

## ANALYSIS OF COMMUNITY SATISFACTION WITH THE FUNCTION AND QUALITY OF GREEN OPEN SPACE IN PANGKALAN BALAI CITY PARK

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| Informasi                                                                        | Abstract                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| Volume : 3<br>Nomor : 8<br>Bulan : Agustus<br>Tahun : 2026<br>E-ISSN : 3062-9624 | <p><i>This study aims to assess community satisfaction with the function and quality of green open space (GOS) at Pangkalan Balai City Park, Banyuasin Regency. A quantitative approach was employed, with data collected through questionnaires administered to park users who were at least 15 years old and had visited the park at least twice within a month. The assessment covered 15 indicators related to facilities, cleanliness, maintenance, safety, accessibility, vegetation, aesthetics, and noise levels. To obtain a comprehensive assessment, the Customer Satisfaction Index (CSI) was used to measure the overall level of community satisfaction, while Importance-Performance Analysis (IPA) was employed to identify attributes requiring priority improvement. The results indicate that the CSI value reached 71.91%, placing overall community satisfaction in the moderately satisfied category. This finding suggests that, although the park has generally fulfilled users' needs, several aspects still require improvement to better meet community expectations. In particular, the IPA results show that nighttime safety, lighting, cleanliness, waste-bin availability, and toilet facilities are priority areas because they are considered highly important by users but demonstrate relatively low performance. Conversely, vegetation, site accessibility, pedestrian pathways, and landscape aesthetics are perceived positively and should therefore be maintained. Overall, these findings provide an empirical basis for local government and park managers to establish more responsive management strategies by prioritizing improvements in safety, cleanliness, basic facilities, and accessibility while maintaining the park's existing environmental and aesthetic qualities. Such efforts are expected to strengthen the function of Pangkalan Balai City Park as a safe, comfortable, inclusive, and sustainable public green space.</i></p> <p><i>Keywords : Green Open Space, Urban Park, Community Satisfaction, Customer Satisfaction Index, Importance-Performance Analysis.</i></p> |

## **A. INTRODUCTION**

Urban development is characterized not only by the expansion of economic activities and built-up areas but also by the need to provide spaces that maintain ecological balance while accommodating the social needs of urban communities. In this context, green open space (GOS) plays a strategic role as an integral component of urban spatial structure, providing ecological, social, recreational, and aesthetic functions. One form of GOS that directly interacts with the community is the urban park, which serves as a multifunctional public space for exercise, recreation, relaxation, play, social gatherings, and interpersonal interaction. Consequently, the quality of an urban park is determined not merely by the availability of green areas but also by the condition of its facilities, cleanliness, maintenance, safety, accessibility, comfort, vegetation, lighting, and landscape design.

Pangkalan Balai City Park is one of the public spaces utilized by the community in Banyuasin Regency, South Sumatra. The variety of activities undertaken within the park indicates its important role in fulfilling recreational, social, and environmental needs. Nevertheless, the existence of the park does not necessarily ensure that the needs and expectations of its users are fully satisfied. Several aspects still require attention, particularly the condition of facilities, lighting, the availability of waste bins, vegetation maintenance, and accessibility for certain user groups. These conditions indicate the need for an evaluation that extends beyond the physical condition of the park by also considering the experiences and perceptions of the community as the primary users of the public space.

Community perception is particularly important because the physical availability of facilities does not necessarily correspond to users' perceived levels of comfort and satisfaction. Therefore, an assessment of the park's function and quality should incorporate a range of attributes that reflect users' experiences, including facilities, cleanliness, maintenance, safety, comfort, accessibility, vegetation, aesthetics, and lighting. Evaluating these attributes can provide a comprehensive understanding of the extent to which the park meets users' needs while identifying aspects that require further improvement. Furthermore, the existing research context indicates that a specific study evaluating community satisfaction with the function and quality of Pangkalan Balai City Park has yet to be conducted. This research gap highlights the importance of systematically assessing users' satisfaction to provide empirical evidence for improving the management and quality of the park.

To obtain a comprehensive assessment of community satisfaction and identify aspects requiring priority attention, this study employs the Customer Satisfaction Index (CSI) and

Importance-Performance Analysis (IPA). The CSI is used to aggregate users' assessments across multiple indicators into an overall measure of community satisfaction, whereas IPA compares the perceived importance and performance of each attribute to identify aspects that should be maintained and those requiring improvement. The complementary application of these methods enables the study to go beyond measuring overall satisfaction by providing a more detailed understanding of management priorities based on users' perceptions and expectations.

Accordingly, investigating community satisfaction with the function and quality of green open space at Pangkalan Balai City Park is important for generating empirical evidence regarding the extent to which the park meets users' needs and for identifying attributes that require greater managerial attention. The findings are expected to provide a basis for local government and park managers in establishing priorities for improving facilities, maintenance, safety, comfort, accessibility, vegetation, lighting, and other supporting aspects. Ultimately, such improvements can strengthen the role of Pangkalan Balai City Park as both a functional green open space and an inclusive public space that responds effectively to community needs and contributes to the sustainable development of the urban environment.

