

"Challenges and Difficulties Facing the Implementation of Total Quality Management in Higher Institutes and Colleges in Sabratha, Libya- Perspectives of Faculty Members."

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Abstract- The aim of this research is to identify the obstacles that impede and face the application of total quality management. A questionnaire will be prepared in two parts. The first is a set of elements that represent the constraints that limit the application of total quality management in higher education institutions in the Libyan higher education institutions while the second part provides the initial data and information about the research.

The research community consists of all faculty members from the faculties of the University of Sabratha: the Faculty of Engineering, the Faculty of Science, the Faculty of Arts, the Higher Institute of Marine Sciences, the Higher Institute of Comprehensive Professions, and the Higher Institute of Medical Technology in Sabratha, and then analyses and processes the questionnaire to obtain results from the field study.

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

I. INTRODUCTION

Higher education is the most important pillar of comprehensive development through its contribution to the preparation of technical, academic, and professional cadres

Therefore, the development of education has received great attention in most countries in the world, and one of the most important tools of its development is the application of quality standards that have become a feature of this era, which made thinkers call this era of quality one of the main pillars of the successful management model that emerged to keep pace with international and local variables and try to adapt.

Accordingly, the identification of the main pillars of quality is of great importance within the framework of practical application in various institutions, including institutions concerned with higher education, if these pillars would indicate the basic facts in the field of quality assurance. (MINISTRY OF HIGHER EDUCATION, LIBYA 2012).

In order for TQM to be applied in the field of higher education, it is necessary to know the obstacles that face its implementation (Taylor and Bogdan 1997). To help educational institutions achieve satisfactory results to achieve TQM, a broad base of information and indicators must be developed that enables all departments and decision makers to identify indicators of strength and deficiencies within the educational institution.

This study focused on the knowledge and classification of the obstacles facing higher education institutions in the application of total quality management. The University of Sabratha and the higher institutes in Sabratha have been selected for field study to measure the availability of the set of obstacles. In light of these results, recommendations can be made to help academic leaders overcome the obstacles to total quality they face.

II. The problem of the study and questions

Because of the importance of developing higher education inputs, processes, and outputs, a strong orientation was required to improve the efficiency of the education system through the use of TQM standards and systems.

Through my previous study, which was entitled "Applications of Total Quality Management in Higher Education Institutions," several obstacles have been reached that limit the application of total quality standards:

- Performance measurement criteria are unclear.
- Lack of moral and material incentives
- Libraries lack modern references, books, and scientific journals.
- Weak financial support for scientific research
- Neglect to contact the labour market to find out the needs
- The preoccupation of teaching staff at the expense of scientific research
- Ambiguity of academic leadership test standards
- Lack of awareness by leaders of the need to apply the concept of total quality.

The problem of the study can be expressed in the following questions:

1. What are the obstacles that limit the application of total quality management in higher education institutions?
2. Does the degree of appreciation of the importance of impediments to the application of TQM in higher education institutions differ according to specialization?
3. Does the degree of appreciation of the importance of impediments to the application of TQM in higher education institutions differ according to experience?

III. The objectives of the study

The overall objective of the research is to identify obstacles and problems facing faculty members and prevent the application of total quality management in higher education institutions through the following:

- Identify current constraints that could prevent the application of TQM standards.
- Divide these constraints into five groups, namely: leader aspects, educational and cognitive aspects, organisational aspects, aspects of scientific research, and aspects of community service.
- Identify the views of faculty members regarding each group.
- The extent of the degree of importance of the obstacles to the application of total quality management in higher education institutions according to experience
- The extent of the degree of importance of impediments to the application of total quality management in higher education institutions according to specializations

Through the conclusions reached, several recommendations can be developed that can inform decision-makers in this area.

IV. The importance of the study

The importance of this research shows that universities and institutes seek to apply total quality management for several reasons, including

- commitment of universities and higher institutes by the concerned authorities to apply the total quality system.
- Competition that will face these institutions as a result of several variables, including the accession of States to the World Trade Organization and the orientation of the private sector to invest in this area.

Through the observations of the study, away from some institutions of higher education from the systems of quality and academic accreditation, these institutions need to conduct field studies to reveal their flaws in order to determine the best way to proceed with random work and the application of concepts of quality and academic accreditation. Such a study will shed some light on the aspects and will benefit decision-makers in Libyan institutions.

The importance of this study is also evident as an academic addition and an attempt to fill the shortage in this area and enrich the scientific library with all the conclusions drawn in this important area.

