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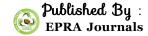
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MULTIVARIATE ANALYSIS OF DETERMINING STUDENT SATISFACTION IN HIGHER LEARNING **INSTITUTIONS: A CASE OF MZUMBE UNIVERSITY, TANZANIA**

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ABSTRACT

An attempt has been made in this study to explore major factors influencing student satisfaction using a sample of 606 students. Factor analysis technique was utilized to reduce dimension of data from twenty to five variables which were then used in regression analysis to investigate its significance. Findings revealed that out of five determinants of student satisfaction, responsiveness, tangibility, assurance and empathy variables were found to have significance influence to the overall satisfaction unlike reliability variables which were insignificant. The study is an input towards policy formulation and strategies that aims at maximising student satisfaction and hence institutional achievement.

KEY WORDS: Factor analysis, Regression model, Student satisfaction

INTRODUCTION

Students as key stakeholders of education, theirs views are important to ensure service quality and hence sustainability of the Higher learning institution. Due to significance of education in society, it is vital to assess quality of services associated with education delivery from students' perception point of views. Satisfaction level is not uniform among customers (students), and hence factors influencing satisfaction may also vary among students. The level of satisfaction of one society might also be different from other society because of differences in social values (Kashan, 2012). Having continuous opinions from students, is essential for quality assurance management and hence improvement of the Institutions. Ibrahim et al., (2012) argued that identifying customer needs and satisfaction is one of the requirements for Monitoring and evaluation of service quality at Higher learning institution. It is widely believed that for the Higher education to have

significance recognition to the society, it should be producing the competent graduates. The way to attain this achievement is through proving education service in a way that students enjoy learning process and hence groom their skills development. The means to ensure high quality of services offered by Higher learning Institution is through satisfaction studies on assessing the level of satisfaction with education service as perceived by students.

Mzumbe University is one of the public Universities owned by United Republic of Tanzania which was established in 2001 as a result of expansion of the former Institute of Development Management. It manages three campuses namely Main campus, Dar es Salaam Campus College, and Mbeya Campus College. Student enrolment in Higher learning institutions have been increasing each year with observable elements of competition among Higher learning Institutions. Since the independence of Tanzania, education sector expanded from one in

www.eprajournals.com Volume: 1/ Issue: 10/December 2016 1961 to more than seventy higher learning Institutions in 2015. (URT, 2015).

Although the admission of undergraduate students are done centrally by Tanzania Commission of Universities, the applicant have right to decide on preferred higher learning Institution when making three selection in the order of preference. With Government subsidies to higher leaning Institutions being decreasing each year and due to competitive situation, there is a need to identify satisfaction of the students so that strategies could be established to attract reasonable number of students to prefer Mzumbe University.

Customer satisfaction is an essential function of service offered by any organization. It is complex concept whose measurement result varies from one customer to another and from one service/product to another (Munteanu et al., 2010). Thus it is possible to have high level of satisfaction for particular components while on other hand not satisfied with other components of services/products. According to McDougall and Levesque (2000), customer satisfaction is an affective feedback that appears in response to a single or prolonged set of service encounters. In particular, students' satisfaction refers to the situation in which the services offered by institution can met the needs, wants and expectations of the students (Saepudin and Marlina, 2013). On the other hand, Hasan and Ilias (2008) argued that satisfaction of the students depends on their perception on experience gained in University life. The significant role of student's satisfaction is to establish uniqueness and accuracy of the education, since the maximum level of student's satisfaction bring about the maximum ability of the students to acquire knowledge and develop skills and mentality (Muhammad et al., 2010).