### **Spaces and Urban Parks**

Green Open Spaces (GOS) constitute an integral component of the urban spatial structure, serving as an important element in maintaining a balance between built-up development, environmental quality, and the community's need for public space. From an urban planning perspective, GOS should not be understood merely as areas covered by vegetation but rather as multifunctional spaces that provide both ecological and social benefits. Vegetation within GOS contributes to improving urban environmental conditions and creating a more comfortable microclimate, while the availability of open space provides opportunities for recreation, physical exercise, social interaction, and other public activities. Accordingly, GOS represent a multidimensional component of urban systems whose benefits extend beyond environmental functions to include social and community-oriented functions. This perspective is consistent with the conceptual framework of the present study, which positions GOS as an essential element of the urban environment with interconnected ecological and social functions.

In Indonesia, the provision and management of GOS are supported by a regulatory framework, particularly Law No. 26 of 2007 on Spatial Planning. Within this framework, GOS form part of the urban open-space system intended to support greening functions and may take

various forms, including urban parks, urban forests, and green corridors. Based on land ownership and management, GOS are generally classified into public and private green open spaces. Public GOS are intended to serve the broader community, whereas private GOS are located on land owned or managed by individuals, groups, or specific institutions. In addition to Law No. 26 of 2007, the provision and utilization of urban GOS in this study refer to the relevant provisions of the Regulation of the Minister of Public Works and Housing No. 5 of 2008 and regional spatial planning policies established through the Regional Spatial Plan (RTRW). Therefore, GOS management encompasses not only the provision of green areas but also integrated processes of planning, utilization, maintenance, and long-term sustainability to ensure that their ecological and social benefits can be maintained.

Urban parks are one of the most prominent forms of public GOS because of their relatively intensive interaction with community activities. Their accessibility and multifunctional characteristics enable diverse groups of users to engage in activities such as exercising, playing, resting, recreation, and social interaction with family members and other community members. Consequently, urban parks perform a dual role as ecological elements within the urban environment and as public spaces that facilitate social activities. This dual function implies that the quality of an urban park should not be assessed solely in terms of the quantity or presence of vegetation but also in terms of its capacity to provide a safe, comfortable, accessible, and activity-supportive environment for its users. Within this study, Pangkalan Balai City Park is therefore positioned as a public GOS whose quality is assessed from the experiences and perceptions of the community as its direct users.

### **The Function of Green Open Spaces**

The functions of Urban Green Open Spaces (RTH) are multidimensional, as their presence provides interconnected ecological, social, economic, and aesthetic benefits. From an ecological perspective, vegetation contributes to environmental quality by improving air quality, regulating the microclimate, providing shade, enhancing rainwater infiltration, and reducing surface runoff. Socially, urban parks serve as public spaces that accommodate a variety of activities, including recreation, exercise, play, relaxation, and social interaction. Comfortable and well-maintained green spaces can also promote relaxation and provide psychological benefits for users. This perspective is consistent with Mashar (2021), who emphasizes the relationship between green open spaces and psychological well-being, as well as Aji and Faniza (2021), who demonstrate that urban green spaces can function as venues for recreation and social interaction. Therefore, urban parks should not be viewed solely as environmental

infrastructure but also as social spaces that support community activities, interaction, and user comfort.

In addition to their ecological and social functions, urban green open spaces can generate economic benefits by stimulating community activities and enhancing the attractiveness of surrounding areas. Urban parks with good environmental quality and adequate facilities have the potential to increase visitor numbers, which may subsequently encourage the development of economic activities in adjacent areas, particularly in the trade and service sectors. Meanwhile, the aesthetic function of green open spaces is reflected in their contribution to the visual quality of urban environments through diverse vegetation, coherent landscape design, orderly spatial elements, and the appropriate arrangement of facilities and pedestrian pathways. The integration of these elements can create a more attractive environment and provide users with a positive visual experience. Accordingly, the functions of urban green open spaces should be understood holistically, as their ecological, social, economic, and aesthetic dimensions are mutually reinforcing and collectively contribute to the quality of urban space and the overall experience of the community.

### **Quality of Urban Green Open Space (UGS)**

The quality of Urban Green Open Space (UGS) reflects the extent to which a space is able to perform its intended functions while meeting the needs of the community as its users. This quality is determined not only by the presence and condition of vegetation but also by the availability of adequate facilities, cleanliness, maintenance, safety, accessibility, and overall comfort. Vegetation represents a fundamental component because, in addition to supporting ecological functions, the diversity of trees, shrubs, grasses, and ornamental plants contributes to the visual character and environmental comfort of the park. Salatalohy et al. (2023) emphasize the importance of vegetation diversity in supporting the functions of urban parks. Meanwhile, facilities such as seating areas, pedestrian pathways, children's playgrounds, lighting, toilets, and waste bins are essential for supporting community activities in a safe and comfortable environment. Wibowo and Ritonga (2018) identify facilities, comfort, and safety as important elements in establishing urban park standards, while Adkha and Setiawan (2024) demonstrate that the availability of park facilities is associated with visitors' experiences and decisions to visit.

