



# EFFECT OF TOTAL QUALITY MANAGEMENT PRACTICES ON STUDENT SATISFACTION IN PUBLIC UNIVERSITIES IN KENYA

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**ABSTRACT-** Total Quality Management has played an important role in the development of contemporary management practices. Quality is considered as a key strategic factor in achieving business success. In order to enhance the competitive position and improve business performance, companies worldwide, large and small, manufacturing and service, have applied the principles of Total Quality Management. Public universities like any other businesses operate in a competitive environment. Students who are their primary customers need to be academically and generally satisfied with their services which will in turn lead to future businesses. This study sought to evaluate the influence of total quality management practices on student satisfaction in public universities in Kenya, to establish the relationship between total quality management practices and student satisfaction, to examine the influence of top management commitment on student satisfaction and to determine the impact of employee involvement on student satisfaction in public universities in Kenya. This study adopted descriptive research design. Data was collected through questionnaires and interviews for primary data. Data analysis was done using descriptive statistics and regression analysis through the use of SPSS. The study concludes that the adoption of total quality management practices such as top management commitment, employee involvement, process management and customer focus is critical in improving quality of education and thereby improving student satisfaction. The study recommends that all public universities need to include all the quality management practices in their daily activities and do regular evaluation to ensure continuous improvement.

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**Keywords:** *Total Quality Management, Student satisfaction, Top management commitment, Employee involvement, Process Management and Customer Focus*

## **1. Introduction**

### **1.1 Background of the Study**

Quality Management Systems (QMS) have become a popular choice for educational systems worldwide (Papadimitriou & Westerheijden, 2010). The purpose of QMS demonstrates a clear alignment with the organizations strategic directions and priority areas thus promoting formalized accountabilities and quality enhancement cycles for all core activities (Kaziliunas, 2010).

Total Quality Management (TQM) has become one of the competitive strategies of choice during the 1990s and has been widely implemented throughout the world (Rad, 2006). However, TQM in the service industry is still in the early stages of theory development (Vouzas & Psychogios, 2007). In a TQM effort, all members of an organization participate in improving processes, products, services, and the culture in which they work.

Total quality management can be summarized as a management system for a customer-focused organization that involves all employees in continual improvement. It uses strategy, data, and effective communications to integrate the quality discipline into the culture and activities of the organization. Many of these concepts are present in modern quality management systems, the successor to TQM.

In Africa, quality management in universities has acquired a sense of urgency owing to the rapid growth of the university sector in the last two decades (Munene, 2013). Munene, (2013) argues that in Kenya, the decline in budgetary support for higher education, evident in average per-student expenditure declined from US \$6,300 to \$1,500 by 1990, rising student enrolments coupled with inadequate and outdated teaching and learning resources, alongside massive staff exodus as well as poor governance have raised troubling questions about the quality of education provided.

Like many business organizations, the survival, growth and prosperity of universities depend on how they respond to changes taking place in their particular environment. In view of this, strategic management plays a key role in positioning universities in their quest to achieve sustainable competitive advantage and improve performance. Nevertheless, past researchers revealed that there were statistically significant differences between education institutions which have adopted total quality management systems and those that have not adopted (Kuncoro, 2013).

Hansemark and Albinson, (2004) describe student satisfaction as an overall students' attitude towards university services, or an emotional reaction to the difference between what students anticipate and what they receive in terms of quality of service delivered. However, according to Tanui and Kalai, (2016) the average students satisfaction level in universities in Kenya stands at 60% which is lower than south Africa at about 75% and European at above 80%. This calls for new approach with the potential of improving general service delivery and attitude of students towards their universities. Vouzas and Psychogios, (2007) advanced TQM as a management concept with the ability to improve processes, products, services, and the culture in which they work thus improving customers satisfaction through better service delivery.

## 1.2 Statement of the problem

Universities in Kenya are expected to play an increasingly greater role in socio-economic development by training skilled manpower and producing and disseminating the knowledge required for a knowledge-driven economy (Tanui and Kalai, 2016). It should enable individuals to develop their capabilities to the highest potential; serve the needs of an adaptive, sustainable and knowledge-based economy and play a major role in shaping of a democratic, civilized and inclusive society (Okioga et al. 2012). It is on the basis of such convictions about and anticipations on universities that they are expected offer satisfactory services to students (Kasper, Helsdingen, Van, & Gabbott, 2006). However, according to Tanui and Kalai, (2016) the average students satisfaction level in universities in Kenya stands at 60% which is lower than south Africa at about 75% and European at above 80%, raising doubt on the public procurement ability to drive socio-economic development of the country as expected under Vision 2030 (RoK, 2007). According to Tanui and Kalai, (2016), universities should strive to achieve students' satisfaction level of above 70% in order to enable students develop their capabilities to the highest potential to be able to contribute towards the attainment of the country Vision 2030. This the call for a new approach with the potential of improving the students' satisfaction.

