

Quality of Public Open Space Based on Visitor's Perceptions and Expectations. Case Study: Mahakam Riverside in Tenggarong City

Nur Asriatul Kholifah¹,
Citra Anggita²,
Ikhwanul Ahfadz³,
Hani Frisca⁴

^{1,2,3,4} Department of Architecture, Mulawarman University, Samarinda, Indonesia

Corresponding author: nurasriak@ft.unmul.ac.id

Received: 1 March
2022

Revised: 28 March
2022

Article History:

Accepted: 11 April
2022

Available online: 30 April
2022

Abstract - Public open space is one part of urban space that functions to improve environmental quality, city aesthetics, and social interaction. Tenggarong city in East Kalimantan Province, which is located on the banks of the Mahakam River, has public open spaces along its riverbanks. The beginning of the concept of developing this riverside area is The Waterfront Park of Tenggarong City or tourism on the Mahakam Riverside. This public open space aims to restore the function of city space and places that have a linear typology, as well as a city icon and increase tourist visits to Tenggarong City. The purpose of this research is to find out how the quality of public open space is viewed from the perceptions and expectations of visitors and to find out the factors that influence the expectations of visitors to the Mahakam Riverside in Tenggarong City. This study refers to the theory of the quality of public open space which includes meaningful, responsibility, democratic, and maintenance. The result of this research is in "Quite Satisfied" category. This illustrates that tourists are quite satisfied with the availability of public open space on the Mahakam Riverside in Tenggarong City, but they are still not optimal as a whole. To provide a better level of tourist satisfaction in the future, the Tenggarong City Government must be improve the quality of public open spaces that have not satisfied visitors.

Keywords – Quality of Public Open Space, Public Space, Riverside, Tourist Satisfaction, Tourism.

INTRODUCTION

Public open space is one part of urban space that functions to improve environmental quality, city aesthetics, and social interaction. Public open space in urban areas consists of green open space and non-green open space. Green open space is an open space filled with vegetation to support ecological, architectural, and socio-cultural benefits that can provide economic benefits for the community. Meanwhile, non-green open space can be in the form of hardened open space or blue open space in the form of rivers, lakes, or areas designated for retention ponds (Dwiyanto, 2009).

Meanwhile, according to Carr (1992), public space is a shared space where the public can carry out various activities and are free of charge to enter the area (Susanti et al., 2020) (Mardiana et al., 2019). Activities that occur can be in the form of daily routines, activities in a certain season or an event (Permana et al., 2019) (Saha et al., 2020). The daily routine is like relaxing or just enjoying the environment, while seasonal activities are usually held by a community for a certain period. This space is also often a meeting point so as to create high public interaction. These things state that

public space is an important factor in the routine of life, space for movement, meeting point, and space for relaxation and recreation.

And according to Hakim and Hardi (2004), regarding public open space can be described as the basic form of open space always located outside the building mass, can be utilized and used by everyone, providing opportunities for various activities in other words multifunctional(Wijaya & Syahrizal, 2019)(Yosita et al., 2019).

A public open space is designed with a specific purpose. The purpose of the design of the space is diverse and has goals that are tailored to each. Carr (1992) suggests that the goals of public space are public welfare, visual development, environmental development, economic development, image enhancement.

Public open space must have several indicators so that the open space can be said to be a public open space with brief requirements in terms of two main aspects, namely physical and non-physical aspects. Indicators that can be used to measure physical quality include the size of the completeness of supporting elements, designs, and conditions (Carr, 1992). He also revealed that there are 3 aspects that make up the quality of public space, namely aspects of needs, aspects of rights, and aspects of meaning. These three aspects play an important role in determining the level of meaning (meaningful), can accommodate the needs of each user in carrying out activities (responsibility), can accept various community activities without discrimination (democratically), and maintenance.

Meanwhile, according to (Carmona, 2003sugiyon) there are two elements forming open space, namely elements of hard landscape and soft landscape(Hantono et al., 2019)(Aziz & Ratriningsih, 2019). Hard landscaping is a landscape that uses elements with materials in the form of pavement in open spaces such as stone floors and street furniture (benches, garden lights, bulletin boards, and so on). Soft landscape elements are landscapes that use vegetation elements as their material, such as grass and trees. Some of the beginnings in the selection and placement of these elements, namely the appearance of vegetation according to the local context, considering the material, paying attention to its level of strength in the long term, and paying attention to users regarding safety, comfort and for people with disabilities.

The city of Tenggarong in East Kalimantan Province, which is located on the Mahakam Riverside, has public open spaces along its riverside. This area on the Mahakam Riverside is included in the Tourism Development Area of East Kalimantan Province. This Tourism Development Area is divided into 8 areas, one of them which is the Mahakam River Area with the theme of Mahakam River ecotourism which includes Sungai Mahakam Samarinda, Kutai Kartanegara (Tenggarong), and West Kutai. The beginning of the concept of developing this riverside area is The Waterfront Park of Tenggarong City or tourism on the banks of the Mahakam River. This public open space aims to restore the function of city space and places that have a linear typology, as well as a city icon and increase tourist visits to Tenggarong City.

