Journal Of Industrial Engineering And Technology (Jointech) UNIVERSITAS MURIA KUDUS

Journal homepage : http://journal.UMK.ac.id/index.php/jointech

MEASURING THE QUALITY OF HIGHER EDUCATION SERVICES DURING THE COVID-19 PANDEMIC: A CASE STUDY OF UNIVERSITAS MURIA KUDUS

Muhkhammat Sahrul Gunawan¹ *, Dian Erliana Febriyanti², Rangga Primadasa³ ^{1,2,3}Universitas Muria Kudus, Gondangmanis PO BOX 53 Kudus, 59324, Indonesia

Email : :muhsahrulgunawan78@gmail.com¹ dianerlianafebriyanti@gmail.com² rangga.primadasa@umk.ac.id ³

ARTICLE INFO

Article history : Received : Accepted :

Keywords: Covid – 19 Higher Education Servperf Quality of Service

ABSTRACT

The spread of Covid-19 led to changes in Higher Education services at Universitas Muria Kudus, where the learning system was carried out online. Servperf is a method for measuring the performance of performance-based service quality. This method is used in this study, where five dimensions of service quality, namely tangible, reliability, responsiveness, assurance, and empathy are used as the basis. The literature review was conducted to obtain 15 indicators. From the results of distributing questionnaires based on these 15 indicators, 118 respondents were students of Universitas Muria Kudus. From the tangible dimensions, the average score is 3, the average reliability dimension score is 3.358757, the Responsiveness dimension has an average score of 3.180791, The Assurance dimension has an average score of 3.217514, and the Empathy dimension has an average score of 2.988701. Whereas the highest score indicator was obtained namely the lecturer workforce was able to communicate and present the material well in online learning with an average score of 3.51. Meanwhile, the lowest indicators are indicators namely Ease of access and internet connection during online learning and the learning process that is easy to understand by students during online learning with the same average score of 2.67.

INTRODUCTION

Covid-19 has spread throughout the world. Based on data from the World Health Organization (WHO) and the Ministry of Health's Public Health Emergency Operating Center (PHEOC) in Indonesia, as of November 18, there were 478,720 confirmed cases with 60,870 reactive cases, a total recovery of 402,347 and 15,503 deaths.(komite penanganan covid 19, 2020). One of the efforts to prevent the spread of covid-19, all countries around the world are trying to implement social distancing. Given that Covid-19 is very rapidly transmitted between humans, the entire country closes teaching and learning activities at schools and campuses. According to Viner et al.(Irawati and Jonatan, 2020)However, the closure of schools and campuses is based on evidence that reducing physical contact between students will reduce

transmission of the virus between humans and reduce the number of health workers caring for patients.

Since March 2020 nationally, student and student learning activities have been carried out online / online at home. In dealing with these online activities, both students and students must have a home learning strategy which is a step to control every learning process they face. Changes in educational services during Covid-19, which are usually taught 100% face-to-face, now must be taught using an online system or online determined by the government. When you want to consult with guardian lecturers you also have to go online or online, the point is that current education services, if you want what must go online to break the chain of spreading covid-19 The sudden online learning activity made many students and students not learn optimally. This is also felt by the students of the University of Muria Kudus, in the learning system carried out during making a lot of complaints in the education service quality system.

The quality of educational or academic services is the assessment of customers, in this case, students, regarding the academic services they receive (Sufiyyah, 2011)Furthermore, it is stated that the most common understanding of differences in service quality and satisfaction is that service quality is a form of attitude, assessment is carried out over a long period time, while satisfaction is a measure of specific transactions by student assessments, of course, quality and other curriculum-related factors related to University(Harto *et al.*, 2015). so that there is a need for a study on the measurement of service quality, especially the quality of education services that are currently being carried out during the Covid-19 pandemic.

Previous research on the quality of education services tends to measure the quality of higher education services in general no one has specifically discussed the quality of higher education services during the Covid-19 pandemic. For example, research on measuring student satisfaction with the quality of higher education in Cikarang using the Importance Performance Analysis method(Sutariah, 2017). Then the analysis of the quality of academic services using the servperf and IPA methods(Putri and Martha, 2019).

In research aims to measure the quality of educational services at Universitas Muria Kudus during the Covid-19 pandemic using the servperf method. Servperf itself is a method for measuring service quality by measuring service performance. This method does not compare service performance with consumer expectations(Sari, no date). So that this research is expected to be able to improve the quality of the academic service system, especially in the learning system during the pandemic.