Total quality management has been propagated by Hamzah and Yusuf, (2012) as having the potential for attaining continuous improvement in the organizations' people, systems, processes and environment for achieving improved customer service and satisfaction. Bahri, Hamzah, and Yusuf, (2012) further argued that TQM as a management approach, has the ability to improve quality, timely delivery and cost effectiveness of services provided by firms. Consequently, a number of universities in Kenya have embraced TQM in an attempt to improve their students' satisfaction (Mabinda 2012). Tanui and Kalai, (2016) noted that even though a number of universities have invested heavily in implementation of TQM, there is still no clear empirical evidence linking it with student satisfaction. It is therefore against this background that this study aims to ascertain the influence of total quality management practices on student satisfaction in public universities in Kenya

## 1.3 Research Objectives

In this study, the overall objective was to evaluate the influence of total quality management practices on student satisfaction in public universities in Kenya. The specific objectives are:

- 1) To establish the influence of Process Management on the student satisfaction in public universities.
- 2) To examine the influence of top management commitment on the student satisfaction in public universities.
- 3) To determine the impact of employee involvement on student the satisfaction in public universities in Kenya.
- 4) To ascertain the effect of customer Focus policy on the satisfaction in public universities in Kenya.

## **1.4 Research Questions**

The research was guided by the following research questions:

- i. What is the influence of Process Management on the satisfaction in public universities?
- ii. What is the influence of top management commitment on the student satisfaction in public universities?
- iii. What is the impact of employee involvement in decisions on the student satisfaction in public universities?
- iv. To what extent does customer focus policy affect the student satisfaction in public universities

## **2. Literature review**

### **2.1 Theoretical Review**

#### **Juran's Theory of Quality Management**

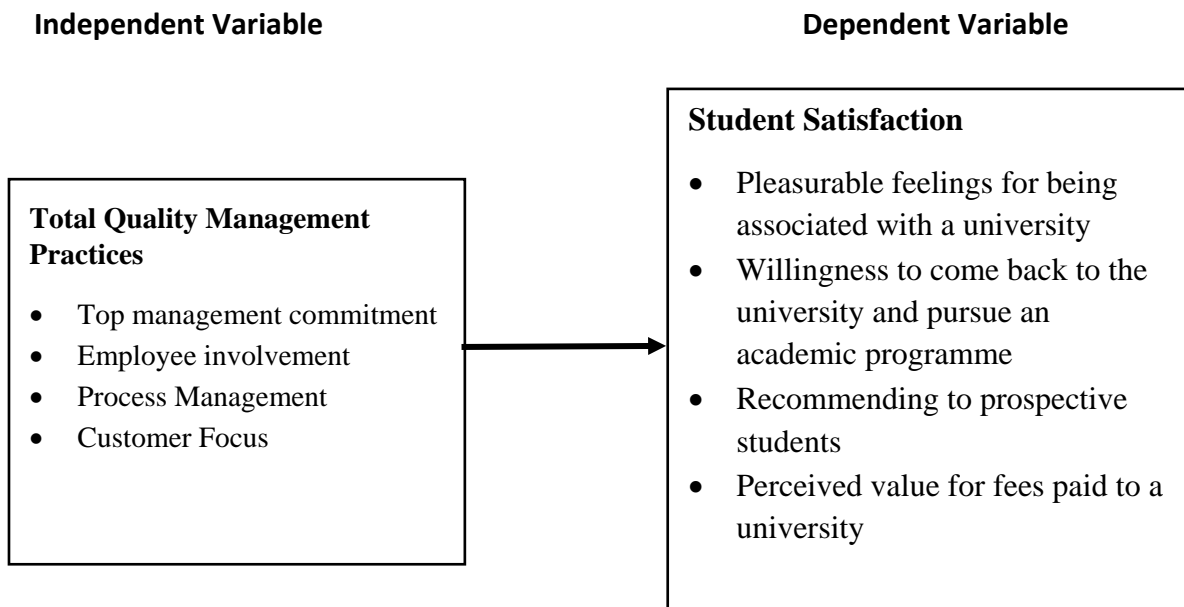
Juran defines quality as fitness for use in terms of design, conformance, availability, safety, and field use (Fields, Hague, Koby, Lommel, & Melby, 2014). Thus, his concept more closely incorporates the viewpoint of a customer. He is prepared to measure everything and relies on systems and problem-solving techniques (Fields et al., 2014). Juran's 10 steps to quality improvement are: build awareness of opportunity to improve, set-goals for improvement, organize to reach goals, provide training, carryout projects to solve problems, report progress, give recognition, communicate results, keep score and maintain momentum by making annual improvement part of the regular systems and processes of the company (Forbes, & Ahmed, 2011).

