

Analysis of Tourist Satisfaction as a Basis for Tourist Destination Development at the Sekumpul Waterfall Tourist Object, Buleleng, Bali

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ABSTRACT

Managing natural tourism destinations requires a balance between tourist expectations and management performance. Tourist satisfaction is a crucial indicator of management success, particularly for destinations that rely on natural beauty and firsthand experiences as their primary attractions. Sekumpul Waterfall, as a leading natural tourism destination in Bali, faces challenges in maintaining the quality of services and tourism experiences to meet diverse tourist expectations. This study aims to analyze the level of tourist satisfaction and compliance with the management of Sekumpul Waterfall. A quantitative approach was used, collecting data through tourist questionnaires. Data analysis was conducted using Importance Performance Analysis (IPA) to measure the alignment between importance and performance of satisfaction attributes, and the Customer Satisfaction Index (CSI) to measure overall tourist satisfaction. The results showed that the level of compliance with tourist satisfaction attributes reached 85.2%, falling into the "very appropriate" category, indicating that the destination management's performance has generally met tourist expectations. The tourist experience and attractions are key strengths, while responsiveness of service, cleanliness of facilities, and infrastructure maintenance still require attention. A CSI score of 67.4% indicates that tourists are satisfied, although improvements are still needed in several attributes. These findings support Expectancy Disconfirmation Theory (EDT), which states that satisfaction is formed through a comparison between expectations and actual performance. Practically, this research provides implications for destination managers to prioritize improvements to attributes with performance gaps, while maintaining the excellence of the natural tourism experience to achieve sustainable tourist satisfaction.

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1. INTRODUCTION

Indonesian tourism, especially Bali, is growing rapidly along with the trend of sustainable and experience-based tourism, with the wellness and experiential tourism sector showing significant growth and the satisfaction level of international tourists in Bali exceeding 90% (IMARC Group, 2024; Bali Tourism Board, 2024), which confirms that the success of a destination is determined by its natural and cultural attractions and the quality of the tourism experience. Buleleng Regency, as an area of North Bali, has unique natural tourism potential in the form of mountains, waterfalls, and a long coastline that offers a different experience compared to South Bali [1]. One of its leading destinations is Sekumpul Waterfall, known as the "Seven

Points Waterfall," with a panorama of seven waterfalls in a green valley, a pristine environment, and a strong adventure experience [2].

The management of this destination involves active community participation through local institutions and the "Tirta Bhuan Lestari" Tourism Awareness Group (POKDARWIS), thus strengthening governance, environmental preservation, and community economic welfare based on local wisdom such as mutual cooperation and environmental responsibility [3]. The increasing popularity of Sekumpul Waterfall as a leading destination in North Bali is also supported by digital promotion and media coverage, making it competitive and has great potential for professional and sustainable development (Dispar Buleleng, 2023).

Table 1. Level of Tourist Visits to Sekumpul Waterfall 2018-2023

| Year | Number of Tourist Visits (Person) | | |
|--------------|-----------------------------------|---------------|----------------|
| | Domestic | Overseas | Total |
| 2018 | 6,000 | 36,100 | 42,100 |
| 2019 | 27,456 | 18,647 | 46,103 |
| 2020 | 5,281 | 3,951 | 9,232 |
| 2021 | 79 | 189 | 268 |
| 2022 | 600 | 2,264 | 2,864 |
| 2023 | 6,972 | 10,459 | 17,431 |
| Total | 46,388 | 71,610 | 117,998 |

Source: Bali Provincial Tourism Office (2024)

The number of tourist visits to Sekumpul Waterfall during 2018–2023 showed sharp fluctuations, with a peak of 46,103 visitors in 2019, a drastic decline during the pandemic to 268 visitors in 2021, and a rebound to 17,431 visitors in 2023, totaling 117,998 visits in the past six years, indicating that tourist interest remains high post-pandemic. However, this increase in visits has not been fully matched by the quality of destination management, particularly in terms of accessibility, supporting facilities, and supporting services. The hidden location with steep terrain, limited facilities such as parking, rest areas, and information boards, as well as narrow and suboptimal road quality still affect tourist comfort (BKPSDM Buleleng, 2018).

