The determinant of Service Quality Measurement in the case of Addis Ababa University, Ethiopia

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Abstract

Service quality has played a significant role in the Higher education institution. It is essential that Higher education institution recognizes student perceptions and expectations and those factors that influence their satisfaction with the service provided. The purpose of this research is to assess students' satisfaction and Service Quality in Addis Ababa University during the year of 2012. To address this objective, descriptive survey method was employed since it is believed that the method is more appropriate for gathering relevant research information on the measurement of service quality. A 42-items Service quality measurement in the Higher education scale having the six basic service quality dimensions, viz., Teaching Methodology (TM), Environmental Change in the Study Factor(ECSF), disciplinary measures are taken, students' complaints and response practices, students demographic profile information and overall rating of the service quality, satisfactory level of service were used. Data were collected through a structured questionnaire from the prospective undergraduate and postgraduate student of Addis Ababa University. A total of 331 respondents were selected using stratified random sampling from each college found in the University. The data collected are analyzed from the entire sample. Data analyses have been performed with Statistical Packages for Social Sciences (SPSS) using a technique that includes descriptive statistics, regression analysis and ANOVA test. The major finding of the study indicates that the overall impression given by the students is that they are considerably dissatisfied than satisfied. However, on an individual item basis, graduate level of satisfaction varies from an undergraduate level of satisfaction from item to item. The perception level of students in the four quality dimensions is either moderate or to the lower level. The perception levels are 2.91, 2.83, 2.97 and 2.54 respectively, for the four quality dimensions best faculty teaching methodology (TM), best physical infrastructure, disciplinary action is taken and student`s complaint and response practices). The perception levels of undergraduate and postgraduate students are not significantly different under each quality dimension. Based on the major finding of the study, the researcher recommends that quality in higher education is a holistic concept that should involve various stakeholders. Addis Ababa University should develop and maintain knowledge of the staff through scholarship and improved pedagogical skills possibly with latest technological aids. Moreover, it should create enabling working conditions for academic staff so that it will best promote effective teaching scholarship, research and extension work and enable its staff to carry out their professional tasks, and designing techniques that will encourage formal and informal contact between faculty/staff and students is essential so as partly enhance students' educational experience by the university. Conclusively, the study proves that the perception level of students in the four quality dimensions is either moderate or to the lower level. There was no area where the university exceeded the students' expectation.

Keywords: SQM-HEI (SERVICE QUALITY MEASUREMENT IN HIGHER EDUCATION), Satisfaction and service quality.

1. Introduction

Higher education is the education at a college or university level is perceived as one of the most important instruments for individual social and economic development of a nation. The primary purposes of higher education are the creation of knowledge and dissemination for the development of the world through innovation and creativity [1]. As well, other researcher claimed the creation of prepared minds of students as the purpose of higher education [2]. Hence, higher education institutions are increasingly recognizing and are placing greater emphasis on meeting the expectations and needs of their customers, that is, the students [3]. So, successful completion and enhancement of students' education are the major reasons for the existence of higher educational institutions. This positive development in higher education shows the importance of educational institutions understanding student satisfaction in a competitive environment [4].Now the higher education industry is strongly affected by globalization. This has increased the competition among higher education institutions to adopt market-oriented strategies to be differentiating themselves from their competitors to attract as many students as possible satisfying current students' needs and expectation. Therefore, numerous studies have been conducted to identify the factors influencing student satisfaction in higher education.

Students' satisfaction is a multidimensional process which is influenced by different factors. According to [5], [6] identified two groups of influences on student satisfaction in higher education as personal and institutional factors. Personal factors coverage, gender, employment, preferred learning style, student's GPA and institutional factors cover quality of instructions, promptness of the instructor's feedback, clarity of expectation, teaching style. [7] Identified quality of lecturers, quality of physical facilities and effective use of technology as key determinant factors of student satisfaction. As well as, student satisfaction in universities is greatly influenced by quality of classroom, quality of feedback, lecturer-student relationship, and interaction with fellow students, course content, available learning equipment, library facilities, and learning materials [8]. In addition to that, teaching ability, flexible curriculum, university status and prestige, independence, caring of faculty, student growth and development, student centeredness, campus climate, institutional effectiveness, and social conditions have been identified as major determinants of student satisfaction in higher education [9].

Even though several models are available to measure service, it appears from the review of literature that no holistic model has been adapted so far to measure service quality from the perception of students in Addis Ababa University.

There are many gray areas in the debate over how to measure service quality. The argument regarding the gaps (SERVQUAL), a perception only (SERVPERF) and EP approach to measuring service quality are still unresolved as there are valid issues and suggestion on either side of this debate [10].

The general view appears to be that, SERVQUAL, SERVPERF, and EP were designed as generic measures of service quality that have cross-industry applicability. Hence, it is important to view the instrument, as basic "skeletons'' that often require modification to fit the specific application situation and supplemental context-specific items.

The present study adopts SQM-HEI, to measure service quality to the context of Addis Ababa University in terms of unidimensionality, reliability, validity and expected variance. Relatively this new approach seeks to explore the relationship between teaching methodology (TM), environmental change in study factor (ECSF), Disciplinary action (DA), Students' complaints and response practices and the outcome as the quality education. The researcher adapts this model with modification to Addis Ababa university context and is used to measure the quality of education.

In fact, the use of the most appropriate measurement tool helps managers /decision makers to assess service quality provided by their institutions and be able to result in better design service delivery.

1.2 Statement of the problem

A detailed literature review[11],[12],[13],[14],[15],[16],[17],[18],[19],[20] has shown that although the number of studies had been carried out about SERVQUAL in the HE sector, there was no research about customers of HE conducted in Addis Ababa University where tertiary education sector is highly developed. In this research, customers are students who can be regarded as educational tourists currently obtaining their degrees in the university (e.g., the ones who are registered in a HE Institution).

In his research, [21] conducted a study in Malaysia, recommended, that future studies should be applied in other countries with different types of institutions. However, no research has been carried about measuring service quality, specifically in Addis Ababa University by using SQM-HEI (Service Quality Measurement in Higher Education) model. That is the point of this research conduction.

The preliminary study showed that students face some issues that either makes them feel dissatisfied or drop out of the program. This is an indication that some students are not happy with the services provided. The higher education sector is an important economic activity and also very competitive. According to [22], tertiary educational quality can be accessed through students' satisfaction by determining the point where students' expectations and needs are met. Students or Customers are an essential factor in economic activity development of the whole country.

They (the students) feel that the universities' professors/instructors are generally not qualified and lack proper ethics and professionalism. Students generally accept these weaknesses and limitations of their professors' as well as the supporting office personnel and try to study their subject matter the best they can. They are afraid to complain to anybody at the university for fear of reprisal, or due to consideration that the institution does not have enough professors to replace the not so good ones. Most of their complaints regarding their professors revolve around lack of ethics, incompetence, negligence, unwillingness to share their knowledge and experience generously, mistreating their students, and teaching courses beyond their capacity [23].

When it comes to the services provided by the university, they mainly and bitterly criticize the registrar office and its services. The people we interviewed mentioned that there are different kinds of problems in different departments. Some of the departments are much better than others. And some department students enjoy their academic freedom better than others. Therefore, the university cannot afford to lose students. For the purpose of the study, the researcher addressed the pertinent questions that are given below:

1. What is the students' perception of quality determinants factors?
2. What are the major factors that determine service quality at Addis Ababa University?
3. Do Postgraduate and Undergraduate students have similar satisfaction level?

