

Design and Measurement of Student Satisfaction Based On FIU Model in Higher Education

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This study aimed to measure and analyze the level of student satisfaction, and to know what aspects gives satisfaction and what aspects are not giving satisfaction to students. The type of research according to its approach should be (ex post) factor research. This research was conducted on registered and active students in 2016, with the number of respondents as many as 640 students with proportionally random composition based on the Faculty. The level of student satisfaction is measured by the FIU Model. The data collection technique used is a questionnaire, while the technique of data analysis is descriptive analysis. The results showed that the overall index is 61.14 which mean that the level of student satisfaction is moderate or quite satisfied. While, based on the macro index, it is known that Services is equal to 48.23, Communication is equal to 59.79, Safety 61,85, Campus Life 63.52, Academic Issues are equal to 63.91 and Campus Environment is 74.77. The research conducted is limited to descriptive analysis. Subsequent research is the development of constructs to reveal the level of student satisfaction, and analysis of gaps between expectations and student satisfaction.

Key words: *Students Satisfaction, Academic and Non Academic Services.*



Introduction

University of Sumatera Utara (USU) is one of the state universities, that in recent years has made various efforts to improve the quality of education, by among others: improving the quality of lecture space, sending several lecturers to conduct further studies S3, curriculum changes, etc. So far, USU has made various efforts to improve the quality of education services. However, until now, the reality is that it is not known whether the data has given satisfaction to students or not. Management of education is not just social management, but it produces satisfied customers (students and parents of students and other stakeholders) who faithfully continue to use education services. Therefore, providing high quality academic services and excellent non-academic services is a must for success as an educational institution.

In accordance with the new paradigm of college management as a service industry, it is necessary to improve the service quality. This is consisting of curricular services, research services, community service, administration and extra-curricular services. One form of curricular services is the implementation of lectures, among others: curriculum, lecture design, syllabus, lecture's material, lecturers and evaluation process. The curriculum services will be qualified if supported by adequate facilities and lecture infrastructure. As a service industry, customer satisfaction is an indicator of the success of educational institutions in carrying out its functions. In addition, customer satisfaction is an essential factor in the application of total quality management (TQM), so colleges must identify their customers and needs carefully and try to satisfy them (Ahmed, Zin & Majid, 2016; Ali & Haseeb, 2019; Haseeb, Abidin, Hye, & Hartani, 2018; Haseeb., 2019; Suryanto, Haseeb, & Hartani, 2018).

According to Ivancevich (2014), the first step in applying TQM is looking at the students as the main customers to be served. Through continuous service development programs, there will be educational services provided in accordance with customer needs that will create customer satisfaction. USU, as part of the system of higher education, is faced with various challenges, both the development of science and technology, globalization and competition with other educational institutions. Therefore, improvement of management, customer orientation, and implementation of quality management such as quality assurance, total quality management is very necessary. All of that is needed to be able to survive and be able to compete in the future. One of the important steps that must be done to start the change is to know how satisfied student are with academic and non academic services so far. Without this initial step, it is difficult to make further improvements. Therefore, the researcher wants to know about the satisfaction of students whose problems are formulated as follows: how the

level of student satisfaction is impacted; what aspects give satisfaction to students and what aspects do not give satisfaction to students?

Methodology

Type of Research, Location, Research Sample and Data Collection Technique

This type of research according to its approach is (ex post) factor research. (Ex post) factor research is a study conducted to examine the events that have occurred and then trace back to know the factors that can cause the incident. The study was conducted at USU, with a population of all USU students enrolled in 2016 and a sample of 640 students with a proportionally random composition obtained by the Faculty. Data collection techniques in this study are questionnaires.

Measurement of Student Satisfaction Level and Data Analysis Technique

Measurement of student satisfaction is done by using Team Student Satisfaction Florida International University 2002 Model (FIU Model). The FIU Model is the result of a Florida International University team that is oriented to continually improve the quality of the results with feedback from students exploring the survey. Student satisfaction measurement models basically have the same criteria. This model is chosen and used because it is more complex and detailed, when compared to other models. However, this model is not used in its entirety because it is tailored to the policy at USU. This model states that student satisfaction dimension consists of seven factors:

Table 1: Dimension /Criteria of Student Satisfaction

AI	ACADEMIC ISSUES	CL. 5	There is a diversity of activities and organization units
AI. 1	Lecturers' insights and skills	CL. 6	Opportunities for active participation in campus organization
AI. 2	Lecturer policy	CL. 7	Selection of cultural activities on campus
AI. 3	Presentation opportunities	CO	COMMUNICATION
AI. 4	Lecturers' interest in the course	CO. 1	The faculty constantly informs the student policy changes
AI. 5	Lecturer knowledge	CO. 2	Presence of publication rules for campus events



