



# Student Satisfaction Analysis of Academic Service Quality at STMIK Rosma Using Service Quality Framework

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**Abstract.** STMIK Rosma must continually improve the quality of the best service so that students who are academic community members are not disappointed with the existing services, especially in the academic field. This study aims to measure student satisfaction and improve service if the service provided is not good, and further improve service if Satisfaction is good. This study measures student satisfaction with the existing academic services at STMIK Rosma. This study uses the method of service quality (tangible, empathy, reliability responsiveness, and assurance) that affect the dependent variable, namely student satisfaction. The population in this study were students from all study programs at STMIK Rosma. The sampling technique used in this study was a purposive sampling approach. The students were STMIK Rosma. This study indicates that the second hypothesis, namely Empathy (EP), positively affects Student Satisfaction. The 5th hypothesis, namely Assurance (AS), positively affects Student Satisfaction in the academic section of STMIK Rosma. It is declared significant because it has an at-statistic value  $> 1.96$  with a p-value  $< 0.05$ .

**Keywords:** Academic · Student Satisfaction · Service Quality · SmartPLS 3

## 1 Introduction

Higher Education is an educational institution that is required to provide the best service according to the needs and desires of students [1, 2]. One the quality of education can be seen in the quality of an institution in providing services, especially in the academic field [2]. With good quality education services, student satisfaction is achieved. Satisfaction is a person's feeling of pleasure or disappointment that arises after comparing the performance (results) of the product thought to the expected performance (or outcome) [3, 4]. Currently, universities in all management activities related to students are required to provide the best service so that student satisfaction is high. Satisfaction is a form of attitude that compares performance expectations with what consumers get from the services provided [5].

STMIK Rosma is one of the private universities (PTS) in Karawang with several students. With many students, STMIK Rosma needs to continue to improve its best services so that students who are members of the academic community are not disappointed with

their academic-related services. In this study, the measurement of student satisfaction with academic services will be carried out.

This study measures student satisfaction with the academic services provided by STMIK Rosma. To measure the quality of service, researchers use Service Quality [6, 7]. There are five main service quality indicators: Tangible, Reliable, Responsiveness, Assurance, and Empathy [8]. The Servqual method is a method used to measure the service quality of the attributes of each dimension so that the gap value will be obtained which is the difference between consumer perceptions of the services that have been received and expectations of those that will be accepted [9]. This method is the most widely used method for service satisfaction. Several previous studies such as that conducted by B. Irawan, who analyzed hospital services based on the service quality (servqual) method [9], A. C. Kusuma and S. Suflani, who analyzed the quality of public services using the servqual method (service quality) (case study in serang city office) [10], R. Rohmantara and J. Rebecca who analyzed the level of student satisfaction with facilities for academic activities using the service quality method at the Indonesian computer university [11], and R. N. Shofa, A. N. Rachman, C. Muhamad, and S. Ramdani. They analyzed the measurement of student satisfaction levels with the means and infrastructure with service quality methods in the informatics laboratory of basic theory and programming of siliwangi university [12].

The measurement of student satisfaction allows students to find out how satisfied they are with the services provided. The results of this study are expected to be a reference for universities in developing service strategies to compete with other universities and a recommendation to improve service performance, especially in the academic field.

## 2 Research Methods

This research uses quantitative methods. Kasiram ([19]:149) says that quantitative research is a process of finding knowledge that uses data in the form of numbers to analyze information about what you want to know [13].