LITERATURE REVIEW

Servperf is a performance of the service obtained by the customer and assessing the quality of the service that is truly perceived. According to Cronin and Taylor (Putri and Martha, 2019), the Servperf scale is an appropriate scale for measuring service quality, not only using a comparison of perceptions and expectations to measure service quality, but rather measuring service quality based on performance.

There are five dimensions of service quality: tangible, reliability, responsiveness, assurance, and empathy(Lukita, Pranata, and Agustin, 2019). The five dimensions are a multi-item scale needed to measure the quality of services, the details of which are as follows: (1) Tangible, which includes physical appearance, equipment, personnel, and communication materials, (2) reliability is the ability of agencies to provide accurate services from the first time without making mistakes and deliver their services within the agreed time. (3) Responsiveness, which refers to the willingness and ability of study program staff lecturers to help students and respond to requests from students, as well as informing whenever they will be given and providing services quickly. (4) Assurance, namely the behavior of lecturers and employees who can foster trust in students, namely by making students feel comfortable in the learning process, the knowledge, and skills needed to handle each student's questions and problems. (5) Empathy (empathy), where the campus can understand the problems of each student and act in the interests of students, as well as giving personal attention to students and having comfortable operating hours.

The quality of education services is a process that contains the process of teaching and learning activities, social activities, and developing attitudes and behaviors. Measuring the quality of higher education services in this competitive era is becoming increasingly important, and the main thing to pay attention to in measuring the quality of higher education services, depending on how to first identify what aspects should be present in these services(Lukita, Pranata, and Agustin, 2019). Conducting regular internal assessments of students is the main thing because this periodic assessment can be part of an effort to continuously improve program quality and resources. Meanwhile, the servperf method is a service performance that is received by consumers, which means an assessment of service quality that is felt by consumers. Serveperf provides an overview of which service quality needs improvement(Putri and Martha, 2019).

RESEARCH METHOD

The general stages of this research are as follows: (1) identifying Servperf dimensions and indicators for Higher Education Service Quality during the Covid-19 pandemic through literature studies and direct identification in the field, (2) compiling a questionnaire based on the Servperf indicators obtained, (3) spreading questionnaire to Universitas Muria Kudus students. (4) analyze the results of the Servperf questionnaire obtained.

Identifying Servperf Dimensions and Indicators of Higher Education Service Quality during the Covid-19 Pandemic

At this stage, papers relating to Higher Education Service Quality Servperf were collected and identified dimensions and indicators of Higher Education Service Quality Servperf during the Covid-19 pandemic. In addition, direct identification was also carried out in the field. Dimensions and Servperf Indicators for the Quality of Higher Education Services during the Covid-19 pandemic at Universitas Muria Kudus are obtained as shown in table 1

Dimensions	Indicator	Code	Reference / Description
Tangible	Use of interaction aids during online learning	T1	(Irawati and Jonatan, 2020)
	Ease of access and internet connection during online learning	T2	(Irawati and Jonatan, 2020)
	The selection of online learning platforms is varied	Т3	(Irawati and Jonatan, 2020)
Reliability	Lecturer consistency in delivering courses well	R1	(Studi, Industri and Pgri, 2018)
	lecturers/teaching staff can communicate and present the material well in online learning	R2	(Mariana <i>et al</i> ., no date)
	Lecturers who are reliable in using online learning platforms	R3	(Irawati and Jonatan, 2020)
Responsiveness	Lecturers / Lecturers are easily contacted by students during online learning	RS1	(Irawati and Jonatan, 2020)
	Student administration services that are easy to contact during the Covid-19 pandemic	RS2	(Mariana <i>et al</i> ., no date)
	The availability of good E- Learning	RS3	(Studi, Industri and Pgri, 2018)

Table 1 Servperf Dimension Attributes

Assurance	Lecturers are fair and impartial in providing assessments	A1	(Irawati and Jonatan, 2020)
	Lecturers help students in understanding online learning materials	A2	(Studi, Industri and Pgri, 2018)
	Lecturers give assignments wisely and proportionally to students	A3	(Studi, Industri and Pgri, 2018)
Empathy	Lecturers encourage and motivate students to do the best learning in the online learning process	E1	(Irawati and Jonatan, 2020)
	Lecturers understand students' difficulties in online learning	E2	(Irawati and Jonatan, 2020)
	The learning process is easy for students to understand and understand during online learning	E3	(Studi, Industri and Pgri, 2018)

Compiling a Questionnaire Based on Servperf Indicators

The questionnaire was compiled based on the Servperf indicator of the quality of Higher Education Services at Universitas Muria Kudus during the Covid-19 pandemic which was obtained previously in table 3.1. In the preparation of this questionnaire, the study population was all students of Universitas Muria Kudus, totaling 118 people (respondents) as a sample. In this study, a Likert scale was used with a five-point scale ranging from 5 (very good), 4 (good), 3 (good enough), 2 (not good), and 1 (not good). Subjects were asked to freely checklist from each of the 15 items of expectation questions consisting of 5 Servperf dimensions including Tangible, reliability, responsiveness, assurance, and empathy.

