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IMPLEMENTATION OF THE TOTAL QUALITY MANAGEMENT IN SELECTED COLLEGES IN A UNIVERSITY

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Abstract:

Quality, generally means a parameter which decides the inferiority or superiority of a product or service. It is a measure of goodness to understand how a product or service meets its expectations. Therefore, quality is somewhat of an intangible expression based on perception that when a product or service exceeds our expectations it is considered to be of good quality. While quality is by itself a powerful competitive weapon, the concept of total quality management is also to continually produce products of high quality in order to meet total customers' satisfaction. It is a continuous process of improvement in work culture, services, systems, and processes to ensure a continuing success of the organization. The principles of total quality management have been

applied to all types of organizations. It is in this premise that this study is geared towards the assessment of management of a premier educational institution in the Visayas area applying the Total Quality Management (TQM) principles with an end view of proposing recommendations for improvements. The study is aimed to determine the level of implementation of Total Quality Management in selected colleges in a University, on the five dimensions such as; the quality of management, quality of infrastructure management, quality of teachers, quality of examinations, and quality of college objectives. The research design used is a descriptive method, using the proportionate stratified sampling technique, the instrument of which was adapted from a standard tool by Masood (2009)with a reliability coefficient at 0.91(Cronbach Alpha), distributed among 478 student respondents. The study sought to find out the significant degree of variance(ANOVA) on the five dimensions, the degree of variance(ANOVA) among the seven colleges on the level of implementation of TQM practices, and the degree of relationship(Chi-Square) between the respondents' course profile and their perception on the level of implementation of TQM practices. The findings revealed that there was a significant degree of variance on the level of implementation of TQM practices among the different colleges. There was one each from among the seven colleges, has fully implemented on the quality of management and the quality of teachers, four have fully implemented in the quality of college objectives and all the seven colleges have moderately implemented the quality of infrastructure management and quality of examinations. The ANOVA computation showed a significant degree of variance on the five dimensions, although the overall composite mean range of all the dimensions fall under moderately implemented, yet the variance showed significantly. With quality of infrastructure management and examination got the lowest of 2.81 and 2.86 respectively while quality of college objectives got the highest at 3.15 followed by 3.02 for the quality of teachers. The relationship between the course profile and the level of implementation of TQM practices is significant. Hence, the research findings would be a good reference for the institution to work on the improvements for greater customer satisfaction, profitability and competitiveness.

Key Words: Total Quality Management, assessment, customers' satisfaction, descriptive method, proportionate stratified sampling technique, University, Visayas, Philippines

INTRODUCTION

It has been known that education is a process through which a nation develops its self-consciousness by developing the self-consciousness of individuals who compose it. It is not mere public instruction, it is social institution, which provides mental, physical, ideological and more training to individuals of the nation so as to enable them to have full consciousness of their mission, of their purpose in the life and then to achieve that purpose (AIOU, 2002).

Quality is one of the most important issues in education. It is recognized that there are problems with today's education system. Students leaving or graduating from high schools and colleges are unprepared to meet the demands of society. These students are product of an education system that does not focus on quality and is a cause of increase in social welfare cost. Quality management is a vehicle to which professionals can use to cope with the "forces of change" (Arcaro, 1997).

Quality in higher education is a multidimensional concept, which includes all related functions and activities that form the part of academic life in an institution. Therefore, any framework for assessment of quality should take into account the quality of teachers, infrastructure provided to students, student support services, curricula assessment and resources (Isani and Virk, 2005).

Quality of education in Philippine Higher Education institutions (HEI's) is below international standards and has deteriorated rapidly. The system has not responded to a large number of inputs made for raising the quality. Aspects of inadequate admission standards for entry of students to higher education, unmotivated learners, shortage of qualified teachers, imbalance of teacher: student ratio i-e ranging from 1:5 to 1:85, lack of supportive educational environment physical facilities unexciting educational experience, badly written textbooks, impoverished facilities, and defective evaluation mechanism have eroded the quality of education and continue to hinder the progress of higher education towards achieving international standards (Malik,2002).

In the Presidential Commission Reform on Educational Reforms (2010) said: the problem of quality education is analyzed and it is proposed that "quality of higher education shall be improved through measures, such as, academic audit, revision of curricula, strengthening the libraries and laboratories, liberal grants, institutional capacity building, staff development, resource allocation, research funding, improvement of infrastructure and better students support services in the institutions of higher education".