Several studies have been conducted worldwide examine the factors influencing student satisfaction. A study done by Letcher and Neves (2010) on determinants of students' satisfaction in a New Jersery revealed that Self-confidence, extra-curricular activities and career opportunities, and quality of teaching were significant predictors of student satisfaction. On the other hand Farahmandia et al., (2013) concluded that facilities, advisory services, curriculum, and financial help and tuition expenses have significant impact on student satisfaction. Suthar et al., (2013) carried out a study to investigate factors influencing overall student satisfaction in context to Amity Global Business School, Hyderabad. The authors presented that variables such as such student self confidence, satisfaction with teaching in subject matter, accessibility of modern technology have significance influence on overall student satisfaction. Tsedzah, and Obuobisa-Darko (2015) evaluated factors that can influence students satisfaction based on services rendered by University college student and concluded that students are more

satisfied with academic support services rather than students services. Findings of a study conducted by Ibrahim et al., (2012) on evaluating perceived student services offered by Technical satisfaction on Educational and Vocational Training (TEVT) Institutions in Malaysia shows that instructor, curriculum and training delivery are important factors contributing to overall students satisfaction. Jalali et al., (2011) in their study to identify factors that predict students' satisfaction in a higher learning institution in Malaysia revealed that academic related activities are more imperative than non-related academic. Saepudin and Marlina (2013) in their work to examine the influence of the service quality of institution on the satisfaction of the students revealed the reliability and responsiveness are most influential factors influence students satisfaction. Manzoor (2013) in his study to investigate whether accommodation, sports and transports facilities have significance influence on students satisfaction of Pakistan Universities concluded that sports and transportation facilities were significant explained the student satisfaction unlike accommodation facilities.

While there is increasing accessible number of studies conducted over the world about student satisfaction, nothing is documented in Tanzania context. Kashan (2012) argued that due to variation of social values among communities, the level of satisfaction among students also varies. Thus the current study contributed to the body of knowledge by studying the factors influencing students satisfaction of Tanzania Higher learning Institutions particularly Mzumbe University. The study was guided by the following hypotheses:

 H_{01} : There is no significant influence of assurance to the overall student satisfaction

H₀₂: There is no significant influence of empathy to the overall student satisfaction

 H_{00} : There is no significant influence of tangibility to the overall student satisfaction

 H_{04} : There is no significant influence of reliability to the overall student satisfaction

 H_{05} : There is no significant influence of responsiveness to the overall student satisfaction

METHODOLOGY Target population:

The study targeted to capture views from undergraduate students who have experienced university life and enjoy service quality. The reason for selecting undergraduate students is due to their large portion as they constitute about sixty two percent of the total student population of Mzumbe non University students including degree and programmes (certificates diploma) and postgraduate programmes.

Sample size and sampling design:-

It is imperative for the sample to be consistent with the employed statistical technique particularly factor analysis at the same time cope with the time and financial resource. A sample size of 606 undergraduate students including first, second and third year students was determined using formula demonstrated by Cochran (1963) as follows:

$$n = \frac{z^2 \cdot p \cdot q \cdot N}{(N-1)err^2 + p \cdot q} = \frac{1.96^2 \times 0.07 \times 0.93 \times 5188}{(5188 - 1)0.02^2 + 0.07 \times 0.93} = 606$$

Where: P = sample proportion, q=1-p

N= (5118) size of population of undergraduate students

n = (606) size of sample of undergraduate

students

err = (2%=0.02) acceptance margin error (the precision)

z= standard variate at a given confidence level, a number of standard deviations a given proportion differ from the mean

To ensure representative sample, stratification sampling design were utilized where by population of students were stratified according to their faculties/schools. Then sample within stratum (faculties/schools) were proportionally allocated using the following formula $n_s = (N_s / N)n$

Where: n_s = number of sample for stratum 's' N_s = size of the population for stratum's' N =population size, n=sample size

A sample size of 606 was then allocated to school of business (166) school of public administration (182), faculty of social science (166) faculty of science and technology (77) and faculty of law (65).