This public open space on the Mahakam Riverside is located along Jl. Wolter Mongindisi to Jl K.H. Akhmad Muksin which consists of many function spaces, such as parks, parking lots, and pedestrian paths. However, the most visited public space on the banks of the river is around the Kutai Kartanegara Bridge because it has the most attractive garden compared to other parts of the public space. This public open space which is dominated by green open space is a tourist destination when visiting Tenggarong City to enjoy the Mahakam River. The number of tourist visits on the riverside also makes the number of street vendors who fill the riverside area, even some street vendors who stay to sell at certain points. Until now, the area on the Mahakam Riverside is growing and is still a favorite tourist attraction for tourists when visiting Tenggarong City.

THE MATERIALS AND METHOD

The research method used is descriptive quantitative and qualitative methods. According to Sugiyono (2007) descriptive research method is a research method carried out to determine the value of independent or more independent variables without making comparisons or combining variables with one another. Quantitative research methods have characteristics related to numerical data and are objective. Observable facts or phenomena have objective reality that can be measured. Research variables can be identified and variable intercorrelation can be measured.

The research location is in the area around the Kutai Kartanegara Bridge which is an icon of Tenggarong City and the most visited area than other riverside areas, there are several functions of public spaces, namely city parks, green open spaces, parking lots, and culinary areas.



Figure 1: Map of Mahakam Tenggara Riverside Area
 Source: Author

To collect sufficient information and data to support drawing conclusions in this study, the researchers made adjustments to the types of data needed, namely primary data and secondary data. Primary data was conducted by interview (interview) to find out how far the quality of public open space on tourist satisfaction and from the results of tourist questionnaires in the Mahakam Riverside. In addition, to find out the characteristics of tourists visiting this area. While secondary data was obtained by means of observation from various sources regarding data on quality of public open space in the area that became the research location.

Respondents in this study were people who visited the Mahakam River by considering visitors aged over 18 years who were used as respondents, because at that age respondents were able to formulate and answer questionnaires responsibly. The selection of respondents was done by directly selecting visitors who were met at the research location, then given a questionnaire to provide opinions, perceptions and assessments of public open spaces.

Cause the population sampled in this study is not known accurately. This study refers to the theory or opinion of Joseph Hair (2010), according to him, if the population that is used as a sample in the study is not accurately known, then it should be more than 30 samples, or a sufficient number of samples is a sample that has a ratio of 5:1 to the number of samples of study. Based on this theory, it is concluded to take a sample of 100 visitors so that the results obtained are more accurate.

RESULTS AND DISCUSSION

The characteristics of these respondents describe the identity of respondents based on age, length of stay, number of times and purpose of the study on the Quality of Public Open Spaces Based on Visitors' Perceptions and Expectations. Case Study: Mahakam Riverside in Tenggara City. The number of respondents was 100 tourists in this study, so to see the results, the characteristics can be described as follows:

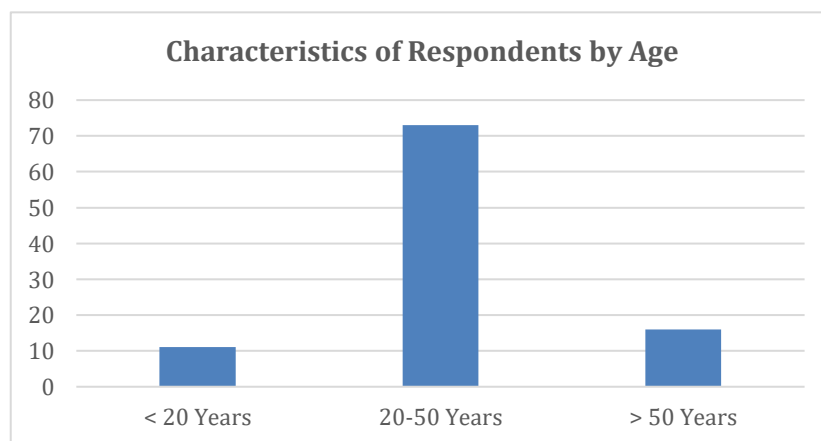


Figure 2. Characteristics of Respondents by Age
 Source: Primary data processed from SPSS 26

Based on the results from Figure 2, it can be seen that from 100 tourist respondents, it can be seen that the number of tourists aged 20-50 years is 73 respondents or 73%, more if seen in the table above while the age above > 50 years is 16 people (16%) and at least 11 tourists under the age of 20 years or 11% on public open space tourism visits on the Mahakam Riverside in Tenggarong City.