Use analytical methodology due to its suitability for the purposes of the study.

V . study community

A community study of employees of colleges and universities in the city of Sabratha, west of Libya.

VI . Study Sample

All targeted relevant faculty members may distribute the questionnaire to colleges, higher institutes, and universities. The ratio of that period during which the questionnaire was distributed experienced annual leave for colleges, so the proportion of participants in the survey decreased. However, the shares were convinced of the importance of study. The study included 62 college workers, ranging between department heads, faculty, staff, engineers, and other functions.

VII . Study methodology

A tool established to study its identification is made up of four areas covering 57 questionnaires to measure degree application criteria for management of quality overall in the area of Sabrath.

study agreed with workers in higher institutes, where they were developing a questionnaire to gather information, and that according to the following steps:

1-View on literature education and studies on the study domain

2-Choose a model for the antecedent center used nationally to ensure quality and accreditation of institutions, education, and training, and find they serve search dramatically.

3-Choose areas and items appropriate to exclude some of the others to avoid stretching or repetition.

4-Apply pilot survey to reduce errors to a minimum.

5-Hand out of the questionnaire as final.

6-Measure the extent of sincerity and steady line resolution.

7-Distribution of questionnaires in the targeted category, followed by collection

8-Conduct analysis of statistical fitting and come up with results and comment on them.

9-Prepare recommendations that are appropriate in light of these results.

VIII . Study Variables

The following variables are included in the study:

Independent Variables (A):

-Sex: two levels: male and female.

-Qualifier Scientific: it has three levels (Bachelor, graduate, and PhD studies).

Years of Experience: There are three levels of expertise: (less than 5 years, 5-10 years, 11-14 years, 15-20 years, and more than 20 years).

stands for dependent variable(B):

In response to 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 Sabbath.

IX . Statistical analyses

After unloading answers, the sample was encoded and data was entered into a computer, which was then statistically processed using the software statistical package for social sciences (SPSS).

Statistical procedures used are:

1. Screened frequency distributions, averages, percentages, and standard deviations Responses to members of the sample on the question of the President first
2. test of normality.
3. Measure the reliability estimates.
4. use a correlation test to see if there is a relationship between study questions and significance.
5. The Chi square test is used to test statistical hypotheses in a single study.

6. A Likert scale is taken from all respondents to measure general opinion toward difficulties and obstacles facing the quality of education in Libya.

X. DESCRIPTIVE ANALYSIS

Table 2: number of participants

		institute	sex	Age set	Qualification	Position	Experience
N	Valid	57	57	57	57	57	57
	Missing	0	0	0	0	0	0
Mode		2 ^a	1	2	3	5	2

Table shows 57 participants in study.

Table 3: Frequency of participants based on institute

		Frequency Table	Frequency	Percent
Valid	College of Engineering		10	17.5
	Higher Institute of Marine Science Technologies		15	26.3
	Higher institute of science and technology		15	26.3
	College of Art		7	12.3
	College of Science		8	14.0
	Higher Institute of Medical Sciences		2	3.5
	Total		57	100.0

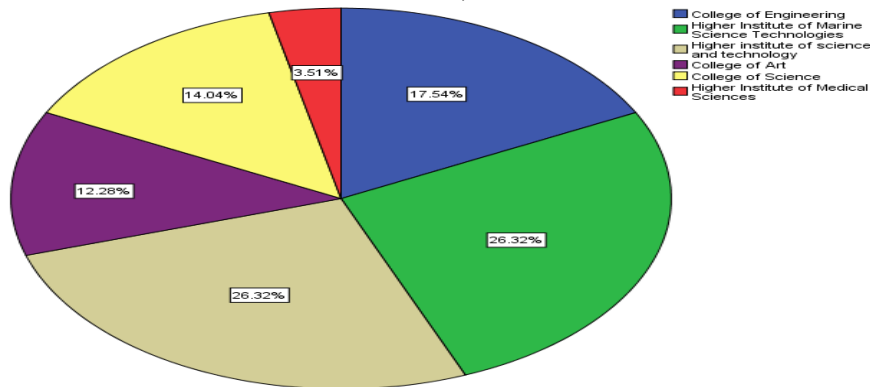


Figure (1): Distribution of respondents based on scientific institute

General notice based on institute: 17.5% participants from the College of Engineering, 26.3% participants from the Higher Institute of Marine Science Technologies, 26.3% participants from the Higher Institute of Science and Technology, 12.3% participants from the College of Art, 14% participants from the College of Science, and 3.5% participants from the Higher Institute of Medical Sciences.