AI. 6	Lecturer experience background	CO. 3	There is a time limit on installation of publication on campus
AI. 7	Attendance rules	CO. 4	Job vacancies information
AI. 8	Opportunity to express opinions in class	CO. 5	Announcement of up-to-date academic information
AI. 9	Free from disturbing students		
AI. 10	Group assignment and availability of practice for team work capability	SE	SERVICES
AI. 11	Benefits of lecture materials	SE. 1	Bureaucracy and services located at the center
AI. 12	Diversity and distribution of subjects offered	SE. 1	Bureaucracy and services located at the center
AI. 13	The suitability of selected course offered with students interest	SE. 2	Bureaucratic and service students residing in the faculty
AI. 14	Opportunities to participate in the research	SE. 3	Bureaucracy and services in the department
AI. 15	Number of students per class	SE. 4	Correct information from central employee
AI. 16	Seating availability in class	SE. 5	Correct information from faculty staff
AI. 17	Opportunities to participate in field experience	SE. 6	Correct information from department employee
CE	CAMPUS ENVIRONMENT	SE. 7	Friendliness from central administration staff
CE 1	Availability of space for students to relax	SE. 8	Friendliness from central administration staff in the faculty
CE 2	Availability of quiet study area	SE. 9	Friendliness from central administration staff in the department
CE 3	Affordable meal prices in canteen	SA	SAFETY
CE 4	Availability of diverse food	SA. 1	Security level on campus at night
CL	CAMPUS LIFE	SA. 2	Campus lighting at night
CL.	Availability of adequate leisure	SA.	Campus response in an emergency

1	facilities	3	
CL. 2	Support for events both inside and outside USU	SA. 4	Parking lot security
CL. 3	Self-explanatory information about outstanding students	SA. 5	The existence of security units
CL. 4	The students gives a change in the life of the campus	SA. 6	Emergency procedure

The type of scale used in the questionnaire is the Likert Scale based on the instructions of Riduwan and Sunarto, (2013).

Scale 1, Respondents argue that the factor being questioned is very bad for satisfaction of the students, scale two (2) is bad, scale three (3) is declared normal, scale four (4) is satisfied, and scale five (5) shows that students are very satisfied with the services provided by the institution.

- Percentage of the most expected number of scores (highest score) ;

$$ST = \frac{\text{expected number of scores}}{\text{highest score} \times \text{Number of Respondents} \times \text{Number of Questioner}} \times 100\%$$

$$T = \frac{5 \times 640 \times 54}{5 \times 640 \times 54} \times 100\% = 100\%$$

- Percentage of total unexpected score (lowest score)

$$SR = \frac{\text{total unexpected score}}{\text{highest score} \times \text{Number of Respondents} \times \text{Number of Questioner}} \times 100\%$$

$$SR = \frac{1 \times 640 \times 54}{5 \times 640 \times 54} \times 100\% = 20\%$$

- The class width / interval in question is as follows :

$$I = \frac{\text{Class Range}}{\text{Number of Class}} = \frac{T - R}{5} = \frac{100\% - 20\%}{5} = 16\%$$

Where:

ST = highest scale : SR = lowest scale and I = scale interval

Based on the results obtained from the formula above made the category of interval score student satisfaction level (Satisfaction Index) as follows:

1. $84 \leq x \leq 100$: very satisfied
2. $68 \leq x < 84$: satisfied
3. $52 \leq x < 68$: quite satisfied
4. $36 \leq x < 52$: not satisfied
5. $20 \leq x < 36$: very dissatisfied

Further, the data that has been collected is processed by descriptive analysis technique.

Result and Discussion

Result

The result of student satisfaction calculation in this research is based on the whole criteria used, which is called as overall index and macro index (criteria).

Result of Students Satisfaction Calculation Overall

Table 2: Description of Student Satisfaction Data

No.	Item Description	Statement		
1	Number of respondents	640		
2	Number of item of statement	49		
3	Maximum score	245	5	156800
4	Minimum score	49	1	31360
5	Average	147	3	94080
6	Categories of satisfaction level			
	- Very satisfied (%)	$84 \leq x \leq 100$		
	- Satisfied (%)	$68 \leq x < 84$		
	- Quite satisfied (%)	$52 \leq x < 68$		
	- Not satisfied (%)	$36 \leq x < 52$		
	- Very dissatisfied (%)	$20 \leq x < 36$		
Data Results				
1	Maximum score of results	199	4.06	95874
2	Minimum score of results	58	1.18	9571
3	Total score of results	1775,4		95874
4	Average	149,80	2,77	21944
5	Overall index	61,14		
Conclusion of overall satisfaction level		Quite satisfied		

of student	
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Source: primary data 2018 (processed)

