

# Total Quality Management applications of higher education in Libya

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**Abstract-** Address the extent to which higher education institutions standards of total quality management in accordance with the different axes, and represented the study procedures in the use of descriptive and analytical approach, also used the questionnaire to collect information tool which has been applied to a sample of 62 of the directors and heads of departments and units and members of the faculty and all of his role in the strategic planning of higher education institutions in Sabratha management. Statistical processing was used program (SPSS) to calculate percentages and averages, standard deviations, and test hypotheses to find a relationship between the variables of the study in accordance with the comprehensive quality management standards axes, the study found the number of results was the application of total quality management standards such institutions moderately according to different axes, One hypothesis testing results and there is a significant statistical relationship between the approval of the organizational structure of the Foundation Council and the procedures for the organization agrees with its mission and objectives, as there is a relationship between the approval of the organizational structure of the Foundation Council and the vision and mission. The presence of a statistically significant relationship between the clarity of vision and mission and how the organization measures agree with its mission and the existence of significant differences, for the variables of the study by type, and job level and age. The study recommended the need to adopt the concept of total quality management in the educational process and review the implementation mechanisms and the establishment of a specialized department for quality and accreditation of institutions where there is no quality management, dealing with the applications programs and to work on activating the idea of creating a unit of Total Quality and Performance Development in Higher Education Institutions in the light of international standards.

**Keywords:** Higher education, quality management, statistical processing, International standards.

## I. INTRODUCTION

Consider higher education the most important pillars of comprehensive development, and through its contribution to the preparation of technical and academic and professional cadres of various institutions of society, in addition to the course in the development of knowledge, use and dissemination through scientific research, and the preparation of specialists in the fields and the development of society and the environment service methods.

So I enjoyed the process of the development of education with great interest in most countries of the world, and it was the most important tools developed by the application of quality standards that have become a feature of this era, making thinkers call this era of quality era as one of the basic pillars of the model of successful management that appeared to keep pace with international and local variables and try to adapt.

Accordingly, the basic pillars determine the quality ranks of great importance in the framework of its practicality in the various institutions involved, including the institutions involved in higher education, if these cornerstones that would indicate to the basic facts in the field of quality assurance [22]

The overall quality of the system occupied a leading position in the thinking of economists and educators to improve the quality of education at all levels, and in all its dimensions and its components, and the overall quality has become one of the issues of concern to the administrative leadership of any educational institution to raise the level of their performance.

And what was the administration's success is linked to the productive efficiency, so the overall quality strategy for integrated management emerged for the development of the productive and service enterprises, and including institutions of higher education [3].

Given the importance of the development of a gateway T. Higher Education, processes and outputs it has become a recognized acceptance of the principle of comprehensive evaluation of the components of the educational system and the way its programs to achieve its objectives on the one hand and an investigation into a good investment to spend on education on the other hand, has led to the emergence of a strong approach aims to strive hard to improve the efficiency of the educational system, by improving

the overall quality of the outputs of the education system, and adjust the quality standards and systems using different overall quality [3].

The study questions in the following main question:

Is University of total quality management standards are applied in accordance with the different axes? The fork to the following questions.

A. Are university standards of total quality management in accordance with the applicable standard administrative work through (Vision, Mission, and Goals)?

B. To what extent the application of the university to the standards of total quality management of the administrative organization?

C. To what extent the application of the university to the standards of total quality management of educational programs and curricula, and educational systems?

## II. THE HYPOTHESES OF THE STUDY

The study based on the following hypotheses:

\* TQM requires work in one team (the senior management and members of the faculty and staff and senior policies of the state body) lead to the success of the application of total quality management.

\* Quality of inputs (students, faculty and curricula, facilities and funding) leads to the quality of outputs.

\* There are many obstacles that lead to deficiencies in the application of total quality in higher education institutions standards in Sabratah.

\* No quality standards and the adoption of a real and if there is not implemented.

\* The extent to which higher education institutions quality standards in Sabratah and accreditation recognized by the Ministry of Higher Education.

## III. THE OBJECTIVES OF THE STUDY

The aim of this study is the following:

1. Showing the basic concepts of Total Quality Management in Higher Education Institutions.

2. Definition of the concepts of Total Quality Management in Higher Education and the various intellectual visions that I've ever had.