Furthermore, governance issues such as illegal levies and unstructured promotions

have the potential to undermine tourist trust and satisfaction. This situation highlights the importance of continuously improving destination management based on the 4A concept to continuously enhance the quality of the tourist experience and the competitiveness of Sekumpul Waterfall [4]. Tourist satisfaction is influenced by various factors related to the quality of the travel experience, including service quality, facilities and infrastructure, accessibility, cleanliness and safety, price and perceived value, and the experience and attractions [5].

Several empirical studies have shown that service quality and CHSE implementation have a dominant influence on tourist satisfaction [6], while accessibility and facilities also contribute positively to increasing visitor comfort [7]–[9]. Cleanliness, safety, and perceived value have also been shown to be important determinants in

shaping tourist satisfaction and trust [10], [11]. Furthermore, the quality of the tourist experience and attractions, including aesthetics, authenticity, and emotional engagement, play a significant role in creating tourist satisfaction [12], [13]. Based on these empirical phenomena and findings, this study focuses on analyzing tourist satisfaction at the Sekumpul Waterfall tourist attraction in Buleleng, Bali.

1.1. Formulation of the problem

Based on the background that has been explained, the formulation of the problem raised in this research is as follows:

1. How is the match between the interests and performance of tourist satisfaction factors at the Sekumpul Waterfall tourist attraction, Buleleng, Bali??
2. What is the level of tourist satisfaction at the Sekumpul Waterfall tourist attraction, Buleleng, Bali?

1.2. Research purposes

Referring to the problem formulation above, the objectives of this research are as follows:

1. Analyzing the suitability between the interests and performance of tourist satisfaction factors at the Sekumpul Waterfall tourist attraction, Buleleng, Bali.
2. Analyzing the level of tourist satisfaction at the Sekumpul Waterfall tourist attraction, Buleleng, Bali.

1.3. Framework of thinking

This research is motivated by the significant tourism potential of Sekumpul Waterfall, characterized by its strong natural attractions and increasing tourist visits post-pandemic. However, it still faces challenges such as limited accessibility, facilities, and tourism information, which have the potential to reduce visitor satisfaction. Tourist satisfaction is a crucial aspect because it influences loyalty, revisit intentions, and destination image. This study uses Expectancy Disconfirmation Theory [14] as a conceptual foundation to explain satisfaction as the result of comparing tourists' expectations and perceived destination performance. Empirical studies show that tourist satisfaction is influenced by service quality, facilities and infrastructure, accessibility, cleanliness and security, perceived value, and tourist experiences and attractions [5]–[8], [11]–[13], [15]. In identifying these factors, this study applies Importance Performance Analysis (IPA) and Customer Satisfaction Index (CSI) to assess the overall level of tourist importance, performance, and satisfaction, thus providing a basis for formulating strategic recommendations for the sustainable management of Sekumpul Waterfall.

