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Analysis of Customer Satisfaction Levels Towards the Parking System at Ittelkom Surabaya using Servqual Methods

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ABSTRACT

ITTelkom Surabaya is a campus that was established in 2018. The increasing number of students can affect the quality of parking lots that can be accommodated. Based on data on parking attendants' quality and service satisfaction, students feel dissatisfied due to the many shortcomings in the facilities and quality of service in parking at ITTelkom Surabaya. This study aims to measure service quality and analyze which factors affect customer satisfaction with the parking system at ITTelkom Surabaya. This research is conducted using quantitative analysis with the Servqual method. Questionnaire forms were distributed to parking lot users in data collection, and the data were collected from students. The existence of this research can be used as an evaluation material to develop the satisfaction of the parking system as measured. The results showed that measuring the service quality of the vehicle parking system at ITTelkom Surabaya still needs improvement. The gap value in some statement attributes shows that the parking system's customer service quality still needs to meet expectations. Then, the factors that impact customer satisfaction with the parking system at ITTelkom Surabaya are the variables X1 (Tangible) and X3 (Responsiveness). Both variables have a low significance T-test value, so there needs attention to improving and evaluating the parking system at ITTelkom Surabaya to fulfill customer wants and needs.

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1. INTRODUCTION

Parking is a temporary state of inactivity for a vehicle, while stopping is a vehicle that is temporarily stationary with the driver not leaving (Mulki, 2019). The increasing number of ITTelkom Surabaya students also affects the required vehicle parking capacity, especially the student motorcycle parking lot. After the 2022/2023 school year, the parking lot that was

previously a car parking lot was converted into a motorcycle parking lot to increase capacity. Meanwhile, the car parking lot was moved to the north of the campus building or behind the campus building. Supporting data based on a satisfaction questionnaire distributed to students as respondents is needed to determine customer satisfaction with the parking system.

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 611

On the facility quality satisfaction questionnaire, 26 students were not satisfied with the quality of parking facilities at ITTelkom Surabaya. This is due to the parking lot's condition, which is often flooded, muddy, and slippery when it rains. Some students also complain that open parking lots are often rained on, so it is necessary to provide canopies and car parking lots to access distant campus buildings. The parking attendant service satisfaction questionnaire shows that 25 students were dissatisfied with the parking attendant service at ITTelkom Surabaya. There are many complaints about using stickers and checking STNK when leaving campus. This is considered ineffective for students because they feel they have installed stickers, so they do not need to be rechecked. Some students also complained about the service of parking attendants who did not direct when parking so that vehicles were parked irregularly, the attitude of less friendly officers, and much behavior toward students.

One of the research methods used to measure customer satisfaction in the parking system is the Servqual method. Servqual is a tool that can be used to measure customer expectations and customer perceptions as well as the gap between the service provider and its consumers (Novadi & Mahbubah, 2021). To measure service quality, the data used comes from a research questionnaire distributed to students and then measured using the gap test. The gap test results will answer whether the parking system evaluation has met student expectations. If the quality of service received by customers is better than expected, customers will be satisfied and tend to try it again (Tjoanoto & Kunto, 2013). To find out the variables that affect customer satisfaction with the parking system at ITTelkom Surabaya, questionnaire data from the five servoual variables are used. Of the five variables, it is then sought which variables affect the satisfaction of the parking system at ITTelkom Surabaya. Variables influencing satisfaction can be used as a reference for evaluating and improving the quality of the parking system at ITTelkom Surabaya. Low quality will cause dissatisfaction. Therefore, it is crucial to make efforts to improve services in order to provide satisfaction to consumers (Alaan, 2016).

