



WWJMRD 2020; 6(8): 26-35
www.wwjmr.com
International Journal
Peer Reviewed Journal
Refereed Journal
Indexed Journal
Impact Factor MJIF: 4.25
E-ISSN: 2454-6615

Horiya Mohamed Ahmed Al Deeb
College of Administrative
Sciences, Applied Science
University (ASU), Kingdom of
Bahrain.

Marwan Mohamed Abdeldayem
College of Administrative
Sciences, Applied Science
University (ASU), Kingdom of
Bahrain.

Mohammed Yousif Abo Keir
College of Administrative
Sciences, Applied Science
University (ASU), Kingdom of
Bahrain.

Ahmed Mohammed Ali Muthanna
Ministry of Education,
Kingdom of Bahrain

Correspondence:
Marwan Mohamed Abdeldayem
College of Administrative
Sciences, Applied Science
University (ASU), Kingdom of
Bahrain.

Impact of Applying Total Quality Management Principles on Improving the Performance of Second Row Leaders: Evidence from Bahrain

Horiya Mohamed Ahmed Al Deeb, Marwan Mohamed Abdeldayem, Mohammed Yousif Abo Keir, Ahmed Mohammed Ali Muthanna

Abstract

The aim of this research is to identify the impact of applying total quality management principles (Leadership oriented by TQM, empowering employees, feedback and continuous improvement) on improving the performance of second row leaders at the Ministry of Education in the Kingdom of Bahrain. A hundred and ninety eight employees were surveyed through a simple random sample method. The analysis is based on the outcomes of the questionnaire survey that was given out to the sample of employees of the Ministry of Education in the Kingdom of Bahrain. The researchers hypothesized that there is a positive significant relationship between applying total quality management principles and the improving of the performance of second row leaders at the Ministry of Education in the Kingdom of Bahrain. The findings revealed that there is a positive significant relationship between applying total quality management principles (Leadership oriented by TQM empowering employees, feedback and continuous improvement) and improving the performance of the second row leaders at the Ministry of Education in the Kingdom of Bahrain. Moreover, the results indicates that there is no significant relationship between applying total quality management principles and improving the performance of the second row leaders at the Ministry of Education in the Kingdom of Bahrain due to the demographics (Gender, age, qualification, years of experience and position).

Keywords: Total quality management (TQM), Second row leaders, Leadership oriented by TQM, Empowering employees, Feedback, Continuous improvement, Performance, Kingdom of Bahrain.

Introduction

The application of total quality management principles in organizations is considered as one of the most modern methods of development, and leadership is the heart of the organization. If it is righteous and distinguished, everyone has marched towards success and excellence, and those interested in the administrative leadership sensed the importance of preparing a second row of leaders to be able to lead the organization and proceed with its projects and plans and sustain its success in the absence of the current leadership for any reason. In order for the current leaders in the organization to discover cadres who have leadership skills, that qualify them to be leaders of a second row, and to improve the performance of these cadres, the principles of total quality management that would be a productive environment that allows the building of a base of trained and prepared leaders to continue to lead the organization successfully, must be applied. The most important principles of total quality management that contribute to preparing and improving the performance of second row leaders are summarized in the leadership oriented by total quality management, employee empowerment, feedback and continuous improvement. That is because of the clarity of responsibilities, the enhancement of belongingness, the effectiveness of communication, the example of leadership and the existence of correct systems of motivation and promotion. The rest of this paper is organized as follows: Literature review is presented in section (2), section (3) introduces the methodology. Discussion and results of statistical analysis are explained in section (4), while conclusions are in section (5).

Theoretical Framework & Literature Review

Total Quality Management (TQM)

It is defined as a philosophy or set of guiding principles that are pillars of continuous improvement in the organization and are an application of methods that contribute to meeting current future customer needs (Ghonaim, 2009, 40). It is also defined as a comprehensive application approach that aims to achieve the customer's needs and expectations, as quantitative methods are used for continuous improvement in the operations and services in the organization (Al Saleebi, 2008, 19). It is an administrative philosophy that seeks to build a base of values and beliefs that makes every official and every employee in the organization believe that the primary goal of the organization is to serve the beneficiary and this is reflected in the collective work that is characterized by cooperation and participation to achieve this goal (AlGhaithi, 2007, 9; Abdeldayem, Aldeeb & Abbad, 2020). The importance of total quality management revolves around three advantages achieving quality through product development and improving its quality to match the needs of the customer leads to improving the image of the organization for the customers, enhancing their confidence in it, and this enables the organization to get acquisition of a large market share, as well as achieving quality leads to achieving employees' satisfaction, enhancing their loyalty to the organization. In addition, achieving quality leads to lower costs by reducing errors and breakdowns and saving time and effort (Paul, Frise, 2004).

