INVESTIGATING TOTAL QUALITY MANAGEMENT AND BALANCED SCORECARDS IMPLEMENTATION BY THE WATER AND SEWERAGE COMPANY OF LIBYA

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Information of Article	ABSTRACT
	Purpose: this paper is concerned with finding out the impact of total quality management and balanced scorecards implementation by the Water and Sewerage Company of Libya. For that purpose, this paper proposes three independent variables, which are customer focused, continuous improvement, and training, while the dependent variable was a balanced scorecard in organization for water and sewage in Libya. **Design/ Method/ Approach:** This study uses a quantitative approach. in this approach, the hypotheses were developed based on several literature reviews. The study population consists of all managers at all levels (upper-middle-lower) in the General Organization for Water and Sanitation in Libya and all its branches, which includes Tripoli Branch, Benghazi Plain, Central Administration, Jabal Al Akhdar, Western Administration Branch, Western Mountain, Southern Administration, and Central and Eastern Administration, where the study population is 646 managers in all branches of the organization. The sample of this study is 200 managers from these companies. **Findings:** The findings of the study indicated that the highest correlation was Continuous improvement (CIM) and Balanced Scorecards (BS) with 0.542 and a p-value of 0.000. This is followed by Customer-focused (CF) was 0.463 and the p-value was 0.000. On the other hand, the lowest correlation among variables was Training (TRA) with 0.432 and the p-value was 0.000. The results of the correlation matrix show that the values of correlation were less than 0.80 and ranged between 0.542 and 0.432.

1. Introduction

Total Quality Management (TQM) is a strategic entry point to produce the best goods and services. It is a governing philosophy that seeks to integrate the characteristics of a firm (Al-Sarayra and Assaf, 2008). TQM includes a set of organizational values and beliefs, management concepts thought and behaviour, leadership style, work systems, as well as procedures and evaluation systems (Al-Sarayra and Assaf, 2008). It also follow-up to reach the quality level that meets the needs of society and its requirements, and the process of improvement and development is continued (Al-Sarayra and Assaf, 2008: 42). TQM is an administrative feature that means a full commitment to perform business properly. It is a process of integration and the contribution of each worker in terms of monitoring, development and continual improvement as well as performances to meet the expectations of clients for the level of high quality of the firm and the most crucial focus on the application of overall quality in conjunction with organization objectives is organizational performance (Faisal et al., 2013: 283). It is a comprehensive employment and recruitment system based on the participation of all employees, customers, and suppliers to achieve continuous improvement of quality and performance in the long run, as the philosophy of the Total Quality Management (TQM). It is based on a set of principles that can be adopted to reach the best possible performance (Ali, 2015: 548).

The introduction to the strategy and management philosophy and the means of managing change is aimed at transferring contemporary organizations from the traditional thinking styles of different facets of the organization to the patterns of thinking and practices adapted to the environment and present requirements, as well as the participation of the human element by moving their talents and their abilities towards continuous improvement (Ahmet and Cigdem, 2014: 569). From this perspective, TQM aims to ensure the performance of an organization to achieve the desired efficiency and contribute to the reduction of the problems experienced by organizations as a result of low-quality standards. Regarding the appropriateness in the implementation of the work that is related to the degree of performance of employees, and to secure their requirements; it is necessary to seek to improve the degrees of organizational performance in particular and access to the desired effectiveness.

As the application of TQM in companies reflects the vigilance of strategic organizational mind monitoring and reflection and response, it also achieves the strategy of the firm efficiently, reputation, and survival (Al-Wadi et al., 2011: 52). Performance in companies also gave great attention to the management of companies in that, it represents the primary motivation for survival, and it is the most critical factor in achieving corporate objectives of durability and sustainability (Kamil, 2013: 56). Fred Fiedler designed a scale Least Preferred Coworker (LPC); to determine whether the focus is on work or workers. Hersi and Blanchard developed the theory of position, and the primary model focuses on the level of development of subordinates. The level of development indicates the degree of commitment and efficiency required to accomplish a specific task. The theory is one of the arguments that impose degrees of variation and change and instability of environmental variables surrounding the company, which require a set of patterns of functional structure, and focuses on the theory of changes in the environment external and offset by changes within the company. House argues that the position theory is based on two main dimensions: after support and after the direction, which suggests that the focus should be shifted to support and orientation to meet the changing needs of the organization (Ghamdi, 2014: 62).

