Customer Satisfaction Survey On Land Licensing Services Badan Pengusahaan (BP) Batam

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Abstract. This research aims to determine how the quality of service affects customer satisfaction at the Directorate of LandManagement of BP Batam through the Customer Satisfaction Survey. The population in this research includes all individuals who apply for land permits at the Directorate of Land Management of BP Batam. The sample of this research was 96 people determined using the Zikmund Formula. Questionnaire testing involved a validity test using Product Moment Correlation, a reliability test using Cronbach's Alpha, and a classical assumption test, namely the normality test, multicollinearity test, and heteroscedasticity test, multiple linear regression analysis, t-test (partial) and F-test (simultaneous). The results of this research found three variables, namely the variables Reliability, Responsiveness, and Empathy did not have a significant effect on customer satisfaction. In addition, the other two variables Assurance and Tangible were found to have a significant effect on customer satisfaction.

Keywords: Service Quality; Reliability; Responsiveness; Assurance; Empathy; Tangible; Customer Satisfaction

1 Introduction

In providing land licensing services, the Directorate of Land Management at BP Batam faces various challenges that need to be considered in this research context. It has become imperative for the agency to deliver the best quality services to survive and maintain customer trust. (Arianto, 2018)Service quality as focusing on meeting customer needs and requirements and fulfilling expectations quickly and accurately. Service quality can be assessed using several factors, which are: Reliability, Responsiveness, Assurance, Empathy, and Tangibles (Supranto, 2006). The Directorate of Land Management at BP Batam relies on service provision to customers, so these factors can serve as benchmarks for assessing service quality. This service quality itself will be correlated with customer satisfaction through a customer satisfaction survey. This survey provides direct feedback from customers and business actors regarding their experiences in obtaining land licenses at the Directorate of Land Management BP Batam.

2 Literature Review

Satisfaction

Customer satisfaction is the level of a person's (customer's) feelings after comparing the perceived performance (results) with their expectations. Satisfaction is a positive response from customers, demonstrated by feelings of happiness and the fulfillment of expectations regarding performance and service (Pasolong, 2007).

Services

The meaning of public service is the provision of services to meet the needs of others or the public who have an interest in the organization, in accordance with established rules and procedures (Putri, 2010). Public service

can also be defined as all forms of service, whether in the form of public goods or public services, which in principle are the responsibility of and implemented by government agencies at the central, regional, and state-owned enterprise levels, in order to meet the needs of the community as well as to implement statutory regulations (Ratminto, 2005).

The Relationship between Service Quality and Customer Satisfaction

Definition of service quality is the measure of how well the level of service provided matches customer expectations (Lewis & Booms, 1983). To determine the service quality perceived by customers, there are satisfaction indicators that include five dimensions: 1. Reliability, 2. Responsiveness, 3. Assurance, 4. Empathy, and 5. Tangibles, based on the theory of the "Triangle of Balance in Service Quality" (Tjiptono, 2012).

3 Research Methods

3.1 Research Methods

This research employs a qualitative approach. Data sources are collected through online questionnaire submissions using the Google Forms platform, with formal evaluation using a Likert scale. The variables examined include: Reliability (X1), Responsiveness (X2), Assurance (X3), Empathy (X4), and Tangibles (X5).

3.2 Operational Variables and Measurements

Table 1 Operational Variables and Measurements

Variable	Operational	Measurements
Reliability (X1)	Reliability refers to the ability to provide the best service (Tjiptono, 2012).	a. Paying attention to and understanding what the customer needs. b. Committing to delivering the best service to customers.
Responsiveness (X2)	Responsiveness refers to the ability to respond to customer complaints (Tjiptono, 2012)	a. Providing service in accordance with commitments. b. Delivering service quickly and on schedule.
Assurance (X3)	Assurance refers to the ability to build customer trust (Tjiptono, 2012)	a. Building trust with customers. b. Having mastery of essential skills and knowledge, which provides customers with a sense of security regarding their transactions.
Empathy (X4)	Empathy refers to the ability to show individual care and concern for customers (Tjiptono, 2012).	a. Understanding the needs and expectations of customers in the land licensing process. b. Providing personal support to customers during the land licensing process.

