

# Determinants of Higher Education Student Satisfaction: Evidence from Dire Dawa University, Ethiopia

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## Abstract

Student satisfaction is important in assessing whether universities are fulfilling their mission. The objective of the study is to investigate the satisfaction level of undergraduate level students enrolled in regular program of Dire-Dawa University and there by understand Dire Dawa University's level of service quality perceived by the students. The study used cross-sectional design and data were collected from students of all colleges/institutes in the university using stratified random sampling technique. Results indicated that almost half of the students studying in the university are satisfied with the program diversity and alternative departments. The multinomial logistic regression model identified facility provision, gender, and academic staff quality and assessment system as significant predictors of students' general satisfaction with the university. As the students satisfaction with the facility available increased by one score the students general satisfaction with the university increased by nearly two fold (OR=1.906, 95% CI=1.35, 2.68) controlling for satisfaction with academic staff quality and assessment system. Therefore all stakeholders involved in both quality enhancement and expansion should take action on facility provision of the university.

**Keywords:** Student satisfaction, Determinants, Higher education, Ethiopia

## 1. INTRODUCTION

Currently, the impacts of globalization on higher education institutions are immense and diverse. It poses new challenges at a time when nation-states are no longer the sole providers of higher education; and the academic community no longer holds the monopoly on decision-making in education. The development of higher education in Africa has been marked over the past decades by a rapid rise in the number of students.

In line with the global and continental greater expansion in the higher education sector, since 2005 G.C the government Ethiopian has made a dramatic expansion the higher education sector by increasing its number Universities from eight to thirty three.

Currently in Ethiopia, there are thirty three public universities with total enrolment of 409,538 students in the regular program of which about 90% are in public sector, whereas 10% is in private sector. The total male enrolment in the universities is 263,883 whereas, the female enrolment is 145,655 (MoE Statistics, 2015-2016).

But student satisfaction has never been considered as an issue of importance by educational authorities nor regarded as a matter of survival by higher education institutions. This is evident form the fact that the impact of educational services provided by a university on the satisfaction level of its students has largely been an area that remains unexplored. Higher education institutions especially universities are like practice grounds where students learn and acquire all necessary skills and abilities that potential employers out there in job market sought. To ensure that this is the case, universities tend to bundle their offerings which includes core services ( knowledge, intellectual abilities, interpersonal skills, and communication skills), actual services (degrees like undergraduate, graduate and postgraduate through regular teaching and research) and augmented services (infrastructure i.e. building, transportation/logistics facilities, libraries, labs, computer labs, hostel facilities, medical, sports, and class room facilities) coupled with administrative support. It can be convincingly argued that student satisfaction with tangible and intangible offering at universities is vital for them to acquire those skills and abilities that can satisfy needs of those next in the chain i.e. employers and society.

The question underlying in this study is whether Ethiopian students in the public higher education institution are satisfied with the academic staff quality, assessment system and facility provided by their respective Universities. Therefore, to measure personal satisfaction of the university students, this study has been initiated to empirically measure the satisfaction level and identify the determinants of students satisfaction with the general service of the Dire Dawa University.

### 1.1 Objective of the Study

The general objective of the study is to investigate the satisfaction level of undergraduate level students enrolled in regular program of Dire-Dawa University

#### Specific objectives

- To assess satisfaction level of students with facility provision and program diversity

- To investigate students' satisfaction level with academic staff quality and assessment system of the university
- To identify determinants of students general satisfaction with the services of the university

## **2. LITERATURE REVIEW**

### **2.1. Quality in higher education**

Higher education institutions are under pressure to improve value in their activities and the present view for enhancing educational value is to spend effort on continuous improvement, focused on stakeholder interests especially student satisfaction (Heck et al., 2000). Student satisfaction is often used to assess educational quality, where the ability to address strategic needs is of prime importance (Cheng, 1990). Similarly, Tan et al. (2004) state that quality in education can be determined by the extent to which students' needs and expectations are satisfied. (Samuel A. et.al, 2015).