According to the Commission on Higher Education Commission (CHED), the present status of quality in higher learning institutions is quite questionable in global context and in terms of knowledge being imparted in these institutions. A number of universities are unable to achieve international higher education criteria. The critical gap in higher education quality necessitates a focused effort to ensuring and improving the sector's quality standards. In the global environment, quality assurance in higher education is also becoming more difficult.

Management science has supplied various principles for successful implementation of plans of action and achieving maximum profit with limited resources in order to achieve quality and meet global standards of higher education. Management by objectives (MBO), management information system (MIS), force field analysis, programme evaluation and review technique (PERT), critical path analysis (CPA), cost-benefit analysis (CBA), benchmarking, simulation, total quality management (TQM), linear programming, and total quality management (TQM) are some of the principles (Anwar, 2005).

Winn and Green (1998) identified total quality management (TQM) as an essential management concept among all the management principles since it has

Total quality management is a set of tools, and process whose output yields customer satisfaction and continuous improvement of quality education. This philosophy and process differs from traditional philosophies and processes, which every institution can and must practice. It espouses "attitude, differentiates cost versus price, and provides added value (Hradesky, 1995). Eventually, total quality management has become most debatable in present era because it is a style of management that offers both a process and a system to produce dynamic change in organizations. Total quality management is a personal philosophy and an organizational culture that utilizes scientific outcomes measurement, systematic management techniques, and teamwork to achieve the mission of the organization (Sherr and Lozier, 1991).

The Philippines is a developing country and its education system is facing many challenges. The educational system may try to achieve maximum internal efficiency through effective management, adequate allocation of resources and optimal use of available resources for improving the quality of education (Quddus, 1990).

In achievement of above objectives the challenge that faces the educational environment has always been to ensure that the quality of teaching and learning be maintained. One of the best paths for improving the quality of education lies in total quality management in teaching and learning process. Applying total quality management in the educational context creates value for educational institutions, teachers and taught. The main agents of educational process are teachers. Teacher training institutions are the places where skilled and developed individuals train and produce better, responsible and productive citizens.

Therefore, quest for total quality management in teacher training institutions has become a watchword all over the world; this aspect too has recently received an urgent attention in the Philippines. There are many organizations doing innovative work in different aspects of teacher training, but it is unfortunate to note that no study has been conducted to analyze the total quality management in HEI's. Thus this study would be a useful contribution in the field of research in the relevant area.

THEORETICAL BACKGROUND

The theoretical frame of reference is examined in this chapter. The framing of this part will be defined by defining some essential ideas such as quality and total quality management. These concepts, however, need be defined in the context of higher education, which is the topic of this study. As a result, the difficulties discussed in this chapter, as well as some other terminology, will be offering a thorough grasp of all listed topics in the context of higher education.

In 1951, the notion of quality management was first introduced (Zink and Vob, 2000). The term 'quality' is usually related with customer satisfaction. Customers want to get the as much back from their money when they buy something. "Customers would inspect things to determine whether they fit their requirements before to acquiring them," Sims and Sims (1995) write. As a result, businesses and organizations strive to guarantee that the goods they launch or sell are well-prepared to meet the needs of their customers. TQM attempts to ensure that businesses' products and services are of high quality so that consumers are happy. TQM is defined by Sims and Sims (1995) as:

"TQM is a continuous improvement process that uses specific tools, strategies, and training to drive decision-making and action planning. The end result is great customer satisfaction due to high-quality processes, goods, and services "..

As a result, TQM is a comprehensive strategy that provides awareness of the customer-supplier connection through continuous improvement efforts in all of an organization's departments and activities (Smith et al., 1999).

TQM isn't simply for manufacturing or services. It also has an impact on other aspects of a business, such as work culture, employees, employee attitudes, and other departments. Total quality, according to Voehl (1994), encompasses three aspects: first, "every process," second, "every work," and third, "every person." It emphasizes the need of each department of an organization being accountable for the quality of their work in order to guarantee complete quality. Similarly, Oakland (2003) claims that in order to sustain quality, each component of an organization must function well, since each portion, each activity, and each person associated with the company influences and is influenced by others.

STATEMENT OF THE PROBLEM

This study intended to determine the level of Implementation of the Total Quality Management in selected colleges in a University, with an end view of proposing an intervention program to address the said phenomenon. Specifically, it seeks to answer the following questions: (1) what is the profile among the respondents; level of Implementation of the Total Quality Management as assessed by the respondents; significant degree of relationship between selected profile and implementation of the Total Quality Management; significant degree of variance on the dimensions of the implementation of the Total Quality Management as perceived by the respondents and significant degree of variances on the dimension of the Total Quality Management when respondents are grouped according to college.