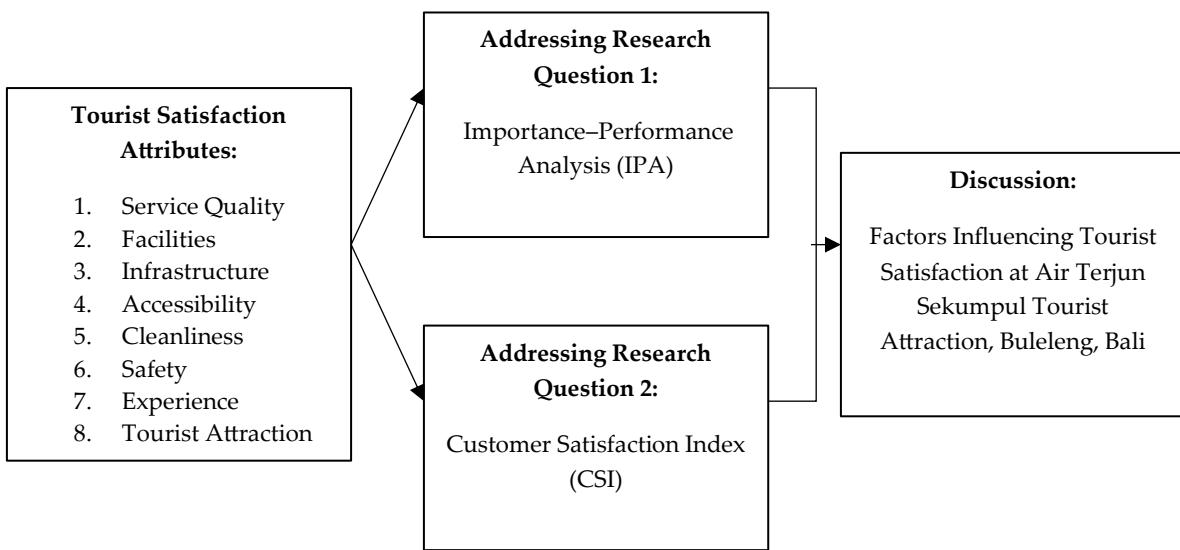


Figure 1. Research Concept Framework

2. RESEARCH METHODS

This study uses a quantitative descriptive approach that aims to analyze tourist satisfaction based on numerical data through surveys and statistical analysis [16], [17]. The study was conducted at the Sekumpul Waterfall tourist attraction, Sekumpul Village, Sawan District, Buleleng Regency, Bali with respondents from domestic and international tourists visiting the location. The scope of the study focuses on tourist satisfaction as measured through eight variables, namely: service quality, facilities, infrastructure, accessibility, cleanliness, security, experience, and tourist attractions, which are used as the basis for evaluating tourist perceptions of the performance of the Sekumpul Waterfall destination.

Service quality indicators were developed from the SERVQUAL dimensions by Parasuraman et al. (1988) and have been adapted to tourism research such as [18]–[20], namely: (1) reliability; (2) responsiveness; (3) empathy; and (4) assurance. Facilities indicators were developed from attributes or dimensions in the research of [21]–[23], including: (1) availability of public facilities; (2) cleanliness of facilities; (3) comfort of facilities; and (4) information and health support facilities. Infrastructure indicators were developed from attributes or dimensions in the research of [24], [25] as follows: (1) availability of basic facilities; (2)

quality and maintenance of infrastructure; (3) ease of access to transportation; (4) support for public facilities. Accessibility indicators were developed from attributes or dimensions in the research of [26], [27], as follows: (1) ease of access to tourist locations; (2) quality and condition of roads; (3) availability of public transportation and supporting services; and (4) clarity of route information and directions.

Safety indicators were developed from attributes or dimensions in the research of [28]–[30], namely: (1) environmental safety; (2) availability of security personnel; (3) emergency measures; and (4) clarity of safety rules and warning signs. Experience indicators were developed from attributes or dimensions in the research of [31]–[33], namely: (1) direct interaction with nature; (2) learning during travel; (3) personal satisfaction from activities; and (4) unforgettable experiences. Tourist attraction indicators were developed from attributes or dimensions in the research of [13], [34], namely: (1) uniqueness and authenticity; (2) beauty and aesthetics; (3) diversity of activities; and (4) management and preservation.

The population in this study was all tourists visiting Sekumpul Waterfall. The sample was determined using the Cochran formula because the exact population size was unknown, resulting in a sample size of 97 respondents. The sampling technique used was accidental sampling, namely tourists who

happened to be encountered at the research location and met the criteria as respondents, with considerations of efficiency and suitability to the characteristics of the research population. Data collection methods in this study included observation, questionnaires, interviews, and documentation. Questionnaires were distributed to tourists as respondents using a Likert scale of 1-5 to measure perceptions of the research indicators. The data analysis techniques in this study used Importance Performance Analysis (IPA) and Customer Satisfaction Index (CSI). IPA is used to evaluate the suitability between the level of importance and performance of attributes that influence tourist satisfaction at the Sekumpul Waterfall tourist attraction. Meanwhile, CSI is used to measure the level of tourist satisfaction quantitatively by comparing expectations and perceived performance, thereby identifying the strengths and weaknesses of destination management [35].