Distributing Questionnaires to Universitas Muria Kudus Students

The distribution of questionnaires to students of Universitas Muria Kudus was carried out indirectly to respondents by using social media by filling in the google form. From Universitas Muria Kudus students, respondents were taken randomly from several faculties at Universitas Muria Kudus.

Analyzing the Results of the Servperf Questionnaire

At this stage in analyzing the results of the Servperf questionnaire, after the data is filled in by the respondent, then the data is tested for validity and reliability to ensure that the data collected is suitable for use. In processing data from validity tests, reliability tests, using the help of SPSS software, and Servperf analysis.

RESULTS AND ANALYSIS

Validity test

Validity testing needs to be done as a tool to test whether the questions in the questionnaire are valid or not. To facilitate testing the validity of this study, researchers can use the SPSS software application. The results of the validation can be seen in Table 2 below:

Table 2 Overall Validity Test Results							
Indicator	Indicator rCalculate rTable						
T1	0.705	0.1509	Valid				

T2	0.552	0.1509	Valid
T3	0.612	0.1509	Valid
R1	0.808	0.1509	Valid
R2	0.796	0.1509	Valid
R3	0.679	0.1509	Valid
RS1	0.669	0.1509	Valid
RS2	0.376	0.1509	Valid
RS3	0.636	0.1509	Valid
A1	0.741	0.1509	Valid
A2	0.775	0.1509	Valid
A3	0.727	0.1509	Valid
E1	0.832	0.1509	Valid
E2	0.769	0.1509	Valid
E3	0.685	0.1509	Valid

Based on table 2, the results of the validity test for all indicators of the quality of higher education services at Universitas Muria Kudus from 118 respondents with an r-value of 0.1509 show that all indicators are valid.

Reliability Test

The results of the reliability test using SPSS are presented in table 3 as follows:

Table 3 Reliability	Test Results
Cronbach's Alpha	N of Items
0.922	15

Based on table 3, it can be seen that the results of the Cronbach alpha of the 15 indicator items for the quality of higher education services at Universitas Muria Kudus are 0.922. So it can be concluded that these indicators have good reliability.

Servperf Analysis

The results of the research data analysis are based on the answers of 118 student respondents at Universitas Muria Kudus on the research questionnaire on the quality of higher education services during the Covid-19 Pandemic. Each research indicator will be described using Servperf analysis. There is a way to determine the criteria for assessing respondents to indicators with the following intervals:

Lowest Perception Score: 1 Highest Perception Score: 5 Interval: (5-1) / 5 = 0.8So that the perception limits are obtained as follows: 1.00 - 1.79 = not very good1.80 - 2.59 = not good2.60 - 3.39 = good enough3.40 - 4.19 = good4.20 - 5.0 = very good

Overall Servperf Results

Dimensions	Average Score	Category
Tangible	3	Pretty good

Reliability	3,358757	Pretty good
Responsiveness	3,180791	Pretty good
Assurance	3,217514	Pretty good
Empathy	2,988701	Pretty good
Average	3,149153	Pretty good

Based on the results of the Servperf calculation as a whole, it can be concluded that the quality of higher education services at Universitas Muria Kudus is in the sufficient category. **Tangible Dimension Calculation Results**

No.	Indicator	Very	Good	Pretty	Not	Not	Average	Category
		good		good	good	good	score	
1	Use of	7.6%	42.4%	28.8%	16.9%	4.2%	3.27	Pretty
	interaction	(9)	(50)	(34)	(20)	(5)		good
	aids during							
	online							
	learning							
2	Ease of	2.6%	19.5%	29.7%	39.8%	8.5%	2.67	Pretty
	access and	(3)	(23)	(35)	(47)	(10)		good
	internet							
	connection							
	during							
	online							
	learning							
3	The	1.7%	38.1%	37.3%	17.8%	5.1%	3.05	Pretty
	selection of	(2)	(45)	(44)	(21)	(6)		good
	online							
	learning							
	platforms is							
	varied							
Average							3	Pretty
								good

Table 5 Calculation Results of Tangible Dimensions

Based on table 5, it can be seen that from the number of 118 respondents who gave responses to the question indicator where the Tangible score or the highest value on the item Use of interaction aids during online learning with a score of 3.27 which falls into the fairly good category Meanwhile, the lowest score is in the item Ease of access and internet connection during online learning with a score of 2.67 and the category is quite good.