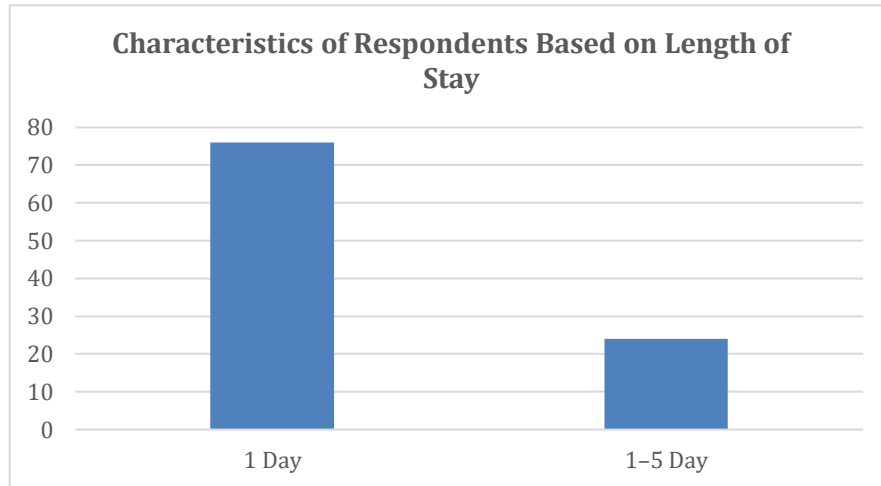


Figure 3. Characteristics of Respondents Based on Length of Visit
Source: Primary data processed from SPSS 26

Based on the results from Figure 3, it can be seen that from 100 tourist respondents, it can be seen that the length of visit in a day is 76 tourists or 76%, while the number of respondents who visit 1-5 days is 24 people or 24%. This shows that the length of a day's visit (1 day) is longer than the 1-5 day visit at public open space tourist attractions on the Mahakam Riverside in Tenggarong City.

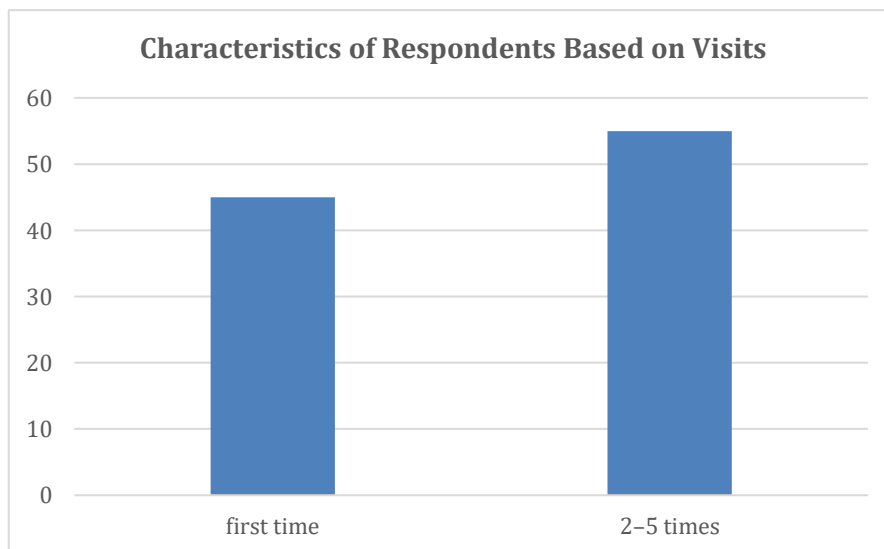


Figure 4. Characteristics of Respondents Based on Visits
Source: Primary data processed from SPSS 26

Based on the results from Table 4 for the frequency of how many times (visits) tourists to tourist attractions in public open spaces on the Mahakam Riverside in Tenggarong City, it can be seen that the most tourists are about 2-5 times as many as 55 tourists or 55% while the number of respondents who visit only once or first time as many as 45 (45%) of people.

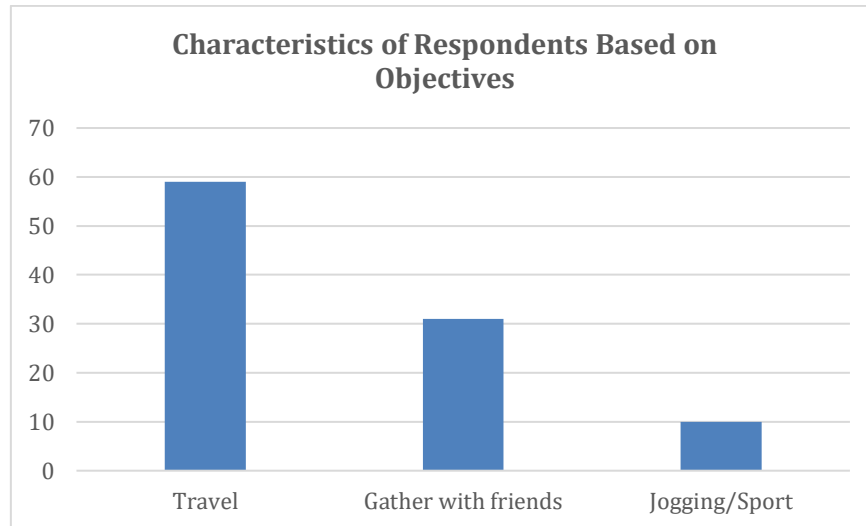


Figure 5. Characteristics of Respondents Based on Objectives
 Source: Primary data processed from SPSS 26

Based on the results from Figure 5, it can be explained that from 100 tourist respondents, it is known that tourists who have a tourist destination are 59 respondents or 59%, more when compared to tourists whose purpose is to gather with friends are 31 people (31%) and the least tourists who have Jogging/Sports destination as many as 10 tourists or 10% on public open space tourism visits on the Mahakam Riverside in Tenggarong City.