Data collection method and analysis:-

Data were captured through questionnaires composed of a list twenty variables and circulated to students to rate each variable from scale of one (1) as lowest level of satisfaction to five (5) as highest weight of satisfaction with a particular item. Data analysis was made possible with Statistical packages software for social science (SPSS) version 20.Factor analysis was employed to reduce dimension of data from twenty variables to five unobserved variables called factors which were then utilized as independent variables in fitting the linear regression model. According to Johson and Wichen (2007) ,the factor analysis is given by:

$$\begin{split} X_1 - \mu_1 &= l_{11}F_1 + l_{12}F_2 + \ldots + l_{1m}F_m + \varepsilon_1 \\ X_2 - \mu_2 &= l_{21}F_1 + l_{22}F_2 + \ldots + l_{2m}F_m + \varepsilon_2 \\ \vdots \\ X_P - \mu_P &= l_{p1}F_1 + l_{p2}F_2 + \ldots + l_{pm}F_m + \varepsilon_n \end{split}$$

In matrix form, the orthogonal factor model with m common factors can also be described as:

$$\underset{(p \times \mathbf{l})}{X - \mu} = \underset{(p \times m)}{L} \underset{(m \times \mathbf{l})}{F} + \underset{(P \times \mathbf{l})}{\mathcal{E}}$$

Where by: The coefficient l_{ij} stands for the loading of the ith variable on the jth factor

The matrix \boldsymbol{L} stands for matrix of the factor loadings

The communalities (h_i^2) are given

by:
$$h_i^2 = l_{i1}^2 + l_{i2}^2 + \dots + l_{im}^2$$

And Specific variance ψ_i is given by:

$$\psi_i = \sigma_{ii} - h_i^2$$
 for $i = 1, 2, ..., p$

Principal factor analysis is given

by:
$$\widetilde{L} = \left[\sqrt{\hat{\lambda}_1 \hat{e}_1} : \sqrt{\hat{\lambda}_2 \hat{e}_2} : \dots : \sqrt{\hat{\lambda}_m \hat{e}_m} \right]$$

Where by: $\lambda_1, \lambda_2, ..., \lambda_m$ and $e_1, e_2, ..., e_m$ are called the eigen values and eigen vectors respectively Apart from the factor analysis, the linear regression model was also employed to measure the influence of predictors to the predicted variable. The model can be expressed as follows:

$$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_k x_k + e$$

Where by: y stands for dependent variable, β_1 , β_2 β_k stands for coefficients,

 X_1, X_2, \dots, X_k stands for independent variables while e is the error term.

Measuring service quality:-

There are more than one proposed measures of service quality in education. With the varieties of scale of measurement, each one has strengths and weakness and thus its application may depend on the research design (Ibrahim et at, 2012).In measuring the service quality of the University, the current study employed Parasuraman's SERVQUAL dimensions model developed by Parasuraman et al., (1988). Using this model, five dimensions of measuring service quality namely tangibility, assurance, responsiveness, reliability, and empathy

were treated as predictors of overall student satisfaction.

RESULTS

Factor Analysis:-

Prior to utilizing linear regression model on measuring the influence of explanatory variables to the overall satisfaction, it was essential to employ factor analysis to reduce data for easy interpretation at the same time solving multicolinearity problem. The factor analysis aims at reducing variables from large to small number of variables which can be utilized as variables in further analysis. One of its preliminary procedures is to evaluate suitability of the factor analysis using Kaiser-Meyer-Olkin (KMO) which measures the sampling adequacy and Bartles test of Sphericity tests the strengths of relationship between variables under null hypothesis that the correlation matrix of the population is an identity matrix.

Table 1 reveals a KMO value of 0.669 which is greater than 0.5, hence gives assurance of proceeding with factor analysis procedures. On the other hand, p-value is less than 0.05 for Bartletts test of null hypothesis that the correlation matrix is an identity matrix, which implies a rejection of the null hypothesis and conclude that there is correlation between variables.

Table 2 shows the amount of variances of the original variables which has been accounted for by the common extracted factors. The higher communality is observed in the variable named "University management has focus on students" where by eighty one percent of its variances were explained by extracted factor. For other variables communalities ranges from fifty one to seventy nine which shows that at least a half of its variances have been explained.

The findings in tables 3 presents the factors extracted from principle components method together with its corresponding eigen values and total variance explained. The first, second, third, fourth and fifth factors accounts for about twenty six percent, fourteen percent, twelve percent, eight percent and six percent respectively. This means that the first five factors together accounts for sixty five percent of the total population variance. Hence only five factors are retained as the rest of the factors have eigen values less than one and hence considered them as insignificant since dropping them does not lose much information.

