

Analysis of the Impact of Service Quality, Facilities, and Trust on Public Satisfaction as Users of Ahmad Yani Park in Medan

Comment [sm1]: The title is long and needs to be shortened with a greater focus on the case study. I suggest modifying it to the following title: "Analysis of the Impact of Service Quality, Facilities, and Trust on Public Satisfaction in Indonesian Green Public Parks".

Abstract

Comment [sm2]: The abstract needs to clearly identify the research knowledge gap and explain the reason for selecting the chosen case study.

This study aims to analyze the influence of service quality, facilities, and public trust on user satisfaction at Ahmad Yani Park in Medan. This park is a green open space serving strategic functions for recreation, sports, and social interaction. However, public complaints regarding cleanliness, inadequate facilities, and security issues highlight management problems. A quantitative approach with multiple linear regression was employed, collecting data from 150 respondents selected using accidental sampling. The results reveal that service quality, facilities, and public trust significantly affect user satisfaction, contributing 87% to overall satisfaction. Partially, public trust has the greatest influence, followed by facilities and service quality. Public trust is vital in ensuring satisfaction; however, shortcomings in cleanliness, aesthetics, and facility security require further attention. This study concludes that improving service quality, upgrading facilities, and strengthening public trust are key to enhancing user satisfaction. Strategic recommendations include increasing cleanliness, regular facility maintenance, and providing better security systems. These findings can serve as a reference for managing urban parks in a more inclusive, sustainable, and community-oriented manner.

Keywords: service quality, facilities, public trust, user satisfaction, Ahmad Yani Park

Comment [sm3]: The keywords should include terms not mentioned in the title and must be arranged alphabetically.

I. Introduction

Comment [sm4]: The introduction needs to be supported by global previous studies that discuss the design standards of green public parks. These studies should be credible, well-known, and recent. The researcher must discuss and analyze them through a comparative approach in terms of research methodology. The researcher should clarify what their study will add to these studies and whether it aligns with them or not. The introduction should conclude with a table summarizing the analyzed studies and highlighting the key indicators addressed by those studies.

Green open spaces (GOS) are crucial elements in urban spatial management, supporting ecological, social, and economic balance. GOS provides significant benefits to the public, ranging from environmental functions like pollution absorption to social functions as spaces for community interaction. In urban contexts, GOS serves as an indicator of government success in providing quality public services (Samsudi, 2010; Tjiptono & Chandra, 2012). However, rapid urbanization often threatens the existence of GOS, particularly in major cities like Medan (Utama & Giantari, 2020; Kumalasari et al., 2022).

As one of Indonesia's largest cities, Medan faces numerous challenges in managing its public spaces. Ahmad Yani Park, located in the city center, is a primary GOS serving as a hub for recreation, sports, and social interaction. Despite its strategic design as a public space, the park faces various issues that diminish visitors' experiences. Initial surveys reveal complaints about the park's cleanliness, inadequate supporting facilities, and insufficient security (Mustaram, 2019; Rahma, 2019a). These issues underscore the need for a thorough evaluation of the park's management to meet public needs and expectations.

Service quality is a critical factor in creating public satisfaction with public facilities. In customer satisfaction theory, service quality is defined as the provider's ability to meet or exceed user expectations. Dimensions of service quality, such as reliability, responsiveness, assurance, empathy, and physical evidence, significantly influence user satisfaction across various service contexts (Kotler & Armstrong, 2012; Riyanto & Qomariyati, 2021). Previous studies have shown that good service quality enhances user loyalty, but its effects often vary depending on local contexts (Austin, 2021; Damanik et al., 2023).

In addition to service quality, adequate facilities are key elements in increasing public satisfaction with public spaces. Core facilities like restrooms, children's play areas, and parking spaces are essential for user comfort. Research by Tjiptono and Chandra (2012) indicates that aesthetically pleasing and well-maintained facilities enhance public perceptions of the value of public spaces. However, Ismunandar's (2020) research

suggests that poorly managed facilities negatively impact user satisfaction, highlighting the importance of sustainable management in public facility administration.

Public trust in facility managers also plays a vital role in creating positive user experiences. Trust involves public confidence in managers' ability to provide safe, honest, and consistent services. In the context of public services, indicators such as reliability, honesty, credibility, and care are essential for building strong trust relationships (Mowen & Minor, 2010; Maharani, 2010). In the case of Ahmad Yani Park, the lack of responsiveness to public complaints often becomes a source of user dissatisfaction (Susiawati, 2018; Junaedi et al., 2022).