The quality of the services provided by universities is among the most topical issues as evidenced by a large number of papers concerned with research in this area in various parts of the world. Voss et al. (2007) are concerned with the expectations students have of the quality of university services. They identify the qualities expected by students of a good teacher – expertise, accessibility, enthusiasm in teaching, excellent communication skills, etc. In their research, these authors compare the use of two laddering techniques, (personal laddering interviews and laddering questionnaires), for analyzing the quality of university services as viewed by students (David Schüller et.al, 2013)

Quality of education is a necessary condition of university's competitiveness in the context of international integration and high domestic competition (Kalenskaya et al., 2013). Damirchili & Tajari (2011) believe that development of higher education quality is a very important aspect which is part of management and marketing of any university in the world (Munthiu et al., 2014). Student satisfaction is important in assessing whether universities are fulfilling their mission. Most of the surveys on student satisfaction revealed that highly satisfied students are more likely to exert more effort in their educational studies, to become more involved in their coursework, to regularly attend their classes and finally graduate the program where they were enrolled (Tessema et al., 2012). On the other hand universities invest enormous efforts to lift their position in various ranking systems that, to some extent, include some measure of student satisfaction (Vasile G. & Cătălina G., 2014)

### **2.2 Student satisfaction**

Competition in the tertiary education sector and complex student behavior made students' satisfaction the center of academic debate.. Process environment and personal components of level of service, and student expectation and have been used as factors in explaining students' satisfaction in this area, (Spreng et al., 1996). This has given rise to many definitions on the subject. Nevertheless it is generally acknowledged that students' satisfaction is an emotive and/or cognitive response, pertaining to a particular focus such as expectations on service which occurs after a visit to an establishment and experience has occurred (Giese and Cote, 2000). Zeithaml et al., (1993) however said student satisfaction is fundamentally understood within the expectancy model, and satisfaction/dissatisfaction is said to be as a result of the comparison between preenrollment/visit expectations and perceived employees performance of a school. Student satisfaction involves the comparison of standards by receivers whether they are in the form of expectations, desires, and wants, ideal or equitable performances. Balasubramanian et al. (2003) however describe student satisfaction as the relative perceptual distance between student expectations and evaluations of service experiences and service quality using a multi-item scale satisfaction model.

Satisfaction is still a highly debated topic in both academic and non-academic settings. According to Giese and Cote (2000) although there are a lot of various definitions for customer satisfaction, they tend have in common three elements: 1) consumer satisfaction is an emotional or cognitive response; 2) the response pertains to expectations, product, consumption experience, etc.); and 3) the response occurs at a particular time (after consumption, after choice, based on accumulated experience, etc.). Student satisfaction is a well-researched topic in the literature with quite diverse views of the authors on the concept. Elliot and Shinn (2002) define student satisfaction as "the favorability of a student's subjective evaluation of the various outcomes and experiences associated with education. According to Wiers-Jenssen (2002) student satisfaction is an interesting concept because the factors perceived to be of most importance differ between institutions and subject fields because of variations in the study programs offered, location, size and complexity of the institutions. This might be the reason why there are a lot of articles attempting to clarify the concept, develop measures to quantify it and to identify the factors that influences its level. Previous study on student satisfaction targeted, among others, satisfaction with various learning systems, factors that influences the overall satisfaction, proposal of new measurement tools for student satisfaction. These studies uses specific models and instruments developed by their authors, the results not being easily comparable. The following paragraph briefly reviews the main results

of studies on student satisfaction. Letcher & Neves (2010) conducted a study on students of a business program from United States whose results revealed that among the factors that influences the overall satisfaction, self-confidence, extra-curricular activities and career opportunities, and quality of teaching in general are the factors with greater impact on satisfaction.

### 3. METHODOLOGY

#### 3.1. Study Design

The study was undertaken in Dire Dawa University on students from five different colleges and institute (College of Business and Economics, College of Health and Medical Sciences, College of Natural and Computational Sciences, College of Social Sciences and Humanities, College of Law and Dire Dawa Institute of Technology). It employed cross-sectional, mixed study design.