Results of the calculation of the reliability dimension

No.	Indicator	Ver	Good	Prett	Not	Not	Averag	Categor
		У		У	good	good	e score	У
		good		good				
1	Lecturer	7.6%	29.7	49.2%	11.9	1.7	3.24	Pretty
	consistency in	(9)	%	(58)	%	%		good
	delivering		(35)		(14)	(2)		
	courses well							
2	lecturers/teachin	11%	48.3	28%	11.9	0.8	3.51	Good
	g staff can	(13)	%	(33)	%	%		

Table 6 Calculation Results of the Reliability Dimension

	communicate and present the material well in online learning		(57)		(14)	(1)		
3	Lecturers who are reliable in using online learning platforms	4.2% (5)	34.7 % (41)	52.5% (62)	6.8% (8)	1.7 % (2)	3.31	Pretty good
Averag							3.35	Pretty
e								good

Based on table 6, it can be seen that from the number of 118 respondents who gave responses to the question indicator where the reliability score or the highest value on the item of the lecturer/teaching workforce was able to communicate and present the material well in online learning with a score of 3.51 which fell into the category well. Meanwhile, the lowest score is found in the item consistency of lecturers in giving courses well with a score of 3.24 and the category is quite good.

Responsiveness Dimension Calculation Results

No.	Indicator	Very	Good	Pretty	Not	Not	Average	Category
		good		good	good	good	score	
1	Lecturers /	5.9%	33.1%	44.9%	11%	5.1%	3.22	Pretty
	Lecturers are	(7)	(39)	(53)	(13)	(6)		good
	easily							
	contacted by							
	students							
	during online							
	learning							
2	Student	1.7%	35%	47%	12%	4.3%	3.16	Pretty
	administration	(2)	(41)	(55)	(14)	(5)		good
	services that							
	are easy to							
	contact during							
	the Covid-19							
	pandemic							
3	The	1.7%	38.1%	39%	15.3%	5.9%	3.16	Pretty
	availability of	(2)	(45)	(46)	(18)	(7)		good
	good E-							
	Learning							
Average							3.18	Pretty
								good

Table 7. Calculation Results of Responsiveness Dimensions

Based on table 7, it can be seen that from the total 118 respondents who gave responses to the question indicator, the Responsiveness score or the highest value on the item Lecturers / Teaching Staff is easily contacted by students during online learning with a score of 3.22 which falls into the Fairly good category. Whereas the lowest score is found in the student administration service item which is easy to contact during the covid-19 pandemic and the availability of good E-Learning with the same score of 3.16 and the category is quite good.

No.	Indicator	Very good	Good	Pretty good	Not good	Not good	Average score	Category
1	Lecturers are fair and impartial in providing assessments	9.4% (11)	43.6% (51)	34.2% (40)	10.3% (12)	2.6% (3)	3.36	Pretty good
2	Lecturers help students in understanding online learning materials	8.5% (10)	29.1% (34)	46.2% (54)	12% (14)	4.3% (5)	3.23	Pretty good
3	Lecturers give assignments wisely and proportionally to students	6.8% (8)	29.1% (34)	39.3% (46)	18.8% (22)	6% (7)	3.05	Pretty good
Average							3.22	Pretty good

Assurance Dimension Calculation Results

Based on table 8, it can be seen that from the number of 118 respondents who gave responses to the question indicator, where the Assurance score or the highest value on the Lecturer item was fair and impartial in providing an assessment with a score of 3.36 which was included in the fairly good category. Whereas the lowest score is found in the item Lecturer gives assignments wisely and proportionally to students with a score of 3.05 and the category is quite good.

	Table 9 Emphaty Calculation Results								
No.	Indicator	Very good	Good	Pretty good	Not good	Not good	Average score	Category	
1	Lecturers encourage and motivate students to do the best learning in the online learning process	11.9% (14)	28% (33)	40.7% (48)	14.4% (17)	5.1% (6)	3.28	Pretty good	
2	Lecturers understand students' difficulties in online learning	5.9% (7)	24.6% (29)	35.6% (42)	27.1% (32)	6.8% (8)	3,008	Pretty good	
3	The learning process is	1.7% (2)	15.3% (18)	39% (46)	38.1% (45)	5.9% (7)	2.67	Pretty good	

Empathy Dimension Calculation Results

	easy for students to understand and understand during online learning				
Average				2.99	Pretty good

Based on table 9, it can be seen that from the total 118 respondents who gave responses to the question indicator, where Empathy scores or the highest score on the Lecturer item encourages and motivates students to do the best learning in the online learning process with a score of 3.28 which falls into the fairly good category. Whereas the lowest score is found in the Learning process item that is easily understood and understood by students during online learning with a score of 2.67 and the category is quite good.

