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The Future of Fun : Integrating Facilities and Services Quality to Enhance The Sustainability of Visitor Satisfaction in Amusement Park Industry

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ABSTRACT

The amusement park industry is experiencing rapid growth, driven by rising consumer expectations and an increasing emphasis on sustainability. This study explores the integration of facility quality and service quality as a strategic approach to enhancing long-term visitor satisfaction within the amusement park sector. Grounded in the SERVQUAL model and the principles of sustainable service design, the research investigates how the synergy between physical infrastructure and human-centered service delivery influences visitor satisfaction and loyalty. A mixed-methods approach was employed, combining quantitative survey data from amusement park visitors with qualitative insights derived from management interviews. The findings reveal that both facility quality and service quality significantly impact visitor satisfaction, with service quality exerting a more direct effect. Furthermore, sustainability practices embedded within these elements function as mediators that strengthen visitors' trust and their intention to revisit. This study underscores the importance of holistic and integrated strategies for amusement parks aiming to sustain competitive advantage and foster long-term relationships with visitors in an increasingly experience-driven economy.

Keywords: Facilities, Services Quality, Visitor Satisfaction,Visitor Experience, Hillpark Sibolangit.

INTRODUCTION

The tourism industry significantly contributes to national economic growth, with amusement parks becoming an important segment. Hillpark Sibolangit is a major amusement park in North Sumatra, yet increasing competition makes visitor satisfaction essential.

Facilities are a primary factor influencing satisfaction, as their condition, completeness, cleanliness, and design directly shape visitor perceptions (Sugiarto and Utari 2024). Service quality is equally critical, and issues such as poorly managed queues, slow staff responses, and inconsistent friendliness indicate a gap between expectations and actual performance.

Visitor satisfaction depends on the match between expectations and experiences (Moha and Loindong 2024). Current three-star reviews reflect concerns about inadequate facilities and unprofessional service, showing that expectations remain unmet.Because the visitor experience is holistic, facilities and service quality must work together; strengths in one cannot compensate for weaknesses in the other. However, previous studies often analyze these factors separately, with limited integrated research in North

Sumatra amusement parks. Therefore, this study examines the partial and simultaneous effects of facilities and service quality on visitor satisfaction at Hillpark Sibolangit and offers managerial recommendations to improve competitiveness.

LITERATURE REVIEW

Visitor Satisfaction

Visitor satisfaction is a key component of the entertainment industry, including theme parks. According to (Yonnata 2024), satisfaction is influenced by practical and physical elements such as appropriate ticket prices, cleanliness, functional play facilities, sufficient parking, and adequate health amenities. These factors indicate that satisfaction is driven not only by emotional responses but also by the quality of physical facilities that shape overall comfort during the visit.

Meanwhile, (Kotler and Keller 2009) state that satisfaction is the feeling of pleasure or disappointment that arises after visitors compare the performance of a product or service with the expectations they previously held. This perspective emphasizes the importance of alignment between expectations and service performance.

Thus, visitor satisfaction in the entertainment industry can be understood as the outcome of the interaction between facility and service quality and visitors' subjective perceptions of the entertainment experience they obtain.

Kotler and Keller (2016) identify several indicators that influence visitor satisfaction:
1) Conformity of expectations (The degree of conformity between perceived and expected performance).
2) Interest in returning.
3) Willingness to recommend products or services to others.

Facilities

Facilities play a highly strategic role in service delivery. According to Bakhtiar and Gadi (2020), facilities not only serve as a means to provide high-quality services but also play a crucial role in meeting community needs and satisfaction. This aligns with Irfadat and Nurlaila (2021), who emphasize that facilities are a supporting element that enables a connection between service providers and recipients. Therefore, facilities not only influence service quality but also serve as the primary link for optimal service delivery to the community.

According to Sumayang (2003), facilities are said to be adequate if they meet several indicators, namely:
1) Completeness, cleanliness, and tidiness of the facilities offered.
2) Condition and function of the facilities offered.
3) Ease of use of the facilities provided.

Service Quality

According to Fatihuddin and Firmansyah (2019), service quality refers to the concrete actions delivered by a provider, while Kotler and Keller (2012) describe quality as the features of a product or service that fulfill stated or implied needs. In the tourism industry, service quality is therefore a fundamental element that reflects service performance and plays a vital role in meeting visitor needs and enhancing satisfaction.

