

Full Length Research

Undergraduate Students' Satisfaction Survey at the University of Dodoma

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In order for any university to fulfil its objective(s), it should not only consider staff retention but also make sure that the main customers who are students are comfortable with the university life. Students' satisfaction has neither been considered as an issue of importance nor a matter of survival by higher education institutions. What is practised in most academic institutions is feedback of evaluation of teaching activity by academic staff. Because of the importance of the students' satisfaction survey, this paper focused on two issues; to establish students' satisfaction level and determine the factors that influence satisfaction of UDOM students. The data used in the survey were primarily collected from the UDOM students. The questionnaire was used as the tool for data collection. It was employed to collect information from the undergraduate UDOM students. Factor analysis was adopted in order to identify underlying variables that explain the pattern of correlations within a set of observed factors. The overall students' satisfaction index was 55.2%. The academic staff, learning environment, learning material, non-academic staff and learning facilities factors are positively related to logit of satisfaction. The learning material is the only insignificant predictor. Based on the findings, it can be concluded that satisfaction level for UDOM students is minimal something which suggests that the university should improve service delivery.

Key words: UDOM. Satisfaction, Students

INTRODUCTION

The satisfaction of students' survey in universities is surrounded by many factors which include academic and non-academic factors. In order for any university to fulfil its objective(s), it should not only consider staff retention but also make sure that the main customers who are students are comfortable with the university life. This not only avoids unnecessary strikes but also improve the quality of education provided by the respective university. The measurement of student satisfaction helps to pinpoint strengths and identify areas for improvement.

The students' opinions about all aspects of academic life are now sought by educational institutions worldwide, generally, in the form of a satisfaction feedback questionnaire (Douglas, 2006). Despite the argument of Douglas

(2006), not all academic institutions conduct student survey especially in developing countries. Abbasi et al. (2011) argue that students' satisfaction has never been considered as an issue of importance by educational authorities nor regarded as a matter of survival by higher education institutions. What is practised in most academic institutions is the feedback of evaluation of teaching activity by academic staff.

Although evaluation of teaching activity of academic staff helps to see the performance of instructors, the students' survey is more than that. The evaluation of a teaching activity is simply a teaching assessment which has a narrow focus to include broader aspects of the student learning experience.

The broader aspects of the students' satisfaction are adequate to know the degree to which students are satisfied. In this case, it was crucial to understand those factors that contribute to satisfaction of students. The literature shows that there are various factors and

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measurement that are used in students' university survey. In this paper, a total of 66 variables were analysed basing on factors such as transportation, library services, computer laboratory, laboratory, hostels, medical facilities, sport facilities, class room facilities, teaching and administrative support.

The University of Dodoma (UDOM) was established in 2007 with its first in take in September, 2007. It is now more than six years since its establishment. Like any other university, it also needs to conduct students' satisfaction survey now. The target of UDOM is to enrol at least 40,000 students when it is in full operation. Since its establishment, students' satisfaction surveys are limited. As argued by Deshields et al. (2005), higher education is regarded as a business-like service industry and the focus should be on meeting or even exceeding the needs of students. This development is especially true for countries with a tuition-based model. In Tanzania establishment of higher learning institutions has increased. Currently there are more than 63 higher learning institutions in the country both private and public.

With the enrolment competition among the higher academic institutions, it is very important to understand students' satisfaction as they display the image of the university. Winsted (2000) and Zeithaml et al. (1990) argue that if the university know the perception of students towards services offered, the university can adapt their services and to some extent will help to uplift meeting demand of students. Apart from other factors, student positive attitudes about the university should be assured and maintained. The plans and strategies depend on the satisfaction survey results.

Moreover, students' satisfaction survey gives the university information to improve the quality of students' life and learning. It measures the students' satisfaction and priorities, and helps to understand what issues are important to them. The results of the study stand as a guide strategic action plan, strengthen students retention initiatives, meet accreditation requirements, identify areas of strength for institutional marketing and chart progress toward campus goals.

