

# Public Satisfaction in Medan Green Public Parks: The Role of Service Quality, Facilities, and Trust

## Abstract

Public satisfaction with urban parks is crucial for enhancing community engagement and well-being, yet challenges in management persist, particularly in developing countries like Indonesia. This study investigates the impact of service quality, facilities, and public trust on user satisfaction in Ahmad Yani Park, a key green public space in Medan. Ahmad Yani Park was chosen as the case study due to its strategic importance and persistent public complaints about cleanliness, inadequate facilities, and security. Using a quantitative approach, data were collected from 150 respondents through accidental sampling and analyzed via multiple linear regression. Results reveal that public trust has the strongest influence on satisfaction ( $\beta = 0.611$ ,  $p < 0.001$ ), followed by facilities ( $\beta = 0.240$ ,  $p < 0.01$ ) and service quality ( $\beta = 0.140$ ,  $p < 0.05$ ), collectively explaining 87% of overall satisfaction. These findings highlight the critical need to address deficiencies in cleanliness, facility maintenance, and security to enhance public trust and user experiences. The study's strategic recommendations include improving cleanliness practices, establishing regular maintenance schedules, and implementing advanced security systems, such as CCTV and lockers. This research contributes to urban park management literature by providing actionable insights for creating inclusive and sustainable public spaces. Future studies should explore the long-term impacts of such interventions on community engagement in green public spaces.

**Keywords:** Green open space, Indonesia, Public parks, Public satisfaction, Service improvement Urban management

## I. Introduction

Green open spaces (GOS) are vital components of urban spatial planning, supporting ecological, social, and economic sustainability. Globally, well-designed GOS provide environmental benefits such as air pollution reduction, temperature regulation, and biodiversity preservation, while also fostering social cohesion through recreational and community spaces (Chiesura, 2004; Kabisch et al., 2016). In urban planning, GOS is often regarded as an indicator of governmental effectiveness in delivering quality public services (Samsudi, 2010; Tjiptono & Chandra, 2012). However, rapid urbanization in developing countries frequently jeopardizes the functionality of these spaces, leading to challenges such as poor maintenance and declining user satisfaction (Kabisch & Haase, 2013).

Design standards for urban parks have been widely studied. Scholars emphasize that successful public parks require accessibility, safety, aesthetics, and functional diversity (Whyte, 2009; Gehl, 2010). Studies in North America, Europe, and Asia demonstrate that user satisfaction is heavily influenced by these factors, albeit with varying cultural and environmental emphases (Jim & Chen, 2006; Konijnendijk et al., 2013). For example, research by Thompson et al. (2015) in the UK highlighted the importance of inclusive design for urban parks, ensuring that facilities cater to diverse age groups and physical abilities. In contrast, studies in Southeast Asia emphasize security and cleanliness as primary determinants of

park usage and satisfaction (Januchta-Szostak, 2010; Nguyen et al., 2020). This comparative evidence underscores the need for context-specific approaches in designing and managing GOS.

Medan, as one of Indonesia's largest cities, exemplifies the challenges faced by urban parks in the Global South. Ahmad Yani Park, a centrally located GOS in Medan, serves as a hub for recreation, social interaction, and environmental functions. However, despite its strategic importance, the park has garnered complaints about cleanliness, insufficient facilities, and inadequate security (Mustaram, 2019; Rahma, 2019a). These issues highlight a gap between global design standards and local implementation, necessitating an evaluation of the park's management practices to align with user needs and international best practices.

Previous studies have extensively explored factors influencing public satisfaction in urban parks. For example, Tjiptono and Chandra (2012) found that aesthetically pleasing and well-maintained facilities enhance user experiences, while Ismunandar (2020) noted that poorly managed facilities significantly deter park usage. Service quality has been identified as a crucial element in creating positive user experiences, as evidenced by studies in public services (Kotler & Armstrong, 2012) and banking (Mawey et al., 2018). Public trust, encompassing reliability, credibility, and responsiveness, is another critical determinant of satisfaction, particularly in contexts where public services are under scrutiny (Mowen & Minor, 2010; Susilowati, 2018).

This study contributes to the literature by focusing on the interplay of service quality, facilities, and public trust in Ahmad Yani Park. Using a quantitative approach with multiple linear regression, it examines the relationships among these variables and identifies the most influential factors on user satisfaction. The findings aim to bridge the gap between global design standards and local management practices, offering actionable recommendations for enhancing urban park experiences in Indonesia.