1.2 Objectives of the Study

On the basis of the conceptual and operational concerns associated with the generic measure of service quality, this research attempts to assess students' satisfaction and service quality in Addis Ababa University. The specific objectives of the study are:

- To explore the satisfaction level of postgraduate and undergraduate students
- To assess the perception of students towards quality determinants factors
- To identify those factors affecting service quality in Addis Ababa University

1.3 Significance of the Study

This study has focused on the measurement of service quality (SQM-HEI), in Addis Ababa University. Although there has been a number of research works on service quality through SERVQUAL, the results from the current study will be crucial because previous studies have produced scales that bear a resemblance to the generic measures of service quality, which may not be very adequate to assess the perceived quality in higher education. In addition, the previous researches have been too narrow as they over-emphasis on the quality of academics and paid too little attention to the non-academic aspects of the educational undertaking. Thus, this model enables to add the canon of Knowledge on the theoretical part of the literature. Not only adding theoretical knowledge but also helps to prove empirically those factors that affect quality education. Furthermore, it serves as input for other researchers in the area.

1.4 Scope and Delimitations of the Study

It would have been better if the study includes all Addis Ababa university faculties. However, this research work has been limited to Addis Ababa University main campus. The rational delimitation is to make the research work more manageable and suitable for attaining the intended purpose. The other limitation of this study is the complex nature customer of Addis Ababa University. This limits one's ability to generalize these results to a broader population. This study assumed Students as primary customers. However, a more inclusive conceptualization of service quality should include all internal and external stakeholders including academics, administrative staff, researchers, student's family, quality assurance agencies and societal groups. Hence, future researchers should attempt to incorporate a service quality perception that includes multiple stakeholders. Even though measuring service quality is a well-researched phenomenon in different organizations, no sufficient number of studies on service quality of educational institutions particularly in (SQM HEI) of Addis Ababa University has been made yet.

1.5 Conceptual framework

The researcher refers to a service quality framework developed by Senthilkumar and Arulraj in the measurement of higher education institution with some modifications would apply in Addis Ababa University (See figure 1). The model would use rational survey empirically examine a relationship between two or more variables. This study explored the relationship between teaching methodology(TM), environmental change in the study factor (ECSF), disciplinary action (DA), students' complains and response practices and outcome as the quality education.
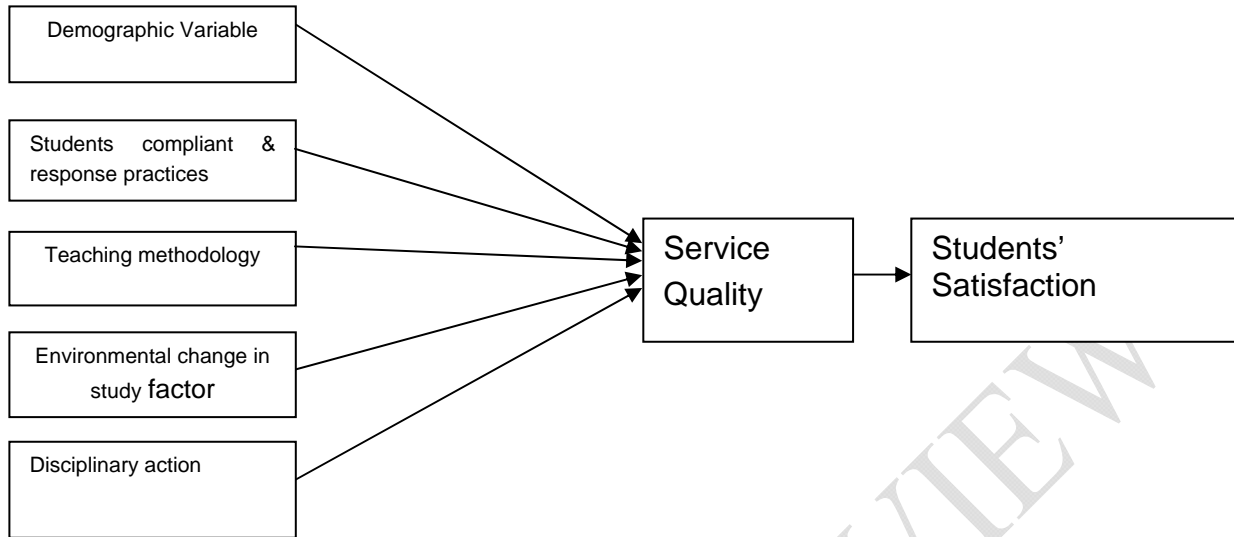
Fig 1: SQM-HEI Modified Model

Source :(Senthilkumar &Arulraj, 2010)

1. **Teaching Methodology (TM)**: Quality in higher education is a holistic concept. Teaching methodology is considered from the following permeation;

- Teaching in higher education is a profession. It is a form of public service that requires expert knowledge and specialized skills acquired and maintained through rigorous and life study and research. It calls for a sense of personal and institutional responsibility for the education and welfare of students and of the community at large and for a commitment to high professional standards in scholarship and research.

- Higher education personnel should maintain and develop knowledge of their subject through scholarship and improved pedagogical skills, possibly with latest technological aids.

- Working conditions for education teaching personnel should be such that it will best promote effective teaching scholarship; research and extension work and enable higher education teaching personnel to carry out their professional tasks.

- Making use of libraries, which have up-to-date collections, computer systems, satellite programs and databases required for their teaching scholarship and research

- The publication and dissemination of the research results obtained by higher education teaching personnel have been encouraged and facilitated with a view to assisting them to acquire the reputation which they merit as with view programme providing for the brands' exchange of higher education of skill, technology, education, and culture.

- The interplay of ideas and information among higher education teaching personnel thought the work is vital to the healthy development of higher education and research and should be actively promoted

- The program providing for the broadest exchange of higher education personnel between instructions both nationally and intentionally including the organization of symposiums, seminars and collaborative projects and the exchange of educational and scholarly information should be developed and encouraged.

2. **Environmental change in the study factor (ECSF)**

- Effective curricular transaction depends on the extent and quality of intuitional infrastructure, learning resources like the library, laboratory, and access to computer facilities. Along with these basic facilities, academic activities like workshops, conferences, overseas, collaborations, and seminars enrich the learning ambiance.

- The new forms of education require skills of a different order that include the facile use of information technology, mainly computer and internet. Hence, the higher educational institutions should ensure that the proper infrastructural facilities discussed in this study are provided to the students.

3. **Disciplinary Action**

- The disciplinary measure takes by the management should ensure that all the measures are carried out with the ultimate objective of guiding the students to attain the outcome of education.

4. **Students' Complaints and response practices**

Many students being customers of higher education complain when something goes wrong with them or the service provider. This may require the attention of the individual institutions to hear and solve the problem as fast as possible.

There are different concepts that consider in connection with complaints in higher education, the kinds of complaints and ground, availability of procedure, availability of suggestion Box, the responsiveness of university, Service failure recovery [24].

The ground for putting might be inadequate supervision, non- availability of essential equipment or resource necessary to complete work, plagiarism of student's research, unauthorized disclosure of confidential information to the third party, sexual harassment, racist activity or behavior, unreasonable behavior any action likely to cause injury or impair and unacceptable social behavior.