The findings from table 4 indicate the outputs of using principal component methods of factor extraction, varimax methods of rotation which is used to smooth and hence simply interpretation of the loadings. The principal component method extracted five factors with their loadings. The six variables were loaded to factor one which is then named as **responsiveness** includes 'Availability of Lecturers for

consultation and assistance', 'Efficiency in dealing with students' academic matters', 'Ability of the lecturer in handling urgent issues ', 'Ability of administrative staff to provide urgent services', 'Accessibility of academic adviser', and 'Transparent chain of communication for criticism/appeal '. Second factor is a group of reliability variables includes 'Services are provided in time', 'Efficiency of academic registration information system (ARIS) ', 'Lecturers' tendency of attending classes', 'Efficiency of admission process. Third factor consists of tangibility variables namely 'Impression management buildings', 'Lecture/seminar room have enough space compared to number of students', 'Computer use services provided by Management', 'Internet speed of the University ' and 'Enough natural air in lecturer/seminar rooms'. Fourth factor is a group of assurance includes 'Staffs interaction with students', 'Commitment in implementation of University policies ', and 'Competence of academic staff in teaching'. The fifth factor is **empathy** consists of 'Implementation of University plans focus on students as key customer and 'Availability of venues for discussion and private studies '. The next step was to measures the contribution of each of the extracted five factors (variables) to the overall satisfaction.

The influence of factors to the overall satisfaction:-

Model Evaluation:-

The regression output in table 5 presents an R square (0.250) and adjusted R square values (0.244) which means that 25% of the variability of the data has been explained by the model.

F -test is appropriate for testing the overall significance of the linear regression model under the null hypothesis that all explanatory variables have no influence to the explained variable.

Table 6 shows an F- value of 39.975 with its p value of 0.000 which is smaller than level of significance of 0.05. For that case, the null hypothesis is rejected and concludes that at least one predictor variable has influence to the overall satisfaction. The significance of the model gives guarantee of proceeding with further analysis of testing the hypotheses of the study which implies testing the individual coefficients of the linear regression model.

Influence of assurance dimension of service quality to the overall students satisfaction:-

Five factors were evaluated to examine their influence on overall student satisfaction. Table 7 indicates coefficients values of factors along with t- and p-values. This is a reference of analyzing the specific objectives guided by five hypotheses. The first pair of hypothesis was formulated as follows:

H₀₁: There is no significant influence of assurance to the overall students' satisfaction

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 H_{AI} : There is significant influence of assurance to the overall students' satisfaction

The findings presented in table 7 shows the coefficient values of -0.15 for assurance variable which means a negative relation between assurance and overall satisfaction. On the other hand the corresponding t value of -3.076 and p value of 0.002 is less than maximum level of significance level of 0.05. Hence the null hypothesis is rejected and concludes that there is significance influence of assurance to the overall student satisfaction.

Influence of empathy dimension of service quality to the overall students satisfaction:-

The second hypothesis was formulated to guide the second objective of the study as follows:

 H_{02} : There is no significant influence of empathy to the overall students' satisfaction

*H*_{A2}: There is significant influence of empathy to the overall students' satisfaction

In testing the coefficient of empathy, the value of t and its corresponding p values are 2.323 and 0.021 respectively which gives clear picture on its contribution to the overall satisfaction. Since p -value is less than 0.05 that is a strong evidence to conclude that the empathy variables influence overall student satisfaction.

Influence of tangibility dimension of service quality to the overall students satisfaction:-

The third hypothesis was concerned with testing the influence of tangibility variables to the overall student's satisfaction.

 H_{03} : There is no significant influence of tangibility to the overall student's satisfaction

 H_{A3} : There is significant influence of tangibility to the overall student's satisfaction

It is observed from table 7 that the value of t is too large enough (7.367) while its p- value (0.000) is smaller than 0.05 which indicates that the tangibility variable has significance influence to the overall student satisfaction.

