Satisfaction Level Analysis of the Library Visitor in Faculty of Science and Technology UIN Sunan Kalijaga

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Abstract

This study aims to analyze the visitor satisfaction of the Faculty of Science and Technology Library by knowing whether there is a gap between the expectations and perceptions of visitors, measuring the level of service quality, and identifying things that need to be considered to improve service quality. The data was collected in November - December 2016 with systematic random sampling techniques obtained samples of 141 students respondents. The analysis tools used are gap analysis, paired data testing, and service quality formula. The results obtained there are gaps between expectations and perceptions of visitors in 5 (five) service dimensions which include: reliability, responsiveness, empathy, assurance, and tangibles, service quality levels is 80% with good category, and some things that need to be improved are availability of supporting facilities, room comfort, availability of catalogs, availability of signs in the library, and availability of collections.

Keywords: Gap Analysis, Customer Satisfaction, Service Quality, Library.

INTRODUCTION

Transformation of the State Islamic Institute (IAIN) into the State Islamic University (UIN) Sunan Kalijaga was declared on October 14, 2008 by the Coordinating Minister for People's Welfare Prof. HA Malik Fadjar, as a follow up to the Decree of the President of the Republic of Indonesia Megawati Sukarnoputri No. 50 of 2004 dated June 21, 2004. The implication is that there have been changes in both academic and institutional aspects marked by the establishment of 2 (two) new Faculties, namely the Faculty of Science and Technology and the Faculty of Social Sciences and Humanities.

in the past, at the time of the IAIN, scientific development was still more focused on the study of Islamic sciences with an approach that tended to be exclusive without opening up to other scientific developments. Although in fact, so far the IAIN has directly and indirectly used the social sciences and humanities in their religious studies, but studies on science and technology have not been carried out. Along with the presence of the Faculty of Science and Technology at State Islamic University Sunan Kalijaga, to support the activities and scientific development of science and technology, the Integrated Science and Technology Laboratory and the completion of a book on science and technology at the Sunan Kalijaga Islamic State Library. However, with a collection of 150,000 copies consisting of more than 55,000 book titles, the collection of books on science and technology is still very limited.

For this reason, the Faculty of Science and Technology took the initiative to establish a circulation of science and technology in 2010 by relying on donations from alumni and lecturers of the Faculty of Science and Technology. Furthermore, this circulation space is called the Science and Technology Faculty Library which is located on the 3rd floor of the Science and Technology Faculty building with members covering the entire academic community of the Faculty of Science and Technology. Until 2016, the number of book collections at the Library of the Faculty of Science and Technology reached 2528 books and 3966 copies. During 2016 the average number of Science and Technology Faculty library visitors was 300 people / month or around 15 people / day with an average of 198 books / month or about 10 books / day.

The average number of visitors and book borrowed relatively small and very necessary to be improved. Therefore, in order to improve the quality of services and to create a conducive academic atmosphere at the Faculty of Science and Technology Sunan Kalijaga State Islamic University, then the analysis of the level of satisfaction of visitors to the library is carried out.

THEORITICAL BACKGROUND

Library and User Satisfaction

The library is the heart of higher education. Many education experts say that the quality of a college institution depends on its library. A college is said to be good if the library have a good quality. Libraries are said to be good if they meet several criteria, as follows: (1) qualified and professional human resources, (2) relevant and actual collections, (3) good service systems quality, and (4) adequate facilities and infrastructure.

In addition, user satisfaction is a barometer of the success of a library. Based on ISO 11620-1998, user satisfaction ranks 1 of 29 indicators to measure library performance. Satisfaction can be interpreted as a condition in a person or group of people who have managed to get what is needed and desired. Information user satisfaction (library) is the level of equivalence between the desired needs to be fulfilled with the reality received. One way to measure the level of agreement is to use *Gap Analysis*.

Related to customer satisfaction value as a quality control effort, there are 5 (five) quality dimensions that focus on the quality of service, namely: Tangible (Physical Evidence), namely things that are physically seen or felt by customers. Reliability, namely the ability to perform services as promised, immediate, accurate, and satisfying to customers. Responsiveness, namely the ability to help customers and availability to serve customers as well as possible. Assurance, which is a trustworthy characteristic so that customers feel safe and free from risk. And emphaty, which is a sense of caring to give individual attention to customers, as well as convenience to be contacted.