**Table1.** Comparative Summary of Key Studies on Green Public Parks

Study	Region	Focus	Methodology	Key Indicators
Chiesura (2004)	Europe	Psychological and social benefits of GOS	Qualitative surveys	Accessibility, aesthetics, social value
Jim & Chen (2006)	Asia	Urban park use and satisfaction	Quantitative analysis	Accessibility, maintenance, safety
Kabisch et al. (2016)	Global	Urban GOS and ecosystem services	Meta-analysis	Biodiversity, climate regulation
Thompson et al. (2015)	UK	Inclusive design for diverse populations	Case studies	Age-friendly facilities, accessibility
Nguyen et al. (2020)	Southeast Asia	Determinants of park satisfaction	Quantitative analysis	Cleanliness, security
Current Study	Indonesia (Medan)	User satisfaction in Ahmad Yani Park	Quantitative regression	Service quality, facilities, trust

## II. Research Method

This study employs a quantitative research approach with a confirmatory research design to examine the relationships among service quality, facilities, public trust, and user satisfaction at Ahmad Yani Park in Medan. Multiple linear regression was used as the analytical model, allowing for the identification of significant relationships among the variables.

### Study Area

Ahmad Yani Park is located in the heart of Medan City, specifically on Jalan Imam Bonjol, Medan Maimun District. Covering an area of approximately 1.3 hectares, the park serves as a central hub for recreation, sports, and social interaction. The park is accessible via major arterial roads and public transportation routes, making it a prominent green open space in the city. Surrounding land uses include commercial zones, residential areas, and institutional buildings, reflecting its strategic location and diverse user base.

A location map and images illustrating the park's layout, access routes, and adjacent land uses are provided in Figures 1 to give a comprehensive understanding of the study area.

**Figure 1. Location Map of Ahmad Yani Park**



Source: Google Earth Imagery (2024)

### Research Design

The research design adheres to rational, empirical, and systematic scientific principles (Sugiyono, 2019). Data collection involved distributing an online questionnaire through Google Forms, ensuring accessibility to respondents. The collected data were analyzed using statistical software to test the hypotheses and provide reliable insights.

### Population and Sampling

The population for this study includes all residents of Medan who have visited Ahmad Yani Park. According to Central Bureau of Statistics data (2024), Medan has a population of approximately 2,474,166 individuals. A sample of 150 respondents was

determined based on Roscoe's rule, which recommends a minimum sample size of 10 times the number of indicators (15 indicators in this study).

Accidental sampling was employed to target respondents who were conveniently available and willing to participate. While this method ensures feasibility, it is acknowledged that it may introduce bias. Future studies should consider probability sampling techniques for greater generalizability.

### Research Variables

#### 1. Independent Variables:

- **Service Quality (X1):** Measured through dimensions such as 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 including reliability, honesty, care, and credibility.

#### 2. Dependent Variable:

- **User Satisfaction (Y):** Encompasses fulfilled expectations, willingness to reuse the park, reputation, and accessibility.

### Data Collection Techniques

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

### Instrument Testing

The reliability and validity of the measurement tools were confirmed through:

- **Validity Testing:** Items with an r-value higher than the critical r-table value at a 5% significance level were considered valid.
- **Reliability Testing:** Cronbach's Alpha values greater than 0.60 indicated acceptable internal consistency.

### Data Analysis Techniques

1. **Descriptive Analysis:** Used to describe respondents' characteristics and questionnaire responses.
2. **Classical Assumption Tests:**
  - **Normality Test:** Ensured data distribution was normal.
  - **Multicollinearity Test:** Identified correlations among independent variables.
  - **Heteroscedasticity Test:** Checked for variance inconsistencies.
  - **Autocorrelation Test:** Ensured data independence.
3. **Multiple Linear Regression Analysis:** Assessed the partial and simultaneous influence of independent variables (X1, X2, X3) on the dependent variable (Y).

### Comparative Analysis (Future Consideration)

To enhance objectivity and accuracy, future research could adopt a comparative approach by analyzing data from multiple parks in Medan or other urban areas in Indonesia. This would allow for cross-validation of findings and a broader understanding of user satisfaction determinants across diverse urban contexts.