2. LITERATURE REVIEW

Parking is one of the elements of transportation infrastructure that is inseparable from the transportation network system, so that parking arrangements will affect the performance of a network, especially road networks (Nugraha et al., 2019). This parking problem is not only experienced by universities that have narrow land but also by universities that have large land (Fuad & Mabrur, 2019). Quality is all the characteristics and properties of a product or service that affect the ability to satisfy stated or implied needs (Kotler et al., 2009). Quality is a dynamic condition related to service products, people, processes, and environments that meet or exceed expectations (Tjiptono, 2001). Customer satisfaction can interpret service quality (Trimarjoko et al., 2020). Customer satisfaction is described as a person's feeling of being satisfied or otherwise after comparing the reality and expectations received from a product or service (Kotler et al., 2005). Services are economic activities that do not produce physical products or construction but are generally produced and consumed simultaneously, providing added value. If the service received is by expectations, then the quality of service will be considered excellent and satisfying. If the service exceeds customer expectations, the service quality will be considered the best. Conversely, if the service received is below expectations, service quality will depend on the service provider's ability to consistently meet customer expectations (Lukita et al., 2019).

Servgual is a tool that can be used to measure expectations customer and customer perceptions as well as the gap between the service provider and its consumers (Novadi & Mahbubah, 2021). The Servqual method compares two main factors, namely perceived service and expected service (Yolanda et al., 2017). Servqual measurement allows for comparison before and after changes, for the location of quality-related problems, and the establishment of clear standards for service delivery (Brysland & Curry, 2001). Service Quality has five aspects as the basis for its assessment: reliability. responsiveness, assurance, empathy, and tangible (Kuncoro et al., 2022): (1) Reliability: The ability to perform services as promised, satisfactorily, and reliably, (2) Responsiveness: The ability to help

customers or service users by providing fast service, (3) Assurance: Knowledge and politeness can provide trust and confidence to customers or service users, (4) Empathy: A form of care and attention in knowing and understanding the needs of customers or service users, and (5) Tangible: Demonstrable appearance of physical facilities, equipment, and communication materials. A fundamental problem with service provision is that controlling how services are provided and experienced is difficult. This statement leads to the conclusion that service processes should be designed to allow for the least amount of error. Servoual measurement allows for comparisons before and after changes, for the location of quality-related problems, and the establishment of clear standards for service delivery (Brysland & Curry, 2001).

3. RESEARCH METHOD

Figure 1 is the flow of this reasearch's step. The field study was conducted by observing the research object, namely the student motorcycle and car parking lot at ITTelkom Surabaya. Literature studies are conducted to obtain relevant information that is carried out before conducting research. This literature study is obtained from media in the form of books, previous research journals, papers, and other materials related to the problems studied. The information sought is in the form of theory regarding the research method, namely the Servqual method.



Figure 1. Research flowchart

Based on the problems obtained, the formulation and objectives of the study can be compiled, namely measuring service quality

and analyzing variables that affect customer satisfaction with the parking system at ITTelkom Surabaya. Then, set the research boundaries: the parking lot location reviewed is the student motorcycle and car parking lot. The research data collected in this study is assumed to be normally distributed. This questionnaire is closed using information about the scope of the proposed answers. This questionnaire is divided into two rating scales: the evaluation rating scale and the expectation level. This research questionnaire uses a five-point rating scale. The expectation questionnaire uses a scale of (1) Very Unimportant, (2) Unimportant, (3) Sufficient, (4) Important, and (5) Very Important. The evaluation and Customer Satisfaction questionnaire used a scale of (1) Very Dissatisfied, (2) Dissatisfied, (3) Enough, (4) Satisfied, and (5) Very Satisfied. After the data is collected, validity and reliability tests are carried out. The validity test is a researcher's attempt to evaluate the usefulness and feasibility of a test for a specific purpose that of evidence requires multiple sources (Hendryadi, 2017). Reliability is an index that shows how much a measuring device can be trusted or relied upon. The reliability test can be used to determine the consistency of the measuring instrument and whether the measuring instrument remains consistent if the measurement is repeated (Nida & Herianto, 2021).

To measure service quality, the data used comes from a research questionnaire distributed to students and then measured using the gap test. Gap analysis is a tool or process of identifying gaps and differences between an organization's current situation and what it should be. It is used to design an organization's implementation plan and improve its effectiveness in various areas (Mutmainah et al., 2022). Gaps usually occur due to expectations that are too high or poor service and do not match what is expected; a superior level of service is needed to meet customer satisfaction (Kuncoro et al., 2022). To find out the variables that affect customer satisfaction with the parking system at ITTelkom Surabaya, questionnaire data from the five servoual variables are used. Of the five variables, it is then sought which variables affect the satisfaction of the parking system at ITTelkom Surabaya. Multiple linear regression