Table 4: Frequency of participants based on sex

		sex	Frequency	Percent
Valid	Male		42	73.7
	Female		15	26.3
	Total		57	100.0

Table illustrates 73.7% male participants, 26.3% female participants.

Figure (2): Distribution of respondents based on type

Table 5: Frequency of participants based on Age set

		Age	Frequency	Percent
Valid	30-40		26	45.6
	41-50		24	42.1
	more than 50		7	12.3

	Total	57	100.0
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Figure (3): Distribution of respondents based on age

Frequency of participants based on Age set is shown in table 5, 45.6% participants in 30-40 years age, 42.1% participants in 41-50 years age, and 7% participants is above 50 years age.

Table 6: Frequency of participants based on Qualification

	Qualification	Frequency	Percent
Valid	graduated	1	1.8
	master degree	50	87.7
	PhD degree	6	10.5
	Total	57	100.0

Figure (4): Distribution of respondents based on scientific qualification

Study table shows Frequency of participants based on Qualification as 1% participants has graduated degree, 87.7% participants has Master degree and 10.5% participants has PhD Degree.

Table 7: Frequency of participants based on Position

	Position	Frequency	Percent
Valid	office chief	5	8.8
	head of department	6	10.5
	member of academic staff	45	78.9
	employee	1	1.8
	Total	57	100.0

Figure (5): Distribution of respondents based on work position

The study table shows the frequency of participants based on position, with 8.8% of participants being office chiefs, 10.5% being department heads, 78.9% being members of the academic staff, and 1.8% being employees.

Table 8: Frequency of participants based on experience

	experience	Frequency	Percent
Valid	less than 5 years	13	22.8
	5-10 years	22	38.6
	10-14 years	10	17.5
	15-19 years	4	7.0
	20 years or more	8	14.0
	Total	57	100.0

Figure (6): Distribution of respondents based on experience

The study table shows the frequency of participants based on experience, with 22.8% having less than 5 years of experience, 38.6% having 5-10 years of experience, 17.5% having 10-14 years of experience, 7% having 15–19 years of experience, and 14% having 20 years of experience or more.

Explotry analysis:

Table 9: Tests of Normality for study’s responses

As a test of normality for many responses to the survey, Kolmogorov-Smirnov statistics were used. As the table above shows, high significance 0.000 less than 0.05, so the null hypothesis that data distribution normally is rejected and the alternative hypothesis is accepted.

Reliability analysis

Table 10: Reliability Statistics for all variables

Cronbach's Alpha	N of Items
.734	8

Cronbach's Alpha statistics for all variables is 0.734, means that researcher could consider questionnaires answers is good reliable. Truth statistics is the square roots for reliability measure equal to 0.85, consider good statistics and participants who contributes to survey respond with actual answers.

Item-Total Statistics

Table 11: Cronbach's Alpha if Item deleted selected variable

Table above shows Cronbach's Alpha if Item Deleted, as we see variable (2) has is biggest effect with statistics 0.741, while variable (3) in second biggest effect 0.724.

Reliability Statistics

Table 12: Cronbach's Alpha statistics for all sections

The table above illustrates that statistics for all sections are different from one another. Section one (Leadership) is 0.714, section two (education and knowledge) is 0.742, section three (organization) is 0.702, section four (scientific research) is 0.864, and the statistic for section five (social service) is 0.87, which is high.

Crosstabs view

The centralization of administrative decisions in the application of total quality management * sex
Crosstabulation

Table 13: distribution of survey response according to variable question

		sex		Total
		Male	Female	
The centralization of administrative decisions in the application of total quality management	Strongly agree	5	2	7
	Agree	22	9	31
	neural	9	2	11
	Disagree	5	2	7
Total		41	15	56

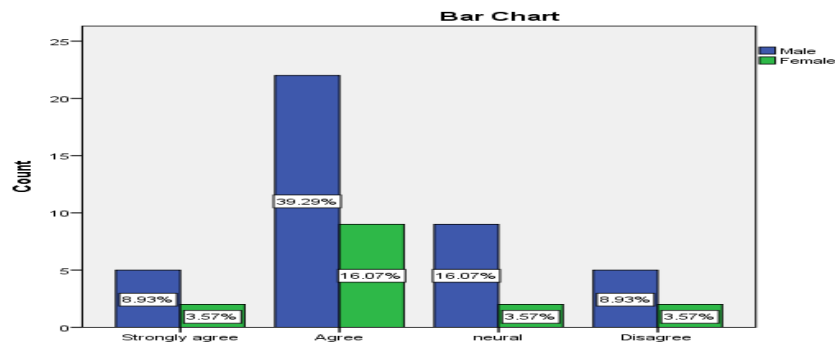


Figure (7): crosstab between two sex and The centralization of administrative decisions

As table shows, 7 respondents strongly agree, 31 respondents agree, 11 respondents is neural, and 7 respondents strongly disagree.