2. Research Methodology

The study focused on prospective undergraduate and postgraduate students of Addis Ababa University Main campus, Ethiopia. Thematically, the study is limited to service quality and Students satisfaction in the Higher education institution.

The research focuses on measuring service quality and students satisfaction at Addis Ababa University. The sampling procedures are used for this study is stratified random sampling. The stratification is based on the program, undergraduate and postgraduate. For selecting the institution /college form each program category a non-probabilistic convenience and judgmental sampling technique have been used. However, within the college institutions, the respondents are selected by stratified random sampling. Thus, the population is stratified into two major homogenous groups. Then the size of the sample in each stratum is taken in the proportion to the size of the stratum in order to ensure proportional allocation.

A self-administered survey questionnaire was distributed to a total sample of 331 undergraduate and postgraduate prospective students of Addis Ababa University. Data were obtained through personally administered questionnaires that would be prepared based on the literature review to address research questions. Data were collected by a means of a structured questionnaire that consists of two sections. The first section has seven questions that focus on general background information about the participants/students. The second section has 42 questions focusing on the feeling of students about the educational service performance with respect to six dimensions; Teaching methodology(TM), environmental change in the study factor (ECSF), disciplinary measures taken, students' complaints and response practices, students

demographic profile information and overall rating of the service quality, satisfaction level of service. The data collected are analyzed from the entire sample. Data analyses have been performed with Statistical Packages for Social Sciences (SPSS) by using descriptive statistics, correlation, and regression analysis.

3. Result and Discussion

This part of the research deals with the results and discussion. It has two main sections. The first section presents the background information of the respondents while the second section presents the factors that affect quality education in a higher institution in general and Addis Ababa University in particular.

3.1 Background Information of the respondents

The respondents involved in this study were students, both undergraduate and postgraduate of University under the study. The researcher believes that the respondents are direct stakeholders or service user in higher education, as a result, they were considered relevant as the main source of information for the study. Of the 331 students surveyed, 307 usable questionnaires were returned giving a response rate of 93 percent, from the 307 usable questionnaires 160(52.12%) were postgraduate students and the rest 147(47.88%) were undergraduate students.

3.1.1 Background information on student's respondents

Background information or characteristics of the sample, students were organized in Table 1 below.

Table 1: Background information of the respondents

Students	Sex		Grand Total
	Male	Female	
Postgraduate	102	58	160
Undergraduate	110	37	147
Grand Total	**212**	**95**	**307**

Source: (Survey questionnaire, 2012)

Table1 shows that the background information of the students respondent. For this study, 102 male, 58 female in total 160 postgraduate students are participated. Moreover, 110 male and 37 female in total of 147 undergraduate students are participated.

3.2 Factors affecting Service Quality measurement in Addis Ababa University
3.2.1 Perception regarding Teaching Methodology
Respondents were asked to rate their level of satisfaction in relation to the teaching methodology at Addis Ababa University. For each of the ten items used to assess the level of students' satisfaction, table 2 presents a comparison of undergraduate and graduate students' average level of satisfaction.

Regarding the relevance of curriculum, item a1, the average level of satisfaction by undergraduate and postgraduate students, 2.83 and 2.95 respectively, are rated the moderate level of satisfaction in the 95% Confidence interval. The two respondent groups have no significant difference in their average level of satisfaction (p-value =0.0332 > 0.05). Overall, the average level of satisfaction, 2.89, with 95% Confidence interval in the range between 2.77 and 3.01 is a moderately low level of satisfaction.

According to [25], there are four curricular orientations that determine the nature of the curricular organization, teachers' and students' roles and assessment practices. One of these is "Intellectual Traditionalisms", which emphasizes engagement in subject matter for its own sake. In this regard, the curricular should be worked on the content match with the graduate profile indicated in the programs.

Under item a2, teaching and learning support, both groups have an equivalent average level of agreement (p-value =0.760 > 0.05). Both groups have a low level of satisfaction below 3 points. Overall, students' average level of satisfaction, 2.77, results in 95% Confidence interval in the range between 2.68 and 2.89.

Rating item a3, willingness to encourage class group interaction, the two respondent groups have no significance difference (p-value=0.115 > 0.05) with 3.01 total average satisfaction level and 95% Confidence interval of 2.88 - 3.14 indicating a moderate level of satisfaction. According to [26], Teachers were not providing students with the opportunity to express themselves. The attempt made to encourage students' participation through discussion and presentation was very minimal, particularly in the undergraduate programs. The level of interaction in the graduate classes was reasonably high as the number of students was manageable and their maturity level was better than that of undergraduate students. Most students cannot stay focused throughout a lecture. After about 10 minutes their attention begins to drift, first for brief moments and then for longer intervals, and by the end of the lecture they are taking in very little and retaining less. A classroom research study showed that immediately after a lecture student recalled 70% of the information presented in the first ten minutes and only 20% of that from the last ten minutes [27].

Item a4, availability of academic staff for guidance and advice, received low-level satisfaction by students with an average satisfaction level of 2.59. Regarding item a5, the relevance of theoretical knowledge of academic staff, undergraduate students rating is a moderate level of satisfaction while Postgraduate students average satisfaction level is slightly above moderate level satisfaction. However, the test result with p-value=0.189>0.05 indicates insignificance difference between average satisfaction level of the two groups of students. On average, both groups average rating, 3.19 with 95% Confidence interval showing above moderate level satisfaction concerning teachers' theoretical knowledge. No matter how students are well prepared in their high school education, their instructors can either facilitate or stunt the level of knowledge, skills and behavior acquisitions and development by the students. Instructors play a significant role in filling the gaps students have or may add value to the students' have or may add no value to the students' existing knowledge and skills. Therefore, the teaching and research experience of the instructors in higher education, the level of qualification and academic rank they had, the type of training they went through, as well as their involvement in research were taken as important factors that would indicate the quality of education offered by the Universities.

Table 2: Level of Satisfaction with Teaching Methodology

Items	Respondent	N	Mean	Std. Deviation	95% Confidence Interval for Mean		ANOVA test	
					Lower Bound	Upper Bound	F-Value	p-value
A_1	Undergraduate	147	2.83	1.137	2.64	3.02	0.945	0.332
	Postgraduate	160	2.95	1.027	2.79	3.11		
	Total	307	2.89	1.081	2.77	3.01		
A_2	Undergraduate	147	2.79	1.142	2.60	2.98	0.093	0.760
	Postgraduate	160	2.75	1.099	2.58	2.92		
	Total	307	2.77	1.118	2.64	2.89		
A_3	Undergraduate	147	3.12	1.101	2.94	3.30	2.499	0.115
	Postgraduate	160	2.91	1.146	2.73	3.09		
	Total	307	3.01	1.127	2.88	3.14		
A_4	Undergraduate	147	2.59	1.146	2.40	2.77	0.000	0.985
	Postgraduate	160	2.59	1.157	2.41	2.77		
	Total	307	2.59	1.150	2.46	2.72		
A_5	Undergraduate	147	3.10	1.137	2.91	3.28	1.732	0.189
	Postgraduate	160	3.27	1.169	3.09	3.45		
	Total	307	3.19	1.155	3.06	3.32		
A_6	Undergraduate	146	2.66	1.189	2.46	2.85	4.569*	0.033
	Postgraduate	160	2.95	1.202	2.76	3.14		
	Total	306	2.81	1.202	2.68	2.95		
A_7	Undergraduate	147	2.90	1.065	2.72	3.07	3.616	0.058
	Postgraduate	160	3.13	1.082	2.96	3.30		
	Total	307	3.02	1.078	2.90	3.14		
A_8	Undergraduate	147	2.88	1.082	2.71	3.06	0.569	0.451
	Postgraduate	160	2.79	1.022	2.63	2.95		
	Total	307	2.84	1.051	2.72	2.96		
A_9	Undergraduate	147	3.03	1.088	2.86	3.21	7.135*	0.008
	Postgraduate	160	2.69	1.177	2.50	2.87		
	Total	307	2.85	1.147	2.72	2.98		
A_10	Undergraduate	147	3.19	1.016	3.02	3.36	0.771	0.381
	Postgraduate	160	3.09	1.036	2.93	3.25		
	Total	307	3.14	1.026	3.02	3.25		
As_Average	Undergraduate	147	2.91	0.70965	2.79	3.02	0.002	0.963
	Postgraduate	160	2.91	0.77479	2.79	3.03		
	Total	307	2.91	0.74310	2.83	2.99		