Variable	Operational	Measurements
Tangible (X5)	Tangibles refer to the ability to provide physical evidence of service facilities, equipment, and human resources (Tjiptono, 2012)	a. Providing complete facilities. b. Availability of clear and easily accessible information media.
Customer Satisfaction (Y)	Customer satisfaction is the level of satisfaction that arises from comparing the perceived results with the expectations held beforehand (Kotler, 2009).	a. The speed of service provided makes customers feel satisfied. b. The extent to which licensing requests are successfully processed and approved.

Sources: Results of Data Processing, 2024

3.3 Types and Sources of Data

This research uses primary data collected directly from sources by the researcher. Data is obtained through online questionnaires using the Google Forms platform.

3.4 Research Instruments

In this research, data is collected using closed-ended questionnaires. The questionnaire consists of a series of statements that participants are asked to rate based on their experiences or opinions. The rating format uses a scale where participants indicate their level of agreement with the statements using the following predefined scale: Strongly Agree (SS), Agree (S), Neutral (N), Disagree (TS), and Strongly Disagree (STS). The responses given by participants are recorded in a table, which facilitates subsequent data analysis.

3.5 Population and Sample

The population consists of individuals who apply for land licensing at the Directorate of Land Management BP Batam. To obtain a sample, the formula by Zikmund (Sugiyono, 2010) and is used, with a confidence level of 5% and a reliability level of 95%. Zikmund's formula to calculate the sample size is outlined below:

$$n = \left(\frac{Z\alpha\sigma}{e}\right)^2$$

$$n = \left(\frac{(1{,}96) \text{ x } (0{,}25)}{0{,}05}\right)^2$$

$$n = 96{,}04 = 96$$

In this research, the Non Probability Sampling method was used with the Purposive Sampling technique, namely determining the sample with certain considerations (Campbell, 2020). The considerations used in this research were customers who had carried out land licensing at the BP Baltali Land Management

Directorate. The criteria that must be considered are: Customers aged 25-50 years and customers who had carried out land licensing more than 1 time.

4 Results and Discussion

4.1 Respondent's Characteristics

Based on the survey results, it is found that the age of the respondents ranges from 25 to 50 years. In addition, all respondents have processed land permits at the Directorate of Land Management at BP Batam more than 1 time. This shows that the characteristics of the respondents have met the specific criteria in the Purposive Sampling that has been determined previously.

4.2 Descriptive Statistics

The descriptive analysis results are analyzed by showing the Mean Value as output and categorizing the output in the context of satisfaction. The Reliability variable (X1) gets a Mean of 4.20 which is included in the good category. The Responsiveness variable (X2) gets a Mean of 4.18 which is included in the good category. The Assurance variable (X3) gets a Mean of 4.21 which is included in the very good category. The Empathy variable (X4) gets a Mean of 4.22 which is included in the very good category. The Tangible variable (X5) gets a Mean of 2.93 which is included in the neutral category.

4.3 Validity Test

The validity index of the questionnaire using Product Moment Correlation for 96 respondents using a 95% confidence level, in the label table of 0.202. The results of the validity test in the table are seen in the table below:

Table 2 Result of Validity Test

Variable	r value	r table	Remarks
X1.1	0,500	0,202	Valid
X1.2	0,610	0,202	Valid
X1.3	0,589	0,202	Valid
X1.4	0,639	0,202	Valid
X1.5	0,594	0,202	Valid
X2.1	0,593	0,202	Valid
X2.2	0,588	0,202	Valid
X2.3	0,635	0,202	Valid
X3.1	0,663	0,202	Valid
X3.2	0,621	0,202	Valid
X3.3	0,601	0,202	Valid
X3.4	0,650	0,202	Valid
X4.1	0,642	0,202	Valid
X4.2	0,568	0,202	Valid
X4.3	0,614	0,202	Valid
X4.4	0,671	0,202	Valid
X5.1	0,622	0,202	Valid
X5.2	0,594	0,202	Valid

Variable	r value	r table	Remarks
X5.3	0,609	0,202	Valid
X5.4	0,657	0,202	Valid
Y1	0,610	0,202	Valid
Y2	0,671	0,202	Valid
Y3	0,236	0,202	Valid

Sources: Results of Data Processing, 2024

From the table above, it shows that all of the variables used in this research have a correlation value above 0.202. This means that all indicators used to measure all variables in this rsearch are stated to be valid.