In addition to vegetation and facilities, the quality of an urban park is strongly influenced by cleanliness and the continuity of maintenance. A clean and well-maintained environment can enhance users' comfort and overall experience, whereas litter, poorly maintained facilities,

and damaged vegetation may negatively affect public perceptions of park quality. Maintenance therefore involves not only routine cleaning but also vegetation management, plant replacement, and the continuous repair and improvement of facilities. Furthermore, safety, accessibility, and comfort are integral components of park quality because they determine the extent to which the space can be utilized effectively by diverse groups within the community. Wibowo and Ritonga (2018) highlight the importance of safety and comfort in urban park management, while Hapsari et al. (2023) identify safety, comfort, activities, and accessibility as key aspects influencing the effectiveness of urban park utilization. Accordingly, the quality of Pangkalan Balai City Park in this study is conceptualized as the overall condition of the space in terms of vegetation, facilities, maintenance, safety, accessibility, and comfort, which collectively determine its capacity to support community activities and provide a pleasant and functional environment for users.

### **Community Satisfaction with Urban Parks**

Community satisfaction refers to users' evaluation of their experiences when utilizing urban parks as public spaces. It reflects the extent to which the physical and functional conditions of a park correspond to users' needs and expectations. Such satisfaction is multidimensional because it encompasses various aspects, including facilities, cleanliness, safety, accessibility, vegetation, aesthetics, and comfort. Accordingly, users' satisfaction is determined not solely by the physical condition of the park but also by the extent to which the overall space is capable of supporting community activities effectively and providing a positive user experience.

A park with well-maintained vegetation, for example, may not generate a high level of satisfaction if it is not supported by adequate facilities, cleanliness, safety, and convenient accessibility. Conversely, the integration of these components can create a more favorable experience for users and enhance their overall satisfaction. Therefore, the assessment of community satisfaction with Pangkalan Balai City Park in this study is conducted through a set of indicators representing its physical condition, functional performance, ecological characteristics, and supporting services. This approach enables users' perceptions to be captured comprehensively and provides a basis for evaluating the extent to which the park meets community expectations.

**Customer Satisfaction Index (CSI)**

The Customer Satisfaction Index (CSI) is a method used to measure the overall level of user satisfaction based on evaluations of multiple attributes. In this study, the CSI is applied to assess community satisfaction with the functions and quality of Pangkalan Balai City Park by integrating evaluations of individual indicators into a single satisfaction index. This approach allows satisfaction to be assessed not only at the level of individual attributes but also through an aggregate measure that represents the community's overall perception of the park.

The CSI calculation incorporates both the perceived importance and satisfaction levels of each indicator. The importance score is used to determine the relative weight of each attribute, which is subsequently combined with its satisfaction score to obtain a weighted score. The weighted scores are then aggregated and converted into an overall satisfaction index. The resulting CSI provides a general assessment of community satisfaction, while the evaluation of individual indicators can be further examined using Importance-Performance Analysis (IPA). Consequently, the two methods complement each other by providing both an overall measure of satisfaction and more detailed information regarding aspects that require managerial attention and improvement.

**Importance-Performance Analysis (IPA)**

Importance-Performance Analysis (IPA) is an analytical method used to evaluate the relationship between the perceived importance of an attribute and its performance as experienced by users. The method provides more specific information regarding the position of each indicator based on community perceptions, thereby enabling the identification of attributes that have met expectations and those that require further improvement. In this context, the importance level represents the extent to which an attribute is considered significant by users, whereas the performance level reflects users' assessments of the actual condition or quality of the attribute.

The results of IPA are presented in a Cartesian diagram divided into four quadrants. Quadrant I represents attributes that are considered highly important but have relatively low performance, making them the primary priorities for improvement. Quadrant II contains attributes with both high importance and high performance, indicating aspects that should be maintained. Quadrant III represents attributes with relatively low importance and low performance, while Quadrant IV includes attributes with high performance but relatively low importance. The integration of CSI and IPA in this study provides complementary information: CSI is used to determine the overall level of community satisfaction, whereas IPA identifies

specific attributes that should be prioritized in efforts to improve the quality and management of Pangkalan Balai City Park.

### **Previous Studies**

Previous studies on urban green spaces and city parks have examined various aspects, including facilities, visitor characteristics, psychological benefits, vegetation, utilization effectiveness, and green-space management. Wibowo and Ritonga (2018) examined the development of facility standards for urban parks and emphasized the importance of adequate facilities, comfort, and safety. Similarly, Aji and Faniza (2021) demonstrated that urban green spaces can function as areas for recreation and social interaction, while Mashar (2021) examined the psychological functions of green spaces in relation to users' comfort and relaxation. Salatalohy et al. (2023) further highlighted the importance of vegetation diversity in supporting the functions of urban parks, whereas Hapsari et al. (2023) identified safety, comfort, activities, and accessibility as important factors influencing the effective utilization of urban parks.

Other studies have emphasized the importance of policy implementation and facilities in the management of public green spaces. Yusuf and Kurniawan (2023), for instance, focused on the implementation of public green-space policies, while Adkha and Setiawan (2024) demonstrated the relationship between park facilities and community experiences and visitation interest. Building on these findings, the present study focuses on the integration of green-space functions, park quality, and community satisfaction as interrelated dimensions in the assessment of Pangkalan Balai City Park. The assessment incorporates various aspects that directly influence users' experiences and applies the CSI method to determine overall satisfaction and the IPA method to identify indicators requiring priority improvement. This integrated approach is expected to provide a more comprehensive understanding of the park's quality from the perspective of its users.