The most important principles of TQM are represented in the following:

Focus on the customer: the success of applying TQM can be measured by measuring the extent of internal and external customer satisfaction in order to make it the best choice for them that can meet their needs and wants.

Leadership oriented by TQM: it is the leadership capable of distant vision, formulating goals, setting strategies, achieving cooperation and influencing others and invigorating work to achieve goals (Al Moqayad, 2006).

Employees' empowerment: empowering employees and involving them in thinking and planning processes make them engage in the organization and feel that they own their business, which deepens their loyalty and stimulates their creativity; they contribute to improving the work and increasing its quality.

Continuous improvement: the quality of work should be constantly evaluated and work to improve performance in accordance with the information resulting from the continuous evaluation. In addition, steady changes in manufacturing technology and management and marketing sciences require the organization to constantly make improvements in order to keep pace with development and adapt to them ensure survival and competition.

Feedback: establishing a highly effective system for feedback is an urgent quality management in order for the organization to track procedural processes and measure the level of improvement compared to previous levels and reorientation to continuous improvement. Feedback helps organization to identify the strengths, weaknesses,

opportunities and challenges to which they are exposed, which leads to making sound decisions (Abdeldayem, Aldeeb & Al Shaikh, 2020; Al Azzawi, 2005).

Error prevention: quality requires doing the right things the right way the first time, which means reducing errors and thus reducing costs (Ghonaim, 2009).

Make decisions based on facts: the decision-making process in total quality management is carried out according to accurate information, not based on guesses or expectations. The decision is made with a scientific method using statistical tools that lead to making right decision (AlZoabi, 2001).

In our research, four total quality management principles (Leadership oriented by TQM, employees' empowerment, feedback and continuous improvement) were chosen, as researchers see them as the most appropriate to influence the improvement of the performance of leaders of the second-row, and the field remains open to other research that studies the impact of the rest to TQM principles on improving the performance second-row leaders.

The benefits of the successful application of TQM include that it reduces costs, contributes to increasing profits, leads to customer satisfaction, achieves competitive advantage, develops business style and creates a good reputation for the organization (Radwan, 2012, 32). Also, total quality managements leads to employees using for their experience and capabilities, developing their skills, providing them with the necessary training and giving them appropriate incentives (Zeedan, 2010, 187). On the other hand, obstacles to the application of total quality management may include:

Administrative leadership: it can be defined as the process whereby the manager can influence his subordinates with a specific organizational entity, activities and specializations to urge them to actively contribute in performing cooperative activity to achieve the required goals (AlWaheebi, 2005). Administrative leadership skills are:

Technical skills: it means that the leader is fluent in his work, familiar with the work of his subordinates in terms of the nature of the work they perform, knowing work requirements and stages, and being able to use information and analyze it, aware of the ways of accomplishing the work (Herzberg, 2006, 41).

Human skills: it is the leader's ability to deal with his subordinates, coordinate their efforts, motivate them to achieve and develop a spirit of teamwork among them, in order to lead them towards achieving the goals of the organization (Kanaan, 2010).

Organizational skills: it is for the leader to view the organization on the basis that it is an integrated system and understand its goals, systems, plans and environment. He organizes work, distributes duties and proficiently uses authority and power (McClland, 2006).

Intellectual skills: it means that the leader has the ability to abstract objective thinking and the ability to study, analyze and conclude by comparison. The ability to coordinate and link between the organization's activities, realize the impact of each activity on the other. In addition, he should

enjoy flexibility and mental readiness to accept the views of others (AlAlaq, 2010).