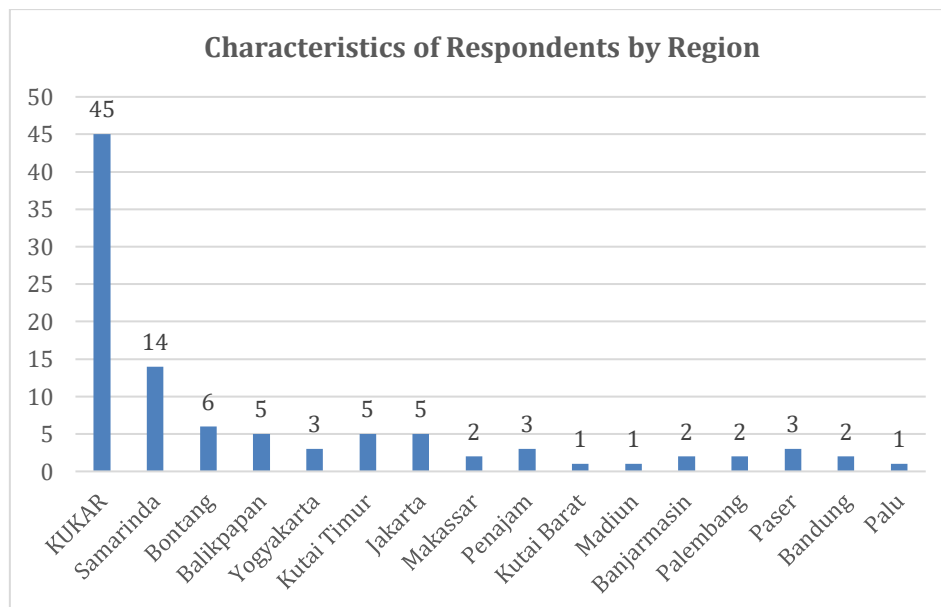


Figure 6. Characteristics of Respondents by Region
 Source: Primary data processed from SPSS 26

Based on the results from Table 6, it can be seen that from 100 tourism respondents it can be seen that tourists from the Kutai Kartenegara area themselves were 45 respondents or 45%, more than tourists from outside the KUKAR area, namely Samarinda, as many as 14 (14%) , Balikpapan as much as 5 (5%), Bontang as much as 6 (6%), tourists from outside East Kalimantan are Jakarta as much as 5 (5%) Yogyakarta as much as 3 (3%) and Makassar, Banjarmasin, Palembang and Bandung as much as 2(2%) , at least 1 tourist came from the West Kutai, Madiun and Palu areas or 1% of public open space tourist visits on the Mahakam Riverside in Tenggarong City.

Average Data Score

There are 33 questions from 100 respondents. The score of each question is then averaged from 100 respondents answers. The results of the average data scoring are presented in the following table:

Table 1. Average Results of Data Scoring

No	Indikator	Simbol	Perception (P)	Hope (H)
1	Availability of shade from heat and rain	COM1	2.30	4.60
2	Availability of seats	COM2	4.64	4.71
3	Availability of pedestrians	COM3	4.60	4.67
4	Availability of eating/drinking facilities	COM4	4.75	4.71
5	Availability of lighting (lamp)	COM5	4.58	4.69
6	Park availability	COM6	4.59	4.66
7	Distance from seat to noise source	REL	3.25	3.40
8	Ease of observation	PAS1	3.77	3.48
9	Ease of enjoying the view	PAS2	4.72	4.71
10	Ease of walking in the park	ACT1	4.80	4.33
11	Availability of places for events	ACT2	4.69	4.25
12	Availability of children's play area	ACT3	3.28	4.27
13	Availability of space for the elderly	ACT4	1.61	3.51
14	Availability of space for the disabled	ACT5	1.56	4.31
15	Availability of attractive ornaments in public spaces	DIS	4.74	4.38
16	Access availability	AKS1	4.82	4.52
17	Availability of physical boundaries (fence/safety)	AKS2	2.73	4.69
18	There is a zoning of activities	KEB	4.68	4.46
19	Availability of information room	RUA1	2.39	3.43
20	Availability of information regarding public space regulations	RUA2	1.86	3.45
21	Availability of space quality development policies	CHA	2.70	4.57
22	Availability of markers/ area boundaries	LEG1	2.54	4.64
23	Availability of landmarks	LEG2	4.15	4.64
24	Location, function and character are reflected in the design	LEG3	3.56	4.60
25	The concept of spatial planning contains elements of function	RVC1	4.02	4.57
26	The spatial concept contains elements of the user's character	RVC2	3.47	3.50
27	The concept of spatial planning contains elements of management/layout	RVC3	3.46	3.50
28	The concept of spatial planning contains cultural elements	RVC4	2.41	4.70
29	Availability of space that can be used by individuals	IND	2.28	2.61
30	Availability of space that can be used by groups	GRP	4.51	4.62
31	Availability of space that can be used by certain ethnicities	LAR	1.59	2.33
32	Have a free space section	BIO	4.50	3.60
33	Maintenance program	MAI	3.79	4.58