Table 2 (two) shows that overall student satisfaction level is quite satisfied. This is indicated by the overall index of 61.14

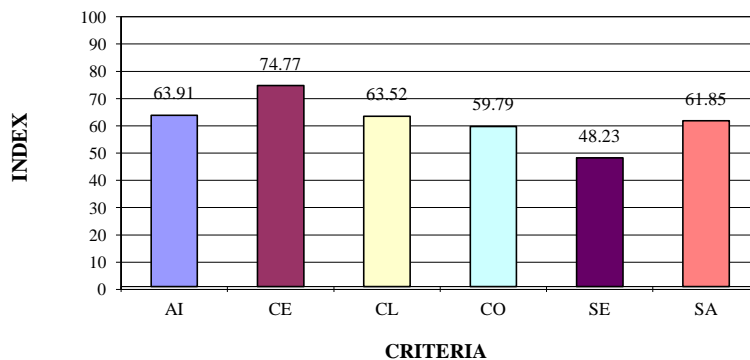
Result of Student Satisfaction Calculation based on Criteria

Table 3: Description of Student Satisfaction Data Based on Criteria

Criteria	Description	Maximu Score	Total Score	Macro/Crite ri a Index	Conclusion
AI	Academic Issues	54400	34765	63.91	Quite satisfied
CE	Campus Environment	12800	9571	74.77	Satisfied
CL	Campus Life	22400	14228	63.52	Quite satisfied
CO	Communicatio n	16000	9566	59.79	Quite satisfied
SE	Services	28800	13890	48.23	Not satisfied
SA	Safety	22400	13854	61.85	Quite satisfied

Source: Primary data 2018 (processed)

Figure 2. Student Satisfaction Data Based on Criteria



Discussion

The design of student satisfaction refers to the process factors that affect student satisfaction on the frame work of college student satisfaction and some of the existing literature study results (Jabarullah and Hussain, 2019). This study uses six criteria, which are Academic Issues, Campus Environment, Campus Life, Communication and Services Safety. The criteria and the basic format of the compilation of this questionnaire refers to the factors of student satisfaction and research results from Florida International University (FIU) in 2002 and Tatiana and Soetjipto (2005). The type of scale used in this research is Likert Scale (scale 1-5). The result of index shows that over all student satisfaction at USU is equal to 61.14; medium categorization (quite satisfied).

Based on the index the criteria shows that the satisfaction index value from the smallest to the largest is the SE (Services Safety) criteria with as index of 48.23, CO (Communication) with an index of 59.79, SA (Safety) with an index of 61.85, CL (Campus Life) with an index of 63,52, AI (Academic Issues) with an index equal to 63.91 and CE (Campus Environment) equal to 74.77. So the first three small indexes are SE, CO and SA. This is valuable information for universities, faculty and departments in improving the performance of the institution; one of which is shown by student satisfaction. The low satisfaction of the students should be followed up immediately with improvements in the sectors that provide low satisfaction. Furthermore, CO (Communication) also seems to need attention to be improved.

Given the importance of increasing student satisfaction along with an education paradigm where service and education management focuses on customer service. Therefore, improvement of performance in academic aspects such as learning, curriculum, facility, service, academic climate and non academic aspect like guidance and counseling service need to get attention. What needs to be done is to determine the priority scale for the



improvement of faculty and department performance. Judging from the result of measurement of student satisfaction shown by the macro index, it can be seen that Campus Environment criterion is the aspect giving the most satisfaction, followed by Academic Issues aspects and Campus Life.

Conclusions and Recommendations

The results of research on student satisfaction will be very helpful in designing the measurement of student satisfaction based on the frame work. The frame works was developed based on the objective condition of the existing institutions, so the criteria can be more detailed. When viewed from the input relationships, processes and outputs show that the Academic Issues (learning process) is a major sub-system and an important criterion in the measurement of student satisfaction, so there needs to be further research into facilities that support the life and campus environment. Facilities owned by universities are relatively diverse so the research needs to be more detail. Communication is also a criterion that is considered necessary in an effort to give satisfaction to students. Effective communication in the form of clarity of policy to students, good publication of events, important campus events and campus efforts to provide information in various aspects, is important. All of this is something that students covet. Given the low-level of student satisfaction with regards to SA (Services), serious efforts should be made to correct it.



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