3. Highlighting the most important criteria and steps that educational institutions should be followed in the field of establishing Assurance Authority generosity of academic accreditation.

4. Contribute to the enrichment of scientific libraries in Libya in this area.

5. Ensure the application of total quality concepts in Libyan universities.

Perhaps the most important challenges of our time the subject of the quality of higher education, which has become a challenge for institutions of higher education and what should be on governments and educational institutions work in this regard in terms of search quality for quality in everything under the tyranny of the quantum [2]

Hence the importance of this study are as follows:

1. Find highlights the importance of the application of total quality management as a way to improve the university educational system and its development.

2. Apparent lack of literature and research in the field of total quality management and its applications in higher education institutions of the Libya

3. The establishment of quality assurance and accreditation bodies in Libya.

4. The need for higher education institutions to take the Libyan modern methods in the development, management.

## IV. THE METHODOLOGY USED IN THE STUDY

The study relies on:

1 - Descriptive approach: by describing the statement of facts and information

2 - Analytical approach: and it is data and information that is obtained from the questionnaire and personal interviews, analysis, and placed in tables and arrange them and then draw conclusions and recommendations.

3 - Historical method

## V. THE LIMITS OF THE STUDY

1 - Objective limits: the application of Total Quality in Higher Education Standards

2 - Spatial boundaries: The spatial boundaries in higher education institutions in Sabratah - Libya

3 - Time limits: The study was conducted on the data and information from the years 2011 to 2015

## VI. THE STUDY COMMUNITY

The study population consisted of (managers and heads of departments and units, supervisors and some faculty and all the members involved in strategic management) workers in the fields of higher education institutions in Sabratah.

All targeted relevant faculty' members and may distribute the questionnaire on colleges and universities, and the ratio of that period which has been distributing the questionnaire has experienced annual leave for colleges, so the proportion of participants in the survey decreased. However, the share was convinced of the importance of study. The study included 62 College workers ranged between department heads, faculty, staff, engineers and other functions.

## VII. STUDY METHODOLOGY

A tool Established to study it is identification is made up of four areas covering 80 questionnaires to measure Degree application criteria for management of quality overall in the area of Sabratha , Study looked at workers in higher institutes, where there was developing a questionnaire to gather information, and that according to the following steps:

- 1- View on literature education and studies ex on the topic of study.
- 2- Choose a model for antecedent Centre used nationally to ensure quality and accreditation institutions, education and training, and found they serve Search dramatically.
- 3- Choose areas and items appropriate to exclude some of the other to avoid stretching or repetition.
- 4- Distribution of the questionnaire as final.
- 5- Measure the extent of sincerity and steady lines resolution.
- 6- Distribution of questionnaire on category targeted and then collected.
- 7- Conduct analysis of statistical fitting, and coming up with results and comment on them.
- 8- Prepare recommendations are appropriate in light of these results.

## VIII. STUDY VARIABLES

Included Study variables as following:

A - Independent Variables:

- Sex: It has two levels: male, female.
- Qualifier Scientific: it has three levels) diploma, Bachelor, higher than Bachelor).

Years Expertise: it has three levels: (less than 5 years, 5-10 years, and more than 10 years.

B -Dependent variable: In response on the question of study which is determined by the degree of application of standards of quality Overall In colleges and higher institutes in the city of Sabratha.

## IX. STATISTICAL PROCEDURE

After Unloading answers members sample was encoded and enter data using a computer, then was Processing the data statistically using software statistical package for social sciences (SPSS),

Statistical procedures used are:

1. Frequencies, averages, percentages and Standard Deviation of screened Responses to Members of the sample on the question the President first.
2. Test of Normality.
3. Test analysis of variance (ANOVA) to examine the significance of the differences in the responses of members of the sample in the degree of application of criteria Management of quality overall according to variables of the qualification and years of experience.
4. Correlation test to see if there is a relationship between study questions with significance.
5. Nonparametric Test (Sign test) is taken to test statistical hypothesis for individual study.

## X. DESCRIPTIVE ANALYSIS:

Table 1: Statistics Survey applied to 62 participants.

		sex	age	Education level	Job position	Practical Experience
N	Valid	60	54	60	61	60
	Missing	2	8	2	1	2

Some values are missing for every question, because May perhaps participant is not interesting or refuse to answer.