According to Tjiptono and Chandra (2012), service quality can be measured through five indicators, namely:

1) Reliability – the organization's ability to deliver services as promised, consistently, and on time.
2) Responsiveness – the willingness and readiness of employees to provide prompt and helpful service directly to customers.
3) Assurance – the competence, courtesy, and credibility of employees that foster customer trust and confidence in using the services offered.
4) Empathy – the ability of employees to provide individual attention and care to customers.
5) Tangibles – tangible evidence of the attention and care provided by the service provider to its customers.

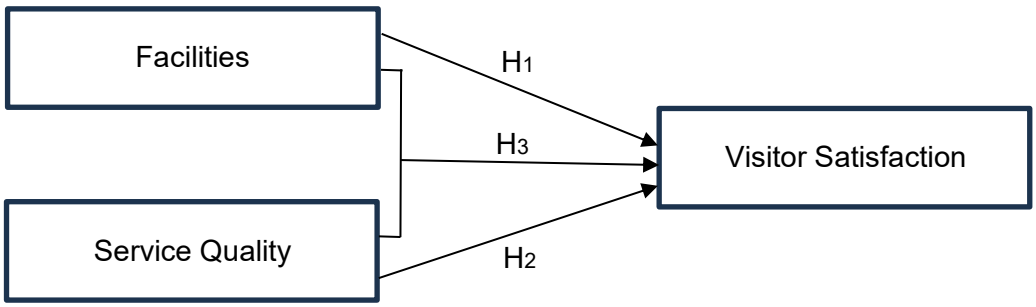


Figure 1. Theoretical Framework

Research Hypothesis
Based on the theoretical framework above, the research hypotheses are as follows:
H_1 : There is an influence between Facilities and Visitor Satisfaction.
H_2 : There is an influence between Service Quality and Visitor Satisfaction.
H_3 : There is an influence between Facilities and Service Quality on Visitor Satisfaction.

RESEARCH METHOD

This study was conducted at Hillpark Sibolangit, located in the Sibolangit District of Deli Serdang, North Sumatra, from July to September 2025. The research employed a quantitative approach with a cross-sectional design, meaning data were collected once at a specific point in time (Sekaran & Bougie, 2016). The population included all visitors to Hillpark Sibolangit, and because the exact population size was unknown, the sample size was determined using the Hair formula. Respondents were visitors aged 17 years and above who had directly experienced the park's facilities and services, ensuring their ability to provide accurate evaluations. The sampling technique used non-probability purposive sampling based on these criteria (Uma, 2011). Data were processed using SPSS and analyzed through multiple linear regression to determine the influence of the independent variables on the dependent variable and to test the proposed hypotheses.

Because the population size is not known with certainty, the determination of the sample size is done using the Hair formula where the sample size is determined by multiplying the total indicators by 5 or 10. In this study there are 31 indicators, so the sample size required is 31 × 10 = 310 respondents, the formula is as follows:

$$\boldsymbol{Number\ of\ Samples = Number\ of\ Indicators\ x\ 10}$$

The results of the Hair formula calculation in this study show that the required sample size is 310 respondents who have enjoyed the experience at Hillpark Sibolangit at least once.

RESULTS

Validity Test

A validity test is used to determine whether each statement item accurately represents the variable being measured. An item is considered valid when its correlation value (r-count) exceeds the critical value in the r-table, indicating a sufficient relationship with the overall indicator and suitability for analysis. Valid items ensure that the construct is measured accurately, making the data more credible and appropriate for further statistical testing.