4.4 Reliability Test

The results of the reliability test can be seen in the following table:

Table 3 Result of Reliability Test

Variable	Alpha Value	Cronbach's Alpha	Remarks
Reliability (X1)	0,905	0,6	Reliable
Responsiveness (X2)	0,905	0,6	Reliable
Assurance (X3)	0,904	0,6	Reliable
Empathy (X4)	0,904	0,6	Reliable
Tangible (X5)	0,907	0,6	Reliable
Kepuasan Konsumen (Y)	0,908	0,6	Reliable

Sources: Results of Data Processing, 2024

Based on table 3 above, the results of the test conducted on the reliability of the questionnaire obtained the results that the Cronbach's Alpha value of all variables is greater than 0.6. This condition means that all variables are reliable and can be used in further analysis.

4.5 Normality Test

To find out whether the data is normally distributed, it can be tested using the Kolmogorov-Smirnov method or a graphical approach. Normality testing using the Kolmogorov-Smirnov (K-S) non-parametric statistical test obtained the following results.

Table 4 Result of Normality Test

		Unstadardizeed Residual
N		96
Normal Parameters	Mean	.0000000
	Std. Deviation	1.05365984
Most Extreme Differences	Absolute	.083
	Positive	.070
	Negative	-.083
Test Statistic		.083
Asymp. Sig. (2-tailed)		.097

Sources: Results of Data Processing, 2024

The results of the Kolmogorov-Smirnov test tested in table 4 show a significance value of 0.97 above 0.05 or 5%. Thus it can be concluded that the residual values of all variables are distributed normally. The normality test using the normal probably plot of regression standardized residual graph obtained the following results:

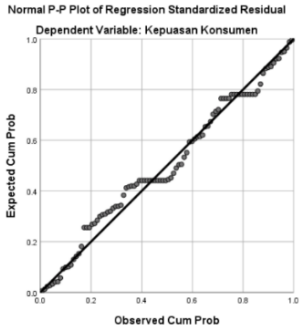

Image 1 Probably Plot of Regression

Graph above shows that the graph provides a pattern of dots approaching a diagonal line. So the regression model meets the assumption of normality and is suitable for use in further analysis.

4.6 Multicollinearity Test

Multicollinearity was tested using the Variance Inflation Factor (VIF) and tolerance value. The results of the multicollinearity test can be seen in the table 5 below:

Table 5 Result of Multicollinearity Test

Model		Sig.	Collinearity Statistics	
			Tolerance	VIF
1	(Constant)	.000		
	Reliability	.472	.538	1.858
	Responsiveness	.210	.331	3.025
	Assurance	.034	.347	2.878
	Empathy	.300	.376	2.660
	Tangible	.021	.857	1.166

Sources: Results of Data Processing, 2024

It is known that the results of the calculation of the tolerance value show that each independent variable has a tolerance value of more than 0.10, which means that there is no correlation between the independent variables, and the results of the calculation of the VIF value also show there are no independent variable has a VIF value of more than 10. So it can be concluded that there is no multicollinearity between the independent variables in this regression model.

4.7 Heteroscedasticity Test

A good regression model is one that is homoscedastic or does not have heteroscedasticity because the cross-section data has data that represents various sizes (small, medium and large). For more clarity, see the following table:

Table 6 Result of Heteroscedasticity Test

Model		T	Sig.
1	(Constant)	2.900	.005
	Reliability	-.002	.998
	Responsiveness	-.423	.673
	Assurance	-1.112	.269
	Empathy	.095	.924
	Tangible	1.081	.283

Sources: Results of Data Processing, 2024

The test results show that the value (sig) for the variable (X1) Reliability is 0.998 > 0.05, Responsiveness (X2) is 0.673 > 0.05, Assurance is 0.269 > 0.05, Empathy is 0.924 > 0.05, Tangible is 0.283 > 0.05. This shows that there is no heteroscedasticity problem in the independent variables because they have a probability or significance greater than = 0.05. Therefore, the independent variables in this research meet the requirements for using regression analysis.