CONCLUSIONS

The results of this study indicate that overall of the five servperf dimensions of the quality of higher education services at Universitas Muria Kudus during the Covid-19 pandemic is in the quite good category. The Tangible dimension has an average score of 3, the reliability dimension has an average score of 3.358757, the Responsiveness dimension has an average score of 3.180791, the Assurance dimension has an average score of 3.217514, and the Empathy dimension has an average score of 3.180791. the average score was 2.988701.

Of the 15 indicators, the three highest points on the quality of higher education services at Universitas Muria Kudus are found in the R2 indicator, namely, lecturers/teaching staff can communicate and present the material well in online learning with an average score of 3.351; A1 indicator, namely Lecturers are fair and impartial in providing an assessment with an average score of 3.36; and the R3 Lecturer indicator which is reliable in using the online learning platform with an average score of 3.31. Meanwhile, the three lowest indicators are the T2 and E3 indicators, namely the Ease of access and internet connection during online learning and the learning process that is easy to understand and understand by students during online learning with the same average score, namely 2,67 and the E2 indicator, namely the lecturer understands the students' difficulties in brave learning with an average score of 3.008.

SUGGESTIONS FOR MANAGEMENT AND FURTHER RESEARCH

In this study, Educational Agencies are expected can to improve the performance of the service system in learning conducted online, so that students can conduct learning as effectively as possible. And there are further improvements in further research. Especially in measuring the performance of a service in educational institutions.

REFERENCES

- Harto, B. *et al.* (2015) 'ANALISIS TINGKAT KEPUASAN PELANGGAN DENGAN PENDEKATAN FUZZY SERVQUAL DALAM UPAYA PENINGKATAN KUALITAS PELAYANAN (Studi Kasus Di Bengkel Resmi BAJAJ Padang)', *Jurnal TEKNOIF*, 3(Vol.3 No.1), pp. 20–30.
- Irawati, D. Y. and Jonatan, J. (2020) 'Evaluasi Kualitas Pembelajaran Online Selama Pandemi Covid-19: Studi Kasus di Fakultas Teknik, Universitas Katolik Darma Cendika', Jurnal Rekayasa Sistem Industri, 9(2), pp. 135–144. doi: 10.26593/jrsi.v9i2.4014.135-144.

komite penanganan covid 19 (2020) peta sebaran covid 19.

- Lukita, C., Pranata, S. and Agustin, K. (2019) 'Metode Servqual Dan Importance Performance Analysis Untuk Analisa Kualitas Layanan Jasa', *Jurnal DIGIT*, 9(2), pp. 167–177.
- Mariana, N. *et al.* (no date) 'ANALISIS KEPUASAN MAHASISWA TERHADAP KUALITAS LAYANAN (SERVICE QUALITY) FAKULTAS TEKNOLOGI INFORMASI Jurnal IKRA-ITH Informatika Vol 4 No 3 November 2020 Jurnal IKRA-ITH Informatika Vol 4 No 3 November 2020', 4(3), pp. 22–30.
- Putri, R. O. and Martha, S. (2019) 'Analisis kualitas pelayanan akademik dengan metode servperf dan ipa', 08(1), pp. 103–110.
- Sari, A. N. (no date) 'Dengan Metode Servperf Dalam Kesiapan Menghadapi Persaingan Regional'.
- Studi, P., Industri, T. and Pgri, U. I. (2018) 'METODE SERVQUAL DAN QFD Deny Wibisono J1. Nangka No . 58 C Tanjung Barat , Jagakarsa , Jakarta Selatan', 10(1), pp. 57–74.
- Sufiyyah, A. (2011) 'Pengaruh Kualitas Layanan Akademik dan Birokrasi terhadap Kepuasan Mahasiswa', *Jurnal Ilmiah Aset*, 13(2), pp. 85–93.
- Sutariah, F. (2017) 'Evaluasi Kepuasan Mahasiswa Terhadap Kualitas Pendidikan Lembaga Pendidikan Tinggi ABC di Cikarang', *STRING (Satuan Tulisan Riset dan Inovasi Teknologi)*, 2(1), p. 38. doi: 10.30998/string.v2i1.1721.