Gap Analysis

Gap Analysis is one of the important steps in the planning and evaluation. This method is one of the common methods used in managing internal management of an institution. Literally the word 'gap' indicates a difference between one thing and another.

The following are some mathematical formulas used in the gap analysis process:

1. Mean
$$\bar{X} = \frac{X_1 + X_2 + X_3 + \cdots + X_n}{n} = \frac{\sum_{i=1}^{n} X_i}{n}$$

2. Gap Calculation
$$Gap_i = G_i = Expected\ service\ average_i$$
$$- Perceived\ service\ average_i$$

3. Calculation of gap average
To find out the service gap in general, the calculation of the average gap ($\bar{G}$) is used

4. Gap analysis
If $\bar{G} > 0$, the expected quality is higher than the quality of service, so that the performance and quality of services need to be improved

If $\bar{G} < 0$, the expected quality is lower than the quality of service, meaning that the performance and quality of service have been implemented properly so that it needs to be maintained

If $\bar{G} = 0$, the expected quality is the same as the quality of service, meaning that the performance and quality of service have been carried out well but continue to be improved.

5. Quality of Service
$$Quality\ of\ Service = \frac{Perception}{Expectance} x 100\%$$

These results can be interpreted in categories:

Table 1. Interpretation of Service Satisfaction.

Value of service quality (%)	Interpretation
81 - 100	excellent
61 - 80	Good
41 - 60	Average
21 - 40	Less
00 - 20	Very Less

Paired Data Test

Suppose there are 2 (two) dependent samples measuring n, namely: $\{X_1, X_2, X_3, \ldots, X_n\}$ and $\{Y_1, Y_2, Y_3, \ldots, Y_n\}$. Suppose $D_i = Y_i - X_i$, the following is presented 5 (five) steps to test the Wicoxon marked rank for interrelated data:

1. Formulating Hypotheses
H$_0$: $\mu_x = \mu_y$ atau $\mu_d = 0$ {the median of both samples is the same}
H$_1$: $\mu_x \neq \mu_y$ atau $\mu_d \neq 0$ {the median of the two samples is different}

2. Determine the Significant Level
The usual level of significance is denoted by α, usually 5% or 1%. Significant level is closely related to the level of confidence of a study, namely (1-α) * 100%.

3. Determine Critical Values
Critical values are used as guidelines for accepting or rejecting H0. The way is to compare the values from the rank test table marked Wilcoxon with the test statistic value T ^ +, ie the number of ranks marked positive (+). The critical value of a hypothesis test is in accordance with the formulation of the hypothesis, namely H0 is rejected if: $T^+ \leq C_1$ or $T^+ \geq C_2$

Suppose T^- is the number of ranks with a negative sign (-), it will apply: $T^+ + T^- = \frac{n(n+1)}{2}$. So, because under the equal distribution, it will apply:

$$P(T^+ \leq C_1) = P\left(\frac{n(n+1)}{2} - T^- \leq C_1\right)$$
$$= P\left(T^- \leq \frac{n(n+1)}{2} - C_1\right)$$
$$= P\left(T^+ \leq \frac{n(n+1)}{2} - C_1\right)$$

By changing the C_1 notation with C. Therefore the critical rejection value Ho above can be written: $T^+ \leq C$ atau $T^+ \geq \frac{n(n+1)}{2} - C$, where: C is obtained from the Wilcoxon marked rank test table

4. Calculating Test Statistics

    The test statistic used is T^+, which is the number of ranks that are positive (+). If there is the same data pair or $d_i = Y_i - X_i = 0$, then the data pair is removed from the analysis.

5. Deciding conclusions

    The decision to reject or accept H0 is done after comparing the results of the calculation of the test statistics with a critical value. If the test statistic value T^+ is in the rejection region then H0 is rejected.

METHOD

Type of Research

This type of research is descriptive research, which is to solve the problem that is investigated by describing the state of the object of research at the present time based on the facts that appear or as it is.