DESIGN

Because it obtained measurable information (TQM Practices) that was utilized for statistical inference about the target respondents through data analysis, this study employed descriptive research. As a result, closed-ended questions are used in this sort of study, which limits its capacity to generate new insights. However, when utilized correctly, it may assist a company in better defining and measuring the relevance of a set of responders and the community they represent.

This method revealed and measured the strength of a target group's opinion, attitude, or behavior with regards to the current level of Implementation of the TQM Practices where data analysis like drawing correlations, segmentation, benchmarking and other statistical techniques was made.

ENVIRONMENT

As to where the study was conducted otherwise known as research locale, the researcher applied utmost ethical consideration by complete non-disclosure of the research environment since significant issues were considered such as respondent's anonymity, confidentiality and data protection hence, the environment shall be termed as X-University. This X-University is a premier educational institution in the Visayas region. The university was founded in 1964 as an institution of higher learning committed to authentic education. X-University currently has four campuses. X-University was initially established as a College and it offered the degrees of Bachelor of Science in Commerce and Associate in Secretarial Science during its initial year. On its eighth year, the institution opened more courses including Education, Liberal Arts, Customs, and Criminology. In 1983, X-University offered Computer Science, which was the first in the city.

RESPONDENTS

This study utilized the Proportionate Stratified Random Sampling. The sample size of each stratum in this technique is proportionate to the population size of the stratum when viewed against the entire population. The table below shows the respondents distributions per college. Table 1. Respondents' Distribution

Colleges	**N**
College of Business & Accountancy	198
College of Criminology	21
College of Customs Administration	32
College of Teacher Education	30
College of Allied Engineering	77
College of Hotel and Restaurant Management	88
College of Information and Computer Studies	32
TOTAL	**478**

INSTRUMENT

This study made use of a standardized instrument by Masood (2009). The said instrument comprises 46 items wherein fourteen items were about the quality of management; six items were about infrastructure, twelve items were about the quality of teachers, eight items were about the quality of the examination system, and six items were about the quality of the examination system the objectives of Program. This tool seemed more appropriate because it was

easy to respond, tabulate and analyze. The reliability coefficient (Cronbach alpha) for this questionnaire was found to be 0.91, which is relatively high for four-point Likert scales.

Data Gathering Procedures

The researcher secured permission from the university to conduct the study. After permission was granted, the researcher then requested the College Deans for approval in distributing the TQM Practices questionnaires for this study. The intended students were then required to answer the questionnaire. The responses were retrieved after 20 minutes for tabulation and analysis.

Treatment of Data

This study made use of the following statistical treatment of data for the independent and dependent variables involved:

Frequency, percentage, rank, weighted mean, and the aggregated mean was used for the TQM practices.

To established the significant relationship between profile with the perceptions on the level of TQM Practices, chi-square was used.

To determine the significant difference on the dimension of TQM practices, the one-way ANOVA was used.

To test the significant degree of variance on the TQM Practices when respondents are grouped according to course/ college, the Anova was used.

FINDINGS

On Profile. This term refers to the respondents' age, sex, civil status, course, and the year level. Table 2 shows the data gathered on this aspect. As shown in Table 2, for Age distribution, most of the respondents' age bracket belongs to the 18-19 years of age with 29.50 % 28. 24 % respectively. As for Sex, there were 59 % female respondents while 41 % were male respondents. As for civil status, there was a small fraction of 0.84 % married while a majority of the respondents were single with 99.16 %. As for respondents' courses, the majority came from the Bachelor of Science in Commerce with 41.42 % followed by the College of Hotel and Restaurant Management with 18.41 %. As for year level, the majority were 4th year level with 80.13 %.