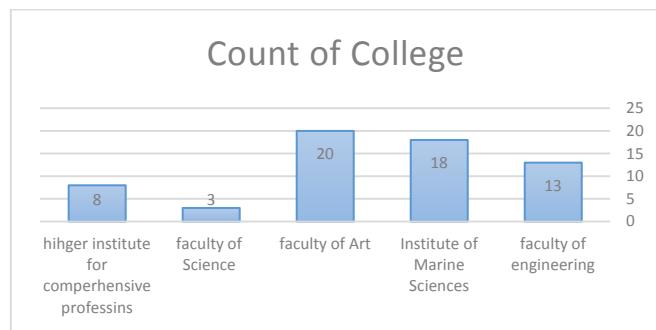


Figure 1: Frequency rate for college's participants

Table 2: participant's distribution as sex category.

		Frequency	Percent
Valid	male	42	67.7
	female	18	29.0
	Total	60	96.8
Missing	System	2	3.2
Total		62	100.0

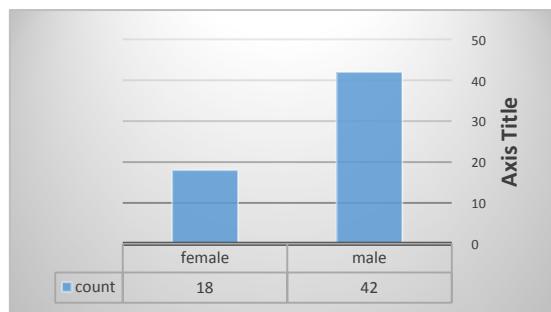


Figure 2: participant's distribution as sex category.

Table and figure above show that 42 male and 18 female who contribute to survey.

Table 3: participant's distribution as age category

		Frequency	Percent
Valid	less than 30 years	7	11.3
	30-40 years	10	16.1
	40-50 years	21	33.9
	more than 50 years	16	25.8
	Total	54	87.1
Missing	System	8	12.9
Total		62	100.0

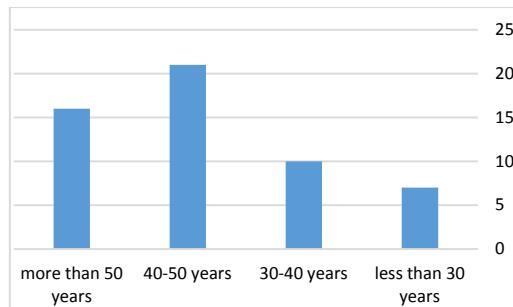


Figure 3: participant's distribution as age category

Table and figure above display seven participants age less than 30 years, 10 participants 30-40 years, 21 participants 40-50 years and 16 participants more than 50 years

Table 4: participant's distribution as education level category

		Frequency	Percent
Valid	PUBLIC HIGH SCHOOL	1	1.6
	Bachelor	18	29.0
	Master Degree	19	30.6
	PhD	9	14.5
	other	13	21.0
	Total	60	96.8
Missing	System	2	3.2
Total		62	100.0

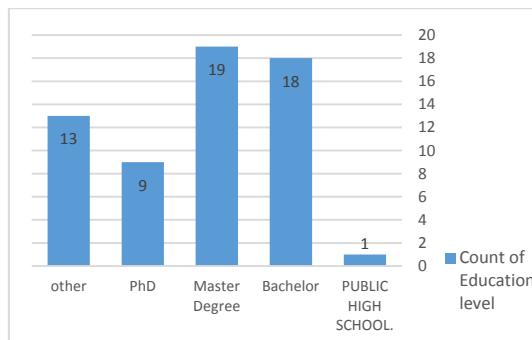


Figure 4: participant's distribution as education level category

Table and figure above display one participant has PUBLIC HIGH SCHOOL, 18 participants with Bachelor degree, 19 participants Master Degree, 9 participants has PhD degree and 19 participants are other.