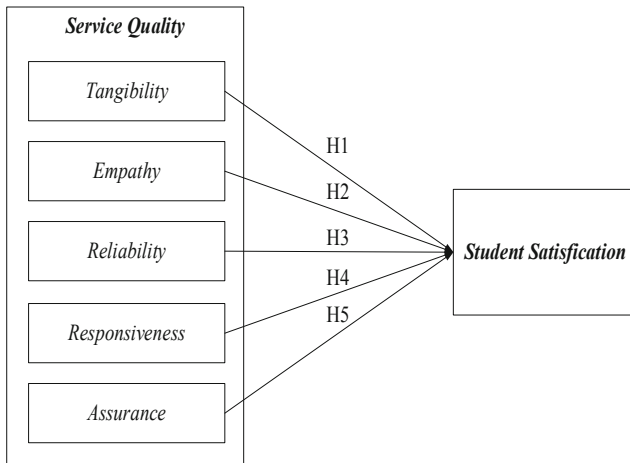
Researchers used the Service Quality Framework approach to measure the quality of STMIK Rosma's academic services. This study aims to determine whether the independent variable, service quality (tangible, empathy, reliability responsiveness, and assurance), affects the dependent variable, namely student satisfaction. The data collection technique used in this study was a questionnaire and a Likert scale technique.

The population in this study were students from all study programs at STMIK Rosma. The sampling technique used in this study is a purposive sampling approach. The students are STMIK Rosma. The number of samples for this study was 100 respondents.

The research model in this study is as follows (Fig. 1).

The research hypothesis is as follows.

- H1: The dimension of Service quality tangibility is suspected of positively affecting student satisfaction in the academic section of STMIK Rosma.
- H2: The dimension of Service quality empathy is suspected of positively affecting student satisfaction in the academic section of STMIK Rosma.
- H3: The service quality reliability dimension is thought to positively affect student satisfaction in the academic section of STMIK Rosma.



**Fig. 1.** Research Model. Source: Data processed, 2022

- H4: The service quality responsiveness dimension is thought to positively affect student satisfaction in the academic section of STMIK Rosma.
- H5: The service quality assurance dimension is thought to positively affect student satisfaction in the academic section of STMIK Rosma.

## 2.1 Maintaining the Integrity of the Specifications

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## 3 Result and Discussion

### 3.1 Characteristics of Respondents

Respondents in this study were students from all study programs at STMIK Rosma. Data collection in this study was using a questionnaire. There were 100 questionnaires distributed in this study (Table 1).

Characteristics of respondents obtained from the personal data contained in the questionnaire include the gender and age of the respondent. An overview of the characteristics of the respondents can be seen in the Tables 2 and Table 3.

**Table 1.** Details of Respondents

Study Program	Number of Respondents	Percentage
Technical Information	42	42%
Information Systems	27	27%
Computerized Accounting	24	24%
Informatics Management	7	7%
Total	100	100%

Source: Data processed, 2022

**Table 2.** Classification of Respondents Based on Gender

Gender	Number of Respondents	Percentage
Man	51	51%
Woman	49	49%
Total	100	100%

Source: Data processed, 2022

**Table 3.** Classification of Respondents Based on Respondent Age

Age	Number of Respondents	Percentage
<20 years	30	30%
20–30 years	63	63%
>30 years	7	7%
Total	100	100%

Source: Data processed, 2022

## 3.2 Evaluation of the Measurement Model (Outer Model)

### 3.2.1 Validity Test

The validity test is used to measure the validity of the questionnaire. The questionnaire is said to be valid if the questionnaire questions can reveal something that will be measured by the questionnaire.

Measurement of discriminant validity using the AVE root or cross-loading. The cross-loading value for each measured variable must be  $>0.7$ . Furthermore, the indicator is said to be valid if the Average Variance Extracted (AVE) of each variable is  $>0.50$  [14].

Based on the data in Table 4, it is known that each research variable has an outer loading of  $>0.70$  and an AVE value of more than 0.5. So that all indicators can be declared feasible or valid for further analysis.