tests are carried out to determine the variables that influence customer satisfaction. The multiple linear regression test is carried out by performing the classical assumption test. The classical assumption test is a prerequisite for multiple regression analysis that must be met so that the parameter estimates and regression coefficients are not biased (Abdullah, 2020). In the classical assumption test, a linearity test is carried out, which aims to determine whether two variables have a linear relationship or not, and a correlation test to see the effect between the independent variable and the dependent variable by testing the Pearson correlation (Jumliadi et al., 2020). Model test to test the relationship between independent and dependent variables. In this study, the model consists of the R² test, test t-test. multicollinearity test, heteroscedasticity test, autocorrelation test, error's normality test, and random error test. After data processing is complete, data analysis, managerial implications, and conclusions.

4. RESULT AND DISCUSSION

Before collecting data, population, and data samples are determined. The population taken in this study were ITTelkom Surabaya students. Meanwhile, the sample was determined using the Slovin method. The population of this research is all the ITTelkom Surabaya's student in total 2325 persons. The following is the calculation of student sampling:

$$n = \frac{N}{1 + N(e)^2} = \frac{2325}{1 + 2325(0,1)^2} = 95.9$$

 $n \approx 96 \ sample$

The sample size calculation in this study shows that the number of respondents needed in primary data collection is at least 96 people from the total number of students at ITTelkom Surabaya. A questionnaire is distributed with a 5-dimensional scale for collecting data. Table 1 are the variables and attributes of the questions in this research questionnaire.

		Tuble 1. Questionnaire variables and attributes	
Dimension	Code	Question Attribute	Source
	T1	The location of the ITTelkom Surabaya parking lot is easily accessible.	Kuncoro et al., 2022
	T2	Facilities at the parking lot at ITTelkom Surabaya are complete and adequate.	Kuncoro et al., 2022
Tangibles	T3	Convenience of the location to park the vehicle, such as a level road and a canopy to protect the vehicle.	Kuncoro et al., 2022
Tangibles	T4	The parking lot at ITTelkom Surabaya is quite large.	Yolanda et al., 2017
	T5	There are parking lines separating vehicles.	Yolanda et al., 2017
	T6	Parking security systems carried out by officers, such as the use of stickers and checking vehicle registration.	Yolanda et al., 2017
	R1	The accuracy of the officer's service in assisting the process of parking the vehicle.	Novadi & Mahbubah, 2021
Paliability	R2	Parking attendant service in welcoming parking users.	Kuncoro et al., 2022
Reliability	R3	Performance of parking attendants in providing services.	Bachtiar et al., 2022
	R/	The accuracy of the information provided by parking attendants, such as indicating	Alfatiyah &
	K4	empty parking spaces.	Apriyanto, 2019
	Re1	The speed of the parking attendant in assisting the process of parking the vehicle.	Novadi & Mahbubah, 2021
Basponsivanass	Re2	Response of parking attendants in handling lost vehicle attributes.	Kuncoro et al., 2022
Responsiveness	Re3	Responsiveness of parking attendants when dealing with users who want to remove vehicles.	Kuncoro et al., 2022
	Re4	The parking attendant's decision to handle parking user complaints.	Kuncoro et al., 2022
	E1	Attention of parking attendants to parking lot users.	Yolanda et al., 2017
E	E2	Parking attendants do not look at the status of parking users, whether they are known or unknown.	Yolanda et al., 2017 Novadi & Mahbubah, 2021
Empathy	E3	The actions of parking attendants when parking users are frustrated because they have lost their vehicle attributes.	Kuncoro et al., 2022
	E4	Parking attendants apply the 5S culture (Smile, Greet, Salute, Polite, and Courtesy).	Novadi & Mahbubah, 2021
	A1	The level of security of parking attendants in guarding parked vehicles.	Novadi & Mahbubah, 2021
Assurance	A2	Checking vehicles that will leave the campus area.	Fuad & Mabrur, 2019
	A3	Safe, convenient, and organized parking area.	Yolanda et al., 2017
	A4	Parking attendants are available at all times.	Yolanda et al., 2017
Customer	X1	Are you satisfied with the parking attendant service?	Kuncoro et al., 2022
Satisfaction	X2	Are you satisfied with the safety and comfort of the parking lot at ITTelkom Surabaya?	Kuncoro et al., 2022
Sausiacuoii	X3	Are you satisfied with the parking lot facilities at ITTelkom Surabaya?	Nugraha et al., 2019