Source: Primary data processed from SPSS 26

Based on the scoring results from the average data in Table 1, it shows a minimum score of 1.56 or (Unsatisfied) in terms of "Availability of space for people with disabilities" and a maximum score of 4.82 or (Very Satisfied) on the question "Availability of access" for the perception of respondents in assessing the availability of public open space for the Tenggara City park, while for the expectations (expectations) from the respondents' assessments, a minimum score of 2.33 or (Less Important) is obtained in terms of "Availability of space that can be used by certain ethnicities" and scores a maximum of 4.71 or (Very Important) for 3 questions, namely "Availability of seats", "Availability of eating/drinking facilities", "Ease of enjoying the view".

Service Quality (SERVQUAL)

It can be seen that the GAP resulted from each question provided/asked to the respondent. If the value is 0, then there is no GAP in the respondent's assessment, if the value is + (positive) then the assessment is good and if the value is - (negative) then the respondent's assessment is not good. The average of all questions can be seen from the total average value of each Perception indicator and Expectation indicator (hope). The resulting value is positive, which means there is a good quality assessment above the average

The results of the average score of the average data are then searched for the difference between each question which is also known as the GAP Service Quality. Completely presented in the form of Table 2 below.

Table 2. Service Quality Calculation Results

No	Symbol	Perception	Hope	GAP	Indicator
1	COM1	2.30	4.60	-2.30	Availability of shade from heat and rain
2	COM2	4.64	4.71	-0.07	Availability of seats
3	COM3	4.60	4.67	-0.07	Availability of pedestrians
4	COM4	4.75	4.71	0.04	Availability of eating/drinking facilities
5	COM5	4.58	4.69	-0.11	Availability of lighting (lights)
6	COM6	4.59	4.66	-0.07	Park availability
7	REL	3.25	3.40	-0.15	Distance from seat to noise source
8	PAS1	3.77	3.48	0.29	Ease of observation
9	PAS2	4.72	4.71	0.01	Ease of enjoying the view
10	ACT1	4.80	4.33	0.47	Ease of walking in the park
11	ACT2	4.69	4.25	0.44	Availability of places for events
12	ACT3	3.28	4.27	-0.99	Availability of children's play area
13	ACT4	1.61	3.51	-1.90	Availability of space for the elderly
14	ACT5	1.56	4.31	-2.75	Availability of space for the disabled
15	DIS	4.74	4.38	0.36	Availability of attractive ornaments in public spaces
16	AKS1	4.82	4.52	0.30	Access availability
17	AKS2	2.73	4.69	-1.96	Availability of physical boundaries (fence/safety)
18	KEB	4.68	4.46	0.22	There is a zoning of activities
19	RUA1	2.39	3.43	-1.04	Availability of information room
20	RUA2	1.86	3.45	-1.59	Availability of information regarding public space regulations
21	CHA	2.70	4.57	-1.87	Availability of space quality development policies
22	LEG1	2.54	4.64	-2.10	Availability of markers/ area boundaries
23	LEG2	4.15	4.64	-0.49	Availability of landmarks
24	LEG3	3.56	4.60	-1.04	Location, function and character are reflected in the design
25	RVC1	4.02	4.57	-0.55	The concept of spatial planning contains elements of function
26	RVC2	3.47	3.50	-0.03	The spatial concept contains elements of the user's character
27	RVC3	3.46	3.50	-0.04	The concept of spatial planning contains elements of management/layout
28	RVC4	2.41	4.70	-2.29	The concept of spatial planning contains cultural elements
29	IND	2.28	2.61	-0.33	Availability of space that can be used by individuals
30	GRP	4.51	4.62	-0.11	Availability of space that can be used by groups
31	LAR	1.59	2.33	-0.74	Availability of space that can be used by certain ethnicities
32	BIO	4.50	3.60	0.90	Have a free space section
33	MAI	3.79	4.58	-0.79	Maintenance program
Average		3.56	4.17	-0.62	

Source: Primary data processed from SPSS 26

Based on Service Quality (Servqual) analysis on the perception of public open space tourist attractions on the banks of the Mahakam Tenggara River to tourists, it shows that the calculation results for each aspect have a value below zero (0), meaning that the perception level is still lower than the expected level of expectation. perceived by tourists. The lowest minus value is in the needs aspect with an Active Engagement indicator for the question of "Availability of space for people with disabilities" of -2.75 while a good assessment of the level of expectations (expectations) from tourists is in the meaning aspect on the indicator of the relationship with the wider community (connection to large society) is asked "Availability of space that can be used by certain ethnicities" is 0.90.

Customer Satisfaction Index (CSI)

Measurement of the Customer Satisfaction Index (CSI) is used to determine the magnitude of the satisfaction index generated by a service. It is very important to measure the level of tourist satisfaction to find out how much expectations can be met by the Tenggara City Government. The calculation of the Customer Satisfaction Index (CSI) uses the average score of the level of expectation and the level of perception of each attribute. The results of the calculation of the Customer Satisfaction Index (CSI) are shown in Table 3.