Second-Row Leaders

They are the replacements who are nominated for leadership roles or positions in the organization where they are provided with the appropriate skills and expertise to occupy current and future opportunities (Melhem, 2006). Principles of creating second-row leaders include:

Replacement: it means that one of the members of the administrative authority exercises the powers of another member that an emergency condition prevented him from exercising his competence. The organization with a conscious leadership always takes into account the possibility of a suffer administrative vacuum for any reason, so preparing those who occupy this vacuum where the position cannot be left vacant, and through replacement, the second-row leaders have the opportunity to exercise leadership tasks, in addition to giving the organization an opportunity to evaluate these leaders and train them to make experienced future leaders (Al Helo, 2004, 199).

Empowerment: it means giving individuals the opportunity to participate and use their mental energies to solve work problems and improve productivity. Empowerment is one of the most important principles that contribute to the qualification of second-row leaders (Abdeldayem % Aldulaimi, 2020; Melhem, 2006).

Delegation of authority: it means the process of optional allowing the transfer of part of the authority to the subordinate, and when the latter accepts this authorization, he is obligated to perform the duties assigned to him by his superior, exercises the necessary powers to perform it, and becomes accountable for his actions.

Decentralization: it includes the distribution of the powers of the administrative position between the center and the branches, so that the branches exercise their competence under the supervision of the center as it is considered as a form of empowerment, allowing the emerging leadership members an opportunity to exercise some powers and make decisions (Abdeldayem et al, 2019; Al Asmari, 2013).

Methodology

Research Problem

On the basis of various studies that confirmed the importance of applying total quality management principles on improving the performance of second row leaders, researchers wanted to identify the impact of applying total quality management principles (Leadership oriented by total quality management, employees' empowerment, feedback and continuous improvement) on improving the performance of second row leaders at the Ministry of Education in the Kingdom of Bahrain. The problem of research could therefore be expressed in the following key questions:

“What is the impact of applying total quality management principles (Leadership oriented by total quality management, employees' empowerment, feedback and continuous improvement) on improving the performance of second row leaders at the Ministry of Education in the Kingdom of Bahrain?”

The main question results in the following sub-questions:

- What is the reality of applying the total quality management principles in the Kingdom of Bahrain?
- What is the reality of the performance of second row leaders at the Ministry of Education in the Kingdom of Bahrain?
- What is the reality of relationship between applying the total quality management principles and the performance of second row leaders at the Ministry of Education in the Kingdom of Bahrain?

Importance of the Study

This study addresses one of the important topics in the field of business administration, which is the application of total quality management principles that can have a significant impact on improving the performance of second row leaders at the Ministry of Education in the Kingdom of Bahrain. It seeks to introduce recommendations and suggestions to increase the effectiveness of applying total quality management principles for activating its impact on improving the performance of second row leaders at the organization in question.

Research objectives

- Identify the reality of applying total quality management principals at the Ministry of Education in the Kingdom of Bahrain.
- Identify the reality of the performance of the second-row leaders at the Ministry of Education in the Kingdom of Bahrain.
- Identify the impact of applying total quality management principles on improving the performance of second row leaders at the Ministry of Education in the Kingdom of Bahrain.
- Identify the statistically significant differences with regard to the impact of applying total quality management principles on improving the performance of second row leaders at the Ministry of Education in Kingdom of Bahrain according to the demographics (gender, age, qualification, years of experience and position).
- Make some recommendations and suggestions to increase the effectiveness of the impact of applying total quality management principles on improving the performance of second row leaders at the Ministry of Education in the Kingdom of Bahrain.

Research Hypotheses

Main hypothesis 1

H1: There is a positive significant relationship between applying total quality management principles (Leadership oriented by total quality management, employees' empowerment, feedback and continuous improvement) and the improvement of the performance of second row leaders at the Ministry of Education in the Kingdom of Bahrain.

From this main hypothesis, four subsidiary hypotheses can be stated as:

H1.1: There is a positive significant relationship between leadership oriented by total quality management as a total quality management principle and the improvement of the performance of second row leaders at the Ministry of Education in the Kingdom of Bahrain.

H1.2: There is a positive significant relationship between employee's empowerment as a total quality management

principle and the improvement of the performance of second row leaders at the Ministry of Education in the Kingdom of Bahrain.