#### **The Theory of Constraint**

The theory of constraints (TOC) is a management paradigm that views any manageable system as being limited in achieving more of its goals by a very small number of constraints (Mabin and Balderstone, 1999). There is always at least one constraint, and TOC uses a focusing process to identify the constraint and restructure the rest of the organization around it (McMullen, 1998). TOC adopts the common idiom "a chain is no stronger than its weakest link". This means that processes, organizations, etc., are vulnerable because the weakest person or part can always damage or break them or at least adversely affect the outcome (McMullen, 1998).

### **2.2 Hypothetical Model**

The theoretical review provided the basis for the development of the hypothetical relationship model of the study factors, fig. 2.1. According to Fields et al., (2014) top management commitment, employee involvement, process management, and customer focus policy are the TQM factors while pleasurable feelings for being associated with a university, willingness to come back to the university, and pursue an academic programme, recommending to prospective students and perceived value for fees paid to a university are the students' satisfaction factors in this study according to Dale, (2003). Thus the study hypothetical relationship is presented in fig. 2.1



**Figure 2.1: Conceptualizing the relationship between Total Quality Management and Student Satisfaction**

### 2.3 Empirical Review

There are various studies on the effect of TQM on service delivery. Various empirical studies have argued that TQM has a positive impact on the performance of an industry. An empirical study within Australian organizations described that TQM practices and quality performance have a strong positive relationship (Brah & Lim, 2006), (Prajo & Brown, 2004). In a recent empirical study, (Rahman & Bullock, 2005) also explored the relationship between TQM practices and organizational performance using data from 261 Australian manufacturing companies.

Brookes and Becket, (2007) made a review of literature on Quality management in Higher Education and come to conclusion a number of environmental forces were driving within and across countries, leading to firm emergence of the quality management issue on the agenda of many Higher Education institutions. The review revealed that the most popular response Higher Education institutions gave was the testing or implementation of quality management models developed by industry. From the empirical studies reported in the literature and analyzed by the authors, benefits related to the implementation of models as well as limitations were identified.

Tuan, (2012) research in universities in Vietnam found that administrative service quality was significantly and positively related to students' satisfaction. This finding demonstrates that the knowledge of the functioning of a university, skills and service attitude of administrative staff play a very important role in increasing students' satisfaction. A study on integrated Total Quality Management practices in technical institutions from the students' perspective was conducted by (Pandi, Rao, & Jeyathilagar, 2009). They revealed that total quality management in the aspects of top management commitment, system approach to management, customer satisfaction, employee involvement, training, teamwork, and continuous improvement were given equal importance in the technical institutions under study. However, as revealed by the students, top management

commitment and teamwork were not given attention in the various technical institutions that were studied.

Chepketch, (2014) examined the effect of TQM practices on organizational performance in Kenya. The specific objectives of this study were to determine the effect of top management commitment on organizational performance, to investigate the effect of customer focus on organizational performance and to examine the effect of employee involvement on organizational performance. The study correlations analysis showed that top management commitment, employee involvement and customer focus were positively and significantly affecting organizational performance.

### **3. Research Methodology**

#### **3.1 Research Design**

Research design essentially refers to the strategy or plan of shaping the research (Henn, Weinstein, & Foard, 2006), that include the entire process of research from conceptualizing a problem to writing the research question, data collection, analysis, interpretation and report writing. The study adopted a descriptive survey design. According to (Mugenda & Mugenda, 2003), the purpose of descriptive research is to determine and report the way things are and it helps in establishing the current status of the population under study. (Saunders, Lewis, & Thornhill, 2009) note that descriptive survey research is intended to produce statistical information about aspects of a study that interest the policy makers. The descriptive research design was preferred as it would enable the researcher to describe the relationship between the variables of study.