Table 3. Customer Satisfaction Index (CSI) Calculation Results

No	Symbol	Perception (P)	Hope (H)	Skor (P x H)
1	COM1	2.30	4.60	10.58
2	COM2	4.64	4.71	21.85
3	COM3	4.60	4.67	21.48
4	COM4	4.75	4.71	22.37
5	COM5	4.58	4.69	21.48
6	COM6	4.59	4.66	21.39
7	REL	3.25	3.40	11.05
8	PAS1	3.77	3.48	13.12
9	PAS2	4.72	4.71	22.23
10	ACT1	4.80	4.33	20.78
11	ACT2	4.69	4.25	19.93
12	ACT3	3.28	4.27	14.01
13	ACT4	1.61	3.51	5.65
14	ACT5	1.56	4.31	6.72
15	DIS	4.74	4.38	20.76
16	AKS1	4.82	4.52	21.79
17	AKS2	2.73	4.69	12.80
18	KEB	4.68	4.46	20.87
19	RUA1	2.39	3.43	8.20
20	RUA2	1.86	3.45	6.42
21	CHA	2.70	4.57	12.34
22	LEG1	2.54	4.64	11.79
23	LEG2	4.15	4.64	19.26
24	LEG3	3.56	4.60	16.38
25	RVC1	4.02	4.57	18.37
26	RVC2	3.47	3.50	12.15
27	RVC3	3.46	3.50	12.11
28	RVC4	2.41	4.70	11.33
29	IND	2.28	2.61	5.95
30	GRP	4.51	4.62	20.84
31	LAR	1.59	2.33	3.70
32	BIO	4.50	3.60	16.20
33	MAI	3.79	4.58	17.36
TOTAL			137.69	501.25

Source: Primary data processed from SPSS 26

Look for the value of the Customer Satisfaction Index (CSI) as follows:

$$CSI = \frac{501.25}{5(137.69)} \times 100\%$$

$$CSI = 72,81\%$$

Based on the analysis of Customer Satisfaction Index (CSI) obtained a satisfaction index of 72.81%. based on the tourist satisfaction index table, this figure falls into the interval $X > 50\%-80\%$ which indicates that the satisfaction tourists index to the quality aspects of public open space on the Mahakam riverside are in the “quite satisfied” criteria.

Index Performance Analysis (IPA)

In the IPA method, the question attribute is a key factor for identifying the relationship between interest (expectations) and performance (performance).

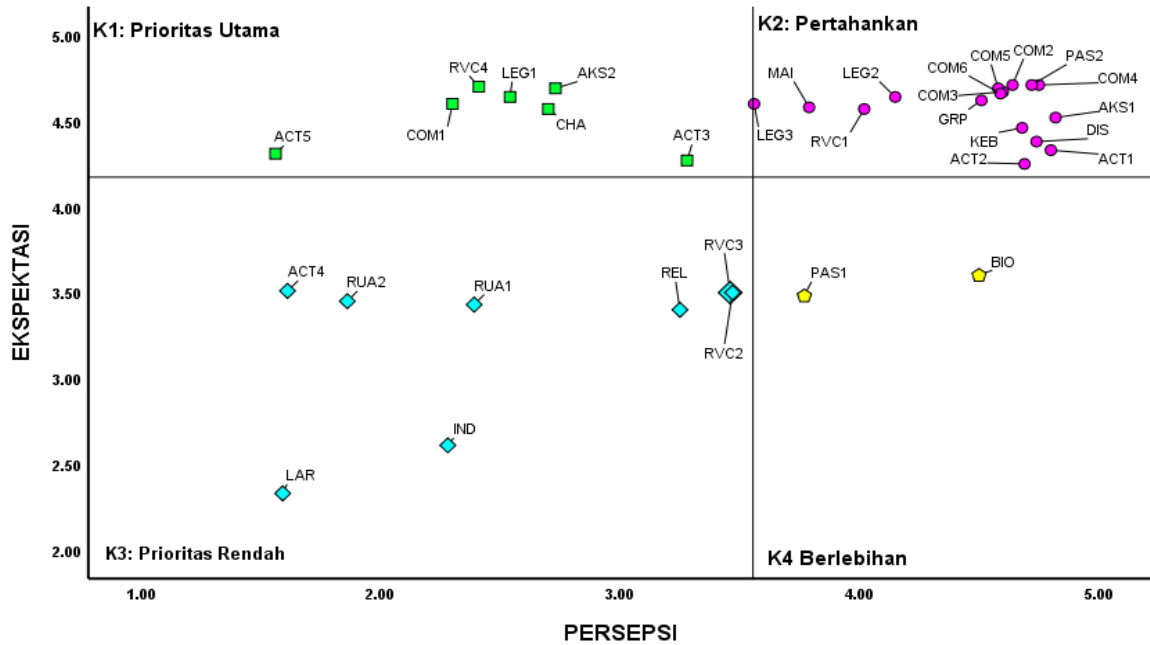


Figure 7. Result of Index Performance Analysis (IPA)
 Source: Primary data processed from SPSS 26