### 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.

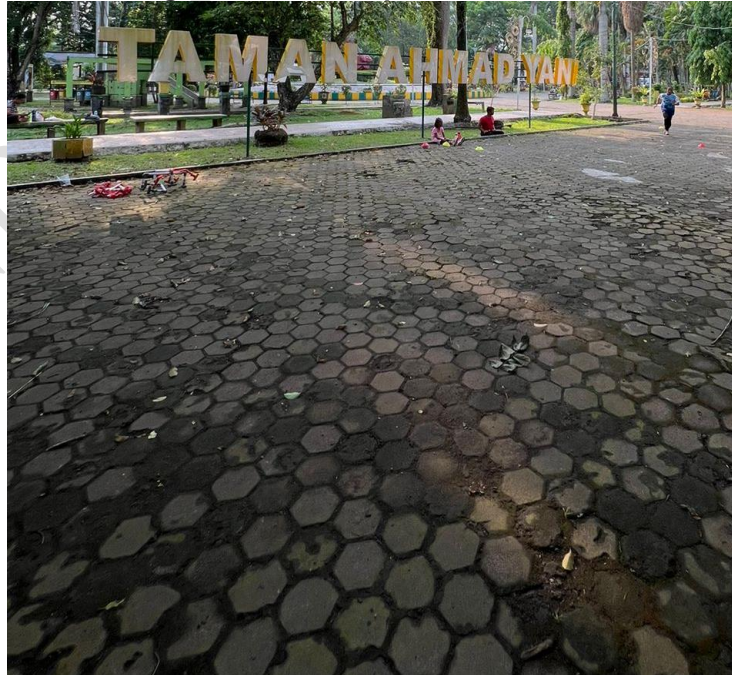
**Figure 2. Jogging Track**



- **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

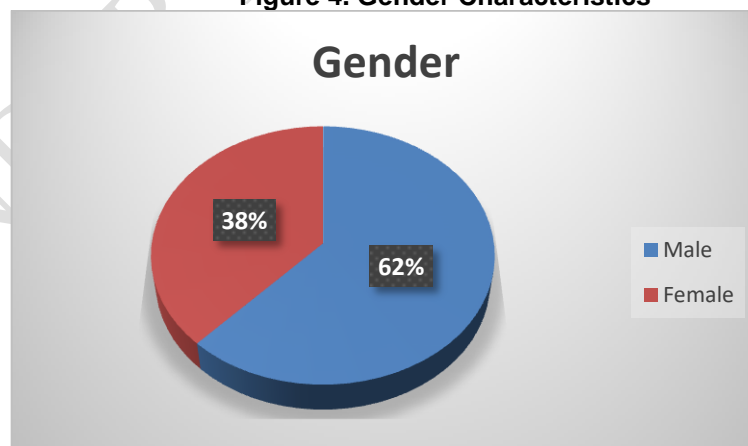
The respondents, totaling 150 individuals, represent a diverse group of Ahmad Yani Park visitors. Their profiles are as follows:

1. **Gender**

- Male: 62%
- Female: 38%

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

**Figure 4. Gender Characteristics**



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.

**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**

**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**

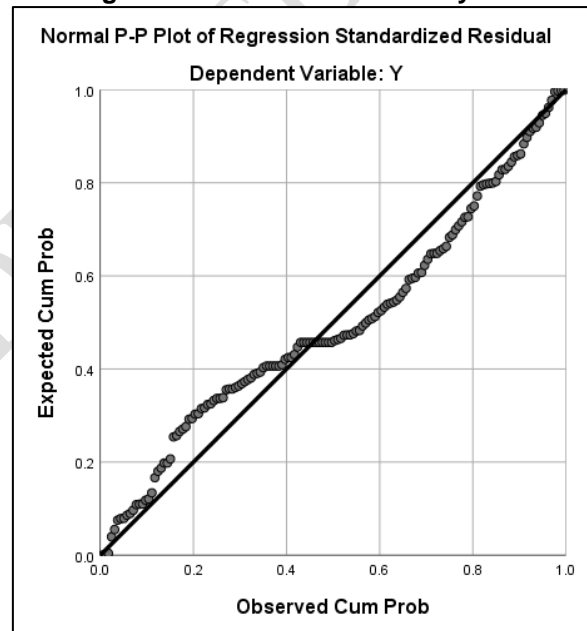
Question Item	r-calculated	r-table
Fulfilled Expectations 1	0.856	0.1603
Fulfilled Expectations 2	0.833	0.1603
Fulfilled Expectations 3	0.888	0.1603
Willingness to Use Again 1	0.889	0.1603
Willingness to Use Again 2	0.877	0.1603
Willingness to Use Again 3	0.892	0.1603
Good Reputation 1	0.856	0.1603
Good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