**Table 4.** Outer Loading and AVE

Servqual Dimension	Code	Indicators	Loading	AVE
<i>Tangibility (TB)</i>	TB1	The neat appearance of academic, administrative staff.	0.824	0.722
	TB2	Neat academic room.	0.801	
	TB3	Availability of academic and administrative communication facilities.	0.875	
	TB4	Availability of service flow.	0.895	
<i>Empathy (EP)</i>	EP1	The willingness of academic staff to help with difficulties.	0.914	0.826
	EP2	Academic staff's ability to provide explanations.	0.912	
	EP3	Personal attention from academic staff towards students.	0.901	
	EP4	Ease of communication between academic, administrative staff and students.	0.909	
<i>Reliability (RB)</i>	RB1	Service speed.	0.916	0.764
	RB2	Service justice.	0.889	
	RB3	Ease of service procedures.	0.879	
	RB4	The accuracy of the data or academic information presented.	0.809	
<i>Responsiveness (RS)</i>	RS1	Accuracy of academic and administrative staff in inputting schedules or grades.	0.793	0.655
	RS2	Ability to serve professionally during peak hours.	0.804	
	RS3	Quick in responding to student complaints.	0.861	
	RS4	The readiness of the staff to explain the information.	0.852	
	RS5	Availability of media suggestions and criticism of academic administration services.	0.805	
	RS6	Ease of accessing academic administration services.	0.776	

*(continued)*

**Table 4.** (continued)

Servqual Dimension	Code	Indicators	Loading	AVE
	RS7	Academic and administrative staff provide solutions when errors occur.	0.828	
	RS8	Ease of getting letters that support lecture activities.	0.75	
<i>Assurance (AS)</i>	AS1	Accuracy of academic and administrative staff appointments.	0.898	0.811
	AS2	Every service request is always fulfilled.	0.922	
	AS3	The ability of academic and administrative staff to provide solutions.	0.895	
	AS4	Immediate repair if something goes wrong.	0.935	
	AS5	Information about the exact class schedule.	0.85	
Student Satisfaction (SS)	SS1	I am very satisfied with the service of the academic staff.	0.926	0.818
	SS2	Academic and administrative services have met the needs of students.	0.914	
	SS3	Academic service is fast and uncomplicated.	0.919	
	SS4	The academic administrative staff is always on-site during business hours.	0.858	

Source: Data processed, 2022

Based on Table 5, it can be seen that the AVE root value of each latent variable is higher than the highest correlation value of that variable with other variables, so it can be concluded that the model has a good discriminant validity value.

In addition to comparing the AVE roots with their correlations, discriminant validity can also be tested with cross-loading values. An indicator is declared valid if it has the highest loading factor value to the intended construct compared to the loading factor value of other constructs [15]. The Table 5 shows that the correlation of items has a higher value than the correlation of these items to other items.

**Table 5.** Discriminant Validity

	AS	EP	RB	RS	SS	TB
AS	<b>0.900</b>					
EP	0.870	<b>0.909</b>				
RB	0.874	0.843	<b>0.874</b>			
RS	0.891	0.895	0.901	<b>0.809</b>		
SS	0.885	0.855	0.814	0.854	<b>0.904</b>	
TB	0.778	0.766	0.778	0.861	0.747	<b>0.850</b>

Source: Data processed, 2022

### 3.2.2 Reliability Test

The reliability test measures the stability and consistency of respondents in answering matters relating to question constructs which are the dimensions of a variable and are arranged in a questionnaire form. A reliable instrument is an instrument that will produce the same data when used. The reliability test can be carried out simultaneously on all statement items [16]. Variables can be reliable if the composite reliability of each variable is  $>0.70$  [17]. The following are the results of reliability testing (Table 7).

### 3.3 Evaluation of the Structural Model (Inner Model)

Evaluation of the structural model on SEM with PLS is done by performing the R-squared test ( $R^2$ ) and the significance test by estimating the path coefficient (Table 8).

In Table 6, it can be seen that the Student Satisfaction has an R-square value of 0.817 which means that all indicators in the Service Quality affect the Student Satisfaction variable by 81,7%. Other indicators influence the remaining 18,3%.

### 3.4 Hypothesis Testing

The t-test is a hypothesis testing. The t-table values used in the two-tailed test were 1.65 (significant level 10%), 1.96 (level significance 5%), and 2.58 (level significance 1%) [18]. In this study, the researcher used an alpha level of 5%, so the t table value was 1.96.