Source: (Survey questionnaire, 2012)

In contrary to item a5, undergraduate and Postgraduate students have significantly different average satisfaction level (p-value=0.033<0.05) regarding the relevance of teachers' practical knowledge, Undergraduate students rated item a6 with 2.66 average satisfaction, which is a low-level satisfaction as the corresponding 95% Confidence interval lies below moderate satisfaction level. Postgraduate students' average rating, 2.95, is a moderate level of satisfaction.

Item a7, teachers updating themselves in their subject, the average rating by undergraduate and Postgraduate students are 2.90 and 3.13 respectively with the respective 95% Confidence interval are in the range of moderate level of satisfaction.

Timely/sequentially presentation of course materials, item a8, the two group of students have no significant difference (p-value=0.451>0.05) in their level of satisfaction. The total average of 2.84 and its 95% Confidence interval indicate below the moderate level of students' satisfaction regarding the item. The consistency of exams with the taught course, item a9, the two groups of students have a significantly different average level of satisfaction (p-value=0.008<0.05). Undergraduate students' average satisfaction level, 3.03, is a moderate level of satisfaction. Postgraduate students have a significantly lower level of satisfaction (2.69). Most institutions

use only end-of-course student surveys to evaluate teaching quality. While student opinions are important and should be including in any assessment plan, meaningful evaluation of teaching must rely primarily on the assessment of learning outcomes. Current trends in assessment reviewed by [28] include shifting from standardized tests to performance-based assessments, from teaching-based models to learning-based models of student development, and from assessment as an add-on to more naturalistic approaches embedded in actual instructional delivery. Measures that may be used to obtain an accurate picture of students' content knowledge and skills include tests, performances and exhibitions, project reports, learning logs and journals, Metacognitive reflection, observation checklists, graphic organizers, and interviews, and conferences [29].

The extent to which courses are stimulating, item a10, the two groups of students have no significant difference in their average level satisfaction. In total students' average level of satisfaction, 3.14, is in the range of moderate level satisfaction. One of the factors that could hinder or facilitate the effectiveness of the teaching-learning process is the type of course delivery method employed by the instructors. Instructors can use an amalgam of teaching methods developing on the nature of the course and learners.

According to [30], the dominant method used by teachers tended to be lecture method where the teachers talked, explained, described and demonstrated with the students were left busy listening, taking notes and /or coping from the black/ whiteboard.

Aggregating all the 10 items, students' satisfaction level regarding teaching methodology is computed. For both Undergraduate and Postgraduate students overall satisfaction levels are computed 2.91 with a below moderate level of satisfaction in the range from 2.83 to 2.99. According to[31], Students were not satisfied with assessment, marking and grading system used by instructors, the practicality of the courses and availability of resources and somewhat satisfied with the quality of education provided.

3.2.2 Perception of students regarding Environmental changes in study factor

Under Environmental changes in the study factor, five items are presented for the students in rating their level of satisfaction for each item. Table 3 presents the analysis results comparing the average level of satisfaction between undergraduate and postgraduate students. Item b11, satisfaction level with library facilities, Undergraduate and Postgraduate students have statistically indifferent average satisfaction levels

(P-value=0.063>0.05). For undergraduate students, with 3.39 average satisfactions is in the range above moderate level satisfaction. For Postgraduate students, with 3.32 average satisfaction levels, the 95% Confidence interval shows moderate level satisfaction with library facilities. Because of the 95% Confidence interval overlap, the two groups have equivalent average satisfaction level. The total average by the whole students is 3.25 in the range from 3.11 to 3.39, which is above moderate level satisfaction.

Regarding computer facilities, item b12, the satisfaction level of undergraduate students is 2.07, which is low-level satisfaction. Postgraduate students have also a low-level satisfaction with computer facilities with average rating equals 2.48. Although the two groups have low-level satisfaction, the relative satisfaction level by Postgraduate students is significantly higher than that of Undergraduate students (p-value=0.002<0.05).

The two groups of students are also significantly different satisfaction level concerning laboratory facilities, item b13, again both groups have a low level of satisfaction 2.35 and 2.07 for Postgraduate and Undergraduate student respectively; where relatively Postgraduate students have a significantly higher level of satisfaction compared with the Undergraduate students.

Regarding creating a conducive environment for study, item b14, the average satisfaction levels are 3.20 and 3.02 for Undergraduate and Postgraduate students respectively. They have both a moderate level of satisfaction regarding item b14. The two groups average satisfaction level for

item b15, i.e. working time of the university, is not significantly different with an above moderate level of satisfaction levels.

Aggregating the five items under environmental change factor, both groups of students average satisfaction levels are equal to 2.83. The 95% Confidence interval for overall satisfaction level regarding environmental change factors ranges from 2.74 to 2.91, which indicates that students are experiencing below the moderate level of satisfaction.

According to [32], learning resources are indispensable for higher education service quality. Even though most Universities had enough resources, they misuse these resources. On the other hand, some universities had a shortage of learning resources.

This research finding was highly appreciated by also as follows; learning and teaching resources are not adequately matched with the size of enrollment in the respective programs [33].

To efficiently run the teaching-learning process and make theoretical aspect of the courses more practical, there should adequate resources and infrastructures: Laboratories with sufficient space, equipment, consumables, instruments, and possibility to experiment by the students; Libraries supplied with sufficient reading and reference materials, and reading space; ICT centers with networks and working spaces, and other materials. According to [34], others factors being constant, students and teachers who have access to instructional technology, sufficient resources and infrastructure would be a better position to get the most out of the teaching-learning process and to make learning more meaningful to the students.

