

MEASURING QUALITY PRACTICES AT PRINCE SATTAM BIN ABDULAZIZ UNIVERSITY FROM THE PERSPECTIVE OF TOTAL QUALITY MANAGEMENT

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Abstract

The paper aims at measuring the quality practices at Prince Sattam bin Abdulaziz University, that implements the criteria of academic, institutional and program accreditations since the establishment of the University in 2009 and acquired the management quality systems ISO 90001. This study has developed a model of Total Quality Management (TQM), based on the international excellence models of Total Quality Management (TQM). This study adopted survey-based methodology, to collect data from faculty members at Prince Sattam bin Abdulaziz University. The results of this study demonstrated that the quality practices, by implementing quality standards, were found to be relatively high at the levels of inputs, processes, outputs, goals and principles. This study recommends the full implementation of Total Quality Management to improve the current implementation of quality practices. This study could help policymakers at the university level and the Ministry of Education, to gain deeper understanding of the quality practices at the universities.

Keywords: *Quality Practices, TQM and Prince Sattam bin Abdulaziz University.*

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1. Introduction

Quality is the means to enrich the performance of organizations and enable them to compete locally and globally. Therefore, universities have recognized this fact and enhanced quality practices in their various activities, whether through the application of institutional or programmatic or academic accreditation standards or through other quality standards, that deal with administrative and informatics aspects. In addition, the application of societal responsibility, security, occupational safety and other quality standards, should generate a base of valuable practices and conducts, which are measured from the perspective of total quality management (Selvam, et al, 2011; Tena, A. B. E., et al., 2001; Lakhe and Mohanty, 1994). Consequently, Prince Sattam bin Abdulaziz University has implemented a number of academic and administrative quality standards, to improve the performance of all its administrative and academic units. On the basis of total quality perspective, the Deanship of Development and Quality was established and the University has obtained many accreditations, perhaps the most prominent of which is the full institutional accreditation for seven years (May 2019 - April 2026 AD), in addition to winning 17 programs for external accreditation (**Deanship of Development and Quality, 2021**). This achievement requires measuring those practices, to identify the extent of their ability to achieve total quality.

It is worth noting that TQM is not a way to achieve quick results to improve quality and productivity but rather it is based on continuous improvement, to identify the problem and improve the performance of management processes (Kachwala, et al., 2017; Kachwala, et al., 2017 and Kachwala, 2015).

2. Review of Literature

TQM is defined as a quality-based strategy, that targets implementation of quality practices to realise excellence and reduction of costs (Tena, A. B. E., et al., 2001; Lakhe and Mohanty, 1994). In other words, Total Quality Management is realized as a management theory, which integrates theoretical values and application of tools, to achieve permanent improvement of their structures, systems, and proceedings, in order to improve productivity, reduce costs and provide high quality services, that meet the needs and desires of customers and gain their enduring satisfaction” (Almekhlafi, 2021; Gilavand and Majd, 2017; Bashiwa, 2009; Al-Sheikh, 2016; Bashiwa & Al-Bir, 2009). Tari & Sabater (2006) examined the human aspect in the context of quality management and its effects on performance, from the certificates obtained by organizations, as a result of their application of quality standards. Al-Mekhlafi (2021) reported that the total quality management is an integrated system, to be adopted by Universities. Further, Al-Juneidi, et al., (2019) documented that there are insignificant differences in the obstacles to the implementation of total quality management due to the variables represented in gender, educational qualification in all axes, and the variable of years of experience in all axes, except for the educational leadership axis. The study exposed that there are statistically significant differences in the obstacles to applying total quality management according to the variable of specialization in all axes of the questionnaire in favor of the specialization of theoretical colleges. Abu-Al-Sha’r, A. M., (2013) and Al-Harabsheh, M. A. (2013) found that the assessment of university

performance came to an average degree, as well as the absence of differences in the level of university performance in the light of total quality management. **Becket and Brookes (2005)** confirmed that internal and external quality assessment procedures are carried out according to different quality mechanisms and standards and hence the evaluation of an educational program may be different depending on the tool used in the assessment, in addition to the potential value of quality improvement objectives that may also vary.