Because of the importance of the students' satisfaction survey, this paper focused on two issues;

- i. To establish students' satisfaction level.
- ii. To determine the factors that influence satisfaction of UDOM students.

METHODOLOGY

Due to described problems of the existing students' satisfaction surveys, a five-point Likert scale has been used as a measurement tool. Subsequently, details regarding sample size, data collection and explanation of the development of the measurement tool will be

discussed.

Data and sample

The data used in the survey were primarily collected from the UDOM students between 18 and 23 May, 2013. The data were collected from 640 undergraduate students. The population was divided into six strata. A stratum was formed by one college. The university has six colleges. So, stratified sampling technique was used to make sure that each college was represented in the sample and to get the number which was proportional to the stratum's size compared to the population. The distribution of sample size according to colleges is presented in Table 1.

Data collection

The questionnaire was used as the tool for data collection. It was employed to collect information from the UDOM undergraduate students. The data were collected in the second semester and first year students were included in the study as they at least had time to experience university academic life. The questionnaire was designed to cover broader aspects of students' satisfaction. The aspects include transportation, library services, computer laboratory, laboratory, hostels, medical facilities, sport facilities, class room facilities, teaching and administrative support. Students themselves were filling the questionnaire and interviewers were around in case of clarification. This gave students independence to give their genuine response as it reduced bias. The issue of anonymity was considered as students were not asked to provide their names. The judgemental sampling technique was used to include students in the survey. The technique was adopted in order to select a more representative sample that can bring more accurate outcome. Factors such as sex, age and degree programmes were considered for a student to be included in the sample.

Data analysis

The designs of questions in the questionnaire were in five-point Likert scales. This suggested a statistical test of this kind of data. Factor analysis was adopted in order to identify the underlying variables that explain the pattern of correlations within a set of observed factors. About 66 variables were analysed. Factor analysis was employed to identify a small number of factors that explain most of the variance that was observed in a much larger number of manifest variables. Thereafter, a Binary Logistic Regression was used to determine the role of the factors

Table 1. Sample size distribution per college.

College	Total No. of students	Selected sample
Earth Science	375	18
Health Science	814	39
Natural and Mathematical Science	874	42
Informatics and Virtual Education	1,378	65
Education	4,140	197
Humanities and Social Sciences	5,861	279
Total	13,442	640

Source: University of Dodoma admission office, 2013.

Table 2. Number of students per school.

S/N	School	Frequency	Per cent
1	Mine and Petroleum Engineering	18	2.8
2	Medicine and Dentistry	23	3.6
3	Nursing and Public Health	16	2.5
4	Mathematical Sciences	24	3.8
5	Biological Sciences	10	1.6
6	Physical Sciences	8	1.3
7	Informatics	39	6.1
8	Virtual Education	26	4.1
9	Educational Studies	102	15.9
10	Curriculum and Teachers Education	96	15.0
11	Humanities	88	13.8
12	Business and Economic Studies	101	15.8
13	Social Sciences	89	13.9
Total		640	100.0

to students' satisfaction. In order to establish students' satisfaction level, satisfaction index was computed.

RESULTS AND DISCUSSION

Characteristics of students

The profile of students who were involved in the study: apart from other things, it also seeks to see whether they are representative and the information given can be used to make generalization. The information was collected from all thirteen schools that are found in the university as presented in Table 2. It shows that students from all schools had opportunity to express their views about questions asked. The sample was determined basing on the proportion to size, the result showed that some schools had fewer students (e.g. 1.3% and 1.6%) compared to others which comprised up to 15.9% of the entire sample.