Table 5: participant's distribution as job position category

		Frequency	Percent
Valid	Enterprise Manager	2	3.2
	Head division	26	41.9
	Faculty Member	13	21.0
	Engineer	2	3.2
	Employee	15	24.2
	other	3	4.8

	Total	61	98.4
Missing	System	1	1.6
	Total	62	100.0

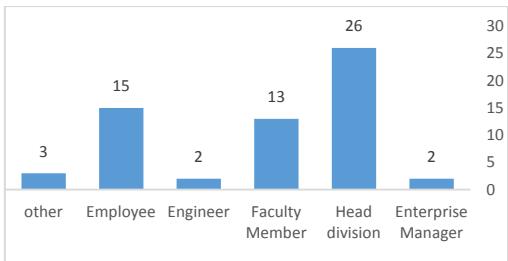


Figure 5: participant's distribution as job position category

Table and figure above show distribution of participants according to their jobs as two participants work as Enterprise Manager, 26 participants work as Head division, 13 participants work as Faculty Member, 2 participants work as Engineer, 15 participants work as employee and three participants said they work other.

Note: one answer is missing.

Table 6: participant's distribution as Practical Experience category

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 5 years	12	19.4	20.0	20.0
	5-10 years	18	29.0	30.0	50.0
	10-15 years	7	11.3	11.7	61.7
	15-20 years	8	12.9	13.3	75.0
	20 years and more	15	24.2	25.0	100.0
	Total	60	96.8	100.0	
Missing	System	2	3.2		
	Total	62	100.0		

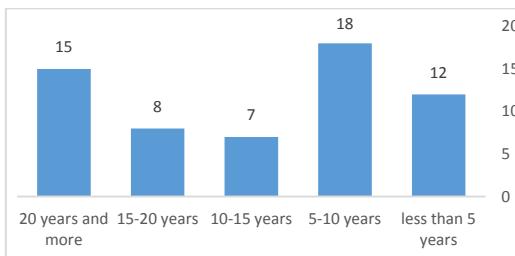


Figure 6: participant's distribution as Practical Experience category

Table and figure above show distribution of participants according to their Practical Experience 12 participants have less than 5 years' experience, 18 participants have 5-10 years' experience, seven participants have 10-15 years' experience, eight participants have 15-20 years' experience and 15 participants have more than 20 years' experience work.

## XI. RELIABILITY ANALYSIS (ALPHA CRONBACH STATISTICS)

### Scale: ALL VARIABLES

Table 7: Case-Processing Summary

		N	%
Case s	Valid	58	93.5
	Excluded a	4	6.5
	Total	62	100. 0

a. Listwise deletion based on all variables in the procedure.

Table 8: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.667	.669	3

Table (8): Reliability Statistics

Reliability analysis is taken as table above show for three questions and respondents to its. 0.667 Cronbach's Alpha statistics, means that researcher could consider questionnaires answers is good reliable. Truth statistics is the square roots for reliability measure equal to 0.81, consider good statistics and participants who contributes to survey have fact answers.

Table 9: Reliability Statistics

		Sum of Squares	df	Mean Square	F	Sig
Between People		136.626	57	2.397		
Within People	Between Items	.356	2	.178	.22 3	.80 0
	Residual	90.977	114	.798		
	Total	91.333	116	.787		
Total		227.960	173	1.318		

Table (8): Analysis of Variance (ANOVA)

Analysis of Variance is taken to test homogeneity of variables and if there are differences between its. Test in table above show that there is significance value (0.800) greater than 0.05 significance test, which means that hypothesis of homogeneity is true and there is no difference between variables' answers.

#### Likert Scale:

Likert scaling, like, uses a panel of expert judges to locate the items on the attitude scale. However, Likert scaling uses a polychromous response scale (e.g., strongly disagree =0; disagree = 1; neutral = 2; agree = 3; strongly agree = 4) rather than a dichotomous response scale (disagree = 0; agree = 1). Typically an odd number, usually five or seven, response categories are used, with a middle 'neutral' or undecided category'; however, the use of an even number of response categories is equally valid. The central assumption in Likert scaling is that the respondents located high on the attitude scale are more likely to use high response categories than are individuals located on the low end

## XII. HYPOTHESIS TESTING

Table 10: Correlations between questions and its significance

		college	Enterprise has a clear vision and postings	The enterprise organizational structure were approved by its Board	Enterprise procedures compatible with its mission and objectives
college	Pearson Correlation	1	-.035	-.068	.082
	Sig. (2-tailed)		.789	.608	.540
	N	62	61	60	58
Enterprise has a clear vision and postings	Pearson Correlation	-.035	1	.339**	.541**
	Sig. (2-tailed)	.789		.008	.000
	N	61	61	60	58
The enterprise organizational structure were approved by its Board	Pearson Correlation	-.068	.339**	1	.486**
	Sig. (2-tailed)	.608	.008		.000
	N	60	60	60	58
Enterprise procedures compatible with its mission and objectives	Pearson Correlation	.082	.541**	.486**	1
	Sig. (2-tailed)	.540	.000	.000	
	N	58	58	58	58

\*\*. Correlation is significant at the 0.01 level (2-tailed).