H1.3: There is a positive significant relationship between feedback as a total quality management principle and the improvement of the performance of second row leaders at the Ministry of Education in the Kingdom of Bahrain.

H1.4: There is a positive significant relationship between continuous improvement as a total quality management principle and the improvement of the performance of second row leaders at the Ministry of Education in the Kingdom of Bahrain.

Main hypothesis 2

H2: There are positive significant differences relating to the impact of applying total quality management principles (Leadership oriented by total quality management, employees’ empowerment, feedback and continuous improvement) on improving the performance of second row leaders at the Ministry of Education in the Kingdom of Bahrain due to the demographics (gender, age, qualifications, ears of experience and position).

Research Framework

Figure (1) below illustrates the research framework and shows the variables of the study.

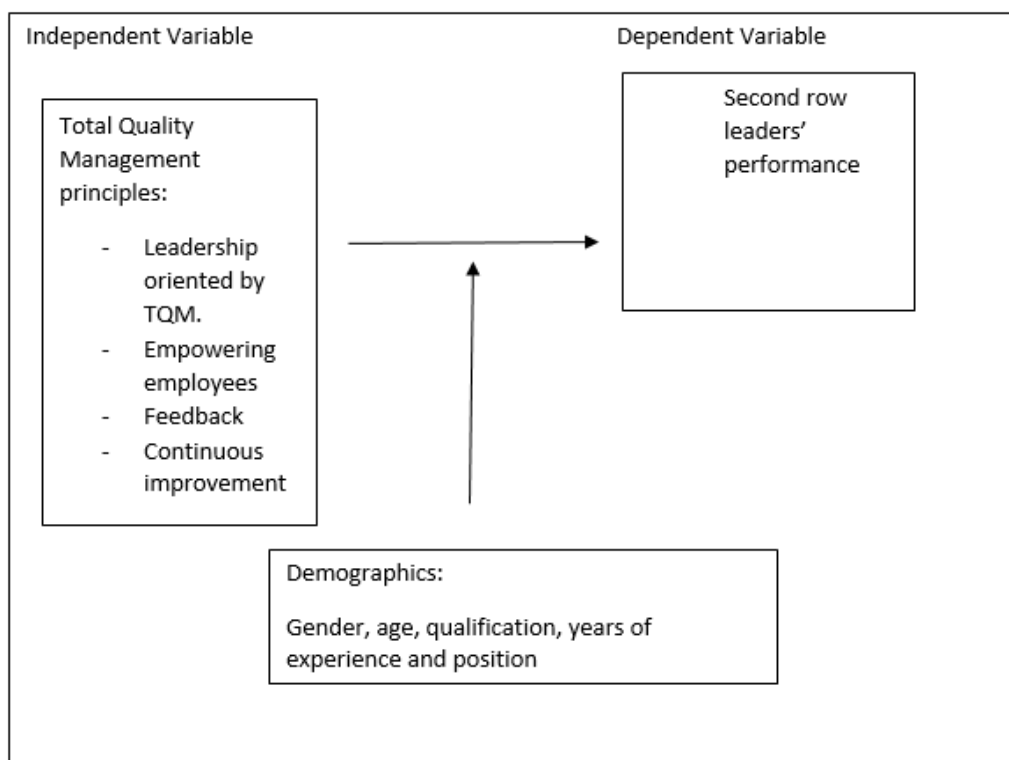


Fig. 1: Research Framework

Population of the research

The researchers selected a simple random (n=220) of administrative employees (Heads of departments, heads of administrative units, directors of middle departments) who are nominated as second row leaders for higher management positions at the Ministry of Education in the Kingdom of Bahrain out of a population of (415) employees. The sample provided information through filling

Figure 1 (Illustration of the research framework)

Data Collection

A five-point Likert scale was used to collect questionnaire survey as follows:

5	4	3	2	1
Strongly agree	Agree	Neutral	Disagree	Strongly Disagree

A number of 220 questionnaires were circulated and 205 were collected, seven of them were incomplete, so they were discarded. 198 were considered with a response rate of 90%.

Analysis and Empirical Findings

Pearson correlation co-efficient

Table (1) below shows that all correlation co-efficient are significant at the level of (0.01) which indicates the validity of the scale.