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

Table 1. Validity Test

Variables		R_{Count}	R_{Table}	Criteria	Results
Facilities	X1.1	0.845	0.361	$r_{count} > r_{table}$	Valid
	X1.2	0.948	0.361	$r_{count} > r_{table}$	Valid
	X1.3	0.475	0.361	$r_{count} > r_{table}$	Valid
	X1.4	0.940	0.361	$r_{count} > r_{table}$	Valid
	X1.5	0.888	0.361	$r_{count} > r_{table}$	Valid
	X1.6	0.599	0.361	$r_{count} > r_{table}$	Valid
	X1.7	0.947	0.361	$r_{count} > r_{table}$	Valid
	X1.8	0.435	0.361	$r_{count} > r_{table}$	Valid
	X1.9	0.567	0.361	$r_{count} > r_{table}$	Valid
	X1.10	0.478	0.361	$r_{count} > r_{table}$	Valid
Service Quality	X2.1	0.618	0.361	$r_{count} > r_{table}$	Valid
	X2.2	0.790	0.361	$r_{count} > r_{table}$	Valid
	X2.3	0.584	0.361	$r_{count} > r_{table}$	Valid
	X2.4	0.422	0.361	$r_{count} > r_{table}$	Valid
	X2.5	0.541	0.361	$r_{count} > r_{table}$	Valid
	X2.6	0.604	0.361	$r_{count} > r_{table}$	Valid
	X2.7	0.660	0.361	$r_{count} > r_{table}$	Valid
	X2.8	0.628	0.361	$r_{count} > r_{table}$	Valid
	X2.9	0.684	0.361	$r_{count} > r_{table}$	Valid
	X2.10	0.780	0.361	$r_{count} > r_{table}$	Valid
Visitor Satisfaction	Y.1	0.685	0.361	$r_{count} > r_{table}$	Valid
	Y.2	0.520	0.361	$r_{count} > r_{table}$	Valid
	Y.3	0.424	0.361	$r_{count} > r_{table}$	Valid
	Y.4	0.598	0.361	$r_{count} > r_{table}$	Valid
	Y.5	0.597	0.361	$r_{count} > r_{table}$	Valid
	Y.6	0.576	0.361	$r_{count} > r_{table}$	Valid
	Y.7	0.552	0.361	$r_{count} > r_{table}$	Valid
	Y.8	0.441	0.361	$r_{count} > r_{table}$	Valid
	Y.9	0.484	0.361	$r_{count} > r_{table}$	Valid
	Y.10	0.424	0.361	$r_{count} > r_{table}$	Valid
	Y.11	0.499	0.361	$r_{count} > r_{table}$	Valid

Referring to Table 1, the validity test results show that all calculated r_{count} exceed the r_{table} value (0.361). Thus, it can be concluded that all questionnaire items are valid.

Reliability Test

A reliability test is conducted to determine the consistency of the questionnaire items in measuring a particular variable. An instrument is considered reliable when it produces stable and consistent results, typically indicated by a Cronbach's Alpha value that meets

or exceeds the accepted threshold. A higher alpha value suggests that the items within the instrument are measuring the same underlying construct. This ensures that the data collected can be trusted for further analysis and interpretation.

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

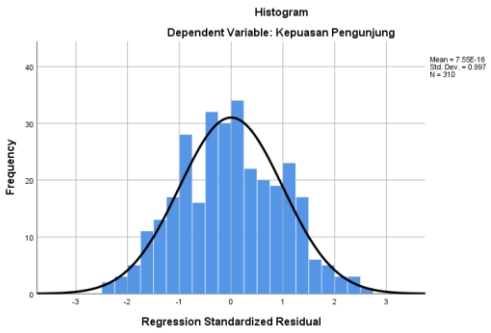
Table 2. Reliability Test

Variables	Cronbach's Alpha	Reliability Value	Results
Facilities	0.876	0.600	Reliable
Service Quality	0.792	0.600	Reliable
Visitor Satisfaction	0.788	0.600	Reliable

Referring to Table 2, it can be seen that all variables have a Cronbach's Alpha value greater than 0.6, which means all variables are reliable.

Classical Assumption Test

1. Normality Test



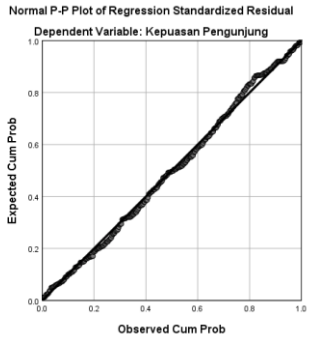


Figure 2. Histogram Normality Test Graph **Figure 3.** Normality Test of P-P Plot Graph

The residual histogram shows that the data distribution closely follows the diagonal line, indicating that the residuals are approximately normally distributed. This is supported by the regression probability plot, where data points align with the reference line, further confirming normality. These results demonstrate that the regression model meets the normality assumption, which is essential for valid statistical inferences, reliable parameter estimates, and appropriate hypothesis testing.