3. Statement of the Problem

This study measures the applied quality practices, based on Total Quality Management (TQM), through developing a measuring model. The problem of this study is fundamentally represented on measuring the quality practices that Prince Sattam bin Abdulaziz University worked to devote through the application of academic and institutional and programmatic accreditation standards or through the application of other quality systems, through a model designed for total quality management. Against this background, this study is one of the new studies, examining the quality practices using the perspectives of TQM in higher education. However this area of TQM in universities is characterized by lack of studies.

4. Need of the study

The presence of high degree of competition between universities, locally and internationally, has compelled Prince Sattam bin Abdulaziz University to evaluate quality practices as a necessary step to improve quality practices. There is the need for the development of a total quality management model, to help the university to improve quality practices, at the level of inputs,

processes and outputs, and achieve enduring customer satisfaction.

5. Objectives of the Study

1. To identify the quality standards systems through which quality practices are established administratively and academically.
2. To determine the serious differences between the quality practices, which have been established through the application of academic, institutional and programmatic accreditation standards systems and Total Quality Management.
3. To recommend alternative measures towards the application of total quality management.

6. Hypothesis of the study

NH-1: The quality practices, emanating from the application of quality systems like standards of academic, institutional and programmatic accreditation and ISO systems, do not lead to the application of total quality management at the level of inputs, processes, outputs, goals and principles.

7. Research Methodology

7.1 Sample Selection

The sample was represented by all the academicians at Prince Sattam bin Abdulaziz University, holding doctorate, master and bachelor degree, numbering 2331 working in teaching and holding academic positions. In order to find a high degree of representation for the population of study, and on the basis of the study objectives and hypotheses, the sample size was determined by using the following law (**Odhon'g and Omolo, 2015**):

$$n = \frac{z^2 p q N}{e^2(N-1) + z^2 p q}$$

Where,

n = size of sample

N = size of population N = 2331

p = sample proportion ($p = 0.02$)

$q = 1 - P = 0.08$

$z = (z = 1.96)$ as per table of area under normal curve for the given confidence level of 95. %).

$e = 0.02$ (since the estimate should be within 2% of true value).

An equation application,

$$n = \frac{(1.96)^2 0.02 (1 - 0.02)(2331)}{(0.02)^2(2331 - 1) + (1.96)^2 0.02 (1 - 0.02)} = 174$$

7.2 Source of Data

The present study was based essentially on the analytical, descriptive approach and it analysed the works related to the subject of the research. The statistical survey method was used to quantitatively measure the respondents' opinions and attitudes towards the levels of quality practices at the university. The research data were extracted both from primary and secondary data.

7.3 Period of Study

The survey instrument was administered, between September 2021 and October 2021.

7.4 Tools used in the Study

The study tool was the questionnaire, formulated on the basis of global models, for assessing total quality management (Almekhlafi, 2021:67-76). Arithmetic mean, standard deviation, cronbach alpha test and T-test were used for data analysis and SPSS software was used for analyzing the data.

8. Data Analysis

According to **Table-1**, the female respondents represented 65 individuals of the sample, with a percentage of 37.45, and the number of male sample members was 109, with a percentage of 62.6%. The percentage of participation of the female respondents in answering the questionnaire, was considered high, considering the social customs in Saudi society, which are based mainly on the separation between men and women in the work place. Although this percentage was not commensurate with the number of female teaching staff at the University, as the number of female faculty members at the University was 1075 compared to males, whose number was 1264. The overall sample was considered low, as the respondents represented only 13% of the total study population. **Table-2** depicts the internal consistency of the questionnaire items, which was measured by using Cronbach's alpha equation. According to **Pallant (2011)**, values of Cronbach's alpha are acceptable if they are above 0.70. However, a value, higher than 0.80, is preferable (**Pallant, 2011**). **Table-2** shows that the Cronbach's alpha of the study variables ranged between 0.88 - 0.98, which indicated a very good internal consistency. **Table-3** illustrates the hypotheses testing of this study. To verify the validity of the hypothesis, the arithmetic averages of the field study were compared with the hypothesis approved in the study, using the One-Sample Test (T). It is obvious from the statistical data, shown in **Table-3**, that the questionnaire items, as a whole, obtained a high arithmetic average of 3.4520. The study revealed that the Prince Sattam bin Abdulaziz University had made great strides during ten years, at the level of inputs, processes, outputs, objectives. Hence reject, "**NH-1: the application of quality standards does not**

lead to the application of total quality management,” and accept the alternative hypothesis which asserts the opposite result.