Table 1. Questionnaire variables and attributes

Based on the validity test, the five attributes of the dimensions of expectations and the reality of customer response and satisfaction on the satisfaction questionnaire are valid measuring instruments. The significance value on all attributes has been proven to be less than 0.05. Each question item on the questionnaire has provided the right measurement results according to its purpose. Based on the reliability test, it can be concluded that the results of the Cronbach's Alpha test on all dimensions as measuring instruments can be declared reliable with a value of more than 0.6. The biggest Cronbach's Alpha value is 0.709, owned by the (Tangible Evaluation) TE indicator. Meanwhile, the lowest Cronbach's Alpha value is 0.620, owned by EE (Empath Evaluation).

Table 2. Gap test

	Gap Test					
	Х	Y	G	GD	Sig.	Stat.
			T	angible		
T1	3.64	3.95	-0.31		< 0.001	H0 rejected
T2	2.73	4.07	-1.34		< 0.001	H0 rejected
T3	2.33	4.35	-2.02		< 0.001	H0 rejected
T4	2.75	4.00	-1.25	-1.19	< 0.001	H0 rejected
T5	2.93	3.88	-0.95		< 0.001	H0 rejected
T6	2.88	4.13	-1.25		< 0.001	H0 rejected
			Re	liability		2
R1	3.18	3.93	-0.75		< 0.001	H0 rejected
R2	3.18	3.92	-0.74	0.74	< 0.001	H0 rejected
R3	3.19	3.84	-0.65	-0.76	< 0.001	H0 rejected
R4	3.06	3.94	-0.88		< 0.001	H0 rejected
			Resp	onsivenes	5	
Re1	3.01	3.89	-0.88		< 0.001	H0 rejected
Re2	3.06	4.24	-1.18	0.76	< 0.001	H0 rejected
Re3	2.99	3.93	-0.94	-0.70	< 0.001	H0 rejected
Re4	3.10	4.04	-0.94		< 0.001	H0 rejected
			Eı	npathy		
E1	3.25	4.04	-0.79		< 0.001	H0 rejected
E2	3.38	4.24	-0.86	0.00	< 0.001	H0 rejected
E3	3.16	4.01	-0.85	-0.99	< 0.001	H0 rejected
E4	3.25	3.84	-0.59		< 0.001	H0 rejected
Assurance						
A1	4.10	4.23	-0.13		0.065	H0 received
A2	3.44	4.01	-0.57	-0.18	< 0.001	H0 rejected
A3	3.74	3.89	-0.15	-0.10	0.084	H0 received
A4	4.11	3.99	0.12		0.128	H0 received

Based on Table 2, the results of the gap test with the t-test on each statement attribute in the distributed questionnaire, it is obtained that the significance level value of all attributes is less than 0.001 except for attributes A1, A3, and A4, which are worth more than 0.05. If the significance value is less than 0.05, the result is H0 rejected and H1 accepted. However, if the significance value exceeds 0.05, the result is H0 accepted and H1 rejected.

The dimension of physical evidence (tangible) has the most significant negative gap value, so it is necessary to improve all indicators in this dimension to improve the quality and satisfaction of parking lot users at ITTelkom Surabaya. Then, the second largest gap value is in the responsiveness dimension, the third is the empathy dimension, and the fourth is the reliability dimension. These four dimensions need improvement and evaluation to improve parking lot users' quality and satisfaction. Inappropriate facilities and policies are usually a factor where the gap between reality and expectations is relatively large (Kuncoro et al., 2022). A large enough parking lot cannot solve the problem of parking arrangements in each parking lot (Nugraha et al., 2019). Meanwhile, the assurance dimension has the lowest gap value, and some indicators of this dimension have a T-test significance value of more than 0.05, which means that this dimension has met the expectations and satisfaction of parking lot users, so it is necessary to maintain the quality of this dimension. The gap test results can conclude that the parking system at ITTelkom Surabaya has yet to reach the expectations desired by customers.