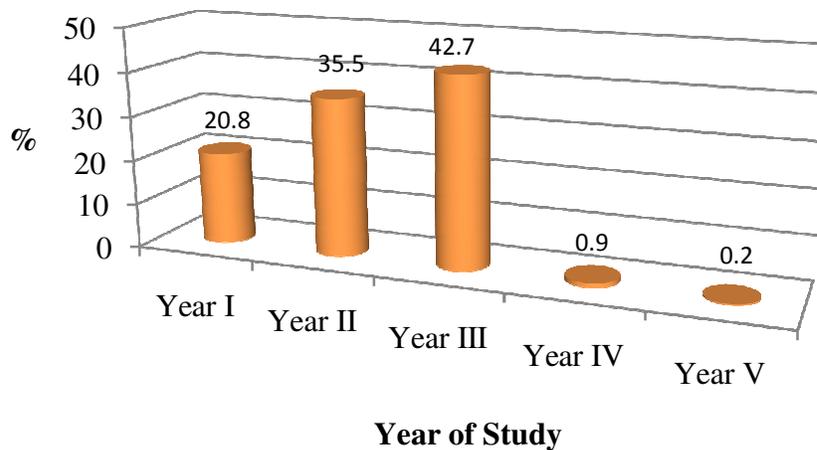
Table 3 presents sex and age group of the surveyed students. About 371 (58%) of all students participated in

the survey were males while 269 (42%) were females. This difference was significant ($\chi^2 = 16.256, p = 0.000$) and the results reflect the reality taking into account that the number of male students is high compared to that of female students (in 2008, female students were 30% while male students were 70%. In 2013 female students were only 35.1%). The table also showed that the majority of students (91.1%) were aged between 20 and 26. The minimum age was 20, maximum age was 47 and the mode was 23 years.

The students involved in the survey came from 77 different degree programmes. For the academic year 2011/2012, there was 77 degree programmes offered in the university. This shows that all the degree programmes were able to be represented in the survey. In Figure 1, it can be seen that the majority of students who constitute about 42.7% of all students were in third year. The fourth and fifth years had very few students due to the fact that most of the degree programmes last for three years and very few last beyond this, especially those programmes from the college of health sciences.

Table 3. Sex and age group of surveyed students.

Sex	Age Group				Total
	20-26	27-33	34-40	41-47	
Male	332(51.9%)	30(4.7%)	8(1.3%)	1(0.2%)	371(58.0%)
Female	251(39.2%)	15(2.3%)	2(0.3%)	1(0.2%)	269(42.0%)
Total	583(91.1%)	45(7.0%)	10(1.6%)	2(0.3%)	640(100.0%)

**Figure 1.** Year of study of students.

Based on the characteristics of the respondents participated in the survey, it was clearly seen that the sample used was fairly normal as each group and category of characteristics had been represented in the sample. Purposive sampling was effectively used and produced participants who were more representative.

Students' level of satisfaction

In order to establish satisfaction index, the satisfaction ratings were weighted with important ratings. Because satisfaction index is of 100%, it was necessary to rate the importance and satisfaction ratings on a 10 point numerical ratings scale as suggested by Khan (2004). The 5 point scale used during the data collection was converted to 10 point scale. The overall student satisfaction index was 55.2%. This result indicated that the satisfaction of students at UDOM was moderate. With all variables involved, their importances were rated above 8 with exception of one variable (part timer teachers) (see appendix I). This implies that almost all the variables used in the study were important to students' satisfaction and should be considered by the university management. For the case of satisfaction, no any variable was rated 8 and above. About 19 variables which constitute 28.8% of

all variables were rated poorly as they scored below 5. Only three variables (class size; furniture and fixtures; availability and conditions of rooms) which constitute about 4.5% of all variables were rated between 7 and 8 which implies minimum strong satisfaction. The rest of the variables (66.7%) scored average satisfaction.

Factors that influence satisfaction of UDOM students

In order to determine the factors that influence satisfaction of students, the 66 variables were analysed using factor analysis with an intention of expressing a few underlying factors that could be easily represented in the model. In order to test for sampling adequacy, Kaiser-Meyer-Olkin (KMO) test was computed and the value was 0.835. KMO index indicate that patterns of correlation were relatively compact and that the factor analysis would produce distinct and reliable factors. Furthermore, it indicates that factor analysis was appropriate for the set of data and Bartlett's test was computed to measure association among variables. Bartlett's index was found to be significant ($p = 0.000$) something which indicates that the correlation matrix was not zero and implied that there was an association among variables.