TQM is a modern management concept that has become the focus of the attention of researchers. Because the foundations and methods of this concept of customer care, control service through statistics and provide organizational culture supporting change is the basic framework for the management style in many organizations of developed countries. Because management methods in many Arab organizations, especially Libyan organizations, still largely reflect the bureaucratic approach to management, which has exacerbated administrative problems, poor services and products, customer dissatisfaction, low productivity, and low performance. Overall quality management to develop performance and increase productivity, which often requires the support of senior management for its success, hence the problem of the study, which seeks to detect the impact of overall quality management in improving balanced scorecard in organization for water and sewage in Libya. So, the main problem of this paper is concerned with finding out the impact of total quality management and balanced scorecards implementation by the Water and Sewerage Company of Libya. For that purpose, this paper proposes three independent variables, which are customer focused, continuous improvement, and training. In contrast, the dependent variable was balanced scorecard in organization for water and sewage in Libya.

2. Literature Review

2.1 Total Quality Management

The concept of quality cannot consider the result of the explosion of the industrial revolution around the world. Still, its existence is seen as a companion to the first mental release of man, and it can be touched in the competition of ancient civilizations to master the arts of architecture (Al-Azzzawi: 2012: 55). Although the concept of quality in the old, did not appear to date a comprehensive and unified theory on the idea of quality, they still maintain the dynamic and changing pace according to the requirements of each period and stages experienced by humanity.

The researcher believes that the movement of TQM is not an independent thought from the previous scientific schools of administration. Still, it is a fact derived from the schools that preceded it. From the school of scientific management and the school of human relations and research operations and decision-making and finally through the entrance of systems and theory of probability is an extension of the heritage of management theories, and one of the episodes of the development of administrative thought, which extends endlessly.

Definitions of TQM have varied and differed, as they did not agree in identity and clear concept of it. At the same time, this requirement shows what quality is, the concepts associated with it, and before reviewing TQM definitions. There is no clear and specific acceptable definition for researchers and thinkers of the idea of TQM. Still, some definitions showed a general perception of the concept of TQM. It was the first attempt to define it by the British Quality Organization, where it was established as the management philosophy of the institution that recognizes, through which both consumer needs as well as project objectives are achieved. As defined by scientist John Oakland, it is how the organization is managed to develop its effectiveness, flexibility, and competitive position on the scope of work as a whole.

The concept of TQM is a modern management concept that aims to develop and improve performance continuously by responding to the requirements of the client. It is an advanced management concept based on a set of principles and ideas that can be applied by any organization; to achieve the best possible performance. It improves productivity and achieve in the light of the high number of companies and institutions in all fields and activities, and they must work to complete the components of quality systems; in line with the tide of globalization, which only accepts companies of high quality and outstanding performance. Many writers and researchers disagree on the definition of a clear explanation of TQM, as the quality itself has different concepts from one case to another and from one person to another (Daradka: 2006: 62). Abunabaa (2004) defined TQM as an integrated system geared towards meeting the needs of consumers. He further argued that TQM gives higher powers to employees to help them in decision-making and emphasizing the continuous improvement of the production processes of goods and services, which leads to customer

loyalty in present and future at a reasonable competitive cost. The Federal Quality Institute defined as it is "doing the right thing right at first glance, relying on the beneficiary assessment of how well the performance has improved" (Federal Institute). It can be defined as a new approach to business performance that requires the renewal of traditional management practices, long-term commitment, unity of purpose, teamwork, and participation of all members of the organization. Al-Bahwashi (2007) pointed out that the concept of TQM is a "philosophy with tools and processes for the application of science that aims to achieve a culture of continuous improvement and such a culture of continuous improvement can be done by all the employees of the organization to satisfy consumers and customers. Whatever the meanings of the concept of overall quality management, it is generally a management philosophy based on the satisfaction of the beneficiary. It thus incorporates the well-designed design of the products provided and the assurance that the organization is always providing these products in the right way (Huwaidi: 2012).

TQM is concerned with creating a habit of improvement on the level of the production system, and how the continuous rise is: (Make the products correct from the first time, and I do anything technical, organizational or otherwise with quality since I thought about it). That means to prevent defects, which makes inspection a secondary process for the product; therefore, the quality assurance falls on the manufacturer whether it is an assembly, operation, maintenance or service worker (Loyed et al.: 2004: 88).