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### **3.2 Target Population**

(Christensen & Johnson, 2014) argue that a population is the derived elements under investigation: inferences for a sample in any study are done from a population that has been earlier defined or selected.

According to (Balnaves & Caputi, 2001) populations are operationally defined by the researcher. They assert that this population must be accessible and quantifiable and related to the purpose of the research. There are 30 chartered public universities in Kenya.

The subjects of study were drawn from a sample of five universities which was selected on the basis of commonality, that is, on the assumption that all the public universities are operating under similar environments, their dependency on same superior ministry, their locality and the nature of service. The respondents included Postgraduate students, Undergraduate Students, Diploma students and Certificate Students.

### **3.3 Description of Research Instruments**

These are tools used to collect either quantitative or qualitative data. The main data collection instrument that was used in this study was the questionnaire. This was used for the purpose of collecting primary quantitative data. Additionally, the questionnaire was used for the following reasons: a) its potentials in reaching out to a large number of respondents within a short time, b) able to give the respondents adequate time to respond to the items, c) offers a sense of security (confidentiality) to the respondent and d) it is objective method since no bias resulting from the personal characteristics (as in an interview) (Owens, 2002). The researcher also adopted the use of interviews.

### **3.4 Description of the Sample and Sampling Procedure**

Sampling is the process of selecting a number of individuals for a study in such a way that the individuals selected represent the large group from which they were selected (Ogula, 2005). Stratified purposive sampling and simple random sampling was used to select the sample. The respondents were divided into four strata; PhD students, Masters and Postgraduate diploma students, Undergraduate students and Diploma and Certificate students. Within each stratum, simple random sampling was used to identify individual student respondents. The target sample size for this study is 250; at least 30% of the total population is representative, (Borg & Gall, 2003)

### **3.5 Description of Data Collection Procedure**

Data collection refers to gathering specific information aimed at proving or refuting some facts. Prior to the commencement of data collection, the researcher obtained all the necessary documents. The researcher together with the research assistant distributed the questionnaires to the students in the sampled public universities. The researcher collected qualitative data as the study aimed to achieve an in-depth understanding of the situation. The questionnaire was structured with open ended and closed ended questions. Open ended questions enabled the respondents to discuss issues without their responses confined and also allowed more spontaneity of response and provided opportunities for self-expression as observed by (Mutai, 2000), while closed questions had an array of choices or answers from which the respondents choose from. Such questions are easier and quicker to answer and the responses were more comparable among respondents.

### 3.6 Description of Data Analysis Procedure

Data analysis is the process of systematically organizing the materials collected, bringing meaning to them so that they tell a coherent story and writing it all up so that others can read what one has learned (Ololube, Egbezor, Kpolovie, & Amaele, 2012). Both quantitative and qualitative approaches were used for data analysis. Quantitative data from the questionnaire was coded and entered into the computer for computation of descriptive statistics. The Statistical Package for Social Sciences (SPSS version 20) was used to run descriptive statistics such as frequency and percentages so as to present the quantitative data in form of tables and pie charts based on the major research questions.

The qualitative data generated from open ended questions was categorized in themes in accordance with research objectives and reported in narrative form along with quantitative presentation. The qualitative data was used to reinforce the quantitative data.

A multiple linear regression model was used to test the significance of the influence of the independent variables on the dependent variable. The multiple linear regression model is as shown below.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Where; Y= Customer satisfaction

$\beta_0$  = Y intercept

$\beta_1$  to  $\beta_4$  = regression coefficients

$X_1$  = top management commitment

$X_2$  = Employee involvement

$X_3$  = Process management

$X_4$  = Customer Focus

$\epsilon$  = Error term

### 3.7 Validity

(Cooper & Schinler, 2006) describes validity as the ability of the research instrument to measure what it is supposed to measure. It is a criterion used to show the extent to which conclusion drawn in a study provides an accurate description or explanation of what happened, (Eriksson & Kovalainen, 2008). On the validity of instruments, the researcher carried out a pilot study to appraise the questionnaire soundness of the items and to estimate time required to answer the questions.

The pilot study covered some 10 students of Masinde Muliro University of Science and Technology not covered in the sampled population. The results of the pilot study were discussed with the respondents and adjustments were made accordingly. The validity of instruments measures the consistency of instruments. (Best & Kahn, 2000) considers the reliability of the instruments to be the degree of consistency that the instruments or procedure demonstrates.