3. RESEARCH RESULT

3.1 Respondent Characteristics

This study used primary data from 97 respondents visiting Sekumpul Waterfall to describe the characteristics of tourists based on gender, age, and frequency of visits. The results showed that respondents were predominantly male tourists (55.4%) compared to female tourists (44.3%), indicating a relationship with the characteristics of natural tourism

destinations that require physical activity. Based on age, the majority of respondents were in the productive age range of 26-33 years (32%), followed by 34-41 years (23.7%), indicating the high interest of productive age tourists in nature and adventure tourism. In terms of frequency of visits, most respondents were new visitors with an intensity of 1-3 visits (88.7%), so the level of tourist satisfaction is an important factor in encouraging repeat visits and the sustainable development of the Sekumpul Waterfall tourist attraction.

3.2 Importance Performance Analysis (IPA) Calculation Results

The Importance Performance Analysis (IPA) calculation is used to analyze the level of tourist satisfaction with various attributes at the Sekumpul Waterfall tourist attraction, Buleleng, namely service quality, facilities, infrastructure, accessibility, cleanliness, safety, experience, and tourist attraction. IPA compares two important dimensions: the level of importance and the level of performance of each attribute. Through this analysis, it can be seen that tourists are satisfied with the existing attributes and attributes that need more attention to increase tourist satisfaction with Sekumpul Waterfall.

Table 2. Analysis of Attribute Conformity Level

| No. | Attribute | Code | Indicator | Level of Importance (Y _i) | Performance Level (X _i) | Level of Compliance (TKi%) |
|-----|-----------------|--------------|-----------------------------------|---------------------------------------|-------------------------------------|----------------------------|
| 1 | Service Quality | SQ1 | Reliability | 386 | 365 | 94.6% |
| | | SQ2 | Responsiveness | 396 | 308 | 77.8% |
| | | SQ3 | Empathy | 382 | 337 | 88.2% |
| | | SQ4 | Assurance | 409 | 347 | 84.8% |
| | | Total | | 1573 | 1357 | 86.3% |
| 2 | Facilities | FA1 | Availability of public facilities | 381 | 341 | 89.5% |
| | | FA2 | Cleanliness of facilities | 394 | 286 | 72.6% |
| | | FA3 | Convenience of facilities | 397 | 292 | 73.6% |

| No. | Attribute | Code | Indicator | Level of Importance (Y _i) | Performance Level (X _i) | Level of Compliance (TK _i %) |
|-----|----------------|------|---|---------------------------------------|-------------------------------------|---|
| | | FA4 | Information and health support facilities | 393 | 340 | 86.5% |
| | | | Total | 1565 | 1259 | 80.5% |
| 3 | Infrastructure | IN1 | Availability of basic facilities | 379 | 342 | 90.2% |
| | | IN2 | Infrastructure quality and maintenance | 411 | 322 | 78.3% |
| | | IN3 | Ease of access to transportation | 396 | 335 | 84.6% |
| | | IN4 | Public facility support | 400 | 366 | 91.5% |
| | | | Total | 1586 | 1365 | 86.2% |
| 4 | Accessibility | AC1 | Ease of access to tourist locations | 365 | 345 | 94.5% |
| | | AC2 | Road quality and condition | 398 | 334 | 83.9% |
| | | AC3 | Availability of public transportation and supporting services | 342 | 267 | 78.1% |
| | | AC4 | Clarity of route information and directions | 344 | 321 | 93.3% |
| | | | Total | 1449 | 1267 | 87.5% |
| 5 | Cleanliness | CL1 | Cleanliness of the tourist environment | 408 | 328 | 80.4% |
| | | CL2 | Cleanliness of public facilities | 374 | 298 | 79.7% |
| | | CL3 | Availability of cleaning facilities | 356 | 295 | 82.9% |
| | | CL4 | Awareness and participation of visitors and the community | 386 | 281 | 72.8% |
| | | | Total | 1524 | 1202 | 78.9% |
| 6 | Safety | SF1 | Environmental safety | 394 | 351 | 89.1% |
| | | SF2 | Availability of security officers | 363 | 271 | 74.7% |
| | | SF3 | Emergency measures | 374 | 284 | 75.9% |
| | | SF4 | Clarity of safety rules and warning signs | 379 | 329 | 86.8% |
| | | | Total | 1510 | 1235 | 81.6% |
| 7 | Experience | EX1 | Direct interaction with nature | 389 | 377 | 96.9% |