Previous research has extensively explored the impact of service quality, facilities, and trust on public satisfaction in various sectors, including public services and GOS. For instance, Mawey et al. (2018) found that service quality significantly impacts customer satisfaction in the banking sector, while Supriyanti et al. (2015) highlighted the importance of facilities in increasing public satisfaction in open spaces. However, these studies primarily focus on other sectors and have not specifically addressed the context of Ahmad Yani Park in Medan.

Ahmad Yani Park has unique characteristics as a strategic public space but faces significant management challenges. This study evaluates three key factors—service quality, facilities, and public trust—that are hypothesized to significantly affect user satisfaction with the park. Using a quantitative approach, this study employs a multiple linear regression model to analyze relationships among these variables and identify the most significant factor influencing public satisfaction.

The relevance of this research lies not only in its contribution to understanding the dynamics of public satisfaction with urban spaces in Medan but also in its potential to provide strategic recommendations for urban park management. By exploring factors affecting user satisfaction, this study aims to serve as a reference for developing more inclusive and sustainable GOS policies.

The approach used in this study enables urban park managers to gain better insights into public needs and expectations. The findings can help identify priorities for improvement and development to enhance user experiences. Thus, this research contributes not only to academic literature but also offers practical implications for managing public spaces in Medan and its surroundings.

II. Research Method

This study employs a **quantitative research approach** with a confirmatory research design. The goal is to examine the relationship between service quality, facilities, and public trust with user satisfaction at Ahmad Yani Park in Medan. The analytical model applied is multiple linear regression, which allows for identifying significant relationships among variables.

Research Design

The research design adheres to rational, empirical, and systematic scientific principles (Sugiyono, 2019). The study commenced with data collection using an online questionnaire distributed through Google Forms. Respondents were selected based on specific criteria relevant to the research objectives. The collected data were analyzed using statistical software to test the hypotheses.

Population and Sampling

The **population** for this study includes all residents of Medan who have visited Ahmad Yani Park. Based on Central Bureau of Statistics data (2024), the population of Medan is approximately 2,474,166 individuals. The **sample** was determined using accidental sampling, targeting respondents who were conveniently available and willing to participate in the survey.

Following Roscoe's rule, the minimum sample size for research is 10 times the number of indicators. With 15 indicators in this study, a sample size of 150 respondents was deemed sufficient.

Research Variables

Comment [sm5]: In the research method section, there should be a comprehensive explanation of the study area (in terms of its size, location within the city, access routes, and surrounding land uses), supported by maps and images illustrating this information. I suggest that the research adopt a comparative analysis approach by selecting multiple study samples and comparing the results to ensure the findings are objective and more accurate.

1. **Independent Variables:**
 - **Service Quality (X1):** Measured through dimensions including reliability, responsiveness, assurance, empathy, and physical evidence.
 - **Facilities (X2):** Categorized into core facilities (e.g., restrooms), supporting facilities (e.g., parking spaces), and additional facilities (e.g., playgrounds).
 - **Public Trust (X3):** Assessed through indicators such as reliability, honesty, care, and credibility.
2. **Dependent Variable:**
 - **User Satisfaction (Y):** Encompasses elements such as fulfilled expectations, willingness to reuse the park, reputation, and accessibility.

Data Collection Techniques

The research adopted the following data collection methods:

1. **Observation:** Conducted initially to assess the park's condition and management practices.
2. **Questionnaire:** The primary instrument for gathering data, focusing on user experiences regarding service quality, facilities, and trust.
3. **Documentation:** Secondary data from reports, journals, and relevant official documents were reviewed to support the analysis.

Instrument Testing

The study ensured the reliability and validity of its measurement tools through:

- **Validity Testing:** Comparing the calculated r-value with the critical r-table value at a 5% significance level. A higher r-value confirms the validity of each item.
- **Reliability Testing:** Using Cronbach's Alpha, with $\alpha > 0.60$ considered acceptable, indicating consistent measurement across items.

Data Analysis Techniques

The study employed several analytical techniques:

1. **Descriptive Analysis:** Used to describe respondents' characteristics and the distribution of questionnaire responses.
2. **Classical Assumption Tests:** These tests included:
 - **Normality Test:** Ensuring data distribution is normal.
 - **Multicollinearity Test:** Identifying correlations among independent variables.
 - **Heteroscedasticity Test:** Checking for variance inconsistencies.
 - **Autocorrelation Test:** Ensuring data independence.
3. **Multiple Linear Regression Analysis:** To evaluate the partial and simultaneous influence of independent variables (X1, X2, and X3) on the dependent variable (Y).