Chi-Square Tests

Table 14: Chi-Square Tests for independent between two cross variables

We observe from the test above that there is no relation between the sex variable and the (the centralization of administrative decisions) variable under significance level 0.05. P-value 0.915 = > 0.05. So refuse alternative hypotheses that suggest a relation between two variables.

Figure (8): crosstab between two variables, sex and Lack of clarity about how faculty members are treated financially, administratively, and morally and how this affects their work in the field of total quality management, and how this affects the work they do

Figure (8): crosstab between two variables, sex and Lack of clarity

As table and graph show, 13 respondents strongly agree, 34 respondents agree, 4 respondents is neutral, and 3 respondents strongly disagree.

Chi-Square Tests

Table 16: Chi-Square Tests for independent between two cross variables

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.203 ^a	3	.752
Likelihood Ratio	1.103	3	.776
Linear-by-Linear Association	.570	1	.450
N of Valid Cases	54		

We observe from test above, there is no relation between sex variable and () variable under significance level 0.05. P-value 0.752= > 0.05. So refuse alternative hypothesis that suggest a relation between two variables.

Figure (9): Some faculty members lack sufficient educational experience. * sex

Table 17: distribution of survey response according to variable question

As table shows, 17 respondents strongly agree, 21 respondents agree, 14 respondents is neutral, and 2 respondents strongly disagree

Table 18: Chi-Square Tests for independent between two cross variables

We observe from test above, there is no relation between sex variable and () variable under significance level 0.05. P-value 0.706= > 0.05. So refuse alternative hypothesis that suggest a relation between two variables.

Figure (10): crosstab between two variables sex and Lack of mechanisms to identify community problems to propose possible solutions

Table 19: distribution of survey response according to variable question

As table and graph shows, 15 respondents strongly agree, 33 respondents agree, 4 respondents is neutral, and 2 respondents strongly disagree

Table 20: Chi-Square Tests for independent between two cross variables

We observe from test above, there is no relation between sex variable and () variable under significance level 0.05. P-value 0.37= > 0.05. So refuse alternative hypothesis that suggest a relation between two variables.

Figure (11): Lack of clarity about the mechanism of discrimination between faculty members financially, administratively, and morally and the extent to which this is related to work in the field of total quality management* Qualification

Table 21: distribution of survey response according to variable question

As table shows, 13 respondents strongly agree, 34 respondents agree, 4 respondents is neutral, and 3 respondents strongly disagree.

Table 22: Chi-Square Tests for independent between two cross variables

We observe from test above, there is no relation between sex variable and () variable under significance level 0.05. P-value 0.941= > 0.05. So refuse alternative hypothesis that suggest a relation between two variables.

Figure 12: Some faculty members lack sufficient educational experience *Qualification

Table 23: distribution of survey response according to variable question

As table and graph shows, 17 respondents strongly agree, 21 respondents agree, 14 respondents is neutral, and 2 respondents strongly disagree

Table 24: Chi-Square Tests for independent between two cross variables

We observe from test above, there is no relation between sex variable and () variable under significance level 0.05. P-value 0.624 > 0.05. So refuse alternative hypothesis that suggest a relation between two variables.

Figure (13): Lack of mechanisms to identify community problems to propose possible solutions.. * Qualification

Table 25: distribution of survey response according to variable question

As table and graph shows, 15 respondents strongly agree, 33 respondents agree, 4 respondents is neutral, and 2 respondents strongly disagree

Table 26: Chi-Square Tests for independent between two cross variables

We observe from test above, there is no relation between sex variable and () variable under significance level 0.05. P-value 0.886 > 0.05. So refuse alternative hypothesis that suggest a relation between two variables.

Figure (14): Lack of clarity about the mechanism of discrimination between faculty members financially, administratively, and morally and the extent to which this is related to work in the field of total quality management *Position

Table 27: distribution of survey response according to variable question

As table and graph shows, 13 respondents strongly agree, 34 respondents agree, 4 respondents is neural, and 3 respondents strongly disagree

Table 28: Chi-Square Tests for independent between two cross variables

We observe from test above, there is no relation between sex variable and () variable under significance level 0.05. P-value 0.416 > 0.05. So refuse alternative hypothesis that suggest a relation between two variables.