| No. | Attribute | Code | Indicator | Level of Importance (Y _i) | Performance Level (X _i) | Level of Compliance (TK _i %) |
|------------------------------------|--------------------|--------------|---------------------------------------|---------------------------------------|-------------------------------------|---|
| 8 | Tourist Attraction | EX2 | Learning during the trip | 390 | 332 | 85.1% |
| | | EX3 | Personal satisfaction from activities | 400 | 373 | 93.3% |
| | | EX4 | An unforgettable experience | 369 | 356 | 96.5% |
| | | Total | | 1548 | 1438 | 92.9% |
| 8 | Tourist Attraction | TO1 | Uniqueness and authenticity | 384 | 353 | 91.9% |
| | | TO2 | Beauty and aesthetics | 379 | 369 | 97.4% |
| | | TO3 | Diversity of activities | 377 | 308 | 81.7% |
| | | TO4 | Management and preservation | 365 | 287 | 78.6% |
| | | Total | | 1505 | 1317 | 87.4% |
| Average Attribute Conformity Level | | | | | | 85.2% |

Source: Processed Data

The results of the Importance Performance Analysis (IPA) calculations in Table 2 indicate that, in general, the level of tourist satisfaction with various attributes at the Sekumpul Waterfall tourist attraction is in the very appropriate category. The average value of the level of suitability for all attributes reached 85.2%, indicating that the overall performance of the tourist attraction management has been able to meet tourist expectations. The attributes analyzed included service quality, facilities, infrastructure, accessibility, cleanliness, security, experience, and tourist attractions. For the service quality attribute, the level of suitability reached 86.3%, indicating that the service was considered good and consistent, especially in terms of service reliability. However, the responsiveness aspect still needs to be improved so that staff respond to tourist needs more quickly and evenly.

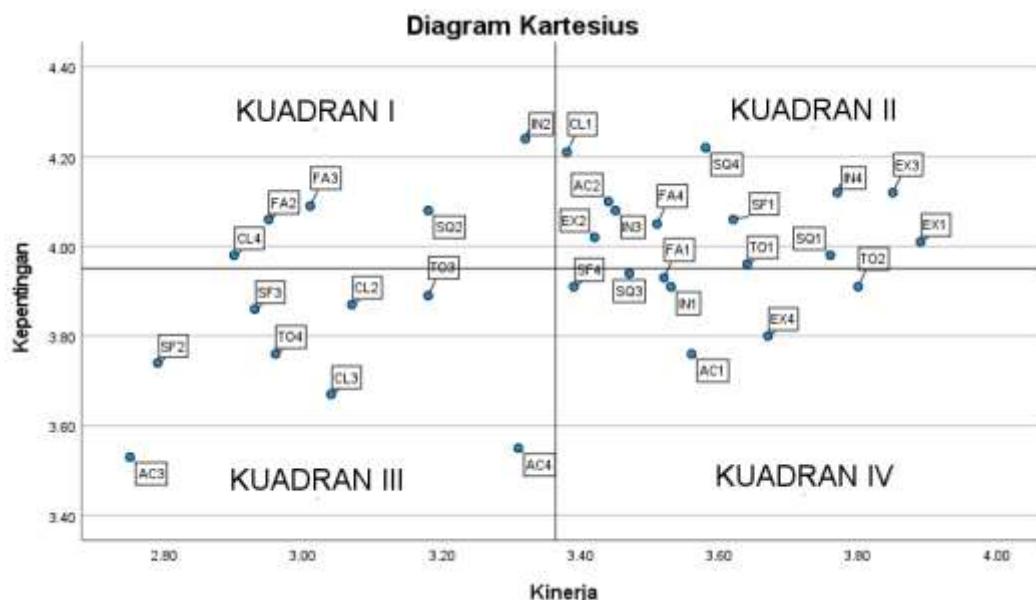
The facility attribute achieved a conformity level of 80.5%, with the availability of public facilities as the most satisfactory aspect, while the cleanliness of the facilities was still perceived as less than optimal by all tourists. The infrastructure attribute showed a conformity level of 86.2%, indicating that the supporting infrastructure has contributed to tourist comfort, although the quality and maintenance of certain infrastructure still requires attention. Accessibility was one of the attributes with a high conformity level of 87.5%, mainly due to the ease of reaching tourist locations, but limitations in public transportation were still felt by some tourists. In the cleanliness aspect, the conformity level was in the appropriate category with a value of 78.9%. This indicates that environmental cleanliness is relatively maintained, but awareness and participation of visitors and the community in maintaining cleanliness still needs to be improved. The security attribute achieved a