Table 3: Satisfaction level with Environmental changes in study factor

Items	Respondent	N	Mean	Std. Deviation	95% Confidence Interval for Mean		ANOVA test	
					Lower Bound	Upper Bound	F-Value	p-value
B_11	Undergraduate	147	3.39	1.258	3.18	3.59	3.484	0.063
	Postgraduate	159	3.12	1.255	2.92	3.32		
	Total	306	3.25	1.261	3.11	3.39		
B_12	Undergraduate	147	2.07	1.123	1.89	2.26	10.262	0.002
	Postgraduate	160	2.48	1.099	2.31	2.65		
	Total	307	2.29	1.127	2.16	2.41		
B_13	Undergraduate	147	2.07	1.001	1.91	2.24	5.432	0.020
	Postgraduate	159	2.35	1.031	2.18	2.51		
	Total	306	2.22	1.024	2.10	2.33		
B_14	Undergraduate	147	3.20	1.170	3.01	3.39	1.742	0.188
	Postgraduate	160	3.02	1.281	2.82	3.22		
	Total	307	3.11	1.231	2.97	3.25		
B_15	Undergraduate	147	3.41	1.186	3.21	3.60	2.911	0.089
	Postgraduate	160	3.18	1.143	3.00	3.36		
	Total	307	3.29	1.168	3.16	3.42		
Bs_Average	Undergraduate	147	2.83	0.72617	2.71	2.95	0.001	0.974
	Postgraduate	160	2.83	0.76690	2.71	2.95		
	Total	307	2.83	0.74646	2.74	2.91		

Source: (Survey questionnaire, 2012)

3.2.3 Perception of Students regarding Disciplinary Action Taken

Under disciplinary action, students' responses to the eight items are computed and presented in table 4.

Regarding punishment measures, items c20 (monetary measure) and c21 (non-monetary measure) the two groups of respondents have significantly different average level of satisfaction. Considering monetary measures, undergraduate students have below moderate level satisfaction with 2.73, while postgraduate students are moderately satisfied with 3.02

average rating. As to non-monetary measures, undergraduate students have below moderate level satisfaction with 2.61, while postgraduate students are moderately satisfied with 2.98 average rating. The test results indicate that postgraduate students have relatively higher level of satisfaction compared with the satisfaction enjoyed by undergraduate students.

In each of the other six items under disciplinary measures taken, the two groups average satisfaction levels are not significantly different. Regarding item c16, performance in the test, students have moderate level satisfaction with 2.96 average rating. Regarding cell phone use, item c19, students enjoyed moderate satisfaction level of 2.98.

For items c17, regarding attendances, the average level of satisfaction is 3.25, which is high-level satisfaction. Similarly, students have above moderate level satisfaction (3.20) regarding interactions between opposite sex (items c18).

Table 4: Satisfaction level with disciplinary actions taken

Items	Respondent	N	Mean	Std. Deviation	95% Confidence Interval for Mean		ANOVA test	
					Lower Bound	Upper Bound	F-Value	p-value
C_16	Undergraduate	146	2.86	1.080	2.69	3.04	2.662	0.104
	Postgraduate	160	3.05	0.923	2.91	3.19		
	Total	306	2.96	1.004	2.85	3.07		
C_17	Undergraduate	147	3.32	1.079	3.14	3.50	1.232	0.268
	Postgraduate	160	3.18	1.104	3.01	3.35		
	Total	307	3.25	1.092	3.12	3.37		
C_18	Undergraduate	147	3.27	1.231	3.07	3.47	1.127	0.289
	Postgraduate	160	3.13	1.196	2.94	3.31		
	Total	307	3.20	1.213	3.06	3.33		
C_19	Undergraduate	147	3.01	1.225	2.81	3.21	0.164	0.685
	Postgraduate	160	2.95	1.228	2.76	3.14		
	Total	307	2.98	1.225	2.84	3.11		
C_20	Undergraduate	147	2.73	1.114	2.55	2.91	5.615	0.018
	Postgraduate	160	3.02	1.037	2.86	3.18		
	Total	307	2.88	1.082	2.76	3.00		
C_21	Undergraduate	147	2.61	1.070	2.43	2.78	10.713	0.001
	Postgraduate	160	2.98	0.942	2.83	3.13		
	Total	307	2.80	1.021	2.69	2.92		
C_22	Undergraduate	147	2.83	1.131	2.65	3.01	0.037	0.847
	Postgraduate	160	2.81	1.019	2.65	2.97		
	Total	307	2.82	1.072	2.70	2.94		
C_23	Undergraduate	147	2.80	0.899	2.65	2.94	2.924	0.088
	Postgraduate	160	2.97	0.872	2.83	3.10		
	Total	307	2.89	0.887	2.79	2.99		
Cs_Average	Undergraduate	147	2.93	0.63250	2.82	3.03	1.223	0.270
	Postgraduate	160	3.01	0.67729	2.90	3.12		
	Total	307	2.97	0.65647	2.90	3.04		

Source: (Survey questionnaire, 2012)

Regarding item c22 (imparting moral values and ethics) and item c23 (anti ragging measures) students have below moderate level satisfaction with 2.82 and 2.89 average ratings respectively. Aggregating items under disciplinary measures, the average satisfaction levels are 2.93 and 3.01 by undergraduate and postgraduate students. The respective 95% Confidence interval indicate a moderate level satisfaction by the students, with 2.97 overall satisfaction levels.

3.2.4 Students' Complaints and Response practice

Table 5 presents students' average satisfaction levels regarding items under students' complaints and response practice. Among the nine items, the two groups of students have

significantly different average satisfaction level for item d30 (existence of suggestion boxes in the university). Undergraduate students have moderate level satisfaction (3.12) that is relatively higher than the level of satisfaction experiencing by postgraduate students (2.70).

In all the other items, except item d30, the two groups of students do not significantly different in their average level of satisfaction, that is below moderate level of satisfaction. For these items the students' total average level of satisfactions within the lowest 2.09 for item d32 and highest 2.56 for item d27.

Item d24, many complaints on the university's evaluation practice, is rated 2.56. For item d25, the University receives complain about the lectures is rated 2.42. Students complain for non-responsive management, item d29, is rated 2.55. Regarding item d28, the students complain about University staff members as they do not treat them well is that the average satisfaction level by the students is 2.52. Items d26, the existence of compliant about library services, materials and in efficient service and d31, availability of complain handling procedure in the University are both rated with 2.47 average level satisfactions. Item d32, the university is quick to provide response on both academic and non-academic complains receives relatively lowest level satisfaction with average rating of 2.09.

Many students being customer of HEI complain when something goes wrong with them or the service provider. This may require an attention of the individual institutions to hear and solve the problem as fast as possible. Otherwise, the inability solve problems may shift the attention of their students towards other educational institutions waiting in the same field.

Therefore, inability to handle complaints coming to each university provides a source of complain to might be inadequate supervision non- availability if essential equipment or sources necessary to complete information to a third party, assault or serious /or threaten, racist activity or behavior abusive or un reasonable behavior any action likely to cause injury or impair and fun acceptable social behavior.

However, these factors may differ from country to country and Institutions to Institution complaints according to [34], arises where a student is dissatisfied with, the prevision of good, services or conditions on which they are offered or the level of performance may include a concern about the level of academic supervision provided by staff, the conduct of staff in work, workshop, lectures, seminars and tutorials. Similarly, there may supervision including the student accommodation service of university, access to the library or provision of appropriate language support.

Educational Institutions as they are working in the intensively environment are expected to treat their customers as carefully as possible. Handling complaints and factor leading to dissatisfaction easily, and treating customers may disseminate the good name of the organization prospective.

Students' overall satisfaction level regarding complaints and response practices in the university is 2.54 that is a low-level satisfaction as the 95% Confidence interval falls far below moderate level satisfaction.