Table 1: Pearson correlation co-efficient

Statement	Correlation Co-efficient	Statement	Correlation Co-efficient	Statement	Correlation Co-efficient
1	0.637	27	0.657	53	0.623
2	0.642	28	0.576	54	0.715
3	0.506	29	0.623	55	0.622
4	0.670	30	0.633	56	0.671
5	0.612	31	0.690	57	0.556

6	0.592	32	0.579	58	0.640
7	0.614	33	0.668	59	0.573
8	0.508	34	0.447	60	0.434
9	0.437	35	0.616	61	0.587
10	0.461	36	0.621	62	0.640
11	0.610	37	0.658	63	0.688
12	0.571	38	0.643	64	0.573
13	0.641	39	0.720	65	0.553
14	0.655	40	0.708	66	0.555
15	0.768	41	0.551	67	0.597
16	0.573	42	0.631	68	0.568
17	0.546	43	0.744	69	0.572
18	0.593	44	0.763	70	0.567
19	0.690	45	0.742	71	0.601
20	0.616	46	0.753	72	0.665
21	0.662	47	0.658	73	0.589
22	0.636	48	0.665	74	0.608
23	0.557	49	0.686	75	0.582
24	0.640	50	0.627	76	0.562
25	0.489	51	0.631		
26	0.614	52	0.603		

Reliability

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

Table 2: Cronbach’s Alpha

Reliability	
Dimensions	Cronbach’s Alpha
Total quality management principles: - Leadership oriented by TQM (0.93) - Employee’ empowerment (0.85) - Feedback empowerment (0.89) - Continuous improvement (0.95)	0.91
The performance of second row leaders	0.96
Average	0.94

Table (2) indicates that the Cronbach’s Alpha is 0.94. This indicates a high level of internal consistency for the research questionnaire.

Analysis of the demographic variable of the research Gender Variable

Table 3: Distribution of the research sample according to gender

Variable	Number	Percentage
Males	89	44.9%
Females	109	55.1%
Total	198	100%

It is clear from the analysis of the research sample by gender (table 3) that it was distributed between males and females approximately with a slight increase in the female sample.

Age Variable

Table 4: Distribution of the research sample according to age

Variable	Number	Percentage
Less than 30 years	17	8.6%
30 and less than 40 years	51	25.8%
40 and less than 50 years	73	36.9%
50 years and above	57	28.8%
Total	198	100%

It can be seen from table (4) that there is a difference between the number of age groups of employees and the largest number of the age group was of (40 and less than 50 years) by (36.9%), which explains that the company depends on employees belonging to middle age and not elderly.

Qualification Variable

Table 5: Distribution of the research sample according to qualification

Variable	Number	Percentage
Diploma and less	15	7.6%
Bachelor	97	49.0%
Post Studies	86	43.4%
Total	198	100%

Table (5) indicates that the largest percentage hold a bachelor’s degree by (49%) followed by the group of post studies (43.4%), the current administrative leaderships are interested in developing the human resources through studying and obtaining high educational qualification.

Years of experience Variable

Table 6: Distribution of the research sample according to years of experience

Variable	Number	Percentage
Less than 5 years	11	5.6%
5 – 10 years	20	10.1%

11 – 15 years	42	21.2%
15 years and above	125	63.1%
Total	198	100%

Table (6) reveals that the employees with years of experience (15 years and above) were the highest with a percentage of (63.1%), which indicates that most of the employees have long experience.

Position Variable

Table 7: Distribution of the research sample according to position

Variable	Number	Percentage
Head of administrative unit	138	69.7%
Head of department	42	21.2%
Director of a department	18	9.1%
Total	198	100%

Table (7) shows that the vast majority of the research sample were heads of administrative units with a percentage of (69.7%), followed by heads of departments (21.2%) and then directors of departments (9.1%).