Explanation:

1. COM1: Availability of shade from heat and rain
2. COM2: Seat availability
3. COM3: Availability of pedestrians
4. COM4: Availability of eating/drinking facilities
5. COM5: Availability of lighting (lamp)
6. COM6: Park availability
7. REL: Distance from seat to noise source
8. PAS1: Ease of observation
9. PAS2: Ease of enjoying the view
10. ACT1: Ease of walking in the park
11. ACT2: Availability of space for the event
12. ACT3: Availability of children's playground
13. ACT4: Availability of space for the elderly
14. ACT5: Availability of space for the disabled
15. DIS: Availability of attractive ornaments in public spaces
16. AKS1: Access availability
17. AKS2: Availability of physical boundaries (fence/safety)
18. KEB: There is a zoning of activities
19. RUA1: Availability of information room

20. RUA2: Availability of information regarding public space regulations
21. CHA: Availability of space quality development policies
22. LEG1: Availability of markers/ area boundaries
23. LEG2: Availability of landmarks
24. LEG3: Location, function and character are reflected in the design
25. RVC1: The concept of spatial planning contains elements of function
26. RVC2: The concept of spatial layout contains elements of user character
27. RVC3: Spatial concept contains management/layout elements
28. RVC4: The concept of spatial planning contains cultural elements
29. ENG: Availability of space that can be used by individuals
30. GRP: Availability of space that can be used by groups
31. LAR: Availability of space that can be used by certain ethnicities
32. BIO: Has a free space section
33. MAI: Maintenance program

The location of the quadrant describes a different situation. This mapping based on the level of perception and level of expectation allows the local government to immediately make improvements to the attributes that are considered important by tourists in a relatively short period of time. Each quadrant is explained with the following interpretation:

Quadrant I (Top Priority). This quadrant describes the factors that are considered important and expected by tourists, but the perception of the local government of Tenggara City has not provided optimal satisfaction to what tourists expect, thus making tourists feel disappointed/unsatisfied. It is this dimension that needs to be prioritized for improvement. Attributes included in quadrant I include:

1. Availability of shade from heat and rain.
2. Availability of children's play area.
3. Availability of space for the disabled
4. Availability of physical boundaries (fence/safety).
5. Availability of space quality development policies.
6. Availability of markers/ area boundaries.
7. The concept of spatial planning contains cultural elements.

Quadrant II (Maintain Achievement). Quadrant II is the quadrant that is most expected by tourists when visiting public open spaces on the Mahakam Riverside in Tenggara City to maintain this performance. Figure 7 shows that there are 16 attributes included in quadrant II. These attributes include:

1. Availability of seats.
2. Availability of pedestrians.
3. Availability of eating/drinking facilities
4. Availability of lighting (lamps).
5. Availability of parks
6. Ease of enjoying the scenery
7. Ease of walking in the park
8. Availability of places for events
9. Availability of attractive ornaments in public spaces
10. Access availability
11. There is a zoning of activities
12. Availability of landmarks
13. Location, function and character are reflected in the design
14. The concept of spatial planning contains elements of function
15. Availability of space that can be used by groups and
16. Maintenance program

Quadrant III (Low Priority). Quadrant III contains factors that are considered to have a low level of perception or actual performance and are not too important or not too expected by tourists so that the Tenggara City Government does not need to prioritize or pay more attention to these factors. Figure 7 shows that there are eight attributes included in quadrant III. These attributes include:

1. Distance from seat to noise source
2. Availability of space for the elderly
3. Availability of information space
4. Availability of information regarding public space regulations
5. The concept of spatial planning contains elements of the user's character
6. The concept of spatial planning contains elements of management/layout
7. Availability of space that can be used by individuals
8. Availability of space that can be used by certain ethnic groups

Quadrant IV (Excess). In this quadrant there are factors that are considered not too important and not too expected by tourists so that the Tenggaraong City Government should allocate resources related to these factors to other factors that have a higher priority level. Figure 7 shows that there are two attributes that are included in quadrant IV. These attributes include "ease of observation" and "having free space."

CONCLUSION

Based on the recapitulation obtained, it shows that the quality of the Mahakam Riverside in Tenggaraong City area is based on the perceptions and expectations of visitors. If seen from the scoring results from the average data in table 1, in terms of "Availability of space for people with disabilities" shows a score of 1.56 or (Unsatisfied) in tourists perception, but in terms of "Availability of space for disabled people" shows a score of 4.82 or (Very Satisfied) on the question "Availability of access" for the respondent's expectations (hope) in assessing the availability of public open space for the Tenggaraong City park. While for the expectations (hope) from the respondent's assessment, a minimum score of 2.33 or (Less Important) is obtained in terms of "Availability of usable space by certain ethnicities" and a maximum score of 4.71 or (Very Important) for 3 questions, namely "Availability of seats", "Availability of eating/drinking facilities", "Ease of enjoying the view".