Table 5: satisfaction level with students' complaints and response practice

Items	Respondent	N	Mean	Std. Deviation	95% Confidence Interval for Mean		ANOVA test	
					Lower Bound	Upper Bound	F-Value	p-value
D_24	Undergraduate	147	2.50	1.094	2.33	2.68	0.677	0.411
	Postgraduate	160	2.61	1.094	2.44	2.78		
	Total	307	2.56	1.093	2.43	2.68		
D_25	Undergraduate	147	2.36	1.134	2.18	2.55	0.766	0.382
	Postgraduate	160	2.48	1.154	2.29	2.66		
	Total	307	2.42	1.144	2.29	2.55		
D_26	Undergraduate	147	2.37	1.283	2.16	2.58	1.871	0.172
	Postgraduate	160	2.56	1.217	2.37	2.75		
	Total	307	2.47	1.250	2.33	2.61		
D_27	Undergraduate	147	2.89	1.335	2.67	3.11	0.390	0.533
	Postgraduate	160	2.80	1.222	2.61	2.99		
	Total	307	2.84	1.276	2.70	2.99		
D_28	Undergraduate	147	2.62	1.279	2.41	2.83	1.826	0.178
	Postgraduate	160	2.43	1.236	2.23	2.62		
	Total	307	2.52	1.259	2.38	2.66		
D_29	Undergraduate	147	2.55	1.262	2.35	2.76	0.000	0.994
	Postgraduate	160	2.55	1.238	2.36	2.74		
	Total	307	2.55	1.247	2.41	2.69		
D_30	Undergraduate	147	3.12	1.260	2.92	3.33	7.618	0.006
	Postgraduate	160	2.70	1.409	2.48	2.92		
	Total	307	2.90	1.354	2.75	3.05		
D_31	Undergraduate	147	2.47	1.124	2.29	2.65	0.000	0.996
	Postgraduate	160	2.47	1.192	2.28	2.65		
	Total	307	2.47	1.158	2.34	2.60		
D_32	Undergraduate	147	2.08	1.095	1.90	2.26	0.010	0.921
	Postgraduate	160	2.09	1.033	1.93	2.26		
	Total	307	2.09	1.061	1.97	2.21		
Ds_Average	Undergraduate	147	2.55	0.70097	2.44	2.67	0.137	0.712
	Postgraduate	160	2.52	0.78956	2.40	2.64		
	Total	307	2.54	0.74740	2.45	2.62		

Source: (Survey questionnaire, 2012)

3.3 Satisfaction level of postgraduate and undergraduate students

The overall satisfaction of both groups of students is to the low level regarding items e33 (overall satisfaction towards the university and e34(their feeling towards the university service quality can be best described as) as well as the aggregated item. With regard to the overall satisfaction towards the university, item e33, a 2.51 average level of satisfaction with 95% Confidence interval in the range from 2.40 to 2.63 is a low-level satisfaction. Similarly, their feelings towards the university's service quality, item 34, a total average of 2.48 resulted in low-level rating in the range from 2.36 to 2.60. Aggregating item 33 and item 34, the overall satisfaction level of students is 2.50 on average, which is a low-level satisfaction by far below moderate level agreement.

Students come to educational institutions with expectations about what they want out of their years at Universities and Colleges. And, realistic or not, how well those expectations are met directly affects students' ratings of satisfaction with the institutions and their perceptions of the institutions' effectiveness. In fact, current research on the assessment of satisfaction and effectiveness emphasizes the importance of assessing students' expectations as a critical part

of the assessment equation [35]. If Universities fail to include student perceptions in their assessment of quality, it may have, at least an incomplete picture of institutions' effectiveness and at most, an inaccurate picture of their level of effectiveness. If a student perceives the Addis Ababa University as ineffective, any number of consequences may occur, but certainly not limited to students attrition, poor public relations, a negative campus climate, reduced alumni funding, recruiting difficulties and ultimately lost revenue. Waiting of these consequences to grace the University would rather not fight. However, if AAU is not measuring students' satisfaction as part of the process of assessing institutional effectiveness, it may find itself dealing with this end-of the line consequences and doing "too little late". Assessing students' expectations from the start may be a simple, but effective part of the process for assessing institutional effectiveness. The student satisfaction survey enables the University to:

• Assess the level of satisfaction with, and the importance of various key issues
• Identify gaps in the provision of education services and resources
• Judge how Successful the University has been in achieving specific policies
• Build a picture of students' expectations based on the whole student experience
• Highlights areas requiring further investigation.

The benefit also goes to the students. Students who provide feedback will gain some of the benefits modifications related to any of educational experiences, [36].

Table 6: Students' overall satisfaction

Items	Respondent	N	Mean	Std. Deviation	95% Confidence Interval for Mean		ANOVA test	
					Lower Bound	Upper Bound	F-Value	p-value
E_33	Undergraduate	147	2.49	1.100	2.31	2.67	0.163	0.687
	Postgraduate	160	2.54	0.971	2.39	2.69		
	Total	307	2.51	1.033	2.40	2.63		
E_34	Undergraduate	147	2.57	1.141	2.39	2.76	2.261	0.134
	Postgraduate	160	2.39	0.926	2.25	2.54		
	Total	307	2.48	1.036	2.36	2.60		
Es_Average	Undergraduate	147	2.53	1.01060	2.37	2.70	0.371	0.543
	Postgraduate	160	2.47	0.85804	2.33	2.60		
	Total	307	2.50	0.93322	2.39	2.60		

Source: (Survey questionnaire, 2012)

Considering other factors constant, students' perception on teaching methodology would influence their perception by r2 = 37.21%. That is, 37% of the changes in students' overall satisfaction are attributed to the change in their perception with the teaching methodology. Similarly, complaints and response practices in the university amounts to r2 = 0.5322 = 28.3% of the overall satisfaction of students. Disciplinary action taken also influences overall satisfaction by 27.46%, while perception on environmental changes can explain 26.5% of the variation in students' overall satisfaction.

Service Quality is commonly noted as a critical prerequisite for establishing and sustaining satisfying relationship with valued customers. In this way, the association between service quality and customer satisfaction has emerged as a topic of significant and strategic concern. In general, perceived service quality is an antecedent to satisfaction. Thus, a proper understanding of the antecedents and determinants of customer satisfaction can be seen as to have an extraordinarily high monetary value for service organization in a competitive environment.

According to Ham[37] have confirmed that, even in the higher educational settings, there is a positive correlation between perception of service quality and student satisfaction, and analyzing upon the relationship based on each of the dimension of service quality, reliability

(R=0.547; sig. =0.000) has the strongest relationship followed by responsiveness and empathy (R=0.5431; sig. = 0.000), assurance (R=0.492; sig. = 0.000) and tangibility (R=0.423; sig.=0.000).

According to Elliot[24] found that the highly significant variables in the model that appear to directly impact overall customer satisfaction with University performance are: (1) excellence of instruction in major (0.0522; p<0.0002), (2) able to get desired classes (0.0935; p<0.0000), (3) knowledgeable advisor (0.0517; p<0.0000), (4) knowledgeable faculty (0.0406;p<0.0094), (5) overall quality of instruction (0.0510; p<0.0000), (6) tuition paid is a worthwhile investment (0.0749; p<0.0000), (7) approachable advisor (9.0631; p<0.0000), (8) safe and secure campus (0.0646;p<0.0000), (9) clear and reasonable requirements for major (0.0539; p<0.0000), (10) availability of advisor (0.0537;p<0.0000),(11) adequate computer labs (0.0631;p,0.0000),(12) fair and unbiased faculty (0.0443; p<0.0004), and (13) access to information (-0.367;p<0.0021). A regression model, using all the four perception factors, below is constructed with R (multiple r) = 0.669 and R2 = 44.7%. By this model, students' overall satisfaction (OSS) can be explained by the four perception factors altogether.

$$OSS = 0.329*TM + 0.152*ECSF + 0.133*DA + 0.186*SCRP$$

A one point improved perception level in Teaching Methodology (TM) increases OSS by 0.329 points. An increase in Environmental Change in the Study Factor (ECSF) would increase students' satisfaction by 0.152. Similarly, perceptions in Disciplinary Action (DA) and Students Complaint and Response Practices (SCRP) factors would improve overall students' satisfaction by 0.133 and 0.186 points respectively.
A further stepwise regression analysis is used to identify the relative contribution of each of the four factors in achieving the model that would explain students' overall satisfaction by 44.7%.