Aziz and Mahmoud Banu (2018) aimed to find current practices in higher education institutions to improve quality, using the principles of overall quality management and the obstacles faced by higher education institutions. Besides, the study proposed a framework of TQM for higher education institutions. The study was based on selected principles of TQM, namely leadership, customer focus, continuous improvement and teamwork, and a process-based system approach. Data were collected through semi-structured interviews and document analysis. The results revealed that selected, TQM principles are used by higher education institutions to improve the quality of institutions. Leadership and customer focus play a significant role in achieving the quality of service institutions. The main obstacles faced by institutions are the application of overall quality management principles. The need for leadership and customer focus can drive people to accept change so that these two elements of TQM take into account the quality management across all organizations.

Sharqi (2016) examined the role of core values of TQM in Algerian higher education institutions. He focused on customers, the commitment of senior management, continuous improvement, social responsibility, decision-making process based on facts, operational approach, and teams, as well as the principles that support the application of quality management. He focused on its overall role (strategic planning, leadership, training, empowerment, participation, communication, and motivation) and its role in improving academic, administrative and community performance in both Algerian higher education institutions. His study concluded with a combination of results (quantitative and qualitative). The study found a set of results, the most important of which is that the overall quality management in both parts (core values and supporting values) has a significant and positive impact on the improvement of performance in the three universities of Algeria (academic, administrative, and societal performance). The study recommended the need to form a sub-directorate under the central administration to deal with issues of quality assurance and performance improvement, giving priority and importance to its decisions.

2.2 Probability Theory in the Context of Quality Management

Chang et al., (2012) have consistently noted the examination of new approaches for competitive advantage and performance development in organizations. Quality Management System (QMS) that provides one of the methods that the organizations are used to develop performance. Companies require an understanding of how quality management is implemented of a high utility. Some researchers have realized that using one measure that suits every quality management method can lead to better results (Sousa and Voss, 2008). Foster (2006) reported that the importance of taking a contingency theoretical viewpoint while applying quality management. This view is supported by Foster (2006), Sousa, and Voss (2008), who raise doubts about the "universal validity" of quality management practices. They believe that inconsistent performance in the application of quality management can be because of contextual elements.

2.3 Balanced Scorecard

The concept of Balanced Scorecard is based on a well-known and unambiguous philosophical basis in guiding the organization to the right track, to correct and measure the level of achievements and developments to reach the desired goals. The balanced scorecard is defined as the specific cover for adjusting and measuring planned work, which is a complete set of standards for financial and non-financial matters (Vogel, 2013). The expected work suits the leading enterprise and sub-units that make up that institution, all which Standards and metrics are linked to each other by cause and effect relationship (Vogel, 2013).

The Balanced Scorecard is a complete cover for evaluating strategic business and routing it to the right track, containing many criteria that are relevant to the financial and non-financial organization, combining all the requirements by means and results. As an administrative system, a balanced scorecard is not only a system of measurement and rectification, which can enable businesses to explain and transform their schemes into actions but indirectly supply all topics related to internal formats and final products for development and improvement as well (Al-Refaie and Thyabat, 2015). The

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Balanced scorecard gives the economic units the ability to combine all work regardless of it is short-term or long-term, with their strategies. It coordinates with all significant management periods, through these cards, the accreditation of units to the final approach will be after integrating them and not only on that short-term business.