Table 3. One Sample Kolmogrov Sminorv Test

N		310
Normal Parameters[a,b]	Mean	137.8645161
	Std. Deviation	10.41283376
Most Extreme Differences	Absolute	.045
	Positive	.045
	Negative	-.026
Kolmogorov-Smirnov Z		.148
Asymp. Sig. (2-tailed)		.200[a]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.

Table 3 shows that the Kolmogorov-Smirnov normality test yielded a significance value of 0.200, which is greater than 0.05. Thus, it can be concluded that the data in the normality test are normally distributed.

2. Multicollinearity Test

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

Table 4. Multicollinearity Test Results

		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Facilities	0.987	1.013
	Service Quality	0.987	1.013

As presented in Table 4, the tolerance value for Facilities and Service Quality is 0.987, while the VIF value is 1.013. As a general rule, a tolerance value greater than 0.10 and a VIF value below 10 indicate the absence of multicollinearity. Therefore, it can be concluded that the independent variables in this study are free from multicollinearity problems, thus ensuring the robustness of the regression analysis.

3. Heteroscedasticity Test

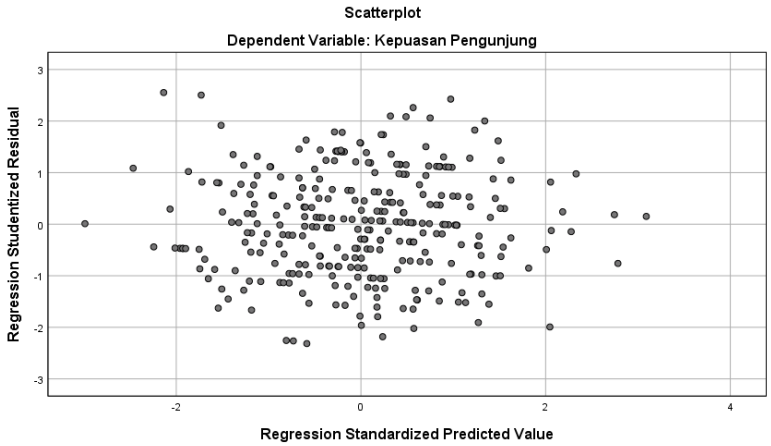


Figure 4. Scatterplot Heteroscedasticity Test Graph

The heteroscedasticity test using a scatter diagram shows that the data points are randomly distributed and do not form a clear pattern, with the points spread above and below the zero value on the Y axis. Therefore, it can be concluded that the regression model is free from heteroscedasticity.

Multiple Linear Regression Analysis

The results of the multiple linear regression test can be seen in the table below:

Table 5. Multiple Linear Regression Analysis Test

Coefficients[a]		
Type	Unstandardrized Coefficients	
	B	Std. Error
(Constant)	48.436	2.498
Facilities	.715	.028
Service Quality	.512	.019

a. Dependent Variable : Visitor Satisfaction

The test results can be seen in the unstandardized coefficient section in column B. These results were obtained using the following formula:

$$Y = a + ß1X1 + ß2X2 + e$$

Visitor Satisfaction = 48,436 + 0,715 Facilities + 0,512 Service Quality + e

The coefficient for Facilities (0.715) indicates that, with other variables held constant, a 1-unit increase in Facilities raises Visitor Satisfaction by 0.715. The coefficient for Service Quality (0.512) shows that a 1-unit increase in Service Quality increases Visitor Satisfaction by 0.512. The constant value of 48.436 means that when both independent variables are zero, Visitor Satisfaction is 48.436.

Hypothesis Test

1. **Statistical t test (t test)**
   The t-test determines whether an independent variable significantly affects a dependent variable. A variable is considered significant if its t-value exceeds the t-table value or if its p-value is below 0.05.