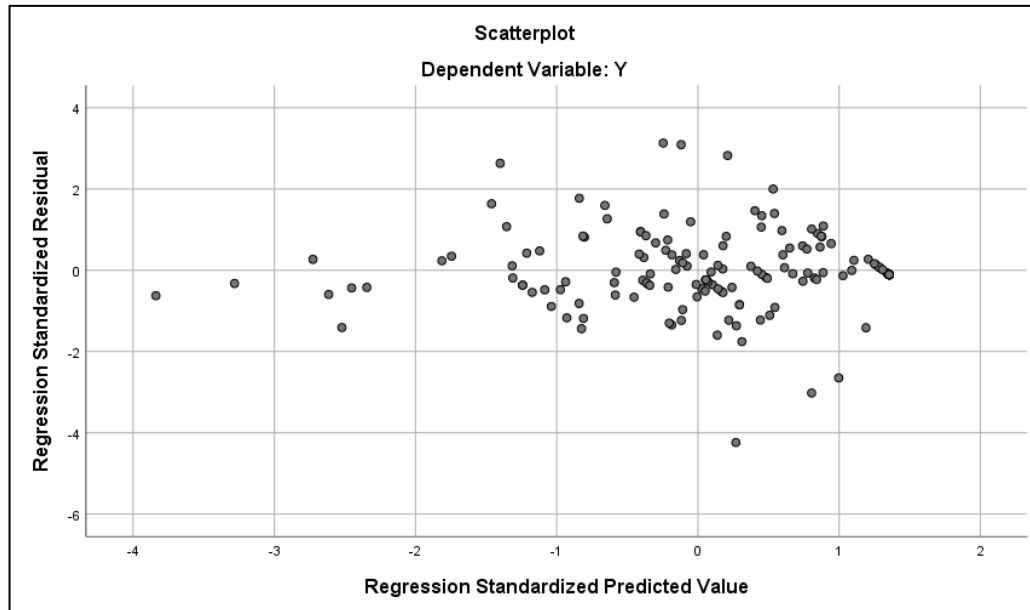
- **Normality Test:** The data were normally distributed, as shown in **Figure 2**.
- **Multicollinearity Test:** No multicollinearity was found, with Tolerance > 0.1 and VIF < 10.
- **Heteroscedasticity Test:** No heteroscedasticity was observed, as shown in **Figure 3**.

**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.

## **IV. Conclusion and Recommendation**

This study highlights the significant roles of service quality, facilities, and public trust in determining user satisfaction at Ahmad Yani Park, a central urban green space in Medan. Public trust emerged as the most influential factor, followed by facilities and service quality, collectively explaining 87% of user satisfaction. Despite its strategic location and essential role as a green public space, the park faces challenges such as cleanliness issues, inadequate facilities, and limited security measures, which detract from the user experience. These findings underscore the need for targeted interventions to address these shortcomings and align the park's management practices with user expectations and international standards.

To enhance user satisfaction and create a more inclusive and sustainable urban park, it is recommended that park management prioritize cleanliness by implementing regular maintenance schedules and community involvement programs. Upgrading facilities such as restrooms, playgrounds, and parking spaces, along with incorporating advanced security measures like CCTV and secure storage lockers, can significantly improve the overall visitor experience. Additionally, fostering public trust through responsive management practices and transparent communication with users is essential. These strategic recommendations can serve as a model for improving urban park management in Medan and similar contexts, contributing to the broader development of sustainable public spaces in Indonesia.