Hypotheses

The hypotheses for this study are as follows:

- **H1:** Service quality (X1) significantly affects user satisfaction (Y).
- **H2:** Facilities (X2) significantly affect user satisfaction (Y).
- **H3:** Public trust (X3) significantly affects user satisfaction (Y).
- **H4:** Service quality, facilities, and public trust simultaneously affect user satisfaction (Y).

III. Results and Discussion

3.1 Research Results

Overview of the Research Location

Ahmad Yani Park is located on Jalan Imam Bonjol, Medan Maimun District, Medan City. Covering an area of approximately 1.3 hectares, the park serves as a strategic public space for recreation, sports, and social interaction. Its facilities include jogging tracks, a

central square, gazebos, toilets, a prayer room (*musholla*), and a children's play area. The location map of Ahmad Yani Park is shown in **Figure 1**.

Figure 1. Location Map of Ahmad Yani Park



Source: Google Earth Imagery (2024)

Facilities and Infrastructure

Ahmad Yani Park provides various facilities and infrastructure designed to support public activities such as exercise, recreation, and social gatherings. The available facilities are summarized in **Table 1**:

Table 1. Facilities and Infrastructure of Ahmad Yani Park

Facility/Infrastructure	Description
Jogging Track	Jogging track connected to the main road, facilitating sports activities.
Central Square	Area for arts, public events, and group activities.
Parking Area	Parking located outside the park, insufficient for four-wheeled vehicles.
Toilets	Public restrooms available but poorly maintained.
Prayer Room (<i>Musholla</i>)	Worship space with ablution facilities, requiring minor repairs.
Trash Bins	Placed at several points in the park but still insufficient.

Analysis of Facilities and Infrastructure

- **Jogging Track**

The jogging track in Ahmad Yani Park provides convenience for visitors engaging in exercise. Its connection to the main road allows easy access to various parts of the park. However, improvements, such as repairing damaged surfaces, are necessary to enhance user comfort.

Figure 2. Jogging Track



- **Central Square**

The central square is the heart of the park and is often used for arts events, sports, and community activities. Its strategic location, surrounded by other facilities, makes it the most visited area. However, respondents noted the need to improve the cleanliness and aesthetics of this space.

Figure 3. Central Square Ahmad Yani



Source: Documentation 2024

- **Parking Area**

The limited parking area outside the park is a significant drawback. It does not adequately support the needs of visitors, particularly those with four-wheeled vehicles. Parking management, still conducted manually, poses challenges to user convenience.

- **Toilets**

The condition of the toilets in Ahmad Yani Park is considered inadequate. Some parts, such as the ceiling, are damaged, and cleanliness is often a concern, especially during busy periods. This highlights the need for better maintenance of basic facilities.

- **Prayer Room (*Musholla*)**

The prayer room is equipped with ablution facilities and other worship necessities. Generally, it is in good condition, but minor repairs, such as fixing a leaking ceiling, are required to ensure visitor comfort.

- **Trash Bins**

Trash bins are strategically placed in several areas of the park to maintain cleanliness. However, their number is still insufficient. Adding more bins, particularly in high-activity areas like the central square and jogging track, is recommended to enhance waste management.

Overall, the facilities and infrastructure at Ahmad Yani Park support most visitor needs. However, aspects such as cleanliness, facility maintenance, and parking availability need improvement to optimize the visitor experience.

Respondent Characteristics

The respondents, totaling 150 individuals, represent a diverse group of Ahmad Yani Park visitors. Their profiles are as follows:

1. **Gender**

- Male: 62%
- Female: 38%

This indicates that male visitors dominate the use of Ahmad Yani Park for various activities.

2. **Occupation**

- Employees (private and public sectors): 67.33%
- Students: 22%
- Entrepreneurs: 10%
- Homemakers: 0.67%

This data suggests that the park is primarily frequented by working individuals and students, making it a strategic spot for recreation and relaxation.

3. **Purpose of Visit**

- Sports: 51.33%
- Recreation: 31.33%
- Study/Research: 17.33%

The park serves diverse needs, with most visitors using it for sports. This highlights the importance of maintaining sports facilities to ensure comfort and functionality.

Comment [sm6]: I suggest converting the respondents' data into charts that illustrate the indicators and their corresponding percentages.