conformity level of 81.6%, reflecting tourists' sense of security during their visit, although the presence of security officers was not always directly felt.

The experience attribute had the highest level of conformity, at 92.9%, confirming that the tourist experience at Sekumpul Waterfall was highly satisfying, particularly through direct interaction with nature. However, the educational element within the tourist experience still has room for improvement. Meanwhile, the tourist attraction attribute achieved a level of conformity of 87.4%, with natural beauty and aesthetics as the main

strength of the destination, although aspects of environmental management and preservation were deemed not yet fully optimal. Overall, the IPA results indicate that Sekumpul Waterfall has been able to provide high levels of satisfaction to tourists. However, several attributes with a relatively lower level of conformity need to be prioritized for improvement so that the quality of service and the tourist experience can be continuously improved.

Based on the average score of the level of importance and level of performance for each attribute, a Cartesian diagram can be created in Figure 2 below.



cleaner and more comfortable facilities, well-maintained infrastructure, and visitor and community behavior that is more concerned about environmental cleanliness. Therefore, the attributes in this quadrant are a top priority for improvement to increase overall tourist satisfaction.

Quadrant II (Keep Up the Good Work) includes attributes that have equally high levels of importance and performance. Attributes in this quadrant include service reliability and assurance, information and health support facilities, easy transportation access, public facilities, road quality, environmental safety, cleanliness of the tourist environment, tourist experiences, and the uniqueness and authenticity of the destination. These results indicate that these attributes have been well managed and are able to meet tourist expectations. Tourists experience reliable service, a safe and clean environment, adequate access, and a meaningful travel experience through direct interaction with nature. The uniqueness and authenticity of Sekumpul Waterfall are also key strengths that must be continuously maintained.

Quadrant III (Low Priority) contains attributes with relatively lower levels of importance and performance. Attributes in this quadrant include the availability of public transportation, clarity of route information, cleanliness and hygiene of public facilities, the presence of security personnel and emergency measures, activity diversity, and management and preservation

aspects. These attributes are considered less dominant in shaping tourist satisfaction. Tourists tend to focus more on the primary activity of enjoying the natural beauty of the waterfall, so supporting aspects such as activity variety or public transportation are not a top priority in their travel experience.

Quadrant IV (Possible Overkill) indicates attributes with high performance but relatively lower importance. Attributes included in this quadrant include staff empathy, availability of public and basic facilities, ease of access, clarity of safety regulations, memorable experiences, and beauty and aesthetics. These results indicate that management has performed very well on these attributes, but tourists consider them as supporting characteristics or inherent to the destination. Therefore, management can maintain the quality of these attributes without the need for excessive additional resources and focus more attention on attributes in the top priority quadrant.

3.3 Customer Satisfaction Index (CSI) Calculation Results

Customer Satisfaction Index Customer Satisfaction Index (CSI) is a quantitative method for measuring customer satisfaction based on attributes deemed important. This method illustrates the extent to which customer expectations are met and helps identify aspects that need improvement. In this study, the CSI was used to assess tourist satisfaction with the Sekumpul Waterfall tourist attraction.