#### 3.2. Sampling Design and Techniques

The study sample was taken from 4120 regular students of the university enrolled in undergraduate program in 2014/15 academic year. Each department were treated as a stratum and therefore stratified random sampling was employed.

Considering 95% confidence level, a total enrollment of 4120 students, two percent margin of error and 10% non-response rate, the sample size was calculated to be 499 using (Cochran, 1977):

$$n_0 = \frac{Z_{\alpha/2}^2 pq}{d^2}$$

Where (d) margin of error, (p) proportion of satisfied students and  $Z_{\alpha/2} = 1.96$  were used. The calculated sample size was later proportionally allocated to each department and study year and students were finally selected using simple random sampling.

#### 3.3 Study Variables

The Student satisfaction were measured in terms of facilities and program diversity, assessment system, academic staff quality and communication of the department with the student. The dependent variable is general satisfaction of students with the university categorized into three

#### 3.4. Data Collection Method

The study used primary data collected from students of all colleges/institute. Data was collected by 8 staff from different colleges of the university with close supervision of researchers. Each staff was assigned to collect data from its own college students after getting briefed on the protocol of the study and collection process. Quantitative data was collected using self-administered questionnaire and qualitative data was collected using focus group discussion of students.

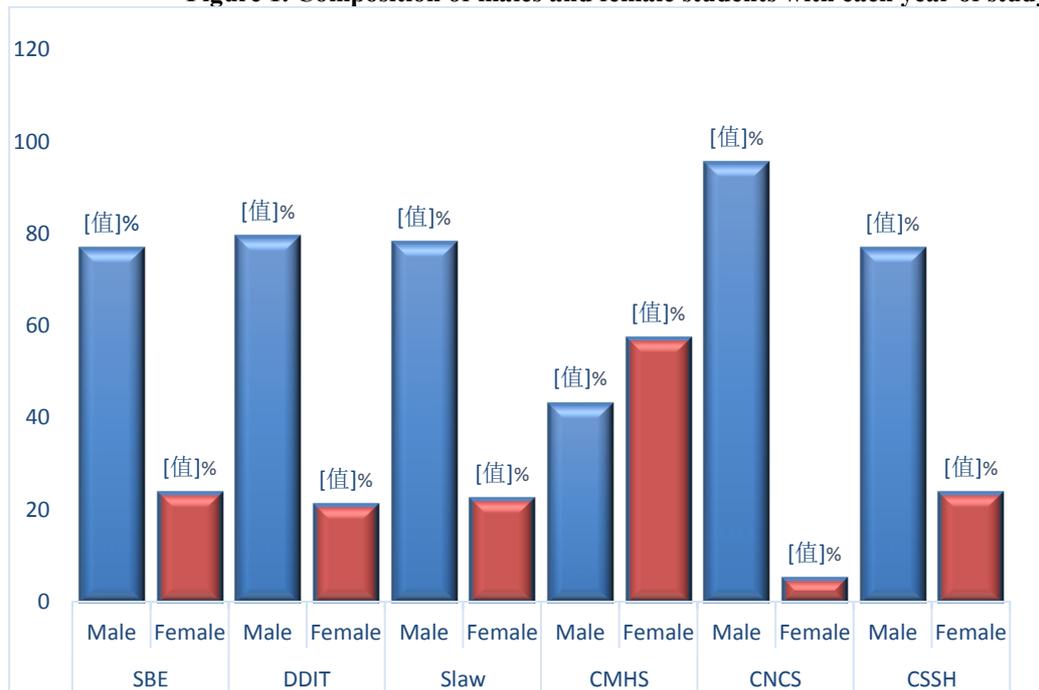
#### 3.5. Method of Data Analysis

The collected data were fed into IBM SPSS 21.0 by experienced data clerk with close supervision from the investigators. Once the data encoding is completed data cleaning was conducted across all variables. The statistical validity and reliability of the lickert scale items were checked using Cronbach-alpha and the results were all found to be greater or equal with 0.75. The data analysis mainly involved descriptive statistics and logistic regression model. The descriptive statistics was conducted using frequency, percentage and other data presentations. The regression analysis was done using multinomial logistic regression model. The dependent variable i.e. general satisfaction by the university, have three unordered categories as 'increased satisfaction', 'unchanged satisfaction' and 'decreased satisfaction'.

