

***Students' Satisfaction in Higher Learning Institutions:
A Case Study of COMSATS Abbottabad, Pakistan***

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Abstract

In Pakistan the growing number of higher education institutions and the ever-increasing number of students, forces the institutions to build such an environment which completely satisfies these students' expectations. This paper uses a modified version of Keaveney and Young (1997) satisfaction model and tests on a sample of students of COMSATS Abbottabad, Pakistan. The study is based on primary data collected through questionnaires and analyzed using correlation, regression and Cronbach alpha. The results show that faculty, advisory staff and the classes have a very significant impact on the student's college experience. These positive student experiences lead to student satisfaction.

Keywords:

Satisfaction, Faculty, Advisory staff, Classes, College experience, Higher education.

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Introduction

Number of higher education institutions and the number of students' enrolment in these institutions have increased tremendously in the past ten years in Pakistan (Higher Education Commission of Pakistan, 2010). The students' enrolment is growing many folds, as the benefits of earning a college degree become more evident, especially in the business and high tech sectors. By the year 2010, it is estimated that Pakistan will need to accommodate 1.3 million students in higher education institutes (Sedgwick, 2005). Higher learning institutions are also considering this as a business like service industry where objective is to satisfy customers in order to retain and increase profit. Likewise satisfying admitted students is important for the institutions' existence, trying to meet the needs of this ever-increasing number of students as well as the quality they are demanding at this level of education (DeShields et al., 2005).

The sustainability and the success of these institutions are highly dependent on the student satisfaction and this satisfaction helps the institutions to find out their strengths and the areas where they need improvement. Student satisfaction is not merely dependent on the teaching assessments, but a deep analysis should be there to find out all the factors that contribute to the student satisfaction. This paper focuses on the students' satisfaction in higher learning institution by analyzing a number of factors including faculty, advisory staff and classes.

Literature Review

Higher education is perceived as a "pure" service (Oldfield and Baron, 2000, 86) and educational services "fall into the field of services marketing" (Hennig-Thurau et al., 2001, 332). Educational services are intangible, perishable and are produced and consumed at the same time by the provider/teacher and the learner/student. Therefore, the quality of this service cannot be measured objectively. The quality in higher education is a complex and diverse concept and is yet to be explored.

The environment of the higher education is changing dramatically over the years. The technology advancement is one of the most important aspects in this regard. This has tremendously improved and modified the ways of

teaching and the learning aspects. It demands the institutions to focus on customer-oriented philosophy to satisfy their customers if they want to succeed. Educational institutions have many customers: students, faculty, staff, alumni and donors. If the students are not satisfied with the institution they will ultimately drop out and this will affect all the customers.

Earlier studies and models on student satisfaction and retention conclude that academic performance makes a part of student satisfaction. Measured by the National Student Survey (2005), student satisfaction is a "measure of student's opinions of their university and so does not necessarily measure the quality of an institution". According to Bolton (1998), there is a relationship between customer's retention, intentions and satisfaction and a satisfied customer is a financial asset for the company. The most important goal of higher education is to develop satisfied customers: students, parents and alumni, etc (Seymour, 1972). Tinto (1975 & 1993), Baldrige, Kemerer, and Green (1982), Reichheld (1996) and Keaveney and Young (1997) linked the satisfaction of students which resulted from a positive college experience to retention of the student in that institute.

Conceptual Framework

A modified version of Keaveney and Young (1997) model is used in this study to adapt to the environment of the study (figure 1). Since in Pakistan the number of higher learning institutions are still less than the number of potential applicants seeking admissions due to high young population. Secondly, the financial obligations and conditions in this area do not provide students the leverage to switch institution. These constraints forced to modify the model leaving analysis and exclude the intention and retention.

Hypotheses of the study

The study attempts to find out the satisfaction of university students based on the link of faculty, advising staff and the classes with the student college experience that will then lead to the relationship between student's experience and his/her satisfaction with the institution. The main objective of the study is to analyze the students' satisfaction with the institution. This satisfaction is related to the experience of student in the institution and this

experience is affected and depends upon the faculty, advising staff and the environment of classes. If the students' experience is positive then they are satisfied with the institution. The Keaveney and Young (1997) model and variables are used in this regard. Student's experience in institute is based on his/her connection with faculty, advising staff, the environment and interactions in the classrooms. These three will make the first part of the model comprising the first three hypotheses. If the students have positive college experience, they are more satisfied as compared to the students having negative college experiences, the last hypothesis.

H1: Faculty performance (i.e., understanding, accessibility, professionalism, reliability and feedback) is positively related to the student's college experience.

H2: Advising Staff performance (i.e., accessibility, reliability, willingness to help, responsive and understanding) is positively related to the student's college experience.