Table 3. Results of the Overall Customer Satisfaction Index (CSI) Calculation

| Attribute | MIS ($\frac{\sum I_{ij}}{n}$) | MSS ($\frac{\sum S_{ij}}{n}$) | WF ($\frac{MIS_i}{\sum MIS_i}$) | WS (WF x MSS _i) | WT ($\sum WS_i$) | CSI ($\frac{WT}{5} \times 100\%$) |
|-----------|---------------------------------|---------------------------------|-----------------------------------|-----------------------------|--------------------|-------------------------------------|
| SQ1 | 3.98 | 3.76 | 0.0315 | 0.1184 | 3,3694 | CSI = 67.4% |
| SQ2 | 4.08 | 3.18 | 0.0323 | 0.1026 | | |
| SQ3 | 3.94 | 3.47 | 0.0312 | 0.1082 | | |

| Attribute | MIS ($\frac{\sum I_{ij}}{n}$) | MSS ($\frac{\sum S_{ij}}{n}$) | WF ($\frac{MIS_i}{\sum MIS_i}$) | WS (WF _i x MSS _i) | WT ($\sum WS_i$) | CSI ($\frac{WT}{5} \times 100\%$) |
|-----------------------|---------------------------------|---------------------------------|-----------------------------------|--|--------------------|-------------------------------------|
| SQ4 | 4.22 | 3.58 | 0.0334 | 0.1195 | | |
| FA1 | 3.93 | 3.52 | 0.0311 | 0.1094 | | |
| FA2 | 4.06 | 2.95 | 0.0321 | 0.0947 | | |
| FA3 | 4.09 | 3.01 | 0.0324 | 0.0974 | | |
| FA4 | 4.05 | 3.51 | 0.0320 | 0.1125 | | |
| IN1 | 3.91 | 3.53 | 0.0309 | 0.1092 | | |
| IN2 | 4.24 | 3.32 | 0.0335 | 0.1114 | | |
| IN3 | 4.08 | 3.45 | 0.0323 | 0.1114 | | |
| IN4 | 4.12 | 3.77 | 0.0326 | 0.1229 | | |
| AC1 | 3.76 | 3.56 | 0.0297 | 0.1059 | | |
| AC2 | 4.10 | 3.44 | 0.0324 | 0.1116 | | |
| AC3 | 3.53 | 2.75 | 0.0279 | 0.0768 | | |
| AC4 | 3.55 | 3.31 | 0.0281 | 0.0930 | | |
| CL1 | 4.21 | 3.38 | 0.0333 | 0.1127 | | |
| CL2 | 3.87 | 3.07 | 0.0306 | 0.0940 | | |
| CL3 | 3.67 | 3.04 | 0.0290 | 0.0881 | | |
| CL4 | 3.98 | 2.90 | 0.0315 | 0.0913 | | |
| SF1 | 4.06 | 3.62 | 0.0321 | 0.1163 | | |
| SF2 | 3.74 | 2.79 | 0.0296 | 0.0825 | | |
| SF3 | 3.86 | 2.93 | 0.0305 | 0.0895 | | |
| SF4 | 3.91 | 3.39 | 0.0309 | 0.1049 | | |
| EX1 | 4.01 | 3.89 | 0.0317 | 0.1234 | | |
| EX2 | 4.02 | 3.42 | 0.0318 | 0.1088 | | |
| EX3 | 4.12 | 3.85 | 0.0326 | 0.1255 | | |
| EX4 | 3.80 | 3.67 | 0.0301 | 0.1103 | | |
| TO1 | 3.96 | 3.64 | 0.0313 | 0.1140 | | |
| TO2 | 3.91 | 3.80 | 0.0309 | 0.1175 | | |
| TO3 | 3.89 | 3.18 | 0.0308 | 0.0979 | | |
| TO4 | 3.76 | 2.96 | 0.0297 | 0.0880 | | |
| $\Sigma MIS = 126.41$ | | | | | | |

Source: Processed Data

Based on the Customer Satisfaction Index (CSI) calculations, the overall level of tourist satisfaction with Sekumpul Waterfall is in the satisfactory category, with a CSI score of 67.4%. This result indicates that the

management's performance in providing quality services, facilities, infrastructure, accessibility, cleanliness, security, tourist experiences, and attractions has met most tourist expectations.