Influence of reliability dimension of service quality to the overall students satisfaction:-

For the fourth factor extracted, the corresponding hypothesis was formulated in the following form:

 H_{04} : There is no significant influence of reliability to the overall students' satisfaction

 \emph{H}_{A4} : There is no significant influence of reliability to the overall students' satisfaction

Similarly looking at table 7, the t value corresponding to reliability variable is too small (0.886) and p value (0.376) is greater than 0.05, hence there is lack of evidence to reject the null hypothesis and hence retain the hypothesis of no significance influence of reliability to overall student satisfaction.

Influence of responsiveness dimension of service quality to the overall students satisfaction:-

The last factor was about examining the influence of responsiveness to the dependent variable which is overall satisfaction.

 H_{05} : There is no significant influence of responsiveness to the overall students' satisfaction H_{A5} : There is significant influence of responsiveness to the overall students' satisfaction

Since t- value of 7.726 is large enough and p value being less than 0.05 hence responsiveness has influence at five percent level of significance.

DISCUSSION

Students like any other class of human being need joy and happy in their University days .Once their presence are considered with a great care, then the desired number of students will be attained in every academic year. The findings imply that fair interaction between students and staff as component of assurance variables tends to maximise student satisfaction. The interaction goes together with the awareness of the roles and responsibilities of the university staff which may be driving force towards the commitment and hardworking in providing services to students in a way that maximise the needs of the students.

Apart from lecture rooms, students need other comfortable venues which are vacant for their discussion and private studies. It was evidenced by this study that availability of the class venues for discussion influence satisfaction of the students. As a result of fulfilling the needs of the students, the University would be ensured with the source of internally generated income collected from tuition fees and other services. Another item of empathy variable was the management activities which are guided by strategic and annual plan were found to have impact to the students. To meet their needs, all documented plans and their implementation should not have negative impact on interest of the students.

Physical facilities like impression of Management buildings, enough space of the rooms as compared to number of students are among the tangible variables that influence the satisfaction. This gives an alert on having renovation of the buildings from time to time to cope with current situation. Similarly, students need computer laboratory having enough computers together with high speed of internet in University area to facilitate learning. The internet facilities help students not only to access the series of lecture notes in e-learning system but also search relevant materials from different sources worldwide. Thus with the advancement of science and technology that brought about changes in learning system, the high speed of internet to students found to be an essential item that needs to considered with

maximum attention for the benefit of the students in one side and management in another side. On the other hand, availability of computer service is not an influential factor to student satisfaction in developed countries as documented by Hanssen and Solvoll (2015).

While it was expected that the Efficiency of admission process exercise, efficiency of academic registration information system (ARIS), and timing of service would have any impact to the overall satisfaction, the situation is quite different as these items were found to have no significant contribution to the overall satisfaction. This is contrary to the findings from Saepudin and Marlina (2013) which concluded that reliability and responsiveness are the key influential factors to student satisfaction. However, this does not mean that students do not need an efficiency registration exercise, and being offered with other services in time. This implies that putting more efforts on these items while less effort to other significance variables would minimise student satisfaction and as a result they might lose interest of joining with University whose needs are not fully satisfied.

Analysis found that capacity and availability of teaching staff for technical consultation and assistance tend to influence student satisfaction. It might happen some times that when students having their own discussion on a particular subject matter, they might need clarification and guidance from instructors to warrant their learning and understandings. In this kind of situation is where a technical consultation is unavoidable to clear their ambiguity. Similarly the Transparent chain of communication for criticism/ opinion is among the components that influence overall satisfaction since students as a customer needs to recognize some elements of customer care. When students observing efficiency in dealing with students' academic matters, their satisfaction would be maximised and become comfortable with University life. Gruber, et al (2010) presented that consultation services offered by Lectures to students are highly correlated with the student satisfaction. Despite the fact that students need other services in the day to day university life, the key service is knowledge acquisition which is supported by other services.

CONCLUSION

The aim of the study was to determine key factors and its influence to the overall student's satisfaction. Out of twenty (20) variables used to under the study, five factors were extracted from the original variables. In testing for its significance, four factors were found to have significance influence as their corresponding p-values were less than maximum level of significance of 0.05 while only reliability factor were found to be insignificant. Hence is it important to conclude that the overall students'

satisfaction is mainly determined by responsiveness, tangibility, assurance and empathy variables.