H3: Classes (i.e., real world relevance, course work scheduling, and project/cases) are positively related to the student's college experience.

H4: Student experience (Cognitive development, Career programs and Business skills) in college will be positively related to student's satisfaction.

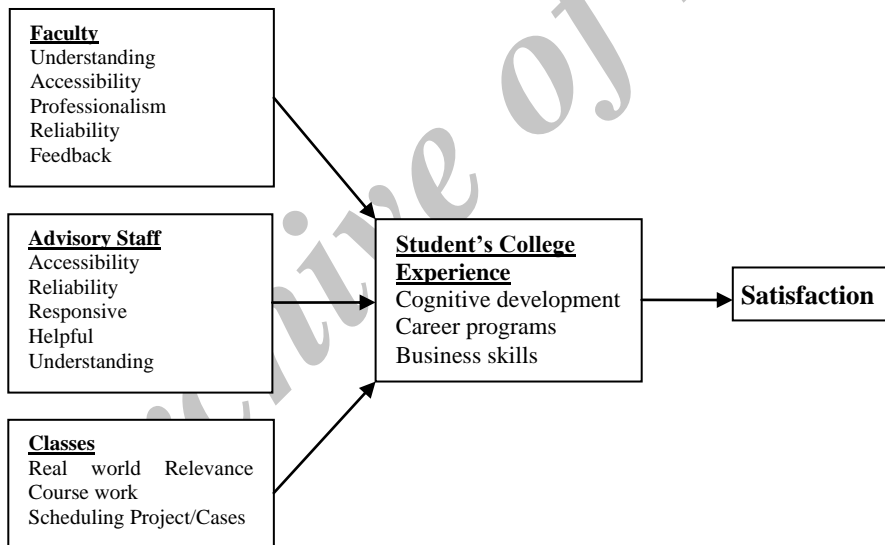


Figure 1: Conceptual Framework (Based on Keaveney and Young, 1997)

Research Methodology

The universe of the study is higher education sector of Pakistan and COMSATS Institute of Information Technology, Abbottabad has been chosen as the sample for the study. The sample size is 157 students of the institute.

COMSATS Institute of Information Technology started imparting higher education in the field of science and technology in Abbottabad in September 2001. It is one of the modern higher education institutes of Pakistan with multiple disciplines of modern day like IT, Engineering, Computer Science, Management etc. It is the only institute providing proper advisory service to each student in higher education, a proper advisory session is embedded in the timetable. Courses are properly scheduled, course outlines and related case studies are contributed to the students for their complete understanding of subject. Faculty is highly qualified and using modern day teaching and assessment techniques. This is the reason why this sample is selected from the huge population of higher education institutes in Pakistan. Sample completely comply with the factors/ determinants of the model used.

Primary data was collected through a structured questionnaire. Observation was also used to collect information about the student satisfaction. A total of 250 questionnaires were distributed from which 157 usable questionnaires were obtained. The questionnaire consisted of 58 questions. A five point Likert Scale was used to measure all the variables. The scale varies from 1 (strongly disagree) to 5 (strongly agree). On each factor questions were formulated. For example on faculty feedback 1) Faculty gives constructive suggestions for improvement and encouragement to students 2) Faculty provide individual feedback to each student on how they have improved and etc.

The data analysis is carried out by using descriptive statistics (Mean and standard deviation), reliability analysis (Cronbach's alpha), Spearman's Correlation, and regression analysis.

The Regression Equation 1

$$\text{Student's College Experience} = \alpha_0 + \alpha_1 \text{ Faculty} + \alpha_2 \text{ Advisory Staff} + \alpha_3 \text{ Classes}$$

The Regression Equation 2

$$\text{Satisfaction} = \beta_0 + \beta_1 \text{ Student's College Experience}$$

The dependent variable in the first part of the model is student's college experience. Student's college experience includes cognitive development, career progress and business skills. In the second student satisfaction is taken as a dependent variable. The student's college experience is dependent on three independent variables faculty, advising staff and the classes. These three variables are further divided into factors on each of these factors questions were asked in the questionnaire. In the second part student's college experience acts as an independent variable for student satisfaction.

Descriptive Statistics

Three indicators of student's college experience are under study: faculty, advisory staff and classes. The overall response for each factor is analyzed and mean and standard deviation values are shown in table 1.

Table 1: Mean and Standard Deviation

Factor	Total number of respondents	Mean	Standard Deviation
Faculty	157	3.28	0.60
Advisory staff	157	3.70	0.85
Classes	157	3.53	0.62
Student's College Experience	157	3.49	0.73
Satisfaction	157	3.60	0.81

To identify the factor that have relatively high tendency towards bringing positive college experience results are analyzed. The mean of overall satisfaction of the students as a result of positive college experience is also discussed.