Table 3. Linearity test	
Line anitas Test	

Linearity Test					
Variable	Linearity	Stat.	Deviation from Linearity	Stat.	
X1 (Tangible)	< 0.001	Linear	0.297	Linear	
X2 (Reliability)	< 0.001	Linear	0.453	Linear	
X3 (Responsiveness)	< 0.001	Linear	0.534	Linear	
X4 (Empathy)	0.002	Linear	0.941	Linear	
X5 (Assurance)	0.034	Linear	0.315	Linear	

Based on Table 3, the results of the linearity test with the ANOVA test on each variable show that the significance value of Linearity for all variables is less than 0.05 and the significance value in Deviation from Linearity for all variables is more than 0.05. This indicates that the relationship between the evaluation and customer satisfaction variables is linear. This shows that the relationship between the evaluation and customer satisfaction variables is linear.

Table 4. Correlation Test				
Correlation Test				
Variable	Sig.	Status		
X1	< 0.05	Correlation		
X2	< 0.05	Correlation		
X3	< 0.05	Correlation		
X4	< 0.05	Correlation		
X5	< 0.05	Correlation		

Table 4 of the Pearson correlation test on each variable shows that the significance value of all x variables on the y variable is less than 0.05. This shows that the relationship between the evaluation variable and the customer satisfaction variable has a correlated relationship.

$$Y = 1,824 + 0,198 x_1 + 0,079 x_2 + 0,172 x_3 - 0,020 x_4 + 0,060 x_5 + e$$

The Y value in this equation is the customer satisfaction variable. The constant value (α) has a positive value of 1.824. So, it can be concluded that the constant value has a unidirectional influence between the evaluation and customer satisfaction variables. Tangible variable X1 has a regression coefficient value of 0.198, and the significance value in the t-test is less than 0.05, indicating that the physical evidence dimension positively influences student satisfaction. It can also be interpreted that the better the parking system facilities, the lower the level of customer satisfaction. Reliable variable X2 has a regression coefficient value of 0.079, indicating that the reliability dimension positively influences student satisfaction. It can be concluded that if parking attendants' reliability improves, students will feel more satisfied with the parking system at ITTelkom Surabaya. Responsiveness variable X3 has a regression coefficient value of 0.172, indicating that the responsiveness dimension positively influences student satisfaction. It can be concluded that if the officer has the proper responsiveness, students will feel satisfied to park the vehicle. The Empath X4 variable has a regression coefficient value of -0.020, indicating that the empathy dimension has a negative effect on student satisfaction. So, it can be concluded that when parking attendants pay full attention, students will be more confident to park their vehicles in the ITTelkom Surabaya parking lot. The Assurance variable X5 has a regression coefficient value of 0.060, indicating that the guarantee dimension positively affects student satisfaction. It can be concluded that if parking attendants increase security in guarding vehicles, students will feel safe and satisfied.

Table 5. R^2 test				
R ² Test				
R R Square Adjusted R Square				
0.587	0.344	0.319		

Based on Table 5, the results of the R^2 test on each variable show that the resulting R Square value is 0.344. It can be interpreted that the R Square value is categorized as weak because the resulting value is small. If the R^2 value is close to 1, the better (Hair et al., 1998).

Table 6. T Test				
	ТТ	est		
Variable	В	Sig.	Stat.	
Constant	1.824			
X1	0.198	< 0.001	Effect	
X2	0.079	0.426	No Effect	
X3	0.172	0.018	Effect	
X4	-0.020	0.815	No Effect	
X5	0.060	0.3/0	No Effect	

Based on Table 6, the t-test results on each variable show that the significance value for variable x is more than 0.05, except for variables X1 and X3, which are less than 0.001 and 0.018. So, there needs to be special attention to improvement, especially in Physical Evidence (Tangible) and Responsiveness in the ITTelkom Surabaya parking system.