Instrument Validity and Reliability Testing

All research instruments were declared valid with a minimum critical r-table value of 0.1603. A question item is valid if the SPSS output shows an r-value greater than 0.1603. The comparisons between r-calculated and r-table values for each variable are detailed in **Table 2, Table 3, Table 4, and Table 5**

Comment [sm7]: A "Results" section should be added and separated from the "Methodology" section.

Table 2 Comparison of r-calculated with r-table for Variable X1

Question Item	r-calculated	r-table
SDM 1	0.858	0.1603
SDM 2	0.829	0.1603
SDM 3	0.875	0.1603
SDM 4	0.823	0.1603
Aesthetics 1	0.805	0.1603
Aesthetics 2	0.858	0.1603
Aesthetics 3	0.836	0.1603
Spatial Planning 1	0.858	0.1603
Spatial Planning 2	0.847	0.1603

Spatial Planning 3	0.866	0.1603
Accessibility 1	0.802	0.1603
Accessibility 2	0.794	0.1603
Accessibility 3	0.804	0.1603

Source: Data Analysis Results (2024)

Table 3. Comparison of r-calculated with r-table for Variable X2

Question Item	r-calculated	r-table
Core Facilities 1	0.823	0.1603
Core Facilities 2	0.824	0.1603
Core Facilities 3	0.854	0.1603
Supporting Facilities 1	0.816	0.1603
Supporting Facilities 2	0.866	0.1603
Supporting Facilities 3	0.814	0.1603
Additional Facilities 1	0.839	0.1603
Additional Facilities 2	0.861	0.1603
Additional Facilities 3	0.792	0.1603

Source: Data Analysis Results (2024)

Table 4. Comparison of r-calculated with r-table for Variable X3

Question Item	r-calculated	r-table
Reliability 1	0.867	0.1603
Reliability 2	0.866	0.1603
Reliability 3	0.911	0.1603
Honesty 1	0.873	0.1603
Honesty 2	0.880	0.1603
Honesty 3	0.824	0.1603
Care 1	0.877	0.1603
Care 2	0.887	0.1603
Care 3	0.837	0.1603
Credibility 1	0.852	0.1603
Credibility 2	0.775	0.1603
Credibility 3	0.793	0.1603

Source: Data Analysis Results (2024)

Table 5. Comparison of r-calculated with r-table for Variable Y

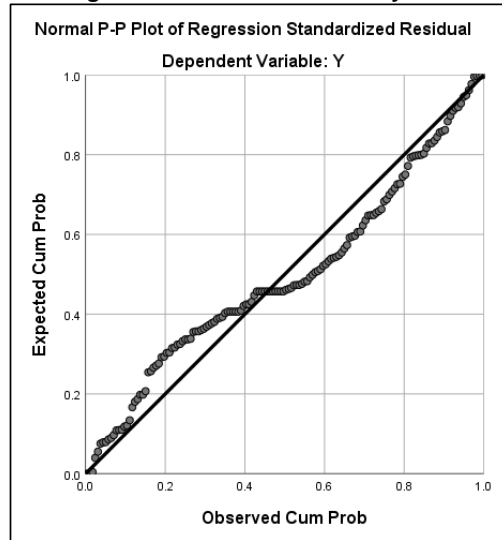
Question Item	r-calculated	r-table
Fulfilled Expectations 1	0.856	0.1603
Fulfilled Expectations 2	0.833	0.1603
Fulfilled Expectations 3	0.888	0.1603
Willingness to Use Again 1	0.889	0.1603
Willingness to Use Again 2	0.877	0.1603
Willingness to Use Again 3	0.892	0.1603
Good Reputation 1	0.856	0.1603
Good Reputation 2	0.853	0.1603
Good Reputation 3	0.840	0.1603
Location 1	0.852	0.1603
Location 2	0.884	0.1603
Location 3	0.810	0.1603

Source: Data Analysis Results (2024)