### **Synthesis of the Literature Review**

Based on the theoretical framework and previous studies, the quality of an urban park can be understood as a multidimensional construct encompassing ecological, social, aesthetic, and functional dimensions, as well as the capacity of the space to accommodate community needs. As an integral component of urban green space, a city park not only provides environmental and ecological benefits but also serves as a setting for recreation, social interaction, physical activities, and other forms of community engagement. Therefore,

evaluating park quality requires consideration of vegetation, facilities, cleanliness, maintenance, safety, accessibility, aesthetics, and comfort as interconnected elements that collectively shape users' experiences and perceptions.

In this study, the quality of Pangkalan Balai City Park is represented by 15 indicators covering seating facilities, pedestrian paths, children's play areas, toilets, waste bins, cleanliness, maintenance, daytime and nighttime safety, lighting, accessibility, facilities for persons with disabilities, plant quality and diversity, landscape arrangement and supporting landscape elements, and noise levels. These indicators are evaluated from the perspective of community users and analyzed using the CSI method to determine the overall level of satisfaction and the IPA method to identify the position and priority of each indicator. The integration of these two analytical approaches is expected to provide a more systematic and measurable basis for evaluating the park, particularly in distinguishing aspects that should be maintained from those that require improvement in accordance with community needs and expectations.

## **B. RESEARCH METHODOLOGY**

This study employed a quantitative approach to assess public satisfaction with the function and quality of the green open space (GOS) at Pangkalan Balai City Park, Banyuasin Regency. The site was selected because it functions as a public space that accommodates various community activities, including recreation, exercise, social interaction, and leisure. The assessment focused primarily on users' experiences, allowing the condition of the park to be evaluated from the perspective of individuals who directly interact with its facilities and physical environment. The research was conducted through a systematic sequence of activities, beginning with problem identification and a literature review, followed by a preliminary survey, research instrument development, data collection, data processing and analysis, interpretation of findings, and formulation of management recommendations.

The study utilized both primary and secondary data. Primary data were obtained through questionnaires distributed to users of Pangkalan Balai City Park, while secondary data were collected from relevant documents, policies, regulations, and information concerning green open space management. The study population consisted of park users, with respondents selected according to predetermined criteria. Participants were required to be at least 15 years old, to have visited the park at least twice within a month, and to be willing to complete the questionnaire. The sample size was determined using the Slovin formula with a 5% margin of

error. A five-point Likert scale was employed to measure respondents' perceptions, particularly their level of satisfaction and their assessments of the importance and performance of each park attribute.

The research indicators were established through a synthesis of theoretical references, previous studies, and field observations. The assessed attributes included seating facilities, pedestrian paths, children's play areas, toilets, waste bins, cleanliness, maintenance, daytime and nighttime security, lighting, accessibility, facilities for persons with disabilities, vegetation quality, landscape aesthetics, and noise levels. A preliminary survey was conducted to examine the existing conditions of the park and to verify the relevance of the proposed indicators to the characteristics of the research site. This procedure ensured that the research instrument captured the physical, functional, environmental, and user-experience dimensions of the park in an integrated manner.

Following data collection, the responses were examined, classified, and tabulated prior to statistical analysis. Public satisfaction was measured using the Customer Satisfaction Index (CSI), which provides an overall assessment of user satisfaction by incorporating the relative importance and satisfaction ratings of individual attributes. The calculation involved determining the mean importance score, attribute weighting, weighted scores, and the overall satisfaction index. In addition, Importance-Performance Analysis (IPA) was employed to identify differences between the perceived importance and performance of each attribute. The results were subsequently plotted on a Cartesian diagram consisting of four quadrants: attributes requiring immediate improvement, attributes whose performance should be maintained, attributes of lower priority, and attributes whose performance was considered relatively excessive.

The CSI results provided an overall representation of public satisfaction with the park, whereas the IPA findings identified specific attributes requiring managerial attention. Attributes characterized by high importance but comparatively low performance were considered the principal targets for improvement. The findings were then interpreted by relating the empirical results to relevant theories, previous research, and the actual conditions observed at Pangkalan Balai City Park. Based on this integrated assessment, management recommendations were formulated to support improvements in facilities, cleanliness, maintenance, security, lighting, accessibility, and other aspects identified as important to users. Accordingly, the proposed recommendations were grounded in empirical evidence obtained directly from park users and are intended to support managers in enhancing the functional

performance and environmental quality of Pangkalan Balai City Park as both a green open space and a public recreational area.

### C. RESULT AND DISCUSSION

#### Analysis of Community Satisfaction Using the Customer Satisfaction Index (CSI)

Community satisfaction with Taman Kota Pangkalan Balai was assessed using the Customer Satisfaction Index (CSI) approach. This method provides an overall measure of user satisfaction by comparing the perceived importance of individual park attributes with the level of satisfaction reported by respondents. The analysis was conducted by calculating the mean importance score ( $Y_i$ ), mean satisfaction score ( $X_i$ ), *Weight Factor* (WF), and *Weight Score* (WS) for each attribute. The resulting values are presented in Table 1.