Table 4. Total variance explained.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	14.88	22.40	22.40	14.78	22.40	22.40	8.93	13.533	13.53
2	4.42	6.70	29.10	4.42	6.70	29.10	5.51	8.36	21.90
3	2.74	4.15	33.25	2.74	4.15	33.25	4.37	6.63	28.53
4	2.63	3.98	37.23	2.63	3.98	37.23	3.96	6.00	34.53
5	2.07	3.13	40.36	2.07	3.13	40.36	3.84	5.83	40.36

Extraction Method: Principal Component Analysis.

Table 5. Variables in the equation.

	B	S.E.	Wald	df	Sig.	Exp(B)	95.0% C.I. for EXP(B)	
	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper
Academic material	.583	.092	39.770	1	.000	1.791	1.494	2.146
Environment	.131	.092	2.051	1	.152	1.140	.953	1.364
Non-academic Facilities	.425	.093	20.680	1	.000	1.529	1.273	1.836
Constant	.218	.089	5.958	1	.015	1.244	1.044	1.481
	.330	.090	13.545	1	.000	1.391	1.167	1.659
	.569	.091	39.037	1	.000	1.767		

A variable(s) entered on step 1: academic, material, environment, non-academic, facilities.

Five groups were formed based on eigenvalue of 2 since it brought the distinct and meaningful factors as compared to eigenvalues of 1.

From factor extraction, the eigenvalues associated with each linear component (factor) before and after extraction and after rotation were computed. Before extraction, SPSS identified five linear components within the data set. The eigenvalues associated with each factor represent the variance explained by that particular linear component. SPSS also display the eigenvalue in terms of the percentage of variance explained; Factor 1 explains 22.4% of total variance, factor 2 explains 6.7%, factor 3 explains 4.1%, factor 4 explains 4% and factor 5 explains 3.1% of the total variance. The rotation has the effect of optimizing the factor structure and it tends to make the five factors with equal relative importance. So, after extraction; Factor 1 accounts for only 13.5%, factor 2 explains 8.4%, factor 3 explains 6.6%, factor 4 explains 6% and factor 5 explains 5.8% of total variance. All the five factors retained explain 40.360% of the total variance (Table 4).

The variables which correspond with each factor are presented in appendix II. The factors were computed by suppressing absolute values less than 0.5. The five factors were named as academic staff (component 1); learning materials (component 2); learning environment (component 3); non-academic staff (component 4); and learning facilities (component 5). In order to measure to what extent these factors contributed to satisfaction of the

students, a Binary Logistic Regression analysis was performed and this method was adopted because the response variable (satisfaction) was dichotomous.

An omnibus test was performed to measure whether the model with five predictors predicts the overall satisfaction of students than chance alone. The test indicates that the model which comprise of academic staff, learning materials, learning environment, non-academic staff and learning facilities does better than the chance at predicting the overall satisfaction as it is statistically significant ($p = 0.000$).

Next, Hosmer and Lemeshow Test were computed to measure goodness of fit between predicted and observed probabilities in classifying on the overall satisfaction. The test is statistically significant something which suggests that probabilities of predicted and observed match up nicely and the model fit is good.

Both Omnibus and Hosmer and Lemeshow tests permit the continuation of interpreting the coefficient of the model. Table 5 presents variables in the logit equation and their coefficients.

Under the coefficient B column, it can be seen that both five predictors are positively related to logit of satisfaction. Academic staff has high influence compared to the rest of the predictors as the unit increases, it leads to logit of satisfaction to increase by 0.583. Among the five predictors, only one predictor (learning material) is insignificant. Other scholars have identified that student-instructor interaction is the first and strongest variable in

predicting students' satisfaction (Ali et al., 2011; Inman et al., 1999) which is also the experience in this study.

By looking at the odd i.e. Exp (B), an increase of 1 unit on academic staff increases the odds of satisfaction by 1.791 while controlling other predictors. Next, the high odds increase is on learning environment (1.529) while controlling other variables. Odds for learning facilities, non-academic staff and learning material are 1.391, 1.244 and 1.140 respectively.