Table 2. Profile Distribution

Items	Educ	BSCA	BSCrim	BSIT	HRM	Allied-Eng'g	BSC	Total	%	R
Age										
17	0	0	0	0	0	0	1	1	0.21	13.5
18	0	0	0	0	0	5	41	46	9.62	4
19	0	0	13	1	31	28	68	141	29.50	1
20	8	10	7	4	39	26	41	135	28.24	2
21	10	11	0	10	8	8	20	67	14.02	3
22	3	5	1	5	4	3	5	26	5.44	5
23	2	1	0	2	1	1	7	14	2.93	7.5
24	0	3	0	4	3	2	5	17	3.56	6
25	2	1	0	2	1	3	5	14	2.93	7.5
26	2	0	0	1	0	0	4	7	1.46	9
27	0	1	0	1	0	0	0	2	0.42	11
28	2	0	0	2	1	0	0	5	1.05	10
29	0	0	0	0	0	1	0	1	0.21	13.5
30	0	0	0	0	0	0	1	1	0.21	13.5
31	0	0	0	0	0	0	0	0	0.00	16
32	1	0	0	0	0	0	0	1	0.21	1.5
Total	**30**	**32**	**21**	**32**	**88**	**77**	**198**	**478**	**100.00**	
Sex										
Male	5	22	9	21	25	44	70	196	41.00	2
Female	25	10	12	11	63	33	128	282	59.00	1
Civil Status										
Single	30	32	21	31	88	77	195	474	99.16	1
Married	0	0	0	1	0	0	3	4	0.84	2
Course										

Educ	30							30	6.28	6
BSCA		32						32	6.69	4.5
BSCrim			21					21	4.39	7
BSIT				32				32	6.69	4.5
HRM					88			88	18.41	2
Allied-Eng'g						77		77	16.11	3
BSC							198	198	41.42	1
Year Level										
4	30	32	20	31	88	77	105	383	80.13	1
3			1	1	0	0	93	95	19.87	2

Table 37

Levels of Implementation of the Total Quality Management as Assessed by the Respondents

Dimensions	Educ			Customs			Crim			IT			HRM			Allied-Engg			Commerce			Total		
	W	D	R	W	D	R	W	D	R	W	D	R	W	D	R	W	D	R	W	D	R	W	D	R
A. Quality of Management	3.	M	3	3.2	F	3	3.	M	2	3.	M	3	2.	M	3	2.	M	2	2.	M	3	2.	M	3
B. Quality of Infrastructure Management	3.	M	5	2.9	M	5	3.	M	3	3.	M	4	2.	M	5	2.	M	5	2.	M	5	2.	M	5
C. Quality of Examination System	3.	M	4	3.2	M	4	3.	M	5	2.	M	5	2.	M	4	2.	M	4	2.	M	4	2.	M	4
D. Quality of Teachers	3.	M	2	3.4	F	2	3.	M	4	3.	M	2	2.	M	2	2.	M	3	2.	M	2	3.	M	2
E. Quality of College Objectives	3.	F	1	3.4	F	1	3.	F	1	3.	FI	1	3.	M	1	3.	M	1	3.	M	1	3.	M	1
Overall Composite Mean	**3.**	**M**		**3.2**	**F**		**3.**	**M**		**3.**	**M**		**2.**	**M**		**2.**	**M**		**2.**	**M**		**2.**	**M**	

Table 37 reveals that for the College of Education, an over-all composite mean of 3.13 was generated with an interpretation of Moderately Implemented. Quality of College Objectives garnered a mean of 3.3 with an interpretation of Fully Implemented; Quality of Teachers got a mean 3.16 with an interpretation of Moderately Implemented; Quality of Management gained a mean of 3.14 with an interpretation of Moderately Implemented; while Quality of Infrastructure and Quality of Examination System both culled a mean 3.02 with an interpretation of Moderately Implemented.

As for the College of Customs Administration, a composite mean of 3.27 was garnered with an interpretation of Fully Implemented. Quality of College Objectives gained a mean of 3.47 with an interpretation of Fully Implemented; Quality of Teachers reached a mean of 3.41 with an interpretation of Fully Implemented; Quality of Management garnered a mean of 3.29 with an interpretation of Fully Implemented; Quality of Examination System copped a mean of 3.25 with an interpretation of Moderately Implemented; while Quality of Infrastructure Management copped a mean of 2.94 with an interpretation of Moderately Implemented.

As for the College of Criminology, a composite mean of 3.22 was generated with an interpretation of Moderately Implemented. Quality of Objectives gained a mean of 3.33 with an interpretation of Fully Implemented; Quality of Management breached a mean of 3.24 with an interpretation of Moderately Implemented; Quality of Infrastructure Management and Quality of Teachers both gained a mean of 3.23 with an interpretation of Moderately Implemented; while the Quality of Examination culled a mean of 3.09 with an interpretation of Moderately Implemented.