## 4. RESULTS AND DISCUSSION

The study included students from all colleges and institutes of the university. Accordingly Figure 1 below presented the sex composition of the sample in each college/institute. In almost all colleges the number of male students was twice their female counterpart. The only exception was college of Health and Medical Sciences where the composition did not show significant discrepancy (42.86% and 57.14% were male and female respectively). The gap between male and female was largest in college of Natural and Computational Sciences.

**Figure 1. Composition of males and female students with each year of study**



The general satisfaction of student with university was measured by their satisfaction with different dimensions such as facilities and program diversity, assessment system, academic staff quality and communication of the department with the student.

#### 4.1. Facilities and Programs

The result in Table 1 below presented satisfaction of student with program variety and facility provision. In terms of program diversity 217(52.7%) and 246(56.4%) of the students agree that there are enough programs and alternative departments in the university respectively. It can be seen from the table that the satisfaction of students with facility provision was not satisfactory with only 166 (38.2%) and 105(23.9%) indicating their agreement that there are good library and computer facilities. Additionally 290(67%) students disagreed that the laboratory facilities are good. The least satisfaction was observed in health and recreation facility where only 49(11.5%) and 56(13.2%) of the students agreed that these services were good.

**Table 1. Student Satisfaction with Facilities and Programs in DDU, Dire Dawa Ethiopia, 2014/15**

	Agree n(%)	Neutral n(%)	Disagree n(%)
<b>Programs</b>			
Enough programs	217(52.7)	56(13.6)	139(33.7)
Enough alternative departments	246(56.4)	50(11.5)	140(32.1)
<b>Facilities</b>			
Good library	166(38.2)	58(13.4)	210(48.4)
Good computer facilities	105(23.9)	33(7.5)	301(68.6)
Good laboratory facilities	96(22.2)	47(10.9)	290(67)
Good dormitory service	163(38.4)	35(8.2)	227(53.4)
Good cafeteria service	79(18.9)	36(8.6)	304(72.6)
Good recreation service	56(13.2)	34(8)	333(78.7)
Good health service	49(11.5)	20(4.7)	356(83.8)

#### 4.2. Assessment System and academic staff quality

The result (Table 2 below) presented satisfaction of student with assessment system, academic staff quality and communication mechanism of the department. In terms of academic staff quality few percentage of students expressed their satisfaction where only 163(38.5%) and 169(39.3%) of the students showing their agreement to the presence of time conscious and qualified staff respectively. Students satisfaction with the assessment system was moderate where 219(50.2%) and 230(54%) of the students expressed their agreement to the implementation of appropriate evaluation and grading system respectively. Moreover equal number of students expressed their agreement and disagreement with the responsive communication system of the department. 175(41.2%) and

192(45.2%) respectively.

**Table 2 .Student Satisfaction with staff and assessment system, Dire Dawa Ethiopia, 2014/15**

	Agree n(%)	Neutral n(%)	Disagree n(%)
<b>Academic Staff</b>			
Time conscious staff	163(38.5)	80(18.9)	180(42.6)
Qualified staff	169(39.3)	64(14.9)	197(45.8)
<b>Assessment</b>			
Appropriate evaluation system	219(50.2)	53(12.2)	164(37.6)
Appropriate grading system	230(54)	56(13.1)	140(32.9)
<b>Communication</b>			
Responsive communication system	175(41.2)	58(13.6)	192(45.2)

#### 4.3. Determinants of Student Satisfaction

This study employed a multinomial logit model where the categories of the dependent variable ‘general satisfaction with the university were ‘satisfaction increased’, ‘satisfaction unchanged/remained same’ and ‘satisfaction decreased’. The decreased satisfaction was used as a comparison category. The dependent variable is regressed on students sex and on a range of other variables such as facility provision, program diversity and choice, academic staff quality, assessment system and communication of the department. Table 3 below shows the regression results for the students’ general satisfaction determinants.