Meanwhile, if based on Service Quality (Servqual) analysis on the perception of public open space tourist attractions on the banks of the Mahakam Tenggaraong River to tourists, it shows that the calculation results for each aspect have a value below zero (0), meaning that the level of perception is still lower than the level of expectation (expectations).) experienced by tourists. The lowest minus value is in the needs aspect with an Active Engagement indicator for the question of "Availability of space for people with disabilities" of -2.75 while a good assessment of the level of expectations (expectations) from tourists is in the meaning aspect on the indicator of the relationship with the wider community (connection to large society) is asked "Availability of space that can be used by certain ethnicities" is 0.90.

And if based on the CSI calculation it is 72.81%, or is in the CSI value > 50% to 80% with the "Quite Satisfied" category. This illustrates that tourists are quite satisfied with the availability of public open space on the banks of the Mahakam Tenggaraong River, but they are still not optimal as a whole. To provide a better level of tourist satisfaction in the future, the Tenggaraong City Government must improve the quality of public open spaces that have not satisfied visitors. The things that need to be considered to maximize tourist satisfaction are contained in quadrant 1 of the IPA analysis, there are availability of shade from heat and rain, availability of children's play area, availability of space for the disabled, availability of physical boundaries (fence/safety), availability of space quality development policies, availability of markers/ area boundaries, and the concept of spatial planning contains cultural elements.

References

- A, Parasuraman, Valarie A. Zeithmal, Leonard L. Berry, (1990). *Delivering Quality Service: Balancing Customer Perception and Expectations*. New York: The Free Press.
- Aziz, A., & Ratriningsih, D. (2019). Penerapan Konsep Integrasi Antar Ruang Publik Pada Redesain Stasiun Kereta Api Pati. *Jurnal Arsitektur ZONASI*, 2(3), 200. <https://doi.org/10.17509/jaz.v2i3.17857>
- Carr, Stephen, Mark Francis, Leane G. Rivlin and Andrew M. Store. (1992). *Publik Space*. Australia: Press Syndicate of University of Cambridge
- Dwiyanto, Agung. (2009). *Kuantitas dan Kualitas Ruang Terbuka Hijau di Permukiman Perkotaan*. Teknik. 30 (2). pp. 88-92. ISSN ISSN 0852-1697
- Hair, Joseph F. Jr. et al. (2010). *Multivariate Data Analysis 7th Edition*. New Jersey: Pearson Education.

- Hakim, Rustam dan Hardi Utomo. (2004). *Komponen Perancangan Arsitektur Lanskap: Prinsip-prinsip dan Aplikasi Desain*. Jakarta: Penerbit Bumi Aksara.
- Hantono, D., Butudoka, Z., Prakoso, A. A., & Yulisaksono, D. (2019). Adaptasi Seting Ruang Pasar Jiung Terhadap Kehadiran Pasar Temporer Di Jalan Kemayoran Gempol Barat Jakarta. *Jurnal Arsitektur ZONASI*, 2(2), 75. <https://doi.org/10.17509/jaz.v2i2.13628>
- Mardiana, R., Surasetja, R. I., Busono, R. T., & Ardiansyah, A. (2019). the Existence of Pedestrian in Jakarta. *Journal of Architectural Research and Education*, 1(1), 44. <https://doi.org/10.17509/jare.v1i1.15728>
- Matthew Carmona, T. H. (2003). *Public places - urban spaces: the dimensions of urban design*. Oxford: Architectural Press.
- Permana, A. Y., Susanti, I., Indra, N., Dewi, K., & Wijaya, K. (2019). Morphology of Urban Space : in densely populated of Bandung City. *Journal of Architectural Research and Education*, 1(1), 18–35. <https://doi.org/10.17509/jare.v1i1.15586>
- Saha, K., Sobhan, R., & Nahyan, M. (2020). Morphology of a Sacred Urban Landscape: the Case Study of Sylhet City, Bangladesh. *Journal of Architectural Research and Education*, 2(2), 111–120. <https://doi.org/10.17509/jare.v2i2.26308>
- Sugiyono. (2007). *Metode Penelitian Kuantitatif Kualitatif dan R&D*. Bandung: Alfabeta.
- Susanti, I., Permana, A. Y., Pratiwi, W. D., & Widiastuti, I. (2020). Territorial space: Structural changes in a religious tourism area (The case of Kampung Mahmud in Bandung, West Java, Indonesia). *IOP Conference Series: Earth and Environmental Science*, 447(1). <https://doi.org/10.1088/1755-1315/447/1/012031>
- Wijaya, K., & Syahrizal, M. (2019). Function of Public Space in Cikapundung Terrace As Nature Tourism in Bandung City. *Journal of Architectural Research and Education*, 1(1), 10. <https://doi.org/10.17509/jare.v1i1.16421>
- Yosita, L., Busono, R. T., Surasetja, R. I., & Hartati, R. D. S. (2019). Our City is Our Responsibility: Improving the Quality of Bandung's City Open Space through Community Participation. *Journal of Architectural Research and Education*, 1(1), 1. <https://doi.org/10.17509/jare.v1i1.15633>