**Table 1. Importance Value, Satisfaction, Weight Factor, and Weight Score**

| No.          | Attribute                   | Mean Importance ( $Y_i$ ) | Mean Satisfaction ( $X_i$ ) | Weight Factor (WF) | Weight Score (WS) |
|--------------|-----------------------------|---------------------------|-----------------------------|--------------------|-------------------|
| 1            | Seating facilities          | 4.400                     | 3.700                       | 0.068              | 0.251             |
| 2            | Pedestrian paths            | 4.350                     | 3.800                       | 0.067              | 0.255             |
| 3            | Playground area             | 4.200                     | 3.650                       | 0.065              | 0.236             |
| 4            | Toilets                     | 4.500                     | 3.400                       | 0.069              | 0.236             |
| 5            | Waste bins                  | 4.450                     | 3.500                       | 0.069              | 0.240             |
| 6            | Cleanliness                 | 4.600                     | 3.550                       | 0.071              | 0.251             |
| 7            | Maintenance                 | 4.300                     | 3.600                       | 0.066              | 0.238             |
| 8            | Daytime safety              | 4.250                     | 3.850                       | 0.065              | 0.252             |
| 9            | Night-time safety           | 4.700                     | 3.200                       | 0.072              | 0.232             |
| 10           | Lighting                    | 4.550                     | 3.350                       | 0.070              | 0.235             |
| 11           | Location accessibility      | 4.150                     | 3.900                       | 0.064              | 0.249             |
| 12           | Disability-accessible paths | 4.100                     | 3.100                       | 0.063              | 0.196             |
| 13           | Vegetation                  | 4.300                     | 3.950                       | 0.066              | 0.262             |
| 14           | Aesthetic quality           | 4.200                     | 3.850                       | 0.065              | 0.249             |
| 15           | Noise level                 | 3.900                     | 3.600                       | 0.060              | 0.216             |
| <b>Total</b> |                             | <b>65.900</b>             | <b>54.950</b>               | <b>1.000</b>       | <b>3.596</b>      |

The results indicate that night-time safety was considered the most important attribute, with a mean importance score of 4.700, whereas its corresponding satisfaction score was only

3.200. This considerable difference suggests that the existing safety conditions after dark have not yet fully met users' expectations. A comparable pattern was observed for lighting, which received an importance score of 4.550 but a satisfaction score of only 3.350. These findings indicate that improvements in lighting infrastructure and its operational effectiveness could contribute substantially to enhancing users' perceptions of safety and comfort within the park.

In contrast, vegetation achieved the highest satisfaction score ( $X_i = 3.950$ ), followed by location accessibility ( $X_i = 3.900$ ). Daytime safety and aesthetic quality also received relatively high satisfaction scores, each reaching 3.850. These results suggest that the existing vegetation, ease of access to the park, daytime security conditions, and visual quality are among the aspects that have been positively perceived by users. Nevertheless, disability-accessible paths recorded the lowest satisfaction score, at 3.100. This finding indicates that the park's accessibility provisions for users with disabilities remain relatively limited and therefore require further attention in future improvement efforts.

The cumulative *Weight Score* obtained from all assessed attributes was 3.596. This value was subsequently used to determine the overall satisfaction index using the following equation:

$$CSI = (\text{Total WS} / \text{Maximum Score}) \times 100\%$$

$$CSI = (3.596 / 5) \times 100\% = 71.91\%$$

The resulting CSI value of 71.91% was then interpreted according to the satisfaction classification presented in Table 2.

**Table 2. Customer Satisfaction Index Classification**

| CSI Range (%) | Satisfaction Level   | Interpretation                                                                              |
|---------------|----------------------|---------------------------------------------------------------------------------------------|
| 0–60          | Dissatisfied         | User expectations are generally not adequately fulfilled.                                   |
| 61–75         | Moderately satisfied | Most user expectations are fulfilled, although several aspects still require improvement.   |
| 76–85         | Satisfied            | User expectations are largely fulfilled and the overall service quality is considered good. |
| 86–100        | Highly satisfied     | User expectations are very well fulfilled and the overall quality is considered excellent.  |

Based on this classification, the CSI value of 71.91% places the overall satisfaction level within the moderately satisfied category. This result demonstrates that Taman Kota Pangkalan Balai has generally accommodated a substantial proportion of users' needs; however, the quality and availability of several facilities and environmental attributes have not yet reached an optimal level of satisfaction. Therefore, the interpretation of the CSI results should not be

limited to the overall index value. Instead, greater attention should be directed toward attributes characterized by substantial gaps between their perceived importance and performance.

More specifically, the relatively low satisfaction scores for night-time safety, lighting, and disability-accessible paths indicate areas that warrant priority in future park management and improvement. Enhancing these attributes may help reduce the discrepancy between user expectations and their actual experience. At the same time, the relatively favorable assessments of vegetation, location accessibility, daytime safety, and aesthetic quality should be maintained as important components of the park's existing strengths. Accordingly, the CSI findings provide an overall assessment of user satisfaction while also establishing a basis for the subsequent Importance-Performance Analysis (IPA), which is used to identify attributes requiring priority intervention to improve the quality and functionality of Taman Kota Pangkalan Balai.