RECOMMENDATION

Based on the findings, the followings were recommended:

Management should focus on providing in house training to both administrative and academic staff on how to handle students' matters in a customer focus while ensuring transparent chain of communication for criticism and opinion.

The management should improve the appearance of physical teaching facilities such as lecture/seminar rooms/theater while insuring computer use services provided by Management and Internet speed of the University

Staff should interact and treat students friendly as they are the customers of education services delivered by University .This can be achieved through improving staff awareness on University policy and their responsibilities so that they can be aware of their position to students.

Management should focus on students' interests which can motivate them and enjoy learning process and University life in general. This should go together with constructing enough rooms for personal studies, ensuring the acceptable standard of these teaching facilities.

The management should ensure recruitment of competent staff while having the capacity building progammes on regular basis for their employees to enhance their knowledge and ability so that they can cope with time and meet the needs of students.

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TABLES

Table 1: KMO and Bartlett's Test

| rable 1: 18:10 and bartlett 3 lest | | | | |
|--|--------------------|---------|--|--|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | | | |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 6079.76 | | |
| | df | 190 | | |
| | Sig. | .000 | | |

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Table 2: Communalities

| Table 21 dominanties | | | | | | | |
|---|---------|------------|--|--|--|--|--|
| | Initial | Extraction | | | | | |
| Staffs interaction with students | 1 | 0.555 | | | | | |
| Impression of Management buildings | 1 | 0.707 | | | | | |
| Lecture/seminar room have enough space compared to number of students | 1 | 0.588 | | | | | |
| Services are provided in time | 1 | 0.692 | | | | | |
| Computer use services provided by Management | 1 | 0.510 | | | | | |
| Internet speed of the University | 1 | 0.557 | | | | | |
| Implementation of University plans focus on students as key customer | 1 | 0.805 | | | | | |
| Efficiency of academic registration information system (ARIS) | 1 | 0.726 | | | | | |
| Lecturers' tendency of attending classes | 1 | 0.709 | | | | | |
| Commitment in implementation of University policies | 1 | 0.727 | | | | | |
| Availability of venues for discussion and private studies | 1 | 0.745 | | | | | |
| Competence of academic staff in teaching | 1 | 0.737 | | | | | |
| Availability of Lecturers for consultation and assistance | 1 | 0.570 | | | | | |
| Efficiency of admission process | 1 | 0.604 | | | | | |
| Enough natural air in lecturer/seminar rooms | 1 | 0.524 | | | | | |
| Efficiency in dealing with students' academic matters | 1 | 0.731 | | | | | |
| Ability of the lecturer in handling urgent issues | 1 | 0.655 | | | | | |
| Ability of administrative staff to provide urgent services | 1 | 0.534 | | | | | |
| Accessibility of academic adviser | 1 | 0.788 | | | | | |
| Transparent chain of communication for criticism/appeal | 1 | 0.554 | | | | | |

Extraction method: Principal component

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Table 3: Total variance explained

| | | | Tuble | Extraction Sums of Squared | | | Rotation Sums of Squared | | |
|-----------|-----------|------------------|-----------------|----------------------------|------------------|-----------------|--------------------------|------------------|-----------------|
| ent | Initial E | igen values | | Loadings | | | Loadings | | |
| Component | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 5.1 | 25.52 | 25.52 | 5.1 | 25.52 | 25.52 | 3.57 | 17.87 | 17.87 |
| 2 | 2.73 | 13.64 | 39.16 | 2.73 | 13.64 | 39.16 | 2.99 | 14.93 | 32.8 |
| 3 | 2.38 | 11.89 | 51.06 | 2.38 | 11.89 | 51.06 | 2.83 | 14.14 | 46.94 |
| 4 | 1.62 | 8.1 | 59.15 | 1.62 | 8.1 | 59.15 | 2.04 | 10.22 | 57.16 |
| 5 | 1.19 | 5.94 | 65.1 | 1.19 | 5.94 | 65.1 | 1.59 | 7.93 | 65.1 |
| 6 | 0.95 | 4.73 | 69.83 | | | | | | |
| 7 | 0.84 | 4.22 | 74.05 | | | | | | |
| 8 | 0.75 | 3.73 | 77.78 | | | | | | |
| 9 | 0.69 | 3.47 | 81.25 | | | | | | |
| 10 | 0.67 | 3.36 | 84.61 | | | | | | |
| 11 | 0.6 | 3 | 87.61 | | | | | | |
| 12 | 0.54 | 2.69 | 90.29 | | | | | | |
| 13 | 0.41 | 2.04 | 92.33 | | | | | | |
| 14 | 0.35 | 1.75 | 94.08 | | | | | | |
| 15 | 0.26 | 1.32 | 95.4 | | | | | | |
| 16 | 0.25 | 1.23 | 96.64 | | | | | | |
| 17 | 0.21 | 1.06 | 97.7 | | | | | | |
| 18 | 0.2 | 0.98 | 98.68 | | | | | | |
| 19 | 0.15 | 0.74 | 99.42 | | | | | | |
| 20 | 0.12 | 0.58 | 100 | | | | | | |