As for the College of Information Technology, a composite mean of 3.09 with an interpretation of Moderately Implemented. Quality of College Objectives garnered a mean of 3.30 with an interpretation of Fully Implemented; Quality of Teachers copped a mean of 3.16 with an interpretation of Moderately Implemented; Quality of Management got a mean of 3.09 with an interpretation of Moderately Implemented; Quality of Infrastructure Management copped a mean of 3.01 with an interpretation of Moderately Implemented; while Quality of Examination System gained a mean of 2.91 with an interpretation of Moderately Implemented.

As for the College of Hotel and Restaurant Management, a composite mean of 2.85 was generated with an interpretation of Moderately Implemented. Quality of Objectives gained a mean of 3.00 with an interpretation of Moderately Implemented; Quality of Teachers reached a mean of 2.90 with an interpretation of Moderately Implemented. Quality of Management copped a mean of 2.86 with an interpretation of Moderately Implemented; Quality of Examination System got a mean 2.74 with an interpretation of Moderately Implemented; while Quality of Infrastructure registered a mean of 2.73 with an interpretation of Moderately Implemented.

As for the College of Allied Engineering, a composite mean of 2.92 was reached with an interpretation of Moderately Implemented. Quality of College Objectives got a mean of Moderately Implemented; Quality of Management and Quality of Teachers both copped a mean of 2.94 with an interpretation of Moderately Implemented; Quality of Examination System got a mean of 2.79 with an interpretation of Moderately Implemented; while Quality of Infrastructure reached a mean of 2.72 with an interpretation of Moderately Implemented.

And lastly, for the College of Commerce, a composite mean of 2.92 was copped with an interpretation of Moderately Implemented. Quality of College Objectives got a mean of 3.07 with an interpretation of Moderately Implemented; Quality of Teachers culled a mean of 2.98 with an interpretation of Moderately Implemented; Quality of Management garnered a mean of 2.94 with an interpretation of Moderately Implemented; Quality of Examination System obtained a mean of 2.83 with an interpretation of Moderately Implemented; while Quality of Infrastructure Management captured a mean of 2.74 with an interpretation of Moderately Implemented.

A closer look at the data revealed that Quality of College Objectives got the highest composite mean for all 7 colleges while Quality of Infrastructure Management and Quality of Examination System both got the lowest composite mean in regards to its level of implementation. Moreover, when it comes to the Quality of Teaching as one of the dimensions of Total Quality Management, it can be seen that almost all the colleges have the same rank or level of perception when it comes to level of implementation with an exemption from the College of Criminal Justice that generated the lowest perception on such dimensions.

On Correlation between Age and Level Implementation. Table 38 shows the data on whether age and respondents' perceptions on the Implementation of TQM practices have a significant or no significant correlation.

Table 38

Correlation Between Age and Level of Implementation of the
Total Quality Management of the Selected Colleges

Respondents	**Age**		**Level of Implementation**		**XY**
	X	**X^2**	**Y**	**Y^2**	
Sum	**9751.00**	**201107**	**1417.62**	**4266.5598**	**28982.23**
Mean	**20.40**		**2.97**		
SD	**2.1430**		**0.3614**		

r = 0.17169

Critical Value of r at 476 df (0.05) = 0.1946

Result: Insignificant

Ho : Accepted

It can be vividly seen in the table above that the null hypothesis is to be accepted. This is due to the fact that the computed r which is 0.17169 is far less than the critical r which is 0.1946 with 476 df at .05 level of significance, hence, age of the respondents does not have a significant bearing to the perceptions over the level of implementation of the Total Quality Management Practices in all the seven colleges in a University.

On Relationship between Sex and Level Implementation. Table 39 shows the data on whether respondents' sex and perceptions on the Implementation of TQM practices have a significant or no significant relationship.

Table 39
Relationship Between Sex and Level of Implementation
of the Total Quality Management

LI	**Sex**		
	Female	**Male**	**Total**
Grand Total	282	196	478
Chi sq.	1.6488	2.3722	***x^2 = 4.0210***
	Critical value @ 3 df (0.05) = 7.815	**Result: Insignificant**	**Ho: Accepted**

Table 39 reveals that the computed chi square value of 4.0210 is lesser than the table t of 7. 815 with 3 df at .05 level of significance. The result led to the non-rejection of the null hypothesis, hence, there is no significant relationship between sex and level of implementation of the Total Quality Management among the seven colleges in a University. It can be then said that respondents' sex does not significantly affect their perceptions on the implementation of the TQM practices.

On Relationship between Civil Status and Level Implementation. Table 40 shows the data on whether respondents' civil status and perceptions on the Implementation of the TQM practices have a significant or no significant relationship.