Analysis of answers to the questionnaire variables

Table 8: Analysis of the research sample answers to the questionnaire variable (Total quality management principles, leadership oriented by TQM dimension)

Sr.	Statement	Mean	Standard Deviation	Mean Interpretation
1	The leadership is committed to setting its goals carefully	3.838	0.937	Agree
2	The leadership publishes its goals continuously between employees.	3.591	1.002	Agree
3	A clear document is available for the vision of the organization	3.768	1.060	Agree
4	The organization's plans incorporate the principle of employee's satisfaction	3.278	1.170	Neutral
5	The current organizational structure of the organization is in line with requirements of applying TQM	3.253	1.036	Neutral
6	The organizations senior leadership believe in the principles of total quality management	3.742	0.934	Agree
7	The leadership works on applying the principles of TQM at all administrative levels	3.293	1.030	Neutral
8	The organization's senior leadership overcomes all difficulties that prevent the application of TQM.	3.197	0.991	Neutral
9	The employees of the organization have an awareness of the concept of total quality management	3.091	0.973	Neutral
10	The employees of the organization have the skills necessary to implement total quality management in their work.	3.065	0.925	Neutral
11	Leaders in the organization coordinate with each other to get the job done	3.359	0.965	Neutral
12	Leadership encourages all departments to teamwork by forming teams	3.682	0.921	Agree
13	Leadership places the preparation of second-row leadership among its strategic goals	3.303	1.085	Neutral
14	Leaders distribute tasks to employees through annual plans	3.545	1.010	Agree
15	Leadership is concerned with the quality of employees ad they are the most important component in achieving overall quality	3.323	1.102	Neutral
Average		3.421	0.719	Agree

Results presented in table (8) show that the general average of the variable (Total quality management principles, leadership oriented by total quality management) reached

(3.421), which shows that the opinions of the research sample were moderate of this dimension.

Table 9: Analysis of the research sample answers to the questionnaire variable (Total quality management principles, employees' empowerment dimension)

Sr.	Statement	Mean	Standard Deviation	Mean Interpretation
1	Second-level leadership capabilities and skills are strengthened through training programs.	3.500	0.949	Agree
2	The fear of leadership competition is one of the most prominent obstacles to enabling second-row leaders.	3.434	1.014	Agree
3	Incentives are used to encourage employees to develop their leadership potential.	3.279	1.130	Neutral
4	Employees are provided with information that helps them make right decisions in different situations.	3.343	0.897	Neutral
5	There is a system that enables second-row leaders to assume responsibilities in the absence of the current leadership.	3.333	0.998	Neutral
6	The job powers of all employees are determined with precision	3.374	0.983	Neutral
7	Employees are involved in solving business problems.	3.439	1.029	Agree
8	The second-row leadership is empowered to fulfill tasks and responsibilities	3.558	0.864	Agree
9	The greatest possible freedom is given to employees in issuing decisions that they deem appropriate for their work.	2.884	1.018	Neutral

10	Some leaders fear the promotion subordinates	3.616	1.026	Agree
11	The work pattern in the departments contribute to achieving the maximum types of integration in accomplishing the tasks.	3.282	0.885	Neutral
12	Staff participate in the process of improving the quality of work procedures and services provided.	3.621	0.839	Agree
13	Adequate satisfaction of staff in the organization is available.	2.843	0.956	Neutral
14	The career promotion system is based on selecting the distinguished in their work.	2.662	1.141	Neutral
Average		3.298	0.569	Neutral

Results presented in table 9 show that the general average of the variable (Total quality management principles, employees' empowerment dimension) reached (3.298),

which shows that the opinions of the research sample were moderate of this dimension.

Table 10: Analysis of the research sample answers to the questionnaire variable (Total quality management principles, Feedback dimension)

Sr.	Statement	Mean	Standard Deviation	Mean Interpretation
1	The organization provides an effective feedback system on employee accomplishments.	3.030	0.976	Neutral
2	The organizations feedback system is used to directly measure employees' reactions to performance evaluation	3.121	0.921	Neutral
3	The leadership is keen to make the necessary assessments to provide employees with continuous feedback about their performance.	3.111	0.991	Neutral
4	Employees feel reluctant to turn to their bosses to discuss work matters.	3.000	1.028	Neutral
5	Feedback is used to identify strengths in employee performance.	3.399	0.955	Agree
6	Feedback is used to identify areas for improvement	3.424	0.967	Agree
7	There is direct communication between employees and officials.	3.626	0.908	Agree
8	The employees are given priority in identifying their problems by exchanging information with them.	3.152	0.986	Neutral
9	Feedback is used effectively to direct employees to improve their work performance.	3.333	0.940	Neutral
10	Feedback motivates employees to invest new way to improve performance.	3.293	1.020	Neutral
11	Feedback is an indirect form of appreciation that helps employees to achieve higher levels of performance.	3.384	0.846	Neutral
12	The feedback is directed to raising the ceiling of the employees; goals after achieving the previous goals.	3.399	0.917	Agree
Average		3.273	0.641	Neutral