From the Table 5, we get the following model;

$$\text{logit}(Y) = 0.569 + 0.330x_1 + 0.218x_2 + 0.425x_3 + 0.131x_4 + 0.583x_5$$

Where by Y = Satisfaction, x_1 = learning facilities, x_2 = non-academic staff, x_3 = learning environment, x_4 = learning material and x_5 = academic staff.

Conclusion and Recommendation

Based on the findings, it can be concluded that satisfaction level for UDOM students is minimal which suggests that the university should improve service delivery. Nevertheless, there are four items which show that students are satisfied most compare to others. These are availability and conditions of rooms, class size, availability of furniture and fixtures, and class timings. Eight items need attention of the university as students are least satisfied. These include: computer laboratory timings; coaching facilities; availability of emergency staff or medicine; availability of medicines; availability of e-journals; availability of computers; availability of internet, and internet speed.

Despite having many items that can be used to measure students' satisfaction, there are four categories based on the study which contribute much to satisfaction. These are academic staff, learning environment, learning facilities and learning material.

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APPENDIX

Appendix 1. Satisfaction Indices

	Descriptive Statistics	Importance Mean	Weighting factor	Satisfaction Mean	Weighted score
1	Transportation (bus) availability	9.050	1.50	5.239	0.079
2	Routes timing	8.508	1.41	4.481	0.063
3	Drivers and conductors behaviour	8.212	1.36	5.007	0.068
4	Availability of text books	9.391	1.56	4.683	0.073
5	Availability of supporting books	9.084	1.51	4.626	0.070
6	Availability of research journals	8.950	1.48	4.450	0.066
7	Availability of newspapers/magazines	8.536	1.41	4.377	0.062
8	Library timings	9.099	1.51	5.645	0.085
9	Facilities at library	9.200	1.52	5.663	0.086
10	Behaviour of library staff	9.094	1.51	6.280	0.095
11	Availability of computers	9.435	1.56	3.571	0.056
12	Availability of internet	9.363	1.55	3.851	0.060
13	Internet speed	9.268	1.54	3.515	0.054
14	Behaviour of laboratory attendants	8.893	1.47	4.682	0.069
15	Computer laboratory timings	8.935	1.48	3.841	0.057
16	Availability of e-journals	8.716	1.44	3.210	0.046
17	Availability of equipment	9.215	1.53	4.143	0.063
18	Behaviour of laboratory attendants	9.138	1.51	5.802	0.089
19	Laboratory timings	9.065	1.50	5.779	0.087
20	Availability and conditions of rooms	9.582	1.59	7.966	0.127
21	Cafeterias	9.406	1.56	5.497	0.086
22	Behaviour of wardens	9.297	1.54	6.276	0.097
23	Overall study environment	9.534	1.58	6.812	0.108
24	Availability of doctors	9.508	1.58	4.274	0.067
25	Availability of medicines	9.477	1.57	3.892	0.061
26	Availability of ambulance	9.520	1.58	5.436	0.086
27	Availability of emergency staff or medicine	9.366	1.55	3.746	0.058
28	Availability of sports grounds/places	9.230	1.53	6.472	0.099
29	Coaching facilities	8.662	1.44	3.789	0.054
30	Availability of sports items/equipment	8.879	1.47	4.321	0.063
31	Sports opportunities	8.852	1.47	5.064	0.074
32	Class sizes	9.595	1.59	7.570	0.1203
33	Class timings	9.377	1.55	7.048	0.109
34	Availability of multimedia	9.095	1.51	4.262	0.064
35	Air conditioners	8.625	1.43	4.731	0.068
36	Furniture/fixtures	9.329	1.55	7.604	0.118
37	Behaviour of central administrators	9.369	1.55	5.744	0.089
38	Behaviour of college administrators	9.430	1.56	6.121	0.096
39	Behaviour of secretarial staff	9.080	1.50	5.357	0.081
40	Administrative support of central administrators	9.224	1.53	5.641	0.086
41	Administrative support of college administrators	9.263	1.54	5.900	0.091
42	Administrative support of secretarial staff	9.087	1.51	5.479	0.082
43	Banking facilities	9.531	1.58	6.788	0.107
44	Teachers communication	9.466	1.57	6.623	0.104
45	Lecturer delivery	9.515	1.58	6.526	0.103
46	Research activities	9.329	1.55	4.389	0.068
47	Nature of assignment or class tasks	9.360	1.55	6.676	0.104