4.8 Multiple Linear Regression Analysis

Multiple linear regression analysis to determine the magnitude of the influence of independent variables on dependent variables. The results of the multiple linear regression analysis can be seen in the table 7 below:

Table 7 Multiple Linear Regression Analysis

Model		Unstandardized Coefficients		Sig.
		B	Std. Error	
1	(Constant)	10.676	1.163	.000
	Reliability	.049	.068	.472
	Responsiveness	-.161	.128	.210
	Assurance	.216	.101	.034
	Empathy	-.098	.094	.300
	Tangible	.069	.029	.021

Sources: Results of Data Processing, 2024

Based on table 7 above, the regression equation formed in this regression test is
Y = 10,676 + 0,049X1 – 0,161X2 + 0,216X3 – 0,098X4 + 0,069X5

To find out how strong the relationship between the independent variable is and the dependent variable and how much influence the independent variable has on the dependent variable can be seen in the correlation coefficient and determination coefficient values as in the table below:

Table 8 Correlation Coefficient and Determinant Coefficient

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.348[a]	.121	.072	1.08253

Sources: Results of Data Processing, 2024

Correlation coefficient (R) = 0.348 which shows the influence of service quality variables (Reliability, Responsiveness, Assurance, Empalthy, Tangible) on customer satisfaction in the land licensing process is 34.8%. The coefficient of determination (R^2) value was obtained at 0.121 or 12.1%. This means that the independent variable has an influence on the dependent variable of 12.1%, while the signal of 87.9% is influenced by other factors outside variables of this research.

4.9 Partial Hypothesis Test (t - Test)

The t-test is used to determine the partial influence of the independent variables, (Reliability (X1), Responsiveness (X2), Assurance (X3), Empathy (X4), and Tangible (X5)) on the dependent variable (Customer Satisfaction (Y)).

Table 9 t-Test Result

Model		t	Sig.
1	(Constant)	9.182	.000
	Reliability	.722	.472
	Responsiveness	-1.264	.210
	Assurance	2.148	.034
	Empathy	-1.043	.300
	Tangible	2.348	.021

Sources: Results of Data Processing, 2024

From the table above, the variables Reliability, Responsiveness and Empathy get t-count values respectively of 0.722, -1.264 and -1.043 with a resulting significance level of 0.472; 0.210; and 0.300. This t-calculated value is smaller than the t-table value (1.667) and the significance value is greater than 0.05, which shows that the Reliability, Responsiveness and Empathy variables partially have no significant effect on Customer Satisfaction.

4.10 Simultaneous Hypothesis Test (F Test)

The t-test is used to determine the influence of the independent variables, (Reliability (X1), Responsiveness (X2), Assurance (X3), Empathy (X4), and Tangible (X5)) on the dependent variable (Customer Satisfaction (Y)) simultaneously.

Table 10 F-Test Result

Model		Mean Square	F	Sig.
1	Regression	2.898	2.473	.038[b]
	Residual	1.172		
	Total			

Sources: Results of Data Processing, 2024

The results of the simultaneous model testing above obtained an F-count value of 2.473 with a significance of 0.038. Therefore, the F-count value (2.473) > F-table (2.32) and the resulting significance value is 0.038 and this value is smaller than α = (0.05), it can be concluded that H0 is rejected and Ha is accepted. This means that Reliability (X1), Responsiveness (X2), Assurance (X3), Empathy (X4), and Tangible (X5) simultaneously have a significant effect on Customer Satisfaction.

4.11 Recapitulation of Hypothesis Test Result

The recapitulation of hypothesis test (t - Test and F - Test) are shown in tabel 11 below:

Hypothesis Test	**Statistic Value**			**Remarks**
	F - Count	**Sig**	**F - table**	
F - Test	2.473	0.038	2.32	H0 Rejected; H1 Accepted. Have a significant effect on Customer Satisfaction
t - Test	**t - Count**	**Sig**	**t - table**	
Reliability	0.722	0.472	1.667	H0 accpeted; H1 rejected. Have no significant effect on Customer Satisfaction
Responsiveness	-1.264	0.210	1.667	H0 accpeted; H1 rejected. Have no significant effect on Customer Satisfaction
Assurance	2.148	0.034	1.667	H0 Rejected; H1 Accepted. Have a significant effect on Customer Satisfaction
Empathy	-1.043	0.300	1.667	H0 accpeted; H1 rejected. Have no significant effect

				on Customer Satisfaction
Tangible	2.348	0.021	1.667	H0 Rejected; H1 Accepted. Have a significant effect on Customer Satisfaction