### **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.

### **References**

- Austin, T. (2021). The Influence of Tangible, Reliability, Responsiveness, Assurance, and Empathy on Public Satisfaction with Paten Services During the New Normal in Sako Subdistrict. *Journal of Government and Politics*, 6(1). <https://doi.org/10.36982/JPG.V6i1.1315>
- Damanik, A., Makhmud, Z. A., & Pratinidina, S. W. (2023). The Effect of Employee Service Quality on Public Satisfaction at the Balige Post Office Branch. *Jurnal Ilmiah Edunomika*, 7(1). <https://doi.org/10.29040/JIE.V7i1.8303>
- Ismunandar, R. A. (2020). The Influence of Facilities and Location on Customer Satisfaction: A Case Study of Mahfoed Life Gym. *Pamator Journal: Scientific Journal of Trunojoyo University*, 13(1), 105–109. <https://doi.org/10.21107/pamator.v13i1.7015>
- Junaedi, A. T., Bisnis, I., Pelita, T., Tavip, A., Evelyn, J., Pamuji, W., Santoso, H., & Chandra, S. (2022). Improving Customer Loyalty to the Wardah Brand Through Brand Image and Price Fairness: Customer Satisfaction as an Intervening

- Variable. *Journal of Management Applications*, 20(2), 379–387. <https://doi.org/10.21776/UB.JAM.2022.020.02.14>
- Kumalasari, S., Amallia, N., Univeritas, A. J., Bumi, S., & Jurai, R. (2022). Public Service Quality During the Covid-19 Pandemic and Its Effect on Public Satisfaction. *Journal of Social and Human Sciences (JSHS)*, 7(1), 57–76. <https://doi.org/10.24967/JSHS.V7I1.1739>
- Kotler, P., & Armstrong, G. (2012). *Marketing Management*. Jakarta: PT Prehalindo.
- Maharani, A. D. (2010). Analysis of the Influence of Trust and Satisfaction on the Loyalty of Bank Mega Semarang Savings Customers. Undergraduate Thesis. Semarang: Faculty of Economics, Diponegoro University.
- Mawey, T. C., Tumbel, A., & Ogi, I. W. J. (2018). The Influence of Trust and Service Quality on Customer Satisfaction at PT Bank Sulutgo. *Jurnal EMBA: Economic, Management, Business, and Accounting Research Journal*, 6(3), 1198–1207. <https://doi.org/10.35794/EMBA.V6I3.20106>
- Mowen, J. C., & Minor, M. (2010). *Consumer Behavior (Second Edition)*. Jakarta: Erlangga.
- Mustaram, A. L. (2019). Analysis of the Existence of Integrated Child-Friendly Public Spaces in Residential Complexes (Case Study: Nusa Indah RPTRA, West Jakarta). *Muara Science Journal*.
- Rahma, M. (2019). The Influence of Destination Image, Tourism Facilities, and Experiential Marketing on Loyalty Through Visitor Satisfaction as an Intervening Variable (Study on Domestic Visitors to Natural and Historical Tourism in the Silokek Geopark Area, Sijunjung Regency). *Management Journal of Putra Indonesia University*, 2, 27–41.
- Riyanto, S., & Qomariyati, T. (2021). The Effect of Service Quality and Public Trust on Public Satisfaction at Office X. *Management Journal of Bung Hatta University*, 16(1), 9–14.
- Samsudi. (2010). Green Open Spaces: Urban Spatial Planning Needs in Surakarta City. *Journal of Rural and Development*, 1(1), 11–19.
- Supriyanti, E., Warso, M. M., & Minarsih, M. M. (2015). The Influence of Service Quality and Facilities on Public Satisfaction (Study at Sambirejo Village, Gayamsari Subdistrict, Semarang). *Journal of Management*, 1(1). <http://jurnal.unpand.ac.id/index.php/MS/article/view/259>
- Susilowati. (2018). The Influence of Trust, Responsibility, and Attitude on Public Satisfaction with the Community Development Unit of Dusun Timur Police, Barito Timur Regency. *Scientific Journal of Business Economics*, 4(2). <https://doi.org/10.35972/JIEB.V4I2.220>
- Tjiptono, F., & Chandra, G. (2012). *Service, Quality Satisfaction*. Yogyakarta: Andi Offset.
- Utama, I. P. H. B., & Giantari, I. G. A. K. (2020). The Role of Destination Image in Mediating the Influence of E-WOM on Tourist Revisit Intention (Study on Edelweiss Park, Bali). *E-Journal of Management, Udayana University*, 9(4), 1230. <https://doi.org/10.24843/ejmunud.2020.v09.i04.p01>