Figure (15): Some faculty members lack sufficient educational experience. * Position

Table 29: distribution of survey response according to variable question

As table and graph shows, 17 respondents strongly agree, 21 respondents agree, 14 respondents is neural, and 2 respondents strongly disagree

Table 30: Chi-Square Tests for independent between two cross variables

We observe from test above, there is no relation between sex variable and () variable under significance level 0.05. P-value 0.245 > 0.05. So refuse alternative hypothesis that suggest a relation between two variables.

Figure (16): Lack of mechanisms to identify community problems to propose possible solutions * Position

Table 31: distribution of survey response according to variable question

As table and graph shows, 15 respondents strongly agree, 33 respondents agree, 4 respondents is neural, and 2 respondents strongly disagree

Table 32: Chi-Square Tests for independent between two cross variables

We observe from test above, there is no relation between sex variable and () variable under significance level 0.05. P-value 0.568 > 0.05. So refuse alternative hypothesis that suggest a relation between two variables.

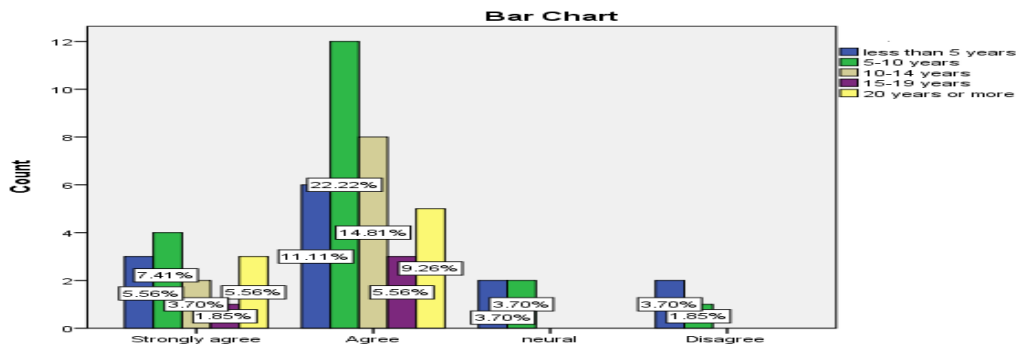


Figure (17): Lack of clarity about the mechanism of discrimination between faculty members * experience

Table 33: distribution of survey response according to variable question

As table and graph shows, 7 respondents strongly agree, 31 respondents agree, 11 respondents is neural, and 7 respondents strongly disagree

Table 34: Chi-Square Tests for independent between two cross variables

We observe from test above, there is no relation between sex variable and () variable under significance level 0.05. P-value 0.606 > 0.05. So refuse alternative hypothesis that suggest a relation between two variables.

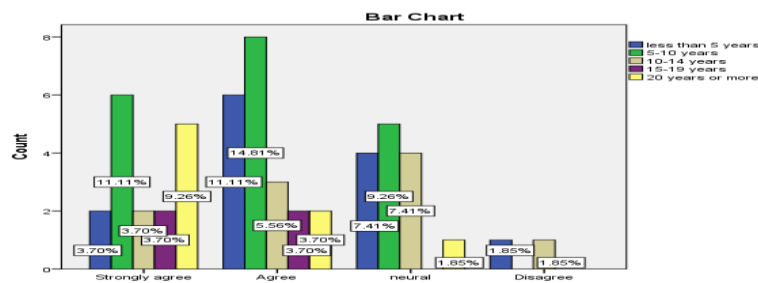


Figure (18): Some faculty members lack sufficient educational experience and experience

As table and graph shows, 17 respondents strongly agree, 21 respondents agree, 14 respondents is neutral, and 2 respondents strongly disagree

Table 35: distribution of survey response according to variable question

Chi-Square Tests

Table 36: Chi-Square Tests for independent between two cross variables

We observe from test above, there is no relation between sex variable and () variable under significance level 0.05. P-value 0.442 > 0.05. So refuse alternative hypothesis that suggest a relation between two variables.