Table 7: The relative contribution of each of the four factors through regression Analysis

Factors Used	R	R^2	Change R^2
TM	0.610	37.23%	37.23%
TM, CR	0.646	41.73%	4.50%
TM, CR, CE	0.661	43.67%	1.94%
TM, CR, CE, DA	0.669	44.70%	1.02%

Source: (Survey questionnaire, 2012)

From the above table, the first most explanatory factor is perception in teaching methodology that affects 37.23% in students' overall satisfaction. The contribution by perception in complaint-response taken is 4.50%, which together with teaching methodology explains students' overall satisfaction by 41.73%. Using perceptions in changes environment changes and disciplinary actions amounts additional explanatory power to the model by 1.94% and 1.02% respectively.
To explore further, the relationship of individual items under each perception factor, the following charts presents students' average perception and the relation with their overall satisfaction. Correlation analysis made to each item is found to have strong positive correlation with overall satisfaction.
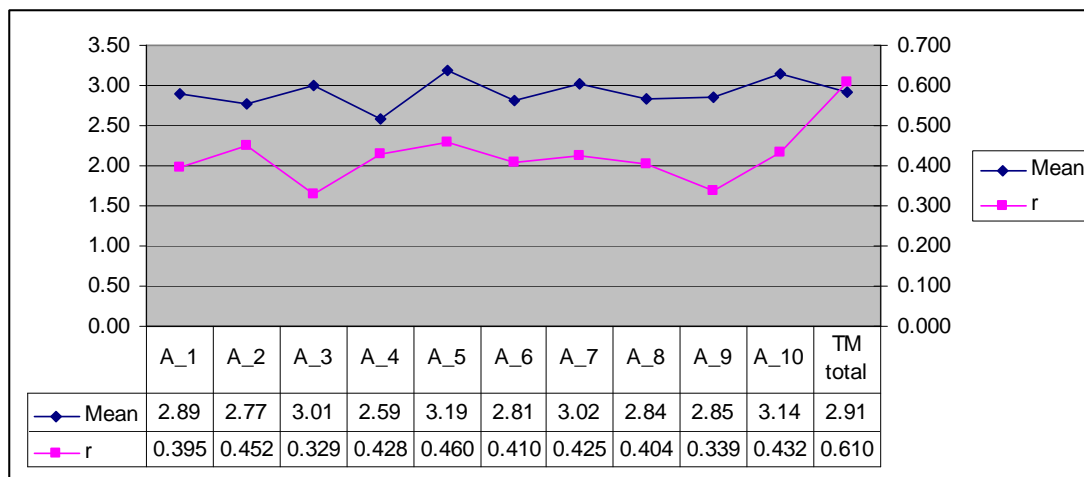
	A_1	A_2	A_3	A_4	A_5	A_6	A_7	A_8	A_9	A_10	TM total
Mean	2.89	2.77	3.01	2.59	3.19	2.81	3.02	2.84	2.85	3.14	2.91
r	0.395	0.452	0.329	0.428	0.460	0.410	0.425	0.404	0.339	0.432	0.610

Chart 1: Level of perception of TM and correlation with Overall satisfaction

Chart 1 depicts the average perception level of students for the ten items considered to assess overall teaching methodology perception. The chart also shows the relationship (r=correlation) of each item with students' overall satisfaction at AAU, where all r are significant at 0.05 level of significance. The lowest perception is regarding item a_4, followed by items a_2 and a_6. Most other items have below average satisfaction. Hence, improving the perception of students in these items would help to raise students' overall satisfaction.
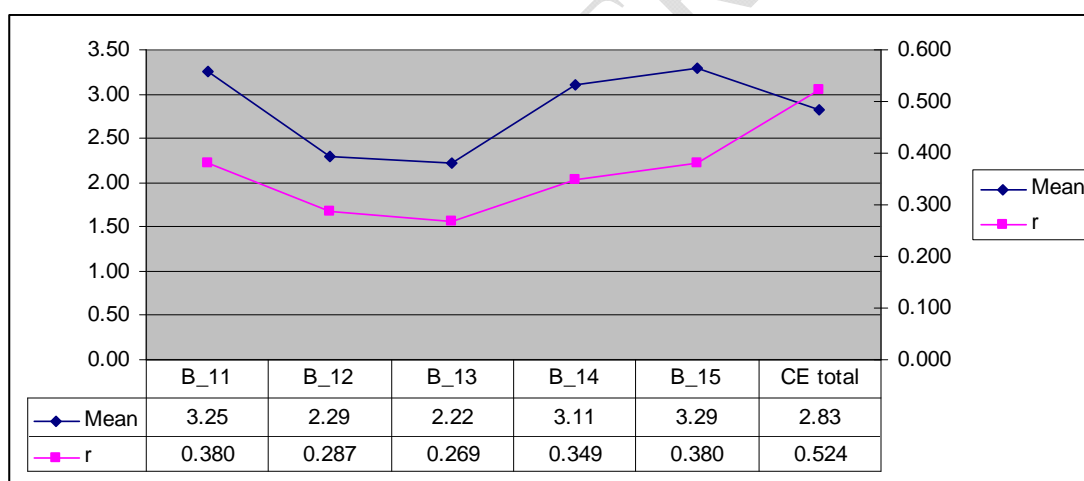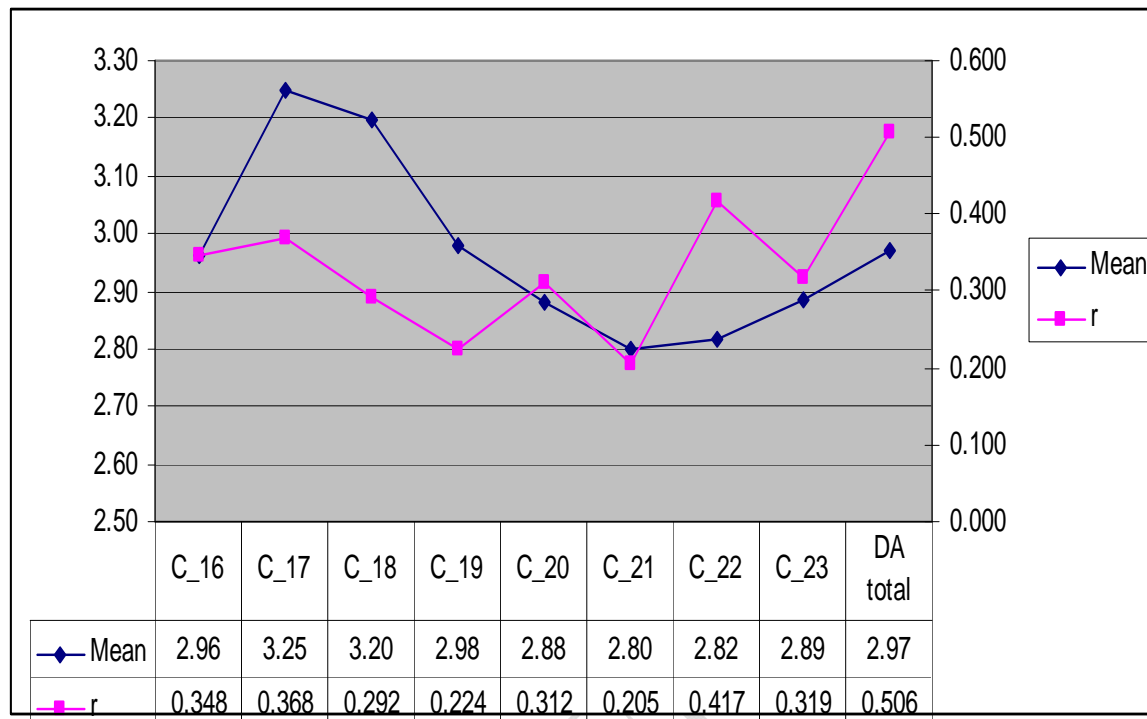