Table 40
Relationship Between Civil Status and Level of Implementation
of the Total Quality Management

LI	**Civil Status**		
	Single	**Married**	**Total**
Grand Total	474	4	478
Chi sq.	0.0176	2.0839	***x^2 = 2.1015***
	Critical value @ 3 df (0.05) = 7.815	**Result: Insignificant**	**Ho: Accepted**

Table 40 reveals that the computed chi square value of 2.1015 is lesser than the table t of 7. 815 with 3 df at .05 level of significance. The result led to the non-rejection of the null hypothesis, hence, there is no significant relationship between civil status and level of implementation of the Total Quality Management among the seven colleges in a University. It can be then said that respondents' civil status does not significantly affect their perceptions on the implementation of the TQM practices.

On Relationship between Year Level and Implementation. Table 41 shows the data on whether respondents' year level and perceptions on the Implementation of the TQM practices have a significant or no significant relationship.

Table 41
Relationship Between Year Level and Level of Implementation
of the Total Quality Management

LI	Year Level		Total
	Third Year	Fourth Year	
FI	20.2720 26 1.6185	81.7280 76 0.4015	102
MI	67.9707 65 0.1298	274.0293 277 0.0322	342
SI	6.7573 4 1.1251	27.2427 30 0.2791	34
NI	0.0000 0 0.0000	0.0000 0 0.0000	0
Grand Total	95	383	478
Chi sq.	2.8735	0.7127	$x^2 = 3.5862$
	Critical value @ 3 df (0.05) = 7.815	**Result: Insignificant**	**Ho: Accepted**

Table 41 reveals that the computed chi-square value of 3.5862 is lesser than the table t of 7. 815 with 3 df at .05 level of significance. The result led to the non-rejection of the null hypothesis; hence, there is no significant relationship between respondents' year level and level of implementation of the Total Quality Management among the 7 colleges in a University. It can be then said that respondents' year level does not significantly affect their perceptions of implementing the TQM practices.

Table 42
Relationship Between Courses and Level of Implementation
of the Total Quality Management

IP	Course							Total
	Education	BSCA	Crim	IT	HRM	Allied-Eng'g	Commerce	
MP	6.4017 12 4.8958	6.8285 17 15.1514	4.4812 6 0.5148	6.8285 9 0.6906	18.7782 9 5.0917	16.4310 11 1.7951	42.2510 38 0.4277	102
SP	21.4644 18 0.5592	22.8954 15 2.7227	15.0251 15 0.0000	22.8954 23 0.0005	62.9623 70 0.7866	55.0921 59 0.2772	141.665 142 0.0008	342
PP	2.1339 0 2.1339	2.2762 0 2.2762	1.4937 0 1.4937	2.2762 0 2.2762	6.2594 9 1.1999	5.4770 7 0.4235	14.0837 18 1.0890	34
NP	0.0000 0 0.0000	0.0000 0 0.0000	0.0000 0 0.0000	0.0000 0 0.0000	0.0000 0 0.0000	0.0000 0 0.0000	0.0000 0 0.0000	0
Grand Total	30	32	21	32	88	77	198	478
Chi sq.	7.5889	20.1502	2.0086	2.9672	7.0783	2.4958	1.5175	$x^2 = 43.8065$
	Critical value @ 12 df (0.05) = 21.026						Result: Significant	Ho: Rejected

Table 42 shows that the computed chi-square value of 43.8065 is greater than the tabular t value of 21.026 with 12 df at a .05 level of significance. The result led to the rejection of the null hypothesis. Hence there is a significant relationship between respondents' courses and the perceived level of implementation of TQM among the seven different colleges in a University. Furthermore, the finding implies that their perceptions significantly differ.

As shown in Table 43, the computed F value of 11. 13203 is greater than the F value of 2.10 with 6 and 471 df at 0.05 level of significance, hence rejecting the null hypothesis. Therefore, it is expedient to say that there is a significant degree of variance in terms of the respondents' perceptions when grouped according to colleges in regards to the5 dimensions of the Total Quality Management Practices that the University has implemented. However, all seven colleges have the same level of perceptions regarding implementing the TQM per college.