Table 4. Customer Satisfaction Index (CSI) Calculation Results Per Attribute

| Attribute | MIS ($\frac{\sum I_{ij}}{n}$) | ΣMIS | MSS ($\frac{\sum S_{ij}}{n}$) | WF ($\frac{MIS_i}{\sum MIS_i}$) | WS (WF _i x MSS _i) | WT ($\sum WS_i$) | CSI ($\times 100\% \frac{WT}{5}$) |
|-----------|---------------------------------|--------------|---------------------------------|-----------------------------------|--|--------------------|-------------------------------------|
| SQ1 | 3.98 | 16.22 | 3.76 | 0.2454 | 0.9239 | 3,387 | 67.7% |
| SQ2 | 4.08 | 16.22 | 3.18 | 0.2515 | 0.7998 | | |
| SQ3 | 3.94 | 16.22 | 3.47 | 0.2430 | 0.8432 | | |
| SQ4 | 4.22 | 16.22 | 3.58 | 0.2601 | 0.9311 | | |
| FA1 | 3.93 | 16.13 | 3.52 | 0.2437 | 0.8576 | 3,169 | 63.4% |
| FA2 | 4.06 | 16.13 | 2.95 | 0.2516 | 0.7417 | | |
| FA3 | 4.09 | 16.13 | 3.01 | 0.2536 | 0.7634 | | |
| FA4 | 4.05 | 16.13 | 3.51 | 0.2511 | 0.8067 | | |
| IN1 | 3.91 | 16.35 | 3.53 | 0.2391 | 0.8438 | 3,321 | 66.4% |
| IN2 | 4.24 | 16.35 | 3.32 | 0.2593 | 0.8607 | | |

| Attribute | MIS ($\frac{\sum I_{ij}}{n}$) | $\sum MIS$ | MSS ($\frac{\sum S_{ij}}{n}$) | WF ($\frac{MIS_i}{\sum MIS_i}$) | WS ($WFi \times MSS_i$) | WT ($\sum WS_i$) | CSI ($\times 100\% \frac{WT}{5}$) |
|-----------|------------------------------------|------------|------------------------------------|--------------------------------------|------------------------------|-----------------------|--|
| IN3 | 4.08 | 16.35 | 3.45 | 0.2496 | 0.8611 | 3,085 | 61.7% |
| IN4 | 4.12 | 16.35 | 3.77 | 0.2519 | 0.7554 | | |
| AC1 | 3.76 | 14.94 | 3.56 | 0.2517 | 0.8961 | | |
| AC2 | 4.10 | 14.94 | 3.44 | 0.2744 | 0.9439 | | |
| AC3 | 3.53 | 14.94 | 2.75 | 0.2363 | 0.6498 | | |
| AC4 | 3.55 | 14.94 | 3.31 | 0.2376 | 0.5956 | | |
| CL1 | 4.21 | 15.73 | 3.38 | 0.2676 | 0.9045 | 2,966 | 59.3% |
| CL2 | 3.87 | 15.73 | 3.07 | 0.2460 | 0.7542 | | |
| CL3 | 3.67 | 15.73 | 3.04 | 0.2333 | 0.7097 | | |
| CL4 | 3.98 | 15.73 | 2.90 | 0.2531 | 0.5976 | | |
| SF1 | 4.06 | 15.57 | 3.62 | 0.2607 | 0.9431 | 3,021 | 60.4% |
| SF2 | 3.74 | 15.57 | 2.79 | 0.2402 | 0.6702 | | |
| SF3 | 3.86 | 15.57 | 2.93 | 0.2478 | 0.7263 | | |
| SF4 | 3.91 | 15.57 | 3.39 | 0.2513 | 0.6815 | | |
| EX1 | 4.01 | 15.95 | 3.89 | 0.2514 | 0.9787 | 3,702 | 74% |
| EX2 | 4.02 | 15.95 | 3.42 | 0.2520 | 0.8618 | | |
| EX3 | 4.12 | 15.95 | 3.85 | 0.2584 | 0.9948 | | |
| EX4 | 3.80 | 15.95 | 3.67 | 0.