 Table 7. Multicolinearity test

Multicolinearity Test				
Var.	Tolerance	Stat.	VIF	Stat.
X1	0.645	No Symtons	1.549	No Symtons
X2	0.371	No Symtons	2.697	No Symtons
X3	0.539	No Symtons	1.854	No Symtons
X4	0.528	No Symtons	1.894	No Symtons
X5	0.914	No Symtons	1.095	No Symtons

Based on Table 7, the results of the multicollinearity test on each variable show that the tolerance value of all variables is more than 0.10, and the VIF value of all variables is less than 10. So, there are no symptoms of multicollinearity between the evaluation

variables and customer satisfaction with the parking system at ITTelkom Surabaya.

Table 8	Table 8. Heteroscedasticity test Heteroscedasticity Test				
Н					
Variable	Sig.	Status			
X1	0.059	No Symtons			
X2	0.790	No Symtons			
X3	0.183	No Symtons			
X4	0.966	No Symtons			
X5	0.315	No Symtons			

Based on Table 8, the results of the heteroscedasticity test on each variable show that the significance value for all x variables is more than 0.05. So, there are no symptoms of heteroscedasticity between the evaluation residual variables and the customer satisfaction variable.

Table 9. Autocorrelation test				
Autocorrelation Test				
K	5			
Ν	135			
DU	1.7962			
4-DU	2.2038			
Durbin-Watson	2.023			
Sig	5%			

Based on Table 9, the results of the autocorrelation test on each variable show that the Durbin-Watson value is 2.023 and the value is compared with the significance value of 0.05 with a sample size (N) of 135 and the number of independent variables of 5 (K = 5). This test model has a formula:

DU < Durbin-Watson < 4-DU

Resulting in 1.7962 < 2.023 < 2.2038. The Durbin-Watson value is between 1.7962 and 2.2038. So, the regression model of this study does not occur autocorrelation. In the error's normality test, the data is processed using the Kolmogorov-Smirnov test because the data amounts to more than 100. The results of the Kolmogorov-Smirnov normality test show that the significance value is 0.200, so the value is more than 0.05. So, the regression model of this study is normally distributed.

The data is processed using the run test in the random error test to determine whether the regression model is random. The results of the run test found that the Asymp. The sig value is 0.546, so this value is more than 0.05. It can be

interpreted that the regression model of this study is random.

The results of multiple linear regression testing show that the variables X1 Tangible and X3 Responsiveness affect customer satisfaction because, in the t-test, the coefficients of the two variables have a significance value below 0.05. Physical aspects that are visible to the customer's eyes can affect the formation of customer satisfaction in assessing service quality. Customers will feel satisfied if all facilities and physical aspects provided have been appropriately fulfilled (Tjoanoto & Kunto, 2013). To improve quality, parking attendants are essential in providing customer satisfaction. If parking attendants fail to provide good service, then there is no influence between the responsiveness dimension and customer satisfaction (Alaan, 2016).

The finding of this study is that the measurement of the service quality of the vehicle parking system at ITTelkom Surabaya still needs to be improved. This is because there is a negative gap value on some Servqual attributes. Then, the variables that affect parking system customer satisfaction are the X1 Tangible variable and the X3 Responsiveness variable. Both variables have a low significance value, influencing customer satisfaction.

The managerial implications for the parking lot manager to improve the quality of parking services include making improvements to parking lot facilities. The physical evidence variable of the parking system has the highest influence on customer satisfaction. Currently, the parking facilities at ITTelkom Surabaya do not meet user expectations due to several complaints. These complaints include slippery and flooded parking lots during the rainy season, insufficiently spacious parking areas, the need for additional canopies in open parking lots, the long distance from car parking to campus buildings, and uneven parking surfaces.

The second thing that manager should do is pay attention to the quality of service provided by parking attendants to students. Not only are the parking system facilities at ITTelkom Surabaya considered by users, but the services provided by parking attendants also influence users. Users complain that parking attendants are less professional, do not help park the vehicle, and need to be more friendly to users. Therefore, it is necessary to evaluate the services of parking attendants in order to increase the comfort and satisfaction of parking users.