Table 43
Analysis of Variance on Level of Implementation of the Total Quality Management
When Respondents are Grouped According to Colleges

Respondents	A. Education		B. Customs		C. Crim		D. IT		E. HRM		F. Allied-Engineering		G. Commerce	
	X_1	$(X_1)^2$	X_2	$(X_2)^2$	X_3	$(X_3)^2$	X_4	$(X_4)^2$	X_5	$(X_5)^2$	X_6	$(X_6)^2$	X_7	$(X_7)^2$
n	30		32		21		32		88		77		198	
Sum	94.02	298.0409	104.62	345.1491	67.72	219.8092	99.02	310.2028	250.55	722.4390	222.70	653.5164	578.99	1717.4024
Mean	3.13		3.27		3.22		3.09		2.85		2.89		2.92	
SS	294.6602		342.0436		218.3824		306.4286		713.3286		644.0740		1693.0876	

ANOVA Table

Sources of Variation	df	Sum of Squares	Mean Squares	F-Value	
				Computed	Tabular (0.05)
Between Groups	6	7.73638	1.28940	**11.13203**	2.10
Within Groups	471	54.5548	0.11583	**Result: Significant**	
Total	477	62.29122		**Ho: Rejected**	

Table 43-B
Multiple Comparison
Using Scheffe's Test

Between Dimensions			**Mean1**	**Mean2**	**D**	**n1**	**n2**	**F'**	F*K-1	**Interpretation**
A	vs	B	2.98	2.81	0.18	478	478	38.9481	9.480	**Significant**
A	vs	C	2.98	2.86	0.12	478	478	18.1271	9.480	**Significant**
A	vs	D	2.98	3.02	-0.04	478	478	1.7496	9.480	Insignificant
A	vs	E	2.98	3.15	-0.17	478	478	34.4637	9.480	**Significant**
B	vs	C	2.81	2.86	-0.06	478	478	3.9333	9.480	Insignificant
B	vs	D	2.81	3.02	-0.22	478	478	57.2078	9.480	**Significant**
B	vs	E	2.81	3.15	-0.35	478	478	146.6866	9.480	**Significant**
C	vs	D	2.86	3.02	-0.16	478	478	31.1402	9.480	**Significant**
C	vs	E	2.86	3.15	-0.29	478	478	102.5800	9.480	**Significant**
D	vs	E	3.02	3.15	-0.13	478	478	20.6829	9.480	**Significant**

When data was further subjected to multiple comparisons between mean score using the Scheffe's Test as showed in Table 43-B, majority of the respondents' perception when grouped according to colleges does not significantly differ with from each other with an exception between Colleges of Education and Information Technology as well as that of the Colleges of Customs Administration and Criminal Justice.

Table 45
Analysis of Variance on the Different Dimensions of the Implementation of the Total Quality Management

Respondents	A		B		C		D		E	
	X_1	$(X_1)^2$	X_2	$(X_2)^2$	X_3	$(X_3)^2$	X_4	$(X_4)^2$	X5	$(X5)^2$
n	478		478		478		478		478	
Sum	1426.71	4328.21	1340.83	3885.64	1368.13	4005.17	1444.92	4452.76	1507.50	4858.08
Mean	2.98		2.81		2.86		3.02		3.15	
SS	4258.3968		3761.1591		3915.8285		4367.7493		4754.3018	

ANOVA Table

Sources of Variation	df	Sum of Squares	Mean Squares	F-Value	
				Computed	Tabular (0.05)
Between Groups	4	36.09242	9.02310	**45.55195**	**2.3700**
Within Groups	2385	472.4299	0.19808	**Result: Significant**	
Total	2389	508.52235		**Ho: Rejected**	

Table 45-A
Multiple Comparison
Using Scheffe's Test

Between Dimensions			Mean1	Mean2	D	n1	n2	F'	F*K-1	Interpretation
A	vs	B	2.98	2.81	0.18	478	478	38.9481	9.480	**Significant**
A	vs	C	2.98	2.86	0.12	478	478	18.1271	9.480	**Significant**
A	vs	D	2.98	3.02	-0.04	478	478	1.7496	9.480	Insignificant
A	vs	E	2.98	3.15	-0.17	478	478	34.4637	9.480	**Significant**
B	vs	C	2.81	2.86	-0.06	478	478	3.9333	9.480	Insignificant
B	vs	D	2.81	3.02	-0.22	478	478	57.2078	9.480	**Significant**
B	vs	E	2.81	3.15	-0.35	478	478	146.6866	9.480	**Significant**
C	vs	D	2.86	3.02	-0.16	478	478	31.1402	9.480	**Significant**
C	vs	E	2.86	3.15	-0.29	478	478	102.5800	9.480	**Significant**
D	vs	E	3.02	3.15	-0.13	478	478	20.6829	9.480	**Significant**

As shown in Table 45, the computed F value of 45.55195 is greater than the F value of 2.3700 with 4 and 2385 df at 0.05 level of significance, hence rejecting the null hypothesis. Therefore, it is expedient to say that there is no significant degree of variance on the different dimensions of the Total Quality Management Practices as perceived among the respondents. It can be then said that all the respondents from the seven colleges have the same level of perceptions when it comes to the implementation of the TQM in a University.