Results presented in table (10) show that the general average of the variable (Total quality management principles, feedback dimension) reached (3.273), which

shows that the opinions of research sample were moderate of this dimension.

Table 11: Analysis of the research sample answers to the questionnaire variable (Total quality management principles, continuous improvement dimension)

Sr.	Statement	Mean	Standard Deviation	Mean Interpretation
1	There is a clear interest in continuous improvement in various organizational aspects.	3.510	0.960	Agree
2	Continuous improvement operations are carried out according to clear and predetermined plans.	3.298	1.065	Neutral
3	The philosophy of encouraging employees to innovate is widespread in the organization.	3.157	1.052	Neutral
4	The plans and programs are modified in line with the developments in the field of quality.	3.480	0.981	Agree
5	The priorities of continuous improvement are determined according to the accurate information on the concepts of total quality management.	3.282	0.956	Neutral
6	Leadership adopts the concept of evaluation and self-control of quality professional development.	3.333	0.956	Neutral
7	Continuous improvement is directed at motivating employees to provide quality services.	3.409	0.977	Agree
8	Responsibility for improving performance is instilled in the hearts of employees.	3.404	0.939	Agree
9	Laws and regulations in the organization provide opportunities for continuous improvement of employees.	3.227	0.999	Neutral
10	All employees have the opportunity to present their suggestions for improving work.	3.268	1.020	Neutral
11	Continuous improvement is part of the quality requirements within the organization.	3.677	0.916	Agree
12	There are objective criteria for measuring the quality of performance of the administrative process.	3.278	0.987	Neutral

13	Attention is paid to employee suggestions regarding work difficulties.	3.227	1.029	Neutral
14	Staff complaints about work difficulties receive great attention from officials in the organization.	3.056	1.067	Neutral
Average		3.330	0.583	Neutral

Results presented in table (11) show that the general average of the variable (Total quality management principles, continuous improvement dimension) reached

(3.330), which shows that the opinions of the research sample were moderate of this dimension.

Table 12: Analysis of the research sample answers to the questionnaire variable (Performance of second-row leaders)

Sr.	Statement	Mean	Standard Deviation	Mean Interpretation
1	The second-row leaders have the ability to use the tools, means, procedures and methods that help in getting the work done.	3.649	0.798	Agree
2	The second-row leadership invests all the capabilities to achieve the goals according to the plans laid down.	3.441	0.828	Agree
3	The leaders of the second row face the crises with determination and confidence.	3.457	0.817	Agree
4	The second-row leadership is responsible for the consequences of the decisions you make.	3.548	0.791	Agree
5	The second-grade leaders constantly enrich their experiences through self-learning and access to recent developments in the areas of administrative work.	3.548	0.823	Agree
6	The leaders of the second-row understand the nature of the tasks of all their employees.	3.498	0.861	Agree
7	The second-row leaders are motivated to develop and innovate to demonstrate their potential.	3.213	0.934	Neutral
8	The second-row leaders understand the nature of employees attitudes.	3.447	0.804	Agree
9	Second-row leaders have the ability to control emotional stress.	3.395	0.818	Agree
10	The second-row leaders respect the organization’s employees.	3.735	0.828	Agree
11	Second-row leaders develop team spirit and work as a team to achieve their goals.	3.700	0.818	Agree
12	Second-row leaders appreciate employee’s efforts.	3.364	0.844	Neutral
13	The second-row leadership develop human relationships and promotes trust and mutual respect between employees and management.	3.690	0.863	Agree
14	The second-row leadership creates an atmosphere of brotherhood and synergy among employees.	3.700	0.824	Agree
15	Second-row leaders plan long-term work tasks.	3.538	0.958	Agree
16	The second-row leaders are fluent in managing the available human and material resources.	3.457	0.785	Agree
17	Second-row leaders put forward proposals that help to develop positively at work.	3.624	0.821	Agree
18	The second-row leadership ranks priorities according to the nature of the work and the time required to complete it.	3.635	0.884	Agree
19	Second-row leaders can accurately diagnose the causes of the problems.	3.482	0.878	Agree
20	The leaders of the second grade use the principle of reward and punishment objectively.	3.264	0.881	Neutral
21	The second-row leaders develop their mental capabilities to analyze and infer information and data available.	3.269	0.871	Neutral
Average		3.507	0.848	Agree