**Table 3. Determinants of students’ general satisfaction, Dire Dawa Ethiopia, 2014/15**

		Estimates		
		B(SE)	Odds ratio (95% CI)	Sig
<b>Increased satisfaction</b>	Gender(Male)	0.829(0.474)	2.29(0.904,5.799)	.000
	Facility	.645(0.174)	1.906(1.35,2.68)	.000
	Programs diversity	.363(0.229)	1.437(0.92,2.25)	.113
	Staff quality	.314(0.14)	1.37(1.04,1.80)	.025
	Assessment	.109(0.114)	1.115(0.89,1.39)	.042
	Communication	-.057(0.1)	.945(0.78,1.15)	.572
<b>Unchanged satisfaction</b>	Gender	0.249(0.511)	0.78(0.287,2.122)	0.104
	Facility	.185(0.222)	1.203(0.78,1.86)	.405
	Programs diversity	.451(0.29)	1.570(0.89,2.76)	.116
	Staff quality	.027(0.173)	1.027(0.73,1.44)	.876
	Assessment	.163(0.142)	1.178(0.89,1.56)	.251
	Communication	-.062(0.124)	.940(0.74,1.21)	.618

Number of obs = 440 ; LR  $\chi^2(12)=70.458$ ; Prob >  $\chi^2 = 0.0000$ ; Log likelihood = -511.054; Pseudo R2 = 0.256

The results from the analysis clearly shows facility provision, gender, academic staff quality and assessment system were significant predictors of students satisfaction. Moreover, as the students satisfaction with the facility available increased by one score the students satisfaction with the university increased by nearly two fold (OR=1.906, 95% CI=1.35, 2.68) keeping satisfaction with academic staff quality and assessment system constant. As students satisfaction score with academic staff quality increased by 10% their general satisfaction with the university (compared to decrease in satisfaction) was 13.7% more likely to increase (OR=1.37, 95% CI=1.04, 1.8) keeping satisfaction with facility and assessment system constant. Additionally as students’ satisfaction score with the assessment system increased by one their general satisfaction with the university increased by 1.115 (OR=1.115, 95% CI=0.89, 1.39) keeping satisfaction with the facility and academic staff quality constant. Moreover the general satisfaction of male students increased by more than two fold compared to their female counterparts (OR=2.29, 95% CI=0.904, 5.799).

Using stepwise regression analysis David W. L. et.al. (2015) found that extra-curricular activities and career opportunities, and quality of teaching in general are the factors with greater impact on satisfaction. In a study conducted by Jalynn R. and Ronald S.(2015) in order to assess students’ satisfaction found that students who had statistically significant lower perception of satisfaction with faculty approachability changed their majors. Another study conducted by Peter J.(2014) on student satisfaction found that the academic staff, learning environment, learning material, non- academic staff and learning facilities factors are positively related to logit of satisfaction. Additionally Ashim Kayastha (2011) conducted graduate students satisfaction towards service quality and found that non-academic aspects such as facilities have significant impact on students’ satisfaction.

## 5. CONCLUSION AND RECOMMENDATIONS

The results of this study lead us to the conclusion that almost half of the students studying in Dire Dawa University are satisfied with the program diversity and alternative departments. Moreover there is least satisfaction with facility provision and staff of the university. Out of the facility service provision the major dissatisfaction comes from health service and recreation service. Based on above results, it can be concluded that half of the students are satisfied with the assessment mechanism being implemented which constituted evaluation and grading procedure.

In terms of communication system of the department close to half student students believe that there is responsive communication system. Finally gender, facility, academic staff quality and assessment system are determinants of general satisfaction of students with the university. Moreover, as the students' satisfaction with the facility available increases the students satisfaction with the university increases. As students satisfaction with academic staff quality increase its general satisfaction with the university also increases. Similarly there is positive relationship between satisfaction of the students with the assessment system and their general satisfaction with the university.

Therefore all stakeholders involved in both quality enhancement and expansion should take action on facility provision of the university. Additionally work has to be done to close the satisfaction gap across gender of the students.

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