The economic units can combine the rewards system and the methods with being followed to reach the primary goal and not only to rely on financial performance targets (Idris and Galby, 2009). That allows the employees to monitor and develop their business, and to see their level of significance to the long-term goals and strategies identified by economic units because of their great usefulness rather than relying on short-term objectives. The Balanced scorecard comprises operational fundamentals, and the financial basis for its application is a criterion for the success of economic units in the era of technical developments, transforming strategies into measurable goals. While determining the basic pros of a balanced scorecard, it converges notes into a quantifiable goal, and is a system of administrative systems that encourages development and transformation when critical situations occur, business, target group identification, optimization, expansion of services provided, and By providing assistance to all organizations in order to correct or reorient workers to achieve the educational value and acquire the required expertise in the organization, it links the level of staff work with the plans and objectives of the organization and balances the external and internal standards through different dimensions, It combines the minimum and highest standards in the organization, collects the etiology and effects with necessary rules and diagrams, shows the impact of any transformation in a specific part of the system on performance in different locations, developments and explains how the work is performed and its various requirements, and integrates all standards different in the organization (Reid and Sanders, 2019). Based on the above arguments, the following framework and hypotheses were developed:
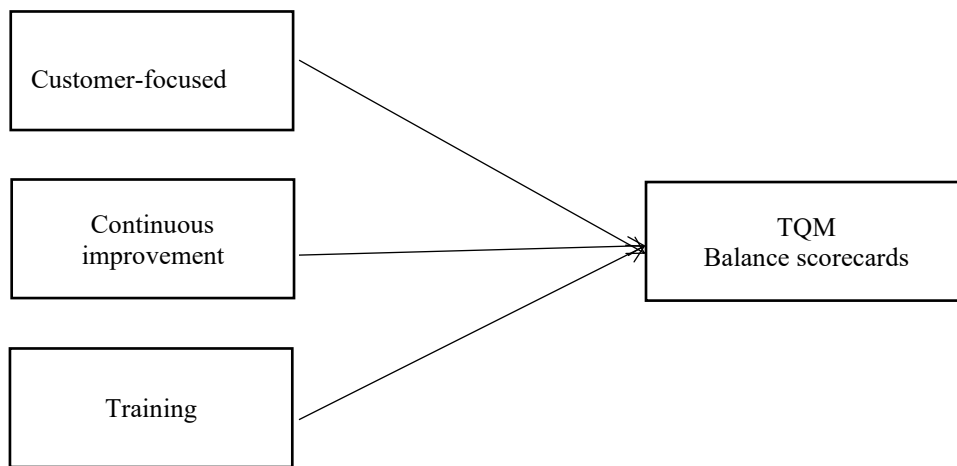

Figure 1: Conceptual Framework

Customer-focused: Customer-focused is the organization's work to provide services or products to its customers because the criterion of its success is the satisfaction of customers with those services and products. After all, the customer is at the centre of all efforts from product design to after-sales services, considering his wishes are the driving force of all kinds of production processes in the organization. Continuous improvement Are efforts to improve and develop continuously without stopping because they based on the principle that the opportunities for development and improvement never end. Continuous process improvement is one of the principles of quality management; all employees are involved in improving the internal processes of the facility through improvement teams through a specific applied methodology. Training: Training is the crucial elements to ensure the efforts of the comprehensive quality management system. It is based on education and training because it ensures that individuals and groups within the organization are provided with sufficient knowledge, in addition to the training as a tool that must be used to enable the organization to implement comprehensive quality management successfully.

Balanced Scorecard (BS): Balanced Scorecard is a management system and a strategic plan to assess the performance and activities of the organization according to its strategy and vision. This system balances the financial aspects and customer satisfaction, the efficiency of the internal processes and the aspects of learning, creativity, and development in the organization (Zewelf & Noor, 2005).

H1: There is a positive and significant relationship between customer-focused and balanced scorecards in the Water and Sewerage Company of Libya.

H2: There is a positive and significant relationship between continuous improvement and balanced scorecards in the Water and Sewerage Company of Libya.

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H3: There is a positive and significant relationship between training and balanced scorecards in the Water and Sewerage Company of Libya.

3. Methodology

This study is one of the field studies in which the researcher followed the descriptive-analytical method, to identify the impact of overall quality management on the balanced scorecard as a measure of performance in service companies. The descriptive variables other than quantity will be studied and analyzed quantitative variables are measurable, intending to make an accurate selection of the hypothesis, and thus indicating the findings and recommendations of the study. Both Jaber and Kadhim (2014) show that the descriptive-analytical research is not limited to data collection and tabulation but goes beyond that as it includes a degree of interpretation of these data and analyzes and draws conclusions that are meaningful and meaningful to the problem of the study.