When data were further subjected to multiple comparisons between mean score using the Scheffe's Test as shown in Table 45-B, it can be observed that there was a slight variance in the perceptions among the respondents on quality of management when compared to the quality of teachers as well as the quality of infrastructure compared to the quality of examination.

CONCLUSIONS

In the light of the findings of this study, the following conclusions are hereby stated:

Data revealed that Quality of College Objectives got the highest composite mean for all seven colleges while Quality of Infrastructure Management and Quality of Examination System both got the lowest composite mean in regards to its level of implementation. Moreover, when it comes to the Quality of Teaching as one of the dimensions of Total Quality Management, it can be seen that almost all the colleges have the same rank or level of perception when it comes to the level of implementation with an exemption from the College of Criminal Justice that generated the lowest perception on such dimension.

There is no significant correlation between age and level of implementation; hence, the age of the respondents does not have a significant bearing on the perceptions over the level of implementation of the Total Quality Management Practices in all the seven colleges in a University. There is no significant relationship between sex and level of implementation of the Total Quality Management among the seven colleges in a University. It can be then said that respondents' sex does not significantly affect their perceptions on the implementation of the TQM practices.

There is no significant relationship between civil status and level of implementation of Total Quality Management among the seven colleges in a University. It can be then said that respondents' civil status does not significantly affect their perceptions on the implementation of the TQM practices. There is no significant relationship between respondents' year level and level of implementation of the Total Quality Management among the seven

colleges in a University. It can be then said that respondents' year level does not significantly affect their perceptions on the implementation of the TQM practices. There is a significant relationship between respondents' courses and the perceived level of implementation of TQM among the seven different colleges in a University. Furthermore, the finding implies that their perceptions significantly differ.

There is no significant degree of variance on the different dimensions of the Total Quality Management Practices as perceived among the respondents. It can be then said that all the respondents from the seven colleges have the same level of perceptions when it comes to the implementation of the TQM in a University.

RECOMMENDATIONS

Based on the findings as well as the conclusions, the following recommendations are hereby stated:

1. Forming a commitment to the change. The organization's top management must have faith in the effectiveness of TQM adoption. This trust must be conveyed to employees by explaining why TQM was implemented in the first place. This is why the leadership must be on board with the change and commit to it.

2. Establishing quality principles and policies. The first step in effectively adopting TQM is to begin altering the old corporate culture to one that prioritizes quality and customer satisfaction. This shift must be appropriately handled by top management, which must begin to listen to internal customers, engage in teams, and, in other words, begin to demonstrate real support for TQM programs.

3. Creating the necessary infrastructure for the transition. Top management and its change partners must aim to correctively inculcate new quality concepts by making quality the center of meetings, communications, the new mission, vision, and goal statement, and everything else must revolve around the new concept and how it must be implemented.

4. Conducting educational training is number four on the list. To make quality a way of life and a way of thinking, personnel must participate in intense training programs aimed at their education.

5. Putting together a squad. Teamwork and participation are the engineering qualities that allow TQM to function completely, especially in school laboratories and facilities.

6. Changing the leadership approach Top management should begin transitioning from the previous management style - control style – to a more open approach based on encouragement, listening, and cooperation – inventive style as soon as possible.

7. Understanding the needs of internal consumers. Now that all of your staff are aware with the new concept, it's time to figure out what they need.

8. Understanding the needs of external consumers. Customers' requirements may be recognized using TQM's excellent tool.

9. Deployment (QFD) is commonly used to define customers' needs, requirements, and expectations to take action to meet those demands.

Standardization for managing the change.

10. Maintaining a culture of continual development. Management must make constant changes based on the outcomes of employing QFD to keep its consumers delighted.

Conducting customer satisfaction surveys is number 11 on the list. It is critical to perform a customer satisfaction survey on a regular basis in order to assess problems that persist and take appropriate action.

12. Disseminating the appropriate quality idea. A culture shift has occurred, and it is now up to employees to embrace the new norm and begin acting in accordance with it.

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