Data Sources and Sampling Methods

Data sources used in this study are primary data obtained through surveys with direct distribution to visitors of the Faculty of Science and Technology library in the period of November 2016 - December 2016. The sampling method used in this study is systematic random sampling by determining *k* with 5 minute time limit for visitor arrivals to the entrance. The minimum number of samples obtained is 141.

Instruments and Research Variables

The instrument used in this study is questionnaire with the variables used are demographic variables (name, gender, semester, and department) and service dimension variables which include Reliability, Responsiveness, Assurance, Empathy, and Tangibles. Here are the details of each dimension:

Table 2. Questions Item in 5 (five) Dimensions of Library Service Satisfaction.

Dimension	Question Item
Reliability	a1. Service Provision a2. Service accuracy a3. Officer skill a4. Transaction recording a5. Problem solving
Responsiveness	b1. Card making speed b2. Transaction Speed b3. Time certainty b4. Officer Readiness b5. Officer Alertness b6. Ease of Information
Assurance	c1. Officer Knowledge c2. Officer Hospitality c3. Officer Courtesy c4. Procedure c5. Collections availability
Empathy	d1 Understanding of Reader Needs d2. Similarity of Attention d3. Special Attention d4. Careness d5. Good communication
Tangibles	e1. Room Comfort e2. Catalogue e3. Supporting facilities e4. Signs e5. Officer appearance

RESULTS AND DISCUSSION

Data Analysis Results

1. Validity and Reliability Test

Validity and reliability tests were conducted to measure the reliability and accuracy of the questionnaires that had been prepared by involving only 30 respondents. It was found that each question for the five dimensions was valid for both the expectation item and the perception item. The following are the results of validity tests for dimensions of both expectations and perceptions, as well as reliability testing:

Table 3. Test Results for Validity of Hope for Dimensional Dimensions.

Dimension	Value r_s	Interpretation
Reliability	0.821	Very High
Responsiveness	0.771	High
Jaminan/ *Assurance*	0.810	Very High
Empathy	0.739	High
Tangibles	0.746	High

Table 4. Perception Validity Test Results for Dimensions.

Dimension	Value r_s	Interpretation
Reliability	0.863	Very High
Responsiveness	0.778	High
Assurance	0.852	Very High
Empathy	0.762	High
Tangibles	0.692	Very High

Table 5. Reliability Test Results.

Legend	α-Cronbach Value	Interpretation
Expectation	0.834	Very High
Perception	0.840	Very High

It appears that, dimension validity test categorized in high and very high category. So it can be concluded that the contents of the questionnaire are valid both for the expectations and perceptions of visitors. Likewise, for reliability testing, it appears that the *alpha-cronbach* value for expectations and perceptions is in the very high category, so it can be concluded that the content of the questionnaire is reliable.

2. Validity and Reliability Test

Based on table 6, the overall gap between expectations and perceptions of visitors to the Faculty of Science and Technology library is 0.87 with service satisfaction reaching 80% or good category.

Table 6. Gap Analysis Result.

Item/ Dimension	Perception	Expectation	GAP	SS (%)
a1. Service Provision	3,73	4,43	0,70	84
a2. Service accuracy	3,66	4,43	0,77	83
a3. Officer skill	3,87	4,44	0,57	87
a4. Transaction recording	3,96	4,45	0,49	89
a5. Problem solving	3,69	4,45	0,77	83
Reliability	**3,78**	**4,44**	**0,66**	**85**
b1. Card making speed	3,42	4,34	0,92	79
b2. Transaction Speed	3,92	4,46	0,54	88
b3. Time certainty	3,79	4,40	0,61	86
b4. Officer Readiness	3,85	4,44	0,59	87
b5. Officer Alertness	3,83	4,39	0,56	87
b6. Ease of Information	3,59	4,50	0,91	80
Responsiveness	**3,73**	**4,42**	**0,69**	**84**
c1. Officer Knowledge	3,60	4,38	0,79	82
c2. Officer Hospitality	3,65	4,48	0,84	81
c3. Officer Courtesy	3,86	4,55	0,69	85
c4. Procedure	3,79	4,52	0,74	84
c5. Collections availability	3,22	4,64	1,42	69
Assurance	**3,62**	**4,51**	**0,89**	**80**
d1. Understanding of Reader Needs	3,35	4,34	0,99	77
d2. Similarity of Attention	3,51	4,30	0,79	82
d3. Special Attention	3,26	3,91	0,65	83
d4. Careness	3,50	4,32	0,82	81
d5. Good communication	3,64	4,33	0,70	84
Empathy	**3,45**	**4,24**	**0,79**	**81**
e1. Room Comfort	2,91	4,51	1,60	65
e2. Catalogue	2,97	4,48	1,50	66
e3. Supporting facilities	2,79	4,52	1,73	62
e4. Signs	3,04	4,47	1,43	68
e5. Officer appearance	3,80	4,36	0,56	87
Tangibles	**3,10**	**4,47**	**1,36**	**69**
Total	**3,54**	**4,42**	**0,87**	**80**