Based on Table 9, testing the first hypothesis, the dimension of Service quality tangibility (TB) is suspected of having a positive effect on student satisfaction (SS) in the academic section of STMIK Rosma. The test results were obtained with a t-statistic value of 0.294 and a p-value of 0.769. These results show that the t-statistic value is less than 1.96 and p values  $> 0.05$ , then  $H_1$  is rejected. These results indicate that tangibility does not positively affect student satisfaction.

Testing on the second hypothesis, the dimension of Service quality empathy (EP), is suspected of positively affecting student satisfaction (SS) in the academic section of STMIK Rosma. The test results were obtained with a t-statistic value of 2,449 and a p-value of 0.015. These results show that the t-statistic value is more than 1.96 and the

**Table 6.** Cross Loading

	AS	EP	RB	RS	SS	TB
AS1	<b>0.898</b>	0.779	0.804	0.799	0.771	0.687
AS2	<b>0.922</b>	0.811	0.797	0.807	0.795	0.725
AS3	<b>0.895</b>	0.787	0.771	0.845	0.850	0.770
AS4	<b>0.935</b>	0.851	0.824	0.833	0.838	0.717
AS5	<b>0.850</b>	0.678	0.741	0.721	0.722	0.589
EP1	0.812	<b>0.914</b>	0.773	0.819	0.784	0.683
EP2	0.742	<b>0.912</b>	0.771	0.815	0.739	0.713
EP3	0.781	<b>0.901</b>	0.744	0.809	0.794	0.704
EP4	0.824	<b>0.909</b>	0.776	0.811	0.790	0.688
RB1	0.762	0.743	<b>0.916</b>	0.773	0.752	0.653
RB2	0.781	0.727	<b>0.889</b>	0.787	0.700	0.658
RB3	0.805	0.736	<b>0.879</b>	0.806	0.715	0.688
RB4	0.709	0.742	<b>0.809</b>	0.788	0.676	0.725
RS1	0.718	0.665	0.691	<b>0.793</b>	0.729	0.733
RS2	0.683	0.747	0.676	<b>0.804</b>	0.683	0.696
RS3	0.752	0.803	0.726	<b>0.861</b>	0.703	0.724
RS4	0.748	0.760	0.758	<b>0.852</b>	0.706	0.711
RS5	0.678	0.659	0.680	<b>0.805</b>	0.695	0.718
RS6	0.708	0.703	0.737	<b>0.776</b>	0.661	0.663
RS7	0.789	0.789	0.814	<b>0.828</b>	0.719	0.726
RS8	0.690	0.661	0.753	<b>0.750</b>	0.622	0.588
SS1	0.842	0.841	0.797	0.820	<b>0.926</b>	0.711
SS2	0.804	0.761	0.772	0.792	<b>0.914</b>	0.678
SS3	0.820	0.765	0.768	0.798	<b>0.919</b>	0.686
SS4	0.730	0.722	0.595	0.669	<b>0.858</b>	0.623
TB1	0.637	0.635	0.603	0.649	0.577	<b>0.824</b>
TB2	0.555	0.525	0.626	0.608	0.507	<b>0.801</b>
TB3	0.707	0.715	0.695	0.821	0.657	<b>0.875</b>
TB4	0.721	0.705	0.710	0.812	0.756	<b>0.895</b>

Source: Data processed, 2022

p-value < 0.05, then H2 is accepted. The results show that empathy has a positive effect on student satisfaction.