This study uses a quantitative approach. In this approach, the hypotheses were developed based on several literature reviews. After that, it has been decided to use the quantitative methodology. Data collection have focused on the General Organization for Water and Sanitation in Libya, and the population target has been all managers at all levels in the organization and its branches. The sampling population includes Tripoli Branch, Benghazi Plain, Central Administration, Jabal Al Akhdar, Western Administration Branch, Western Mountain, Southern Administration, and Central and Eastern Administration. The population of the study is 646 managers in all branches of the organization

The sample of this study is 200 managers from these companies. This study uses primary data sources. That includes the data that will be collected from the study sample by distributing the questionnaire to them. The primary data will be organized in numerical tables containing the data in the form of statistical figures to conduct fundamental statistical analyzes—the use of the SPSS program for the analysis parts in this study. The tests are demographic background, reliability test, normality test, Multicollinearity test, descriptive statistics, correlation test, and regression test.

4. Data Analysis and Results

Several tests were conducted for the analysis purpose. The analysis was divided into two sections, the first section is validating the collected data, and the second section is for the investigation of this study. The First section included tests like demographic background, reliability, normality test, and multicollinearity test. The second section contained the descriptive statistics analysis, correlation test, and regression test.

4.1 Demographic Background

Respondents were asked to choose from the most appropriate range that included their current age. The categories options are Below 25 years old. From 25 to 35 years old, from 36 to 45 years old and more than 45 years old. However, the most significant number of respondents was 101 indicated the age from 36 to 45 years old, with 50.8%. The second-largest number was 42 indicated their age between 25 to 35 years old, with 21.3% of the respondents indicating their age in this group. As for the third number, 39 reported that their ages were above 45 years old, with a percentage of 18.9%, while only 18 respondents reported that their ages were below 25 years which represented 9.0% of the population.

Disciplines have almost an equal number of respondents which is about 54 respondents with 27.2% (accounting and finance & banking), while business administration discipline has 52 respondents (26.4%) and information technology discipline has 40 respondents (18.8%). working experience of 11 – 15 years (n = 90, 45.1%). Following the working experience of 15 years and above (n = 81, 40.1%). Another group of respondents described lower length of their working experience as from 6 to 10 years (n =16, 8.2%) and the smallest group of respondents regarding working experience were like (n =13, 6.6%) representing the below 5 years.

The frequency analysis showed that most of the respondents qualify as Master (n = 90, 45.1%). While 48 of the respondents were restricted with bachelors (23.8%), and almost the same (n=46, 23.0) were qualified with PhD. The smallest group of respondents regarding the qualification were like (n =16, 8.2%) high diploma. In term of job position as 22 (11.4%) of respondents have a Chief Executive Officer, 24 (12.2%) have a Deputy Executive Officer job position, 104 (52.4%) have a Managing Director job position, and 50 (23.8%) have a Head of the Department job position.

Table 1: Demographic Background

	Frequency	%		Frequency	%
Discipline			11 – 15 Years	90	45.1
Accounting	54	27.2	More than 15 Years	81	40.1
Finance and Banking	54	27.2			

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Business Administration	52	26.4	Qualification		
IT	40	18.8	High Diploma	16	8.2
Age			Bachelor	48	23.8
Below 25 years old	18	9.0	Master	90	45.1
25 - 35 yrs	42	21.3	PHD	46	23.0
36 - 45 yrs	101	50.8	Job Position		
45 yrs & Above	39	18.9	Chief Executive Officer	22	11.4
Working Experience			Deputy Executive Officer	24	12.2
Below 5 years	13	6.6	Managing Director	104	52.4
6 – 10 Years	16	8.2	Head of the Department	50	23.7

4.2 Reliability Test

To determine the understandability of the items of the questionnaire, the reliability test of the were used. The reliability test was used for all the variables of the study. The Cronbach alpha value was used for identifying the reliability of each variable. The Accepted Cronbach alpha value was 0.7 and above. There were high internal consistency among variables (customer-focused, continuous improvement, training, and balanced scorecards) items with the Cronbach alpha equal to 0.923, 0.822, 0.845, and 0.809, respectively.