### 3.8 Reliability

(Kothari, 2011) measures a research model on its ability to be reliable. The reliability of a standardized test is usually expressed as a correlation coefficient, which measures the strength of association between variables. Such coefficient vary between 0.00 and 1.00 with the former showing that there is no reliability and the later showing there is perfect reliability which is an ideal situation. Reliability was ascertained by splitting the instruments into two; by placing all odd numbered in one sub-set and all even numbered items in another subset and then finding the coefficient of internal consistency. The reliability was estimated to be 0.89 meaning that the instruments were reliable

### 3.9 Ethical Issues

The researcher explained to the respondents about the research and that the study was for academic purposes only. Respondents were not coerced into participating in the study. The participants were informed of the consent to make the choice to participate or not. They were guaranteed that their privacy was protected by strict standard of anonymity.

## 4.0 Research Findings and Discussions

### 4.1 Response Rate

From the data collected, out of the 250 questionnaires administered, 208 were filled and returned. This represents a response rate of 79%. This response is considered very good to make conclusions for the study. According to (Mugenda & Mugenda, 2003), a 50% response rate is adequate, 60% good and above 70% rated very good.

**Table 4.1 Response Rate**

Level of Education	Questionnaires Administered	Questionnaires filled and returned	Percentage
PhD	30	19	63.3
Masters/Post Graduate Diploma	40	32	80.0
Undergraduate	120	109	90.8
Diploma/Certificate	60	48	80.0
<b>Total</b>	<b>250</b>	<b>208</b>	<b>78.525</b>
<b>Average %</b>			<b>79%</b>

**Source: Research Data (2018)**

### 4.2 Correlation and Regression Results

#### 4.2.1 Correlation Analysis

The aim of correlation analysis were: to establish whether the independent variables were serially correlated and to ascertain the existence of whether there was multicollinearity between the predictor factors. The result in Table 4.2 shows that the linear relationship between the independent variables, Management commitment (0.124), Employee Involvement in decision (0.056), Process management (0.094), and customer focus policy (0.045), are less than 1. Therefore, independent variables had low correlation hence no serial correlation between the variables. The results also indicated that any predictor variable had no multicollinearity.

**Table 4.2 Correlation Results**

Correlations Results						
		Level of Education	Management commitment	Employee Involvement	Process management	Customer focus
Pearson Correlation	Level of Education	1.000	.124	.056	.094	.045
	Management commitment	.124	1.000	.590	.698	.709
	Employee Involvement	.056	.590	1.000	.643	.722
	Process management	.094	.698	.643	1.000	.737
	Customer focus	.045	.709	.722	.737	1.000
Sig. (1-tailed)	Level of Education	.	.037	.212	.089	.258
	Management commitment	.037	.	.000	.000	.000
	Employee Involvement	.212	.000	.	.000	.000
	Process management	.089	.000	.000	.	.000
	Customer focus	.258	.000	.000	.000	.
N	Level of Education	208	208	208	208	208
	Management commitment	208	208	208	208	208
	Employee Involvement	208	208	208	208	208
	Process management	208	208	208	208	208
	Customer focus	208	208	208	208	208

**Source: Research Data (2018)**

#### 4.2.2 Analysis of Variance (ANOVA)

Analysis of variance (ANOVA) was done to establish the level of influence of the independent factors (top management commitment, employee involvement, process management, and customer focus policy) on the dependent factor (Students' satisfaction). The ANOVA established F-statistic to be 3.705 and P-value was found to be 0.001 at 5% level of significance. This shows that the independent variables consistently predict the dependent variable (Student' satisfaction). Therefore, this model was fit for explaining the relationship between the independent variables and dependent variable (student's satisfaction) in public universities. Table 4.3 present the ANOVA results:

**Table 4.3 Anova**

ANOVA <sup>a</sup>					
model	sum of squares	df	Mean square	F	Sig
1 Regression	3.236	4	850.747	3.705	.001 <sup>b</sup>
Residual	150.437	203	.741		
Total	153.673	207			

**a. Independent Variables:** top management commitment, employee involvement, process management, and customer focus policy

**b. Dependent Variable :** Students' satisfaction

**Source: Research Data (2018)**

#### 4.2.3 Regression Analysis

The study sought to establish the influence of total quality management practices on the students' satisfaction in the public universities in Kenya. A regression equation in the form of:  $Y = \beta_0 (1) + a_1X_1 + a_2X_2 + a_3X_3 + a_4X_4 + \epsilon$  was used to establish the association between the dependent variable and the independent variables of the study. The study dependent factor was students' satisfaction and TQM practices (top management commitment, employee involvement, process management, and customer focus policy) were the tested predictor factors. Coefficient of determination value,  $R^2$  was found to be 0.3247 indicating that 32.47% of students' satisfaction was explained by independent factors under study. The results from table 4.4 shows that the predictor equation for students' satisfaction (Y) versus independent factors ( $X_i$ ) takes the form;

Students' satisfaction = 1.041 + 0.159 (Management commitment) + 0.234 (Employees Involvement) + 0.216 (Process Management) + 0.163 (Customer Focus) + 0.091.