9. Findings of the Study

It was found that the total average of practices did not approach the desired level, according to the five-point Likert Scale. Quality practices, at the level of all variables, had obtained a result slightly above the average, despite the passage of ten years since the University adopted quality standards in its various processes, leading to the university obtaining institutional academic accreditation in 2019. Further, it obtained many accreditations for a number of quality standards, including the international accreditation for its Community College from the COE in 2017. In addition, seven programs obtained international accreditation from ABET agency, and two programs gained accreditation from (ASIIN) agency. Further, three programs obtained accreditation from the Accreditation Commission (ACBSP) and the University obtained the ISO 9001/2015, and the ISO certificate in Information Security (27001).

10. Suggestion of the Study

On the basis of the study, it is recommended to move towards self-commitment to quality, by adopting one of the total quality management models to overcome the shortcomings in quality practices. It also recommended to enhance the value of human resource by blending between those having little experience with those have experience.

11. Conclusion

This study was an attempt to measure the quality practices at Prince Sattam bin Abdulaziz University. The quality standards of all kinds stem from total quality management, but they do not constitute a substitute for standards or criteria,

which are generally formulated in order to fit in with different institutions and under different environments. These standards usually focus on general aspects, to meet the needs of all institutions, irrespective of the differences between them in the facet of academic and administrative development. In addition, quality standards do not measure the reality of quality that emerged from their application, and that total quality management must be used to measure quality practices, resulting from the application of those standards. Hence this study concurs with Nina **Becket and Brookes (2005)**, who evaluated quality practices in higher education institutions in the United Kingdom, by assessing unit, program, and subject practices, but the current study concentrated on the institutional dimension.

12. Limitations of the Study

- The sample size of this study consisted of only academicians at Prince Sattam bin Abdulaziz University.
- The study included the faculty members as one sample, without differentiating them according to their leadership positions.

13. Scope for Future Research

- Future studies may enlarge the sample of the study, by including other teaching staff from other local universities.
- Future line of research may consider a comparison analysis between female and male perception and among local universities.
- Studies in the future may examine university leaders as a categorical sample different from other teaching staff, without leadership positions.
- Future studies may extend the same model, using two methods of data collections, such as questionnaire and interviews.

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Table-1: Results of Demographic Variables showing the Personal Characteristics of the Respondents

Gender	Frequency	Percent
Male	109	62.6
Female	65	37.4
Total	174	100.0
Job Grade	Frequency	Percent
Faculty Member	111	63.8
Administrative Leaders	63	36.2
Total	174	100.0
The Scientific Degree	Frequency	Percent
Phd	121	69.5
Master's	44	25.3
Bachelor's	9	5.2
Total	174	100.0
Experience	Frequency	Percent
less than 5 years	25	14.4
From 5- to less than 10 years old	47	27.0
From 10 to less than 15 years old	43	24.7
years and over 15	59	33.9
Total	174	100.0

Source: SPSS outputs based on the study's data in 2021

Table-2: Results of Reliability Test showing the Validity

Variables	Number of Paragraphs	Cronbach's Alpha	comments
1	6	0.88	accepted
2	29	0.96	accepted
3	5	0.95	accepted
4	2	0.91	accepted
5	4	0.89	accepted
Total	46	0.98	accepted

Source: SPSS outputs based on the study's data in 2021

Table-3: Analysis of T-test displaying the Difference between the Samples

	Test Value = 3						
Hypotheses	Dimensions	Mean	Std. Deviation	Mean Difference	t	Sig. (2-tailed)	Level
The first dimension	The first	3.5479	0.74918	0.54789	9.647	0.000	High
The second dimension	The second	3.4697	0.72208	0.46968	8.580	0.000	High
The third dimension	The third	3.4402	0.82363	0.44023	7.051	0.000	High
The fourth dimension	The fourth	3.2644	1.04062	0.26437	3.351	0.000	Medium
The fifth dimension	The fifth	3.2888	0.86578	0.28879	4.400	0.001	Medium
main hypothesis	Total	3.4520	0.71457	0.45202	8.344	0.000	High

Source: SPSS outputs based on the study's data in 2021