Table 2: Reliability test

Variable	Items	Cronbach Alpha
Customer-Focused		
Continuous Improvement	7	0.923
Training	8	0.822
Balanced Scorecards	5	0.845
	7	0.809

4.3 Normality Test

According to Hair et al. (2006), normality is the shape of the data distribution of the individual metric valuable along with its correspondence to the normal distribution. The Nonnormality of data can be detected in several ways. For instance, Hair et a1. (2006) demonstrated the detection of the univariate normality (variables normality) through Zskewness and Z-kurtosis. Skewness depicts the irregularity of distribution, e.g. a variable whose mean is not in the centre of the distribution, while kurtosis depicts the peakedness of a distribution. A normal distribution happens when the value of its skewness and its kurtosis are both equal to zero (Tabachnick & Fidell, 2001). Skewness is clarified by comparing the distribution to a normal distribution. If it possesses a few large values and tails off to the right, then distribution is said to be positively skewed. If on the other hand, the distribution has relatively few small values and tails off to the left, then is said to be negatively skewed.

According to Hair et al. (2006), if the Z-skewness of the distribution falls outside of the range of -1 to +1, then it is substantially skewed. Z-Kurtosis, on the other hand, is the measure of the peakedness or flatness of distribution and like skewness, it is clarified by comparing it with a normal distribution. A relatively peaked distribution is denoted by a positive value, while a relatively even distribution is denoted by a negative value (Hair et al. 2006). In addition, several researchers indicate that the data is normally distributed if the Z-value (CR) skewness $< \pm 3.0$ and the Z-value kurtosis $< \pm 7.0$ (Chou & Bentler 1995; Hu, Bentler & Kano 1992; Ghozali, Fuad & Seti 2005). The used values in this test are the skewness and the Kurtosis statistics. This test ensures that all the variables (customer-focused, continuous improvement, training, and balanced scorecards) have got an acceptable range for the Skewness values, which were ranged between – 0.506 and 0.008. This result means that the data is normal.

Table 3: Results of Skewness and Kurtosis for Normality Test

Constructs	Skewness	Kurtosis Statistic
Customer-Focused	-.012	.256
Continuous Improvement	-.156	.860
Training	-.506	-.278
Balanced Scorecards	.008	.258

4.4 Multicollinearity Test

Multicollinearity is not desirable. It means that the variance our independent variables explain in our dependent variable are overlapping with each other and thus not each unique explaining variance in the dependent variable (O'brien, 2007).

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To assess the level of multicollinearity, Variance Inflation Factor (VIF) and tolerance are both widely used measures of the degree of multicollinearity (O'brien, 2007). The tolerance represents the amount of variance of one construct' indicator not explained by the other indicators in the same block. Hair et al. (2006) also recommended that the value of the variance inflation factor (VIF) should be less than 5, and the tolerance effect for both is more significant than 0.1. As shown in table (see table 4), multicollinearity diagnostic indicates evidence of none existence of significant multicollinearity among the research variables of the predictor. That happens because all values of tolerance are above 0.2, ranging from 0.668 to 0,521. Also, all VIF values are below 5, ranging from 1.918 to 1.97. It means that the variance of our predictor variables (Customer-Focused, Continuous Improvement and Training) explain in our dependent variable (Balanced Scorecards) are not overlapping with each other.

Table 4: Test for Multicollinearity on Assessment of Tolerance and VIF Values

Constructs	Tolerance	VIF
project initiation	.607	1.648
risk assessment	.668	1.497
business impact analysis	.647	1.546
business continuity & disaster recovery plan	.521	1.918

4.5 Descriptive Statistics Analysis

Mean and standard deviation (SD) of the measurement scales were calculated. This study used a seven-point Likert scale ranging from 1 strongly disagree to 7 strongly agree. The main goal of the study is to explore the gauge of organizational performance among managers and the head of department at all levels (upper-middle-lower) in the General Organization for Water and Sanitation in Libya. Table 5 shows that the highest mean was balanced scorecards (BC) with 3.406 out of a maximum 5 making up 68% and Continuous improvement (CIM) at 3.338, making up 66%. Besides, most variables were similarity mean between 3.2 and 3.3 (more than 3) making up 60%.

Moreover, Training and Customer-focused were similarities with mean 3.243 and 3.3104 making up 65% and 66% respectively. Also, the standard deviations (SD) for all variables range from 0.79321 to 0.96394, which reflects the existence of considerable acceptable variability within the data set. Table 5 presents descriptive statistics for all variables.

Table 5: Descriptive Statistics for Study Variables

	N	Minimum	Maximum	Mean	Std. Deviation
CF	314	1.00	5.00	3.3104	.96394
CIM	314	1.00	5.00	3.3385	.87318
TRA	314	1.00	5.00	3.2432	.79321
BS	314	1.00	5.00	3.4067	.84261

Key: CF = customer-foucsed, CIM = continuous improvement, TRA = training, and BC = balanced scorecards.