This implied that students' satisfaction increases by 0.159 when management commitment go up by 1, increases by 0.234 when employees' Involvement increases by 1, increases by 0.216 when process management increases by 1, and increases by 0.163 when customer focus increases by 1. The study findings further indicate that employees' involvement has the greatest influence on students' satisfaction at 23.40 percent followed by process management at 21.6 percent, customer focus at 16.3 percent and management commitment at 15.9 respectively. Table 4.4 presents regression analysis between TQM practices and students' satisfaction results.

**Table 4.4: TQM Practices and Students' Satisfaction**

Students' Satisfaction	Coefficient	Standard Error	T	Sig
Management commitment	0.159	0.003	1.262	0.000
Employees Involvement	0.234	0.002	0.195	0.002
Process Management	0.216	0.001	0.182	0.001
Customer Focus	0.163	0.012	0.019	0.002
Constant	1.041	0.091	11.163	0.000

F (4,208) =79.0, P-value <0.026, R-squared=0.3247, Adj R-squared=0.3166

**Source: Research Data (2018)**

#### 4.3 Research Discussion

The study sought to establish the influence of TQM practices on students' satisfaction in public universities in Kenya. A number of studies (Taylor & Wright, 2003; Ahmed & Sushil, 2008; Arshida & Agil, 2012) have argued that TQM practices lead to improvement of students' satisfaction. This study postulation was grounded on such studies in examining the effect of TQM practices on the students' satisfaction in public universities in Kenya.

The study findings indicate that universities that have embraced TQM practices within their operations experience improvement in students satisfaction. The multiple regression analysis results indicate that TQM practices have a positive statistically significant effect on students' satisfaction in public universities;  $p < 0.05$  ( $P=0.026$ ) with an explanatory power of 32.47 percent. Therefore, the study question "Does TQM practices affect students' satisfaction in public universities in Kenya?" was answered in the affirmative.

The findings of this study strongly agree with previous studies carried out by Bahri , Hamzah and Yusuf (2012); Brookes and Brecket, (2007); Chepkech, (2014); DeShields, Kara and Kaynak, (2005); Gibson, (2010); Gulali, Odoyo, Obura, Abong'o and Ondoro, (2015) which established that when TQM practices are deployed effectively in operational activities of an organization, they potentially improve customers' satisfaction which is mirrored in terms: pleasurable feelings for being associated with the organization, willingness to come back, recommending to prospective customers, and perceived value money (Bahri , Hamzah & Yusuf, 2012)

## **5.0 Summary, Conclusions and Recommendations**

### **5.1 Summary**

The study established a positive relationship between TQM practices and students' satisfaction based on the following factors: management commitment, employees' involvement, process management and customer focus. However, employees' involvement was found to be the one offering greatest influence on students' satisfaction followed by process management, customer focus and management commitment respectively.

### **5.2 Conclusion**

On the student' satisfaction, the study concludes that it is most affected by employees' involvement followed by process management and it is least affected by management commitment. The study further concludes that all the four factors of TQM positively and significantly affect the students' satisfaction.

### **5.3 Recommendations**

The study established that employees' involvement and process management respectively offer the greatest influence on students' satisfaction. Consequently, the study recommends that: public universities should involve their employees on matters students' management and their welfare. They should further develop and implement clear management processes to guide their operations and relationship with students in order to improve satisfaction of their main customers –the students.

### **6.0 Suggestions for Further Studies**

Future studies are suggested on TQM practices and students' satisfaction in the private universities in the country. Similar study on a larger population targeting manufacturing sector is further recommended. Additionally, the study recommends that further studies should be done to explore the relationship between the implementation of TQM practice and student satisfaction using a case study to identify the specific practices adopted by each university. Further research to determine how TQM can contribute to organizations performance and customer satisfaction and to what extent the benefits if any can be quantified by the organizations.

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