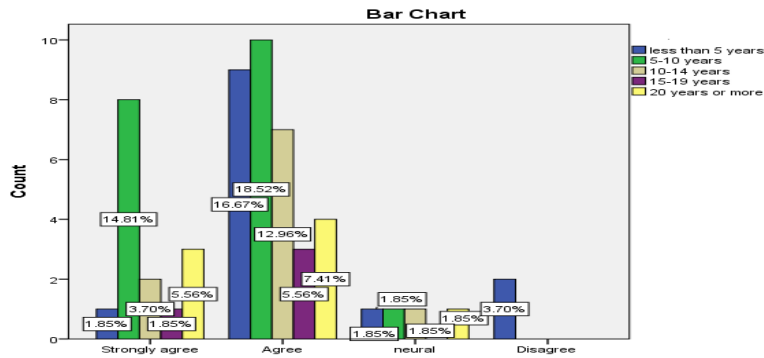


Figure (19): Crosstab between two variables Lack of tools to solve problems. * experienc

Table 37: distribution of survey response according to variable question

As table and graph shows, 15 respondents strongly agree, 33 respondents agree, 4 respondents is neutral, and 2 respondents strongly disagree

Table 38: Chi-Square Tests for independent between two cross variables

We observe from test above, there is no relation between sex variable and () variable under significance level 0.05. P-value 0.455 > 0.05. So refuse alternative hypothesis that suggest a relation between two variables.

XI . Study Discussion

Likert Scale:

Likert scaling, which 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 = 5; disagree = 4; neutral = 3; agree = 2; strongly agree = 1) rather than a divided or dividing into two sharply distinguished parts or classifications response scale (disagree = 0; agree = 1). Typically, an odd number of response categories, usually five or seven, are used, with a middle "neutral" or "undecided" category; however, using an even number of response categories is equally valid.

The central assumption in Likert scaling is that respondents located high on the attitude scale are more likely to use high response categories than individuals located at the low end. If the widths of the response categories are constant across items, then the respondents can be ranked ordered along the attitude scale by simply summing their responses across all items. Junker (Sá, J. P. 2007) describes conditions under which the Likert scale scores consistently estimate the rank order of respondents along the attitude scale. The table below clarifies more about the Likert scale:

Table 39 : Likert scale description

REF.	Weighted average	Level
1.	From 1.00 to 1.79	Strongly agree
2.	From 1.80 to 2.59	agree
3.	From 2.60 to 3.39	Neutral
4.	From 3.40 to 4.19	Disagree
5.	From 4.20 to 5.00	Strongly disagree

Descriptive Statistics

Table 40 : Likert scale for survey's Scopes

	N	Mean	Std. Deviation
D1	56	2.08	.469
D2	54	2.1096	.41990

D3	54	2.0574	.43115
D4	54	2.0401	.55578
D5	54	1.8519	.62585
Total categories	54	2.03	0.50

From the table above, the average rate for all dimensions is 2.03, which agrees on the Likert scale. That explains general trends for all participants in the study; they agree that there are many obstacles to applying quality in higher education institutes. leadership section, education and knowledge section.

Lack of clarity on the strategies and policies for implementing total quality management from respondents' view, regardless of the effort by National Quality Assurance and Accreditation and the vision they hope to achieve.

From the study, we noticed the absence of clear criteria to evaluate the performance of the faculty members. This may have a negative impact on staff and their performance in teaching. It will also affect students in the long term.

There is no clear mechanism in place to discriminate between faculty members financially, administratively, or morally, and this is related to work in the field of total quality management. Furthermore, some faculty members lack sufficient educational experience, so they may not make a real effort to solve new problems or train students, and as a consequence, the output of education will be weak, so society will not develop in their societies.

As a cultural legacy, the load of the traditional educational system and the lack of regard for new methods meant that higher education in Libya could not move forward to apply TQM as a method of management. Besides that, the phenomenon of resistance to change exists as an obstacle to any movement, new program, or strategy for dealing with a problem.

XII . Conclusion

The goal of the study is to define the obstacles facing universities and higher institutes in Libya and find solutions to these problems. No one denies the efforts of the National Quality Assurance and Accreditation Center as governmental authority, but the need for all to put in their mind the importance of adapting quality standards in daily operations. The need for transparent practises to let all participants in educational institutes learn and improve their performance.

As a result, an effective movement to shift societal awareness toward total quality management is critical.

XIII . Recommendation

This study contains some suggestions for enhancing higher education institutions' performance in order to achieve the standards for total quality management:

- Establish a long-term strategy and policy for complete quality management that will be applicable for several years.
- Establish a comprehensive faculty development programme. Additionally, establish explicit standards for evaluating the performance of all employees.
- Provide an agreement between faculty members to establish a foundation for discrimination against the financial, administrative, and moral well-being of staff members. This will alter their perspective on work.
- Determine the roots of fear of change and develop measures to address the issue of change resistance.

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