4.6 Correlation Test

Correlation test is used to find out the type of relationship between two variables or more for the current study. The correlation test was used to identify the correlation between the independent variables and the dependent variable. The findings of the study indicated that the highest correlation was Continuous improvement (CIM) and Balanced Scorecards (BS) with 0.542 and p-value of 0.000. That is followed by Customer-focused (CF) was 0.463, and the p-value was 0.000. On the other hand, the lowest correlation among variables was Training (TRA) with 0.432, and the p-value was 0.000. The results of the correlation matrix show that the values of association were less than 0.80 and ranged between 0.542 and 0.432. Table 6 below presents the correlation matrix between the latent variables.

Table 6: Correlations test

Independent variables		Balanced Scorecards
Customer-Focused	Pearson Correlation	.463**
	Sig. (2-tailed)	.000
Continuous Improvement	Pearson Correlation	.542**
	Sig. (2-tailed)	.000

Training	Pearson Correlation	.432**
	Sig. (2-tailed)	.000

4.7 Regression Test

The regression test is used to define the future role of the independent variables on the dependent variable. In other words, it is meant to predict the impact of the independent variables on the dependent variable. The regression showed that all variables (customer-focused, continuous improvement, and training) have significant values less than 0.05 (0.003, 0.001, and 0.000, respectively) which means that these three variables influence the balanced scorecards in the regression model.

Table 7: Regression test for the dependent variable

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-.537	.232		-2.311	.023
Customer-Focused	.149	.076	.179	1.967	.003
Continuous Improvement	.335	.099	.349	3.403	.001
Training	.218	.053	.241	4.113	.000

4.8 Discussion

According to the current study, based on the reliability test, there were significant internal consistency among variables (customer-focused, continuous improvement, training, and balanced scorecards) items with the Cronbach alpha equal to 0.923, 0.822, 0.845, and 0.809 respectively. The normality test also was implemented, and it was found that the used values in this test are the skewness and the Kurtosis statistics. This test ensures that all the variables (customer-focused, continuous improvement, training, and balanced scorecards) have got an acceptable range for the Skewness values, which were ranged between – 0.506 and 0.008. This result means that the data is normal. It means that the variance of our predictor variables (Customer-Focused, Continuous Improvement and Training) explains in our dependent variable (Balanced Scorecards) are not overlapping with each other.

Mean and standard deviation (SD) of the measurement scales were calculated. This study used a seven-point Likert scale ranging from 1 strongly disagree to 7 strongly agree. The main goal of the study is to explore the gauge of organizational performance among managers and the head of department at all levels (upper-middle-lower) in the General Organization for Water and Sanitation in Libya. Table 5 shows that the highest mean was balanced scorecards (BC) with 3.406 out of a maximum 5 making up 68% and Continuous improvement (CIM) at 3.338, making up 66%. Also, most variables were similarity mean between 3.2 and 3.3 (more than 3) making up 60%.

Moreover, Training and Customer-focused were similarities with mean 3.243 and 3.3104 making up 65% and 66% respectively. Besides, the standard deviations (SD) for all variables range from 0.79321 to 0.96394, which reflects the existence of considerable acceptable variability within the data set. Table 5 presents descriptive statistics for all variables. Correlation test is used to find out the type of relationship between two variables or more for the current study. The correlation test was used to identify the correlation between the independent variables and the dependent variable. The findings of the study indicated that the highest relationship was Continuous improvement (CIM) and Balanced Scorecards (BS) with 0.542 and a p-value of 0.000. That is followed by Customer-focused (CF) was 0.463, and the p-value was 0.000.

On the other hand, the lowest correlation among variables was Training (TRA) with 0.432, and the p-value was 0.000. The results of the correlation matrix show that the significances of association were less than 0.80 and ranged between 0.542 and 0.432. Table 6 below presents the correlation matrix between the latent variables. The regression test is used to define the future role of the independent variables on the dependent variable. In other words, it is meant to predict the impact of the independent variables on the dependent variable. The regression showed that all variables (customer-focused, continuous improvement, and training) have significant values less than 0.05 (0.003, 0.001, and 0.000, respectively) which means that these three variables influence the balanced scorecards in the regression model.