And the last action that manager should do is conduct a review of the student parking lot policy. Although several other attributes of Service Quality in this study do not influence parking system customer satisfaction, it is also necessary to pay attention to other attributes so that there are no other gaps in the parking system at ITTelkom Surabaya, such as policies regarding using stickers on user vehicles and checking vehicle registration when leaving the parking lot. Parking lot users feel that these two things are less effective because they have the same function: protecting user vehicles from motor vehicle theft crimes. Students, as users, feel that managers need to utilize student cards with an RFID base so that they do not check vehicle registration and stop using stickers on vehicles. Therefore, the parking manager can maintain the security and comfort of the parking lot expected by students as users.

5. CONCLUSION

Based on the research results, measuring the service quality of the vehicle parking system at ITTelkom Surabava still needs improvement. The negative value of the gap in some Service Quality attributes evidences this. The negative gap value in some dimensions and all statement attributes indicates that the service quality of parking system customers at ITTelkom Surabaya still needs to meet expectations, and there is a need for improvement and evaluation regarding all research attributes. The research results with linear regression tests show that the variables affecting customer satisfaction with the parking system at ITTelkom Surabaya are the X1 tangible variable and X3 responsiveness. The X1 and X3 variables have a low significance t-test value, so it can be concluded that both variables affect satisfaction. So, there needs to be special attention, especially on the X1 tangible and X3 responsiveness variables, to make improvements and evaluations related to the parking system at ITTelkom Surabaya.

Based on managerial implications, it is necessary to improve the quality of parking system services by the five dimensions of Service Quality. Proposed improvements to facilities, review of parking policies, quality of services provided by parking attendants, and quality of parking system guarantees are expected to help parking lot managers improve the service quality of the parking system at ITTelkom Surabaya to meet the expectations of parking lot users, namely students.

REFERENCES

- Abdullah, R. (2020). Pengaruh Current Ratio (CR), Debt Equity Ratio(DER), Dan Ukuran Perusahaan (Size) Terhadap Return On Equity (ROE). Studi Pada Perusahaan Manufaktur Sub Sektorkonsumsi Yang Terdaftar Di Bei Periode 2015 - 2018.
- Alaan, Y. (2016). Pengaruh Service Quality (Tangible, Empathy, Reliability, Responsiveness, dan Assurance) terhadap Customer Satisfaction: Penelitian pada Hotel Serela Bandung. Jurnal Manajemen, 15(2). http://publication.petra.ac.id/index.php/m anajemen-pemasaran/article/view/126
- Alfatiyah, R., & Apriyanto. (2019). Analisis Kualitas Pelayanan Parkir Dengan Metode Servqual, IPA, dan QFD Untuk Meningkatkan Kepuasan Pelanggan Di PT. Securindo Packatama Indonesia. *JITMI*, 2 No.2, 106–116. https://doi.org/http://dx.doi.org/10.32493/ jitmi.v2i2.y2019.p105-115
- Bachtiar, M. Y., Ismiyah, E., & Rizqi, A. W. (2022). Analisis Kualitas Pelayanan Dengan Metode Servqual Guna Meningkatkan Kepuasan Pelanggan Pada Pelayanan Jasa Transportasi Terminal Maulana Malik Ibrahim. Jurnal Teknik Industri, 8(2), 2022. https://doi.org/http://dx.doi.org/10.24014/jti.v8i2.20075
- Brysland, A., & Curry, A. (2001). Service improvements in public services using SERVQUAL. *Managing Service Quality: An International Journal*, 11(6), 389–401. https://doi.org/10.1108/09604520110410601
- Fuad, H., & Mabrur, A. (2019). Pengaruh Kualitas Pelayanan Terhadap Kepuasan Pelanggan Pengguna Jasa Parkir (Studi

Pada Mahasiswa Universitas Sultan Ageng Tirtayasa Serang. Jurnal Manajemen Dan Bisnis, 1(2), 55–70. https://ejournal.lppmunbaja.ac.id/index.php/jmb/article/view/1 230

- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). Multivariate Data Analysis. Prentice Hall, Inc.
- Hendryadi. (2017). Validitas Isi: Tahap Awal Pengembangan Kuesioner. Jurnal Riset Manajemen Dan Bisnis (JRMB) Fakultas Ekonomi UNIAT, 2(2), 169–178. https://doi.org/https://dx.doi.org/10.3622 6/jrmb.v2i2.47
- Jumliadi, Arsyam, M., & Alwi, A. M. S. (2020). Strategi Komunikasi Pembelajaran Dari Rumah Dalam Lingkungan Keluarga Di Masa Pandemi. *Komunida: Media Komunikasi Dan Dakwah*, 10(2), 231–241. https://doi.org/10.35905/komunida.v7i2
- Kotler, P., Keller, K. L., Molan, B., & Sarwiji,B. (2009). Manajemen Pemasaran (13th ed.). PT. Indeks Kelompok Gramedia.
- Kuncoro, D., Abimanyu, R., Kurniawan, R., & Umam, K. (2022). Analisis Tingkat Kepuasan Pelanggan Pada Pelayanan Lahan Parkir Menggunakan Metode Service Quality. *IMTechno: Journal of Industrial Management and Technology*, 3(2).

https://doi.org/https://doi.org/10.31294/i mtechno.v3i2.1228

- Lukita, C., Pranata, S., & Agustin, K. (2019). Metode Servqual Dan Importance Performance Analysis Untuk Analisa Kualitas Layanan Jasa Pendidikan Tinggi Pada Mahasiswa Di Cirebon. *Jurnal DIGIT*, 9(2), 167–177. https://doi.org/https://doi.org/10.51920/jd .v9i2.117
- Mulki, M. N. M. (2019). *Tinjauan Hukum Positif Dan Hukum Islam Tentang Tarif Parkir Di Kawasan Pantai Tulungagung.*
- Mutmainah, I., Yulia, I. A., Marnilin, F., & Mahfudi, A. Z. (2022). Gap Analysis Untuk Mengetahui Kinerja Implementasi Program Merdeka Belajar Kampus Merdeka. Jurnal Ilmiah Manajemen Kesatuan, 10(1), 19–34. https://doi.org/10.37641/jimkes.v10i1.93 4

- Nida, M. J., & Herianto. (2021). Konsep Uji Validitas Dan Reliabilitas Dengan Menggunakan SPSS. *OSF Preprints*, 1. https://doi.org/https://doi.org/10.31219/os f.io/v9j52
- Novadi, I. N., & Mahbubah, N. A. (2021). Evaluasi kualitas pelayanan pelanggan berbasis integrasi servqual-six sigma di kuma coffee and eatery kabupaten gresik. *Jurnal Sains Dan Teknologi*, 21(2), 302– 317.

https://doi.org/http://dx.doi.org/10.36275/ stsp.v21i2.423

Nugraha, A. E., Kusnadi, K., & Dampang, S. (2019). Pengaruh Kualitas Pelayanan dan Fasilitas Lahan Parkir terhadap Kepuasan Civitas Kampus. *JIEMS (Journal of Industrial Engineering and Management Systems)*, *12*(1).

https://doi.org/10.30813/jiems.v12i1.1536

- Kotler, P., Molan, B., & Sarwiji, B. (2005). Manajemen Pemasaran (11th ed.). PT. Indeks Kelompok Gramedia.
- Tjiptono, F. (2001). Manajemen Jasa (2nd ed.). Andi Yogyakarta.
- Tjoanoto, M. T., & Kunto, Y. S. (2013). Pengaruh Service Quality terhadap Customer Satisfaction di Restoran Jade Imperial. Jurnal Manajemen Pemasaran Petra, 1(1), 1–9. https://publication.petra.ac.id/index.php/ manajemen-pemasaran/article/view/126
- Trimarjoko, A., Mukhlis, D., Fathurohman, H., & Suwandi, S. (2020). Metode Value Stream Mapping dan Six Sigma untuk Perbaikan Kualitas Layanan Industri di Automotive Services Indonesia. *IJIEM* (Indonesian Journal of Industrial Engineering & Management), 1(2), 91– 104.

https://doi.org/http://dx.doi.org/10.22441/ ijiem.v1i2.8873

Yolanda, H., Rahmi, I., & Maiyastri. (2017). Evaluasi Pelayanan Administrasi Terpadu (Paten) dengan menggunakan Metode Servqual Six Sigma (Studi Kasus di Kecamatan Kuranji, Padang). Jurnal Matematika UNAND, VI No.1, 118–127. https://doi.org/https://doi.org/10.25077/j mu.6.1.118-127.2017