The factor which affects the college experience of students most is advisory staff of the institute. Then, there are classes and faculty which impact on students' college experience. Advisory staff of the institute plays a vital role in the satisfaction of the students. The clear, timely and proper guidance of the advisor can enhance the college experience and satisfaction of a student in many folds. The environment of classes which includes the cognitive development, real world relevance and the business skills also affects the college experience of students. Lastly the college experience of a student is affected by the faculty of the institute. From this mean analysis it is proved that by only providing good faculty we cannot get a satisfied student. The most important factor is the advisory staff of the institute.

Cronbach's alpha is used for indexed responses to dichotomous or multi-point questionnaires, which are later summed to arrive at a resultant score associated with a particular respondent. Cronbach's alpha determines the internal consistency or average correlation of items in a survey instrument to gauge its reliability. It ranges from 0-1. The most reliable value is 0.7 but in literature values above 0.5 are also considered appropriate.

Reliability results are not as strong as one might prefer, but the calculated results are acceptable, Summarized in table 2 faculty scale (understanding, $\alpha=0.63$; access, $\alpha=0.65$; professional, $\alpha=0.68$; reliability, $\alpha=0.66$; feedback, $\alpha=0.66$); advising staff scale (accessible, $\alpha=0.53$; reliable, $\alpha=0.71$; willing to help, $\alpha=0.70$; responsive, $\alpha=0.80$; understanding, $\alpha=0.83$); classes scale (real-world relevance, $\alpha=0.56$; course scheduling, $\alpha=0.70$; project/cases, $\alpha=0.71$); student partial college experience scale (cognitive development, $\alpha=0.71$; career progress, $\alpha=0.82$; business skills, 0.71); satisfaction ($\alpha=0.83$).

Table 2: Reliability Statistics

Factors	Cronbach's Alpha
Faculty	
Understanding	0.63
Accessibility	0.65
Professionalism	0.68
Reliability	0.66
Feedback	0.66
Advisory Staff	
Accessibility	0.53
Reliability	0.71
Responsive	0.80
Willingness to help	0.70
Understanding	0.83
Classes	
Real world Relevance	0.56
Course work Scheduling	0.70
Project/Cases	0.71
Student's College Experience	
Cognitive development	0.71
Career programs	0.82
Business skills	0.71
Satisfaction	0.83

Correlation analysis

Correlation coefficients indicate both the direction of the relationship and its magnitude. The results of analysis indicates a positive correlation between faculty and the student's college experience ($r=0.588$) and is significant at 0.01 level. This shows that when the faculty of the university is experienced, cooperative and understanding higher will be the experience of student with college. The correlation value shows a highly positive relationship between faculty and college experience.

There is a strong positive relationship between advisory staff and student's college experience. The correlation coefficient ($r=0.465$) significant

at 0.01 level. This proves the second hypothesis H2 which is advising staff performance (i.e., accessibility, reliability, willingness to help, and understanding) will be positively related to the student's college experience. There is the strongest positive relation of classes and student's college experience ($r=0.579$) at 0.01 that shows college experience of the students is highly correlated with class environment and learning from classes.

In the second part of the model the relationship between Student's college experience and overall student satisfaction is analyzed. It gives positive relation ($r=0.637$) where $p=0.01$. It means that the student's college experience has a considerable effect on the overall satisfaction of the students.

Table 3: Correlation between Determinants/Satisfaction and Student's College Experience

Factors	Spearman's Correlation (r)	Significance (2-tailed)
Faculty	0.588(**)	0.000
Advisory Staff	0.465(**)	0.000
Classes	0.579(**)	0.000
Satisfaction	0.637(**)	0.000

** Correlation is significant at the 0.01 level (2-tailed).

Determinants of Student's College Experience: Regression Analysis

In the first part of the model independent variables are faculty, advising staff, the classes and student's college experience is the dependent variable. The results are presented in table 4. The correlation coefficient is 0.715 and the coefficient of determination square=0.511. This gives us the ratio of explained variation to total variation. It implies that 51 percent of the variability of student's college experience is accounted for the variables in this model. Table 5 presents analysis of variance and gives a test of the overall significance of the relationship. To interpret the table we refer to the F statistic that is 53.2 and its associated significance probability – sig = 0.000. The F statistic is formed by the

ratio of the Mean Square of the Regression to the Residual Mean Square – the bigger it is the more significant is the regression. However, the significance probability, i.e. p-value of the regression is given by the figure in the final column of the table headed Sig. when the p-value (0.000) is smaller than alpha level (0.05) it is concluded that the independent variables (faculty, advising staff, the classes) predict dependent variable (Student's College Experience).