- Table above shows there is no significance correlation between colleges; Enterprise' vision and postings, enterprise organizational structure approval by its Board and compatibility of Enterprise procedures with its mission and objectives.
- There is significance correlation (sig=0.000) between enterprise organizational structure approval by its Board and compatibility of Enterprise procedures with its mission and objectives.
- There is significance correlation (sig=0.008) between enterprise organizational structure approval by its Board and Enterprise' vision and postings.
- There is significance correlation (sig=0.000) between enterprise organizational structure and compatibility of Enterprise procedures with its mission and objectives.

### XIII. Discussion

As Analysis of Variance is taken to test homogeneity of variables and if there are differences between its. Test in table above show that there is significance value (0.800) greater than 0.05 significance test, which means that hypothesis of homogeneity is true and there is no difference between variables' answers. Where there are relationships between Enterprise' vision and postings, enterprise organizational structure approval by its Board and compatibility of Enterprise procedures with its mission and objectives. To which means Enterprise' vision and postings affect enterprise organizational structure and compatibility of Enterprise procedures with its mission and objectives.

There are some notices based on researcher's observations:

I. A significant lack of communication and delivery of information.

II. Leaving the task and responsibility of quality to specialists in quality.

Quality Section work without any incentive.

III. Lack of work in the spirit of Integrated Task Force for improvement teams responsible party do not to forget and leave the ways of the past and the curriculum.

IV. Incompatibility of the organizational structure with total quality management requirements.

V. Resistance to change resulting from the work of the Department of quality universities.

VI. Lack of harmony between organizational culture and the requirements of the success of the application of total quality management.

VII. Work is not a favorable environment so that employees feel that there is no value to them.

VIII. Lack of commitment by senior management of total quality management in universities.

IX. Lack of education and training in how to implement total quality management.

X. Interim interest and non-continuous improvement, when access to some of the results is discontinued.

XI. Not taking into account the enterprise environment and how to respond to them

To answer the research questions

I. Are university standards of total quality management in accordance with the applicable standard administrative work through (Vision, Mission, goals)?

From hypothesis testing, higher institutes and university colleges apply quality management in accordance with the applicable standard administrative work through (Vision, Mission, and goals) in average level, with no significance differences between educational institutes.

II. To what extent the application of the university to the standards of total quality management of the administrative organization?

From hypothesis testing, higher institutes and university colleges use quality management standards of the administrative organization in typical manner.

III. To what extent the application of the university to the standards of total quality management of educational programs and curricula, and educational systems?

From hypothesis testing, higher institutes and university colleges apply typically quality management standards of educational programs and curricula and educational systems.

#### XIV. Conclusion

The research centered on the extent to which educational institutions to the standards of total quality management in accordance with the different axes: the vision-message-organizational goals and work and educational programs. The study found the presence of total quality concept and vision, but his application below the desired level, the proportion of the circumstances experienced by the country within the temporal limits within which the message was conducted. There is an effort by the quality of educational institutions and departments attempt to consolidate the overall quality practices, which is recommended by the National Centre for TQM and training. National Centre for TQM training is considered the national to oversee the quality of education in universities Jamahiriya. Observed study the link between the organizational structure of the institution and clarity of vision and mission, as noted not to forget the ways of the past and the curriculum, especially from party officials, and the incompatibility of the organizational structure with total quality management requirements. There is also resistance to change resulting from the work of the Department of quality universities, and non-continuous attention improvement, when access to some of the results is discontinued. Finally, not taking into account the enterprise environment and how to respond to them. It recommended the message of attention to the quality and the quality of services offered by institutions of higher education to the individual and society in accordance with the standards of overall quality, and to ensure that scientific activities and programs of study accredited meet the quality and accreditation requirements and are consistent with international standards in the field of higher education and the requirements of specialization in various fields of education, as well as the needs of the university and students The state and society. The message also calls for work on activating the idea of creating a unit of Total Quality and Performance Development in Higher Education Institutions in the light of international standards.

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