The dimensions that have the smallest gap or the best quality of service are the dimensions of reliability with a gap value of 0.66 and service quality of 85% (excellent) and dimensions that have the highest gap or the least good quality of service are tangibles with values 1.36 gap and 69% service quality (good). Here are the details:

Table 7. Gap and Service Quality for each Dimension.

Dimension	GAP	Service Quality	
		Value	Category
Reliability	0,66	85	excellent
Responsiveness	0,69	84	excellent
Assurance	0,89	80	Good
Empathy	0,79	81	excellent
Tangibles	1,36	69	Good

3. Paired Data Test

Based on the results of Wilcoxon pair rank test, it appears that there are significant differences (95%) in confidence level between the expectations and perceptions of visitors of the Faculty of Science and Technology library. In other words, there are gaps between expectations and perceptions perceived by library visitors about services in the Faculty of Science and Technology library.

Table 8. the results of Wilcoxon pair rank test.

Dimension	*Wilcoxon Test*		Conclusion
	Z^b	Sig.	
Reliability	-8.871	0.000	Different
Responsiveness	-9.265	0.000	Different
Assurance	-9.616	0.000	Different
Empathy	-8.965	0.000	Different
Tangibles	-9.799	0.000	Different

b. *Based on negative ranks.*

Discussion

Service satisfaction in the Faculty of Science and Technology Library is in a good category with 3 (three) dimensions with excellent categories that is Reliability, Responsiveness, and Empathy. As well as 2 (two) dimensions of service quality with good categories in a row are Assurance, and Tangibles.

Gap analysis using the Wilcoxon Pair Rank test found that there were differences between the expectations and perceptions of visitors of the Faculty of Science and Technology library on the 5 (five) dimensions of service quality.

5 (five) things that have the smallest gap and highest service quality, all of which fall into excellent category are recording loan/book return transactions without errors, fast loan/book return services, neat and attractive appearance of officers, alertness or the willingness of officers to assist the visitors, and the skills of the officers at work.

While 5 (five) things that have the biggest gap and the lowest service quality and are still included in the good category are the availability of supporting facilities (bag locker/hotspot, etc.), room comfort (AC/lighting), availability of information retrieval facilities (catalogue), availability of signs in the library, and availability of relevant and adequate collections.

CONCLUSIONS AND SUGGESTION

Conclusion

1. There is gap between received service and expected service in Faculty of Science and Technology library for 5 dimension of service quality, that is: *Reliability*, *Responsiveness*, *Empathy*, *Assurance*, and *Tangibles*.
2. Overall, service quality in Faculty of Science and Technology library is good, that is: *Reliability*, *Responsiveness*, and *Empathy*, and two service quality dimension that categorized good, that is: *Assurance* and *Tangibles*
3. Five things that have the biggest gap and lowest service quality are categorized good, that is facilities availability (bag locker/ hotspot, etc), room comfort (AC/ lighting), availability of information retrieval facilities (catalogue), availability of signs in the library, and availability of relevant and adequate collections.

Suggestions

Regarding the completion of this study, the following suggestions and recommendations for the development of the Faculty of Science and technology library, namely: need to evaluate and procure supporting facilities in the form of bag locker or other, need evaluation and improvement in order to improve visitors' convenience, need to provide catalogs, evaluation and procurement signs in the library, and the need for additional collections of relevant and adequate books and journals.

ACKNOWLEGEMENT

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