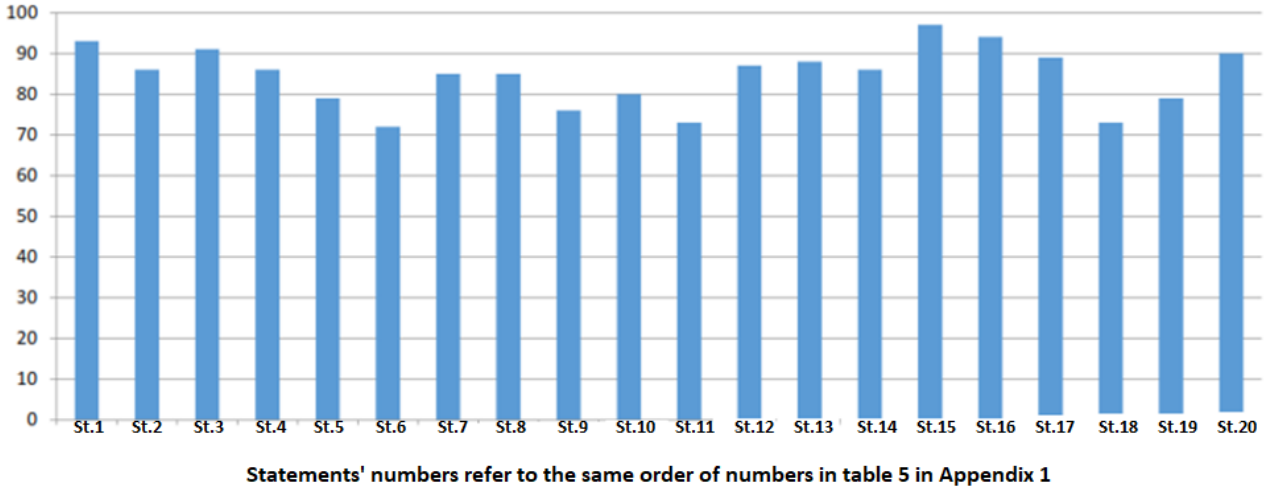


Figure-7. Analysis of sample answers to the questionnaire dimension of institutional performance.

According to Table 5 in the appendices, the mean for the dimension of the institutional performance was (4.22) with a standard deviation (0.80). These results demonstrate that the organization in question has a long tradition of working which has influenced the acquisition of many experiences on institutional performance and its regulations are adaptive to the requirements of the labor market.

Table-10. Pearson correlation coefficient between Total Quality Management principles and institutional performance.

Sr.	Principles	Pearson Coefficient	Level of Significance
1	Total quality oriented leadership	0.228	0.333
2	Continuous improvement	0.261	0.266
3	Empowering of employees	0.433	0.057
4	Focus on the production process	0.635	0.003
Total		**0.480**	**0.032**

Table 10 shows the following:

- There is no statistically significant relationship between the principles of total quality oriented leadership, continuous improvement and empowering of employees, and the institutional performance of the organization in question.
- There is a positive relationship between the principle of focusing on the production process and the institutional performance of the organization in question, at the level of significance (0.01).
- There is a direct correlation relationship between the principles of total quality management and the institutional performance in the organization in question, where the value of the pearson coefficient was (0.480) with statistically significance at the level of (0.05). These results indicates that the organization in question focuses on the production process and looks at the rest of the principles through the principle of focusing on the production in order to achieve its objectives.
- Results of the differences between applying the principles of Total Quality Management (Total quality oriented leadership, continuous improvement, empowering of employees and focus on the production process) and the institutional performance of the organization in question due to demographics:
- There are no statistically significant differences at the level of significance (0.05) relating to the variables of gender, age, qualifications, years of experience and position.

6. CONCLUSION

The research findings revealed that there is a significant relationship between applying the principles of TQM and the institutional performance elements in the study company in the Kingdom of Bahrain. They revealed also that there is no significant differences among the responses of the sample individuals that could be attributed to demographic variables used, such as gender, years of experience, qualifications, age and position in the study company. Findings revealed also that there is a discrepancy in linking the TQM application with the annual institutional reports as they do not take the application into consideration. It is interesting that the results of this research revealed that there is a conviction among all the company leaders about the importance of TQM, and the attempt to take the advantage of the modern concepts in leading operations within the company. It turns out that the process of continuous improvement is carried out in terms of the company's leadership responses and its attempts to increase productivity through improved processes. Moreover, it was revealed that the study company is seeking to empower its employees and that there is an interest in the process of production to increase its profits, and it has gained many experiences about the institutional performance.

7. LIMITATIONS OF THE STUDY AND DIRECTION FOR FUTURE RESEARCH

The current study was applied on a Bahraini industrial company of a specific discipline, which limits the generalization of the results to the other disciplines and industries, along with the service sector companies. Further studies could focus on other sectors such as banking sector or service ones. Future studies could consider alternative modes of time scale such as the use of longitude methods of data collection to understand better the difference between before and after the application of TQM. Moreover, this study concentrated on the effect on institutional performance, by extending the scope of the study to include other areas such as the employee performance, corporate culture, Human Resource development, among other related variables, could help shed the light on the impact of TQM on other areas within the organization and could be increased in future studies to more generalizations of the research findings, and qualitative approach could be used in the future to add in depth results related to the main used variables.

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