Testing on the third hypothesis, the dimension of Service quality reliability (RB), is suspected of positively affecting student satisfaction (SS) in the academic section



**Table 7.** Composite Reliability

	Composite Reliability
Assurance (AS)	0.955
Empathy (EP)	0.95
Reliability (RB)	0.928
Responsiveness (RS)	0.938
Student Satisfaction (SS)	0.947
Tangibility (TB)	0.912

Source: Data processed, 2022

**Table 8.** R-Square

	R Square	R Square Adjusted
Student Satisfaction (SS)	0.817	0.808

Source: Data processed, 2022

**Table 9.** T-Statistic

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
AS → SS	0.509	0.490	0.115	<b>4.413</b>	<b>0.000</b>
EP → SS	0.276	0.285	0.113	<b>2.449</b>	<b>0.015</b>
RB → SS	-0.009	-0.008	0.118	0.078	0.938
RS → SS	0.135	0.146	0.169	0.798	0.425
TB → SS	0.030	0.029	0.102	0.294	0.769

Source: Data processed, 2022

of STMIK Rosma. The test results were obtained with a t-statistic value of 0.078 and a p-value of 0.938. These results show that the t-statistic value is less than 1.96 and the p-value > 0.05, then H3 is rejected. These results indicate that reliability does not positively affect student satisfaction.

Testing on the fourth hypothesis, the dimension of Service quality responsiveness (RS), is suspected of positively affecting student satisfaction (SS) in the academic section of STMIK Rosma. The test results were obtained with a t-statistic value of 0.798 and p values of 0.425. These results show that the t-statistic value is less than 1.96 and the p-value > 0.05, then H4 is rejected. These results indicate that responsiveness does not positively affect student satisfaction.

Testing on the fifth hypothesis, the dimension of Service quality assurance (AS), is suspected of positively affecting student satisfaction (SS) in the academic section of STMIK Rosma. The test results were obtained with a t-statistic value of 4.413 and a p-value of 0.000. These results show that the t-statistic value is more than 1.96 and the p-value < 0.05, then H5 is accepted. These results indicate that assurance has a positive effect on student satisfaction.

## 4 Conclusion

This study aims to measure student satisfaction and improve service if the service provided is not good, and further improve service if Satisfaction is good. This study measures student satisfaction with the existing academic services at STMIK Rosma. This study aims to determine whether the independent variable, service quality (tangible, empathy, reliability responsiveness, and assurance), affects the dependent variable, namely student satisfaction. This study shows that hypotheses 2 and 5 of these results are stated t-statistically significant because > 1.96 with a p-value < 0.05, so the hypothesis is accepted. Meanwhile, hypotheses 1, 3, and 4 from these results were declared t-statistics not significant because < 1.96 with a p-value < 0.05, so the hypothesis was rejected.

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## References

1. Marthalina. (2018). Analisis kualitas pelayanan akademik dan kepuasan mahasiswa di IPDN kampus Jakarta. *Jurnal MSDM*, 5(1), 1–18.
2. Endah, R., Patriyani, H., Harnanto, A. M., & Prihantini, E. (2013). Mutu Pelayanan Jasa Pendidikan Berdasarkan Perspektif Mahasiswa. *Jurnal Terpadu Ilmu Kesehatan*, 3, 198–202.
3. Indrata, S. L., Susanti, C. E., & Kristanti, M. M. (2017). Pengaruh Perceived Value Dan E-Service Quality Terhadap Customer Behavioral Intention Melalui Customer Satisfaction Pada Pengguna Gojek Di Surabaya. *Kajian Ilmiah Mahasiswa Manajemen*, 6(2), 131–147.
4. Suriadi, S., Basalamah, S., & Dewi, R. (2019). Pengaruh Kualitas Layanan Terhadap Kepuasan dan Loyalitas Nasabah pada PT. Pegadaian (Persero) Cabang Unit Rappang Kabupaten Sidenreng Rappang. *Center of Economic Students Journal*, 2(2).
5. Andianto, K., & Firdausy, C. M. (2020). Pengaruh Perceived Quality, Perceived Value, Dan Customer Satisfaction Terhadap Customer Loyalty Warunk Upnormal di Jakarta. *Jurnal Manajerial dan Kewirausahaan*, 2(3), 758–764.
6. Parasuraman, A., Berry, L. L., & Zeithaml, V. A. (1991). Perceived service quality as a customer-based performance measure: An empirical examination of organizational barriers using an extended service quality model. *Human Resource Management*, 30(3), 335–364. <https://doi.org/10.1002/hrm.3930300304>
7. Rahmawati, A. Y., & Indriyanti, A. D. (2021). Analisis Sistem Informasi Mengukur Kepuasan Pelanggan pada PT. Taspem KCU Surabaya menggunakan Metode Servqual. *Journal of Emerging Information System and Business Intelligence*, 02(01), 28–31.
8. Alaan, Y. (2016). Pengaruh Service Quality (Tangible, Empathy, Reliability, Responsiveness Dan Assurance) Terhadap Customer Satisfaction: Penelitian Pada Hotel Serela Bandung. *Jurnal Manajemen Maranatha*, 15(2), 255–270.