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Table 4: Rotated component matrix

| Tuble 11 Rotateu compon | Table 4. Rotated component matrix | | | | | | |
|---|-----------------------------------|-------|-------|-------|-------|--|--|
| | 1 | 2 | 3 | 4 | 5 | | |
| Staffs interaction with students | | | | 0.575 | | | |
| Impression of Management buildings | | | 0.804 | | | | |
| Lecture/seminar room have enough space compared to number of students | | | 0.565 | | | | |
| Services are provided in time | | 0.756 | | | | | |
| Computer use services provided by Management | | | 0.658 | | | | |
| Internet speed of the University | | | 0.650 | | | | |
| Implementation of University plans focus on students as key customer | | | | | 0.763 | | |
| Efficiency of academic registration information system (ARIS) | | 0.836 | | | | | |
| Lecturers' tendency of attending classes | | 0.789 | | | | | |
| Commitment in implementation of University policies | | | | 0.763 | | | |
| Availability of venues for discussion and private studies | | | | | 0.774 | | |
| Competence of academic staff in teaching | | | | 0.810 | | | |
| Availability of Lecturers for consultation and assistance | 0.631 | | | | | | |
| Efficiency of admission process | | 0.625 | | | | | |
| Enough natural air in lecturer/seminar rooms | | | 0.674 | | | | |
| Efficiency in dealing with students' academic matters | 0.793 | | | | | | |
| Ability of the lecturer in handling urgent issues | 0.784 | | | | | | |
| Ability of administrative staff to provide urgent services | 0.723 | | | | | | |
| Accessibility of academic adviser | 0.755 | | | | | | |
| Transparent chain of communication for criticism/appeal | 0.654 | | | | | | |

Table 5: Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|---------|----------|----------------------|----------------------------|
| 1 | .500(a) | .250 | .244 | .71352 |

Predictors: (Constant), Empathy, Assurance, Tangibility, Reliability, Responsiveness

Dependent Variable: Overall satisfaction

Table 6: ANOVA

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|--------|------|
| 1 | Regression | 101.758 | 5 | 20.352 | 39.975 | .000 |
| | Residual | 305.463 | 600 | 0.509 | | |
| | Total | 407.221 | 605 | | | |

Predictors: (Constant), Empathy, Assurance, Tangibility, Reliability, Responsiveness

Dependent Variable: Overall satisfaction

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Table 7: Coefficients

| Model | | Coefficients | | Coefficients | t | Sig. |
|-------|----------------|--------------|------------|--------------|--------|------|
| | | В | Std. Error | Beta | | |
| 1 | (Constant) | .814 | .162 | | 5.020 | .000 |
| | Responsiveness | .336 | .043 | .318 | 7.726 | .000 |
| | Reliability | .034 | .038 | .036 | .886 | .376 |
| | Tangibility | .342 | .046 | .299 | 7.369 | .000 |
| | Assurance | 150 | .049 | 128 | -3.076 | .002 |
| | Empathy | .032 | .014 | .101 | 2.323 | .021 |

Dependent Variable: Overall Satisfaction

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