Sources: Results of Data Processing, 2024

a. Service Quality Effect on Customer Satisfaction

In the results of the hypothesis test, it was found that the variables contained in service quality (Reliability. Responsiveness, Assurance, Empathy, and Tangible) has a significant effect on customer satisfaction. This is in line with research conducted by Mariska & Shinta (2015) (Mariska & Shinta, 2015) which found that the service quality variable had a significant effect on student satisfaction at the Batam State Polytechnic.

b. Reliability Effect on Customer Satisfaction

From results testing hypothesis l, variables are obtained. Reliability partially has no significant effect on Customer Satisfaction. This research is not in line with research conducted by Khairil (2021) (Khairil, 2021), which shows variables Reliability has a significant effect on customer satisfaction at PDAM Bengkulu City through survey applications. This could be caused by differences in the objects, locations and samples of this research and previous research.

c. Responsiveness Effect on Customer Satisfaction

From the results testing hypothesis, it is found that the variable Responsiveness does not have a significant effect on customer satisfaction. Research conducted by Larono (2019) (Larono, 2019) did not obtain similar results where the variable Responsiveness turns out to have a significant effect on customer satisfaction. This could be caused by differences in the objects, locations and samples of this research and previous research.

d. Assurance Effect on Customer Satisfaction

Variable Assurance is one of the variables that has a significant influence on customer satisfaction from the results of data analysis testing. Research conducted by Khairusy (2020) (Khairusy, 2020) obtained similar research results with variables Assurance is the variable that has the most significant influence on Customer Satisfaction at KFC Store Bandung.

e. Empathy Effect on Customer Satisfaction

This research found that variable Empathy partially has no significant effect on customer satisfaction. Research conducted by Dewi (2021) (Dewi, 2021) obtained different results from this research where the variable Empathy is a variable that has a significant influence on customer satisfaction in DPMPTSP Talaud Islands Regency. This could be caused by differences in the objects, locations and samples of this research and previous research.

f. Tangible Effect on Customer Satisfaction

From results testing hypothesis obtained that variable Tangible partially influential regularly significant to satisfaction customer. Research conducted by Purwanto (2020) (Purwanto, 2020) obtained similar results where the variable Tangible, especially related to price,

is a variable that has a significant influence on customer satisfaction at the Kencana Tour Travel in Simo Boyolali.

5 Conclusions and Suggestions

The conclusions from this research are as follows:

1. The research results show that service quality dimensions are proven to influence the level of customer satisfaction. Judging from the coefficients of the service quality variables consisting of Reliability, Responsiveness, Assurance, Empathy and Tangible, they simultaneously have a significant effect on the level of customer satisfaction.
2. Meanwhile, if viewed partially, the service quality variables, namely the Assurance and Tangible variables, are the variables that have the most significant influence.
3. The Assurance variable is related to the ability to grow customer trust. This customer trust can be grown by continuing to provide the best service and providing a sense of security, especially regarding customer data during the land licensing process. If trust and a sense of security are maintained and continue to be improved, this will be directly proportional to customer satisfaction which will also increase.
4. Tangible variables relate to aspects that can be seen and felt directly by customers, such as access when carrying out the land licensing process. Therefore, to be able to maintain and increase customer satisfaction, it is necessary to pay attention to aspects such as providing clear and easily accessible information media regarding service procedures using the BP Batam Online LMS website for interaction between customers and officers during the land licensing process at BP's Land Management Directorate. Batam.

The suggestion for future research is to use other variables that can influence customer satisfaction. Apart from that, it is also necessary to supervise the filling out of the questionnaire so that the results obtained are more accurate. Therefore, there are limitations to this research using a questionnaire. Improvements can be made by adding direct interview methods to customers so that the information and research results obtained are more complete.

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