Results presented in table (12) show that the general average of the variable (performance of second-row leaders) reached (3.507), which shows that the opinions of the research sample were moderate of this variable.

applying total quality management principles (Leadership oriented by total quality management, employee’s empowerment, feedback and continuous improvement), and improving the performance of second-row leaders at the Ministry of Education in the Kingdom of Bahrain”, multiple linear regression analysis were used, where the results showed the following:

Testing Research Hypotheses

To make sure that the main hypothesis (1) is correct, “There is a significant positive relationship between

Table 13: Linear regression analysis (Leadership oriented by total quality management)

Predictions	Regression Coefficient	Correlation Coefficient	Explanation Variance	Value of (t)	Significances level
Constant	1.736	-	-	10.266	0.000
Leadership oriented by Total quality management	0.518	0.61	0.37	10.713	0.000

Table 14: Linear regression analysis (employee’s empowerment)

Predictions	Regression Coefficient	Correlation Coefficient	Explanation Variance	Value of (t)	Significances level
Constant	1.108	-	-	5.830	0.000
Employees’ empowerment	0.728	0.68	0.46	12.821	0.000

Table 15: Linear regression analysis (Feedback)

Predictions	Regression Coefficient	Correlation Coefficient	Explanation Variance	Value of (t)	Significances level
Constant	1.674	-	-	9.077	0.000
Feedback	0.560	0.59	0.34	10.130	0.000

Table 16: Linear regression analysis (Continuous improvement)

Predictions	Regression Coefficient	Correlation Coefficient	Explanation Variance	Value of (t)	Significances level
Constant	1.687	-	-	11.993	0.000
Continuous improvement	0.547	0.69	0.47	13.283	0.000

According to the results presented in tables (13, 14, 15, 16), the main hypothesis (1) is accepted. In addition, results of the main hypothesis (2), "There are positive significant differences relating to the impact of applying total quality management principles (Leadership oriented by total quality management, employee's empowerment, feedback and continuous improvement) on improving the performance of second-row leaders at the Ministry of Education in the Kingdom of Bahrain due to the demographics (gender, age, qualification, years of experience and position)", showed that there are no statistically significant differences at the level of (0.05) relating to the demographics (gender, age, qualification, years of experience and position).

Concluding Comments

Quality management principles are applied at the Ministry of education in the Kingdom of Bahrain to a middle degree. The second-row leaders have a good awareness of the importance of pursuing the principles of total quality management at work.

The principle of leadership oriented by total quality management is considered as the most applied principle at the Ministry of Education in the Kingdom of Bahrain.

There is a positive impact for applying total quality management principles (Leadership oriented by total quality management, employees' empowerment, feedback and continuous improvement on improving the performance of second-row leaders at the Ministry of Education in the Kingdom of Bahrain.

In the light of conclusions formulated, the following recommendations were proposed:

The necessity of establishing a special department in the ministry that follow up and evaluate the process of applying total quality management principles in various sectors of the ministry.

The necessity of formulating a clear system for administrative succession and promotion according to approved scientific standards, so that the potential leadership energies can obtain their opportunity to participate in their leadership skills and capabilities.

The necessity of adopting career rotation for leadership positions in order to diversity experiences and open wider fields for young leaders to reach higher positions.

The necessity of preparing a guide that deals with the scientific methodology in preparing and qualifying the leaders of the second grade in the Ministry in question.

The necessity of implementing specialized training programs that enable second-row leaders to possess leadership skills and outstanding performance tools.

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