### **Analysis of Satisfaction Based on Indicators**

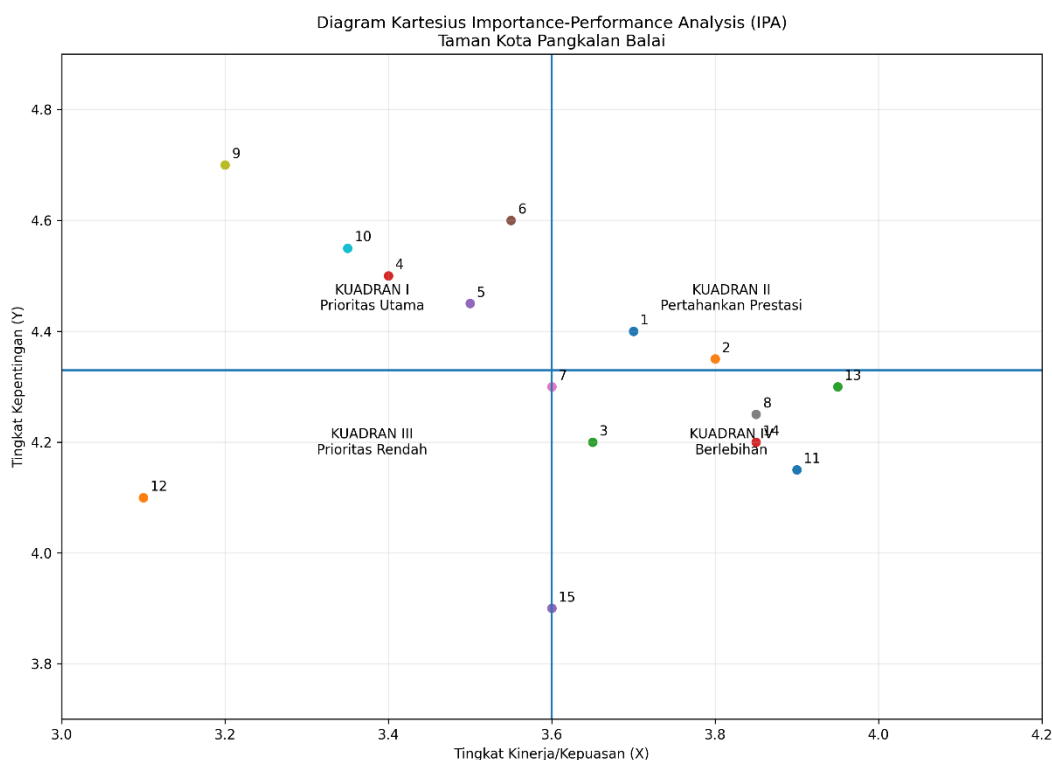
The attribute-level evaluation indicates that vegetation, accessibility to the park, and landscape aesthetics are among the aspects that contribute relatively positively to users' experiences. The existing vegetation is perceived to enhance environmental comfort while simultaneously supporting the ecological function of the park. Similarly, convenient access facilitates public use by improving the reachability of the park for the community. The favorable assessment of landscape elements further suggests that the visual character of Pangkalan Balai City Park possesses sufficient appeal to support visitors' recreational and social activities. Taken together, these findings demonstrate that environmental quality and visual characteristics constitute relatively well-performing components that should be maintained as integral elements of the park's future management.

In contrast, nighttime security, toilet facilities, and accessibility for persons with disabilities remain areas requiring further improvement. Security is particularly important because users perceive a substantial need for adequate protection, whereas the existing conditions have not yet fully met their expectations. Likewise, limitations in sanitation facilities and infrastructure supporting the mobility of users with special accessibility needs may diminish both comfort and the inclusiveness of the public space. Accordingly, efforts to enhance user satisfaction should extend beyond the provision of additional facilities and encompass more consistent maintenance, strengthened monitoring and security measures, improved accessibility, and better service quality. Such an integrated approach would help ensure that

the park can accommodate diverse user needs while providing a safer, more comfortable, and inclusive public environment.

### Importance-Performance Analysis (IPA)

Importance-Performance Analysis (IPA) was employed to assess the alignment between users' perceived importance of each attribute and their evaluation of the performance of Pangkalan Balai City Park. The analysis was conducted by plotting the mean performance scores on the X-axis and the mean importance scores on the Y-axis. Based on the 15 attributes examined, the intersection points were established at 3.600 for performance and 4.330 for importance. The resulting Cartesian diagram revealed differences in the position of the attributes, indicating varying levels of alignment between users' expectations and their perceptions of the park's actual conditions. The distribution of the attributes across the four IPA quadrants is presented in Figure 1 and summarized in Table 3.