Classical Assumption Tests

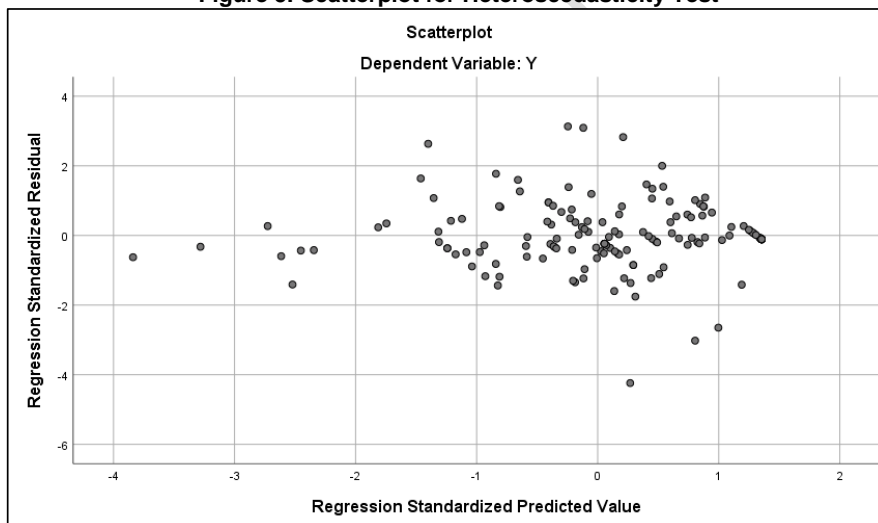
- **Normality Test:** The data were normally distributed, as shown in **Figure 2**.
- **Multicollinearity Test:** No multicollinearity was found, with Tolerance > 0.1 and VIF < 10.
- **Heteroscedasticity Test:** No heteroscedasticity was observed, as shown in **Figure 3**.

Figure 4. P-P Plot for Normality Test



Source: Data Analysis Results (2024)

Figure 5. Scatterplot for Heteroscedasticity Test



Source: Data Analysis Results (2024)

Regression Analysis and Hypothesis Testing

The hypothesis test results are summarized in **Table 4** and **Table 5**:

- **Service Quality (X1)**: Positive and significant impact on satisfaction ($t = 2.583$, $p = 0.011$).
- **Facilities (X2)**: Positive and significant impact on satisfaction ($t = 2.636$, $p = 0.009$).
- **Public Trust (X3)**: Strongest positive and significant impact on satisfaction ($t = 11.151$, $p = 0.000$).

The resulting regression model is:

$$Y = 2,621 + 0,140 X_1 + 0,240 X_2 + 0,611 X_3 + e$$

Constant (2.621): If service quality X_1 , facilities X_2 , and public trust X_3 have a value of zero, public satisfaction with Ahmad Yani Park remains at 2.621 points on a Likert scale of 1–5.

Variable X_1 (Service Quality):

Each 1-point increase in service quality raises public satisfaction by 0.140 points. Conversely, a 1-point decrease in service quality reduces public satisfaction by 0.140 points.

Variable X_2 (Facilities):

Each 1-point increase in facilities raises public satisfaction by 0.240 points. Conversely, a 1-point decrease in facilities reduces public satisfaction by 0.240 points.

Variable X_3 (Public Trust):

Public trust has the greatest influence, with each 1-point increase in trust raising public satisfaction by 0.611 points. Conversely, a 1-point decrease in public trust reduces public satisfaction by 0.611 points.

3.2 Discussion

Effect of Service Quality on User Satisfaction

The findings indicate that service quality positively and significantly affects user satisfaction. This aligns with previous studies (Sigit & Oktafani, 2014; Mawey et al., 2018) emphasizing the importance of public service quality. Key service quality indicators include human resources, aesthetics, spatial planning, and accessibility. However, improvements in aesthetics and spatial planning, such as better facility layout and visual harmony, are needed.

Effect of Facilities on User Satisfaction

Facilities also significantly affect satisfaction, with cleanliness and maintenance being key areas of concern. Proper maintenance programs and community involvement in cleanliness efforts are recommended to ensure sustainability.

Effect of Public Trust on User Satisfaction

Public trust has the strongest impact on satisfaction. Security issues, such as insufficient staff and storage options, need to be addressed. Providing lockers and installing CCTV can help increase visitor confidence.

Combined Effects

The combined impact of service quality, facilities, and public trust explains 87% of user satisfaction. Strategic improvements in these areas can transform Ahmad Yani Park into a model for sustainable public space management.

COMPETING INTERESTS DISCLAIMER:

Authors have declared that they have no known competing financial interests OR non-financial interests OR personal relationships that could have appeared to influence the work reported in this paper.

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Comment [sm8]: A "Discussion" section should be added to interpret and explain the findings of the research. Additionally, a "Conclusions" section should be included, summarizing the key conclusions drawn from the study, as well as suggesting potential areas for future research.

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