   The t-test results table is shown in Table 6 below:

Table 6. t-Statistic Test

Variables		t-value	t-table	Sig.
	Facilities	25.102	1.968	< 0.05
	Service Quality	26.993	1.968	< 0.05

a. Dependent Variable: Visitor Satisfaction

Based on the partial test results table above, several points can be identified, including:

1. For the Facilities variable, the calculated t_{count} (25.102) > t_{table} (1.968) with a significance level of 0.001 < 0.05. Therefore, it can be concluded that there is a significant partial positive effect between Facilities and Hillpark Sibolangit Visitor Satisfaction. Thus, H1 is accepted.
2. For the Service Quality variable, the calculated t_{count} (26.993) > t_{table} (1.968) with a significance level of 0.001 < 0.05. Therefore, it can be concluded that there is a significant partial positive effect between Service Quality and Hillpark Sibolangit Visitor Satisfaction. Thus, H2 is accepted.

2. **F Statistical Test (F Test)**
   The F-test evaluates whether the independent variables, as a group, significantly influence the dependent variable by comparing explained and unexplained variance. A significant F-value ($p < 0.05$) indicates that the model reliably predicts the dependent variable, while a non-significant result suggests otherwise. This test is essential for confirming the overall validity of the regression model before interpreting individual variable effects.

   The F test results table is shown in Table 7 below:

Table 7. F Statistical Test

ANOVA[a]						
Type		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	33503.976	2	16751.988	699.106	0.000[b]

	Residuals	7356.334	307	23.962		
	Total	40860.310	309			

a. Dependent Variable: Visitor Satisfaction
b. Predictors: (Constant), Service Quality, Facilities

Because the F_{count} value is 699.106 > F_{Table} 3.025, with a significance of 0.00 < 0.05, it can be concluded that Facilities and Service Quality simultaneously influence Visitor Satisfaction, so H3 is accepted.

Coefficient of Determination Test (R^2)

Table 8. Coefficient of Determination Test

Model Summary[b]				
Type	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.906[a]	.820	.819	4.895

a. Predictors: (Constant), Service Quality, Facilities
b. Dependent Variable: Visitor Satisfaction

The R Square determination value in measuring the dependent variable is 0.820. The result shows that 82% of visitor satisfaction is influenced by the Facilities and Service Quality variables, while the remaining 18% is influenced by other variables not examined in this study.

DISCUSSION

The Influence of Facilities on Visitor Satisfaction
Based on the t-test results, the Facilities variable shows t_{count} 25.102 > t_{table} 1.968 with a significance value of 0.001 < 0.05, indicating a significant positive effect on Visitor Satisfaction at Hillpark Sibolangit. This aligns with (Zhang and Kim 2021), who found that well-maintained and accessible facilities significantly improve visitor satisfaction by enhancing comfort and overall experience.

The Influence of Service Quality on Visitor Satisfaction
Based on the t-test results, the Service Quality variable shows tcount 26.993 > ttable 1.968 with a significance value of 0.001 < 0.05, indicating a significant positive effect on Visitor Satisfaction at Hillpark Sibolangit. This aligns with (Nurcahyo, Fitriyani, and Hudda 2017), who found that responsive, reliable, and competent service increases visitor satisfaction.

The Influence of Facilities and Service Quality on Visitor Satisfaction
The Facilities and Service Quality variables have a calculated F_{count} of 699.106 > F_{table} 3.025. So it can be interpreted that the Facilities and Service Quality variables have a significant positive influence simultaneously on Visitor Satisfaction. Then, from the results of the determination coefficient test (), the R Square value for the dependent variable (Visitor Satisfaction) is R^2 0.820 which concludes that 82% of Visitor Satisfaction is influenced by the Facilities and Service Quality variables. Meanwhile, the remaining 18% is influenced by other variables not examined in this study.

CONCLUSION

The results show that Facilities and Service Quality both have a positive and significant effect on Visitor Satisfaction at Hillpark Sibolangit, as demonstrated through multiple regression, t-tests, F-tests, and the R^2 value. However, several indicators contributed less to satisfaction. For Facilities, toilet cleanliness showed the weakest loading factor, while for Service Quality, ticket service speed required the most improvement. Focusing on these areas is recommended to enhance visitor satisfaction, strengthen loyalty, and improve Hillpark Sibolangit's competitiveness.

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