Appendix 1. Contd

48 Examination grades	9.428	1.56	6.908	0.108
49 Examination procedures	9.338	1.55	6.971	0.108
50 Teachers attitudes towards class	9.283	1.54	6.370	0.098
51 Teachers respect for the students	9.283	1.54	6.301	0.097
52 Teachers provide extra consultation	9.148	1.52	5.830	0.088
53 Teachers provide additional material for reading	9.268	1.54	5.950	0.091
54 Teacher provide feedback on assignment	9.416	1.56	6.767	0.106
55 Permanent senior teachers	9.147	1.52	5.232	0.079
56 Permanent junior teachers	8.934	1.48	5.514	0.082
57 Permanent male teachers	8.717	1.44	6.236	0.090
58 Permanent female teachers	8.613	1.43	4.963	0.071
59 Part time teachers	7.952	1.32	5.208	0.067
The amount of homework set is appropriate for my				
60 year level	8.975	1.49	6.546	0.097
61 Friendliness of teaching staff	8.690	1.44	6.023	0.087
62 Approachability of teaching staff	8.917	1.48	5.989	0.089
63 Concern shown when you have a problem	9.203	1.53	5.682	0.087
64 Respect of your feelings, concerns and opinions	9.262	1.54	5.819	0.090
65 Availability of staff	9.258	1.53	5.936	0.091
66 Competence of staff	9.373	1.55	6.255	0.097
Total	603.336			5.520

Appendix 2. Rotated Component Matrix

	Component				
	1	2	3	4	5
Transportation (bus) availability					
Routes timing					
Drivers and conductors behaviour					
Availability of text books		.523			
Availability of supporting books		.584			
Availability of research journals					
Availability of newspapers/magazines					
Library timings					
Facilities at library		.569			
Behaviour of library staff					
Availability of computers		.710			
Availability of internet		.733			
Internet speed		.686			
Behaviour of laboratory attendants		.652			
Computer laboratory timings		.742			
Availability of e-journals		.710			
Availability of equipment			.589		
Behaviour of laboratory attendants			.517		
Laboratory timings			.529		
Availability and conditions of rooms					.582
Cafeterias					
Behaviour of wardens					

Appendix 2. Contd.

Overall study environment		.532
Availability of doctors		
Availability of medicines		
Availability of ambulance		
Availability of emergency staff or medicine		
Availability of sports grounds/places		
Coaching facilities	.566	
Availability of sports items/equipment	.544	
Sports opportunities	.522	
Class size		.603
Class timings		.525
Availability of multimedia		
Air conditioners		
Furniture/fixtures		.505
Behaviour of central administrators	.649	
Behaviour of college administrators	.680	
Behaviour of secretarial staff	.678	
Administrative support of central administrators	.751	
Administrative support of college administrators	.743	
Administrative support of secretarial staff	.752	
Banking facilities		
Teachers communication	.637	
Lecturer delivery	.595	
Research activities		
Nature of assignment or class tasks	.553	
Examination grades		
Examination procedures	.541	
Teachers attitudes towards class	.689	
Teachers respect for the students	.691	
Teachers provide extra consultation	.676	
Teachers provide additional material for reading	.586	
Teacher provide feedback on assignment	.560	
Permanent senior teachers	.540	
Permanent junior teachers	.580	
Permanent male teachers	.557	
Permanent female teachers		
Part time teachers		
The amount of homework set is appropriate for my year level	.602	
Friendliness of teaching staff	.627	
Approachability of teaching staff	.618	
Concern shown when you have a problem	.582	
Respect of your feelings, concerns and opinions	.595	
Availability of staff	.517	
Competence of staff	.593	