9. Irawan, B. (2020). Pelayanan Rumah Sakit Berdasarkan Metode Service Quality (Servqual). *J. Keperawatan dan Fisioter*, 3(1).
10. Kusuma, A. C., & Suflani, S. (2019). Analisis Kualitas Pelayanan Publik Dengan Metode Servqual (Service Quality) (Studi Kasus pada Kantor Kelurahan Tembung Kota Serang). *Jurnal Manajemen STIE Muhammadiyah Palopo*, 5(2), 1–8. <https://doi.org/10.35906/jm001.v5i2.359>
11. Rohmantara, R., & Rebecca, J. (2017). Analisis Tingkat Kepuasan Mahasiswa Terhadap Fasilitas Kegiatan Akademik Menggunakan Metode Service Quality Di Universitas Komputer Indonesia. *Inaque*, 6, 39–48.
12. Shofa, R. N., Rachman, A. N., Muhamad, C., & Ramdani, S. (2019). Aplikasi Pengukuran Tingkat Kepuasan Mahasiswa Terhadap Sarana Dan Prasarana Dengan Metode Service Quality Di Laboratorium Informatika Teori Dan Pemrograman Dasar Universitas Siliwangi. *Jurnal Siliwangi Seri Sains dan Teknologi*, 5(1), 1–7.
13. Utami, P., & Mubarak, A. (2018). Parenting model of child related to internet usage in Asia. *Prosiding Nasional Psikologi*, 2, 1–9.
14. Ghozali, I. & Latan, H. (214). *Konsep, Teknik dan Aplikasi Menggunakan Program SmartPLS 3.0*, Edisi II. Semarang: Universitas Diponegoro.
15. Alfa, A. A. G., Rachmatin, D., & Agustina, F. (2017). Analisis Pengaruh Faktor Keputusan Konsumen Dengan Structural Equation Modeling Partial Least Square. *Eureka Matika*, 5(2). <https://doi.org/10.1109/IRMMW-THz.2014.6956015>.
16. Wijaya, G. S., & Firman, A. (2020). Analisis Kualitas Pelayanan Pada Pelanggan Bolu Amor Kota Sukabumi. *Prosiding SEMNASTERA (Seminar Nasional Teknologi dan Riset Terapan)*, 344–359.
17. Bogar, R., Sambul, S. A. P., Rumawas, W., Studi, P., & Bisnis, A. (2021) Pengaruh Beban Kerja dan Komitmen Organisasional terhadap Turnover Intention pada PT. Batavia Prosperindo Finance Tbk-Manado. *Productivity*, 2(4), 2021.
18. Pura, M. P., & Madiawati, P. N. (2021). Pengaruh Promotion Mix Dan Gaya Hidup Terhadap Keputusan Pembelian Di Shopee Dengan Perilaku Konsumen Sebagai Variabel Intervening. *JEMMA (Journal Econ. Manag. Accounting)*, 4(2), 204. <https://doi.org/10.35914/jemma.v4i2.752>.
19. Kasiram, M. (2008). *Metodologi Penelitian*. Malang: UIN-Malang Pers.

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