The previous studies approve the results of this study. Aziz and Mahmoud Banu (2018) aimed to find current practices in higher education institutions to improve quality, using the principles of overall quality management and the obstacles faced by higher education institutions. Also, the study proposed a framework of TQM for higher education institutions.

The study was based on selected principles of TQM, namely leadership, customer focus, continuous improvement and teamwork, and a process-based system approach. Data were collected through semi-structured interviews and document analysis. The results revealed that selected TQM principles are used by higher education institutions to improve the quality of institutions. Leadership and customer focus play a significant role in achieving the quality of service institutions. The main obstacles faced by institutions are the application of overall quality management principles. The need for leadership and customer focus can drive people to accept change so that these two elements of TQM take into account the TQM across all organizations.

ben Odeh (2017) examined the TQM, and its relationship to job performance and the study showed a statistically significant positive correlation between all dimensions of TQM and job performance. The study also showed that there is a great interest in the application of aspects of overall quality management, and keen to raise the level Functionality for upgrading Improve organizational performance. The study of Zain El-Din (2017) aimed to identify the impact of the application of overall quality management quality of educational services in public university colleges in the Gaza Strip. The study followed the descriptive-analytical as well as historical approach; the statistical package for social sciences was used to analyze the study data. The study sample consisted of 486 university employees and students. Their study showed a positive relationship between the application of overall quality management and improving the performance of the educational service in the university. The results showed that the most critical areas to improve the performance of educational services in the university in the field of management of facts. Educational services at the university, the adverse impact of the area of focus on the beneficiaries. The study recommended strengthening the interest and role of senior management in TQM, focusing more on the and understanding their needs and expectations and meeting them. Their research also suggested to enhancing the concept of social responsibility at the university and colleges to play its role towards employees, students, and the local community, and promote innovation and support ideas for employees and students and work to develop and develop them.

Al-Saeed and Ben Abbas (2017) aimed to identify how to apply some methods used to achieve overall quality in higher education institutions in Algeria. They identified the most critical areas and requirements and ways to implement quality management in higher education institutions. They then to find a strong correlation between the application of management approach overall quality and reach a distinguished level of performance in the university institution, and lead to the achievement of the objectives of university institutions and improve the efficiency of their outputs.

The objective of the current study was to collect data on the research of interest. After delineating the problem statements of the study, a survey was designed to collect the data based on a questionnaire before testing the hypothesis. The study sample consisted of 84 professors. The study concluded that there is an interest by faculty members in the educational system understudy of the variables of the quality management system. Managerially appropriate to raise the efficiency of the performance of academics, administrators and the educational product is needed.

5. Conclusion

This study investigated the role of overall quality management on the balanced scorecard as a measure of performance in the general organization for water and sanitation in Libya. In this Study, A quantitative approach was considered suitable for the process. The results of the current study have argued the data analysis procedures, which are included in the initial and second phases of data testing. Before conducting SEM analysis, data were examined for the outlier. The data was investigated based on univariate and multivariate analysis. By testing the data for normality, linearity, multicollinearity. Also, this paper explained the profile of the respondents. The article also presented the profile of the managers of the General organization for Water and Sanitation in Libya. The primary and most important findings were shown in the correlation and regression tests, which stated that the Correlation test is used to find out the type of relationship between two variables or more.

For the current study, the correlation test was used to identify the correlation between the independent variables and the dependent variable. The findings of the study indicated that the highest correlation was Continuous improvement (CIM) and Balanced Scorecards (BS) with 0.542 and a p-value of 0.000. That is followed by Customer-focused (CF) was 0.463, and the p-value was 0.000. On the other hand, the lowest correlation among variables was Training (TRA) with 0.432, and the p-value was 0.000. The results of the correlation matrix show that the values of correlation were less than 0.80 and ranged between 0.542 and 0.432. Table 6 below presents the correlation matrix between the latent variables. The regression test is used to define the future role of the independent variables on the dependent variable. In other words, it is meant to predict the impact of the independent variables on the dependent variable. The regression showed that all variables (customer-focused, continuous improvement, and training) have significant values less than 0.05 (0.003, 0.001, and 0.000, respectively) which means that these three variables influence the balanced scorecards in the regression model.

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