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.715 ^a	0.511	0.501	0.51899

a. Predictors: (Constant), Classes, Advisory, Faculty

Table 5: ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	42.996	3	14.332	53.209	0.000 ^a
1 Residual	41.211	153	0.269		
Total	84.207	156			

a. Predictors: (Constant), Classes, Advisory Staff, Faculty

The final part of the Regression Output gives the Regression Coefficients (table 6). The first row under the column headed Unstandardized Coefficients B gives the Y-intercept or constant term in the regression equation – in this case 0.207. The term immediately below this, is the regression co-efficient for the predictor variables faculty, advisory staff, and classes and shows 0.362, 0.037 and 0.554 respectively and are statistically significant. The coefficient values show the change experience, given a change in one unit in variable value when all other variables are held constant. When we analyze coefficient value for the variable classes we can say that an increase of 0.554 in the experience of student for every unit increase (betterment) in classes of the institute, keeping all the other variables constant.

Standardized coefficients are used to compare the relative strength of the various predictors in the model. The beta coefficients are all measured in standard deviations, and can be compared to one another. In the output table classes has the largest beta coefficient i.e. 0.472 and the smallest beta coefficient is faculty i.e. 0.301 keeping all the other variables constant. This means that one standard deviation increase in quality of classes will bring an increase of 0.472 in the standard deviation of college experience. In the same way one standard deviation increase in advisory staff efficiency will bring an increase of 0.043 in standard deviation of student experience.

Table 6: Regression coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.207	0.267		0.773	0.441
1 Faculty	0.362	0.085	0.301	4.243	0.000
Advisory	0.037	0.057	0.043	0.655	0.513
Classes	0.554	0.086	0.472	6.437	0.000

a. Dependent Variable: Student's College Experience

Relationship between Student's College Experience and Satisfaction

In the second part of the model independent variable is student's college experience and dependent variable is student satisfaction. The correlation coefficient is $R = 0.708$ and the coefficient of determination is $R^2 = 0.501$. On converting the R^2 value to percentage it is approximately 50 Percent. From this, it is concluded that 50 percent of the variability of satisfaction is accounted for the variables in this model (Table 7).

The ANOVA table 8 gives a test of the overall significance of the relationship. To interpret the table we refer to the F statistic that is 155.9 and its associated significance probability – sig = 0.000.

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.708 ^a	0.501	0.498	0.46097

a. Predictors: (Constant), Student's College Experience

Table 8: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	33.132	1	33.132	155.921	0.000 ^a
	Residual	32.936	155	0.212		
	Total	66.069	156			

a. Predictors: (Constant), Student's College Experience

b. Dependent Variable: Satisfaction

Table 9: Regression coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	1.354	0.179		7.552	0.000
	Student's College Experience	0.627	0.050	0.708	12.487	0.000

a. Dependent Variable: Satisfaction

The final part of the Regression Output gives the Regression Coefficients (table 9) the first row under the column headed Unstandardized Coefficients B gives the Y-intercept or Constant term in the regression equation – in this case 1.354. The term immediately below this, is the regression co-efficient for the predictor variables student's college experience and shows as 0.627.

The coefficient values show the change in satisfaction given a change in one unit in variable. When we analyze coefficient value for the variable Student's college experience we can say that an increase of 0.627 in the satisfaction for every unit increase in experience of student of the institute, keeping all the other variables constant.

Conclusion

In the study it was hypothesized that faculty performance, advising staff performance, and classes would influence students' college experience and which in turn would influence their satisfaction from the higher education institution.

The results of the study supports the hypotheses predicted and indicate that there is a positive relationship of faculty, advisory staff and the classes with the student's college experience. Students with positive college experience show satisfaction with the quality of education in the institution. This is also proved to be significant from the correlation results of student experience and satisfaction.

The regression analysis revealed that 51 percent of the variability of student's college experience is accounted for the variables (faculty, advisory staff and classes) in this model. The regression results of the second relationship in the model that is positive student's college experience results in student's satisfaction is also depicted that 50 percent of the variability of student satisfaction is accounted for the variable (student's college experience).

The results indicate that students' partial college experience are consistent with the assumption supposing classes, faculty and advisory staff are key factors that influence student partial college experience. Furthermore, results indicate that the factor which affects the student's college experience the most is classes. If the environment of the classes is arranged in such a way where more real world examples are used, the course is properly scheduled and the students are provided with cases/projects related to their course, students will show interest and their satisfaction will be higher. The faculty performance comes second in increasing the student's college experience and then comes advisory staff.

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