	B_11	B_12	B_13	B_14	B_15	CE total
Mean	3.25	2.29	2.22	3.11	3.29	2.83
r	0.380	0.287	0.269	0.349	0.380	0.524

Chart 2: Level of perception of ECSF and correlation with Overall satisfaction

Chart 2 depicts the average perception level of students for the five items considered under changes in environment, and correlation (r) between each item and students' overall satisfaction. All items have significant correlation with satisfaction level. The lowest perception levels for items b_13 and b_12 must be addressed to improve students' overall satisfaction.

Chart 3: level of perception in items under DA and correlation with Overall satisfaction

	C_16	C_17	C_18	C_19	C_20	C_21	C_22	C_23	DA total
Mean	2.96	3.25	3.20	2.98	2.88	2.80	2.82	2.89	2.97
r	0.348	0.368	0.292	0.224	0.312	0.205	0.417	0.319	0.506

Item c_22 has the highest correlation with students' overall satisfaction; whereas the average perception towards this item is the lowest next to item c_21.
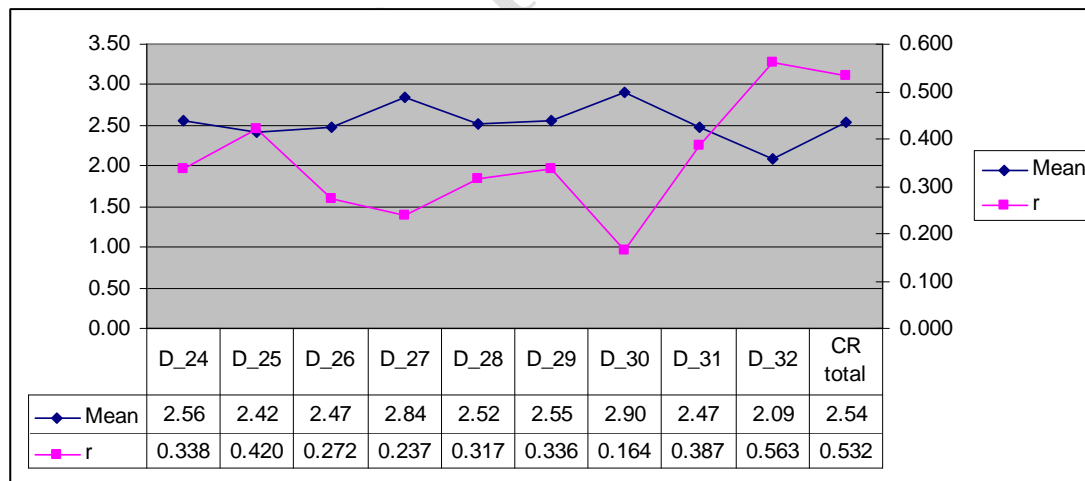

	D_24	D_25	D_26	D_27	D_28	D_29	D_30	D_31	D_32	CR total
Mean	2.56	2.42	2.47	2.84	2.52	2.55	2.90	2.47	2.09	2.54
r	0.338	0.420	0.272	0.237	0.317	0.336	0.164	0.387	0.563	0.532

Chart 4: Level of perception of SCRP and correlation with Overall satisfaction

Under complain and response, the perception of students towards every item is far below moderate satisfaction level. As each item has significant correlation with overall satisfaction,

improving students' perception in this area would help to raise the satisfaction level of students. Item d_32 is with the highest correlation and with the lowest perception level. Hence, it requires primary focus followed by items d_26, d_27 and d_31 that have even below 2.50 perception level.

Consent: As per international standard or university standard written patient consent has been collected and preserved by the author(s).

4. Conclusion

The overall impression given by the students is that they are considerably dissatisfied than satisfied. However, on an individual items basis, graduate's level of satisfaction varies from the undergraduate level of satisfaction from item to item. The perception level of students in the four quality dimensions is either moderate or to the low level. The perception levels are 2.91, 2.83, 2.97 and 2.54 respectively the four quality dimensions (Best faculty teaching methodology (TM), Best physical infrastructure, Disciplinary action taken by management and student`s complaint and response practices).

Moreover, reviewing the satisfaction and priorities of students also reveals that teaching methodology, issues related to the teaching-learning process and student's complaints and response practices are the paramount importance to both undergraduate and postgraduate students. Of course, the other scales of measures like physical infrastructure (ECSF) and disciplinary action taken by management are not very far away from two scales. Therefore, more than 50% of the items (specific expectation) were not met by the university. In addition, a disciplinary action dimension was rated among those that matter most to students, but it appears to be was the least satisfying items in the University, and the University lacks a readily available channel of expressing complaints.

Generally, there was no area where the university exceeded the students' expectation. The perception levels of undergraduate and postgraduate students are not significantly different under each quality dimension.

5. Recommendation

Consistent with the conclusion made with respect to the area of study, the researcher recommends the following; Quality in higher education is a holistic concept that should involve various stakeholders. Addis Ababa University should develop and maintain knowledge of the staff through scholarship and improved pedagogical skills possibly with latest technological aids, and the University should also create enabling working conditions for academic staff so that it will best promote effective teaching scholarship, research and extension work and enable its staff to carry out their professional tasks. Moreover, the University should make use of libraries with an up-to-date collection, computer system, and databases requires for their teaching scholarship and research.

The university should be encouraged the publication and dissemination of the researcher result obtained by staff and facilitated with a view to assisting them to acquire the reputation which

they merit as well as a view program providing for the broadest exchange of the university as per staff between institutions both nationally and to promoting the advancement of skills, technology, education, and culture. Designing techniques that will encourage formal and informal contact between faculty/staff and students are essential so as partly enhance students' educational experience by the university.

The University is established to create skilled manpower for the country and producing graduates who are competent, responsible, ethical and great contributors to the development of their country. To fulfill these important objective students should learn in an environment where they can achieve best as a student and put it into practice after graduation. Therefore, the university should create and maintain responsive management, creating a conducive teaching-learning environment, transparency and open discussion with their students.

Many complaints of students are coming from unethical grading practices of the university. This is one of the critical problems that higher educational institutions are facing. If the university is suspended for such kind of problems, it will not have a good name among the society at large and hiring organizations. Hence, it is better for the university to develop a system of the grading scale, communicating the scale to students and put into implementation.

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