**Figure 1. Cartesian Diagram Importance-Performance Analysis (IPA)**

Indicator number description:

| No. | Indicator           |
|-----|---------------------|
| 1   | Seating Facilities  |
| 2   | Pedestrian Pathways |
| 3   | Playground Area     |
| 4   | Toilets             |

| No. | Indicator                      |
|-----|--------------------------------|
| 5   | Waste Bins                     |
| 6   | Cleanliness                    |
| 7   | Maintenance                    |
| 8   | Daytime Security               |
| 9   | Nighttime Security             |
| 10  | Lighting                       |
| 11  | Location Accessibility         |
| 12  | Disability-Accessible Pathways |
| 13  | Vegetation                     |
| 14  | Aesthetics                     |
| 15  | Noise Level                    |

The results indicate that Quadrant I (Concentrate Here) comprises toilets, waste bins, cleanliness, nighttime security, and lighting. These attributes have importance scores above the average value of 4.330, while their performance scores remain below the performance threshold of 3.600. This positioning indicates a substantial gap between users' expectations and their perceptions of the conditions provided by the park. Among these attributes, nighttime security represents the most critical concern, as it records the highest importance score (4.700) but the lowest performance score within this quadrant (3.200). Therefore, improvements in security, particularly at night, together with adequate lighting, cleanliness, and supporting facilities, should constitute the primary priorities in efforts to improve the quality of Pangkalan Balai City Park.

Quadrant II (Keep Up the Good Work) consists of seating facilities and pedestrian pathways. Both attributes have importance and performance scores above their respective average values, with performance scores of 3.700 and 3.800, respectively. Their positions indicate that these facilities are relatively successful in meeting users' expectations. Consequently, their existing quality should be maintained through consistent management, routine inspection, and regular maintenance. Maintaining these attributes is important because their relatively high performance contributes positively to users' overall experience and satisfaction with the park.

Quadrant III (Low Priority) includes maintenance, disability-accessible pathways, and noise level. These attributes have importance and performance scores below the established reference points, suggesting that users currently perceive them as relatively less critical and less satisfactory compared with the other attributes. Accordingly, improvements to these

aspects may be implemented progressively, particularly after the priority issues identified in Quadrant I have been addressed. Nevertheless, the relatively low position of disability-accessible pathways should not be interpreted as an indication that accessibility is unimportant from an inclusive planning perspective; rather, it indicates that users in the current sample assign comparatively lower importance to this attribute. Thus, accessibility improvements should remain part of long-term park management and inclusive design strategies.

Meanwhile, Quadrant IV (Possible Overkill) comprises the playground area, daytime security, accessibility of location, vegetation, and aesthetics. These attributes demonstrate relatively high performance despite having importance scores below the average importance threshold. This pattern suggests that the existing resources allocated to these aspects may already be sufficient in relation to users' perceived priorities. Therefore, substantial additional investment in these attributes may not be necessary in the short term. Instead, park managers may maintain their current condition while directing additional resources toward the attributes located in Quadrant I.

Overall, the IPA results demonstrate that the management strategy for Pangkalan Balai City Park should prioritize attributes characterized by high importance and relatively low performance, particularly nighttime security, lighting, cleanliness, waste management, and toilet facilities. At the same time, seating facilities and pedestrian pathways should be consistently maintained because their current performance is relatively aligned with users' expectations. Attributes in Quadrants III and IV can be managed according to their level of urgency, available resources, and long-term development objectives. This prioritization provides a practical basis for allocating management resources more effectively and for improving the quality of public facilities in accordance with users' needs and expectations.

### **Quadrant I: Top Priority**

The Importance-Performance Analysis (IPA) results indicate that Quadrant I contains attributes with high importance but relatively low performance. Three attributes were identified as top priorities: nighttime safety, waste-bin availability, and park cleanliness. Nighttime safety recorded the highest importance score (4.700) but a satisfaction score of only 3.200, resulting in the largest gap of 1.500. Meanwhile, waste-bin availability and park cleanliness recorded importance scores of 4.450 and 4.600, with satisfaction scores of 3.500 and 3.550, respectively. These findings indicate that users' expectations regarding safety and cleanliness have not yet been fully met.

Therefore, improvement efforts should prioritize nighttime safety through better lighting, surveillance, and security management, while cleanliness should be supported by adequate waste bins, regular waste collection, and routine maintenance. Overall, nighttime safety, park cleanliness, and waste-bin availability represent the most critical areas for improving the quality and user experience of Pangkalan Balai City Park.

### **Discussion of Quadrant II – Maintain Performance**

The results of the Importance-Performance Analysis (IPA) indicate that Quadrant II (Keep Up the Good Work) comprises attributes that are considered important by the community and are simultaneously perceived to have relatively good performance. These attributes include ease of access to the park, vegetation quality, and landscape aesthetics. Ease of access recorded an importance score of 4.150 and a satisfaction score of 3.900, indicating that the accessibility of Pangkalan Balai City Park has adequately supported the community's ability to utilize the public space. Meanwhile, vegetation quality obtained an importance score of 4.300 and a satisfaction score of 3.950, suggesting that the condition of the vegetation is considered capable of meeting users' needs while simultaneously enhancing the park's ecological function and environmental comfort. In addition, landscape aesthetics recorded an importance score of 4.200 and a satisfaction score of 3.850, demonstrating that the arrangement of vegetation and other landscape elements has contributed to a relatively high level of visual quality. Given their high importance and satisfactory performance, these three attributes should be consistently maintained through regular access maintenance, routine vegetation care, and continuous management of landscape elements to ensure that the quality already appreciated by the community is sustained over time.

### **Discussion of Quadrant III – Low Priority**

Quadrant III, which represents the low-priority category, comprises park attributes that receive relatively low evaluations in terms of both perceived importance and performance. This position does not imply that these attributes are unnecessary; rather, it indicates that their improvement is less urgent than that of the attributes classified in Quadrant I. Such a condition may be associated with facilities that are used infrequently or areas of the park where user activity is relatively limited. Therefore, the management of attributes within this quadrant may be implemented gradually by considering available resources and actual user needs. In the meantime, greater attention should be directed toward attributes with high levels of

importance but inadequate performance, as these attributes have a more immediate influence on users' overall satisfaction with the park.

#### **Discussion of Quadrant IV – Possible Overinvestment**

Quadrant IV represents indicators characterized by relatively high performance but comparatively low importance. This position suggests that the resources allocated to certain aspects may exceed the level of need or priority perceived by the community. Therefore, indicators within this quadrant do not necessarily require additional resources or further improvement. Instead, managers should evaluate the allocation of existing resources and consider whether some of them can be redirected toward indicators with higher levels of importance but lower performance. Such a strategic reallocation may contribute to a more efficient use of resources and support improvements in aspects that have greater relevance to community needs and satisfaction.

#### **Integration of CSI and IPA Results**

The integration of the Customer Satisfaction Index (CSI) and Importance-Performance Analysis (IPA) results indicates that overall public satisfaction with Pangkalan Balai City Park reached 71.91%, which falls within the moderately satisfied category. Nevertheless, this overall level of satisfaction masks variations in performance across individual attributes. The IPA results demonstrate that, although several aspects of the park have met users' expectations, certain attributes continue to exhibit gaps between their perceived importance and actual performance. The most substantial gap concerns nighttime security, which recorded the highest importance score of 4.700 but a relatively low satisfaction score of 3.200. This finding suggests that improvements in park quality should be prioritized based on the relative importance and performance of each attribute, particularly those considered highly important by the public but that have not yet been adequately addressed. Such a targeted management approach would enable interventions to be implemented more effectively and, ultimately, contribute to improving user satisfaction with the park.

#### **Discussion**

Overall, Pangkalan Balai City Park has functioned effectively as a public space that supports a wide range of community activities, with vegetation, site accessibility, and aesthetic quality receiving relatively positive evaluations from users. Nevertheless, overall user satisfaction remains constrained by several limitations related to basic facilities, cleanliness, safety, and accessibility. Nighttime safety represents the most critical concern, as it recorded

the highest importance score of 4.700 but only a satisfaction score of 3.200, indicating the need to strengthen surveillance and security management as a strategic priority. Further improvements are also required in terms of cleanliness and the availability of waste bins, the maintenance of toilets and other public facilities, and the provision of facilities that better accommodate the mobility needs of persons with disabilities, which received a satisfaction score of 3.100. In contrast, attributes that have performed relatively well, particularly vegetation with a satisfaction score of 3.950, site accessibility at 3.900, and aesthetic quality at 3.850, should be maintained through consistent and sustainable management. Overall, the Customer Satisfaction Index (CSI) of 71.91% indicates that community satisfaction falls within the moderately satisfied category, suggesting that the park's functions and quality have fulfilled most users' needs while still leaving considerable room for improvement to better meet community expectations. Therefore, the management of Pangkalan Balai City Park should prioritize improvements to underperforming attributes while maintaining those that have demonstrated satisfactory performance, thereby fostering a more responsive, inclusive, comfortable, safe, and sustainable public park that is better aligned with the needs and expectations of its users.

#### **D. CONCLUSION**

Based on the research findings, public satisfaction with the function and quality of Pangkalan Balai City Park as an urban green open space (RTH) falls within the moderately satisfied category, as indicated by a Customer Satisfaction Index (CSI) score of 71.91%. This finding suggests that, overall, the park has fulfilled its role as both an urban green space and a public recreational area, although its quality does not yet fully meet users' expectations. Public experiences are influenced by several interrelated aspects, including facilities, cleanliness, safety, comfort, accessibility, vegetation, and aesthetic quality. The Importance-Performance Analysis (IPA) further indicates that public toilets, waste bins, cleanliness, nighttime security, and lighting require greater attention because these attributes are considered highly important by users, while their current performance remains relatively inadequate. In contrast, seating facilities, pedestrian pathways, daytime security, vegetation, and aesthetic quality have received relatively favorable assessments and should therefore be maintained through consistent management and maintenance. Accordingly, efforts to improve the quality of Pangkalan Balai City Park should prioritize the enhancement of basic facilities, cleanliness and

security management, nighttime lighting, and accessibility, while simultaneously preserving the environmental and aesthetic qualities that users have already evaluated positively.

The findings also have important implications for park management, particularly regarding the need for regular maintenance and periodic evaluation based on users' needs and expectations. Park managers should prioritize improvements to nighttime security and lighting, strengthen cleanliness management, optimize the provision and placement of waste bins, and improve the condition and functionality of public toilets. At the same time, facilities and landscape elements that have demonstrated satisfactory performance, such as seating areas, pedestrian pathways, vegetation, and overall landscape quality, should be maintained consistently to prevent deterioration. Periodic assessments of public satisfaction are also essential for informing the adjustment of maintenance and development programs. Through a user-oriented management approach, the sustainable development of Pangkalan Balai City Park can become more responsive, inclusive, comfortable, and environmentally sustainable, while ensuring that future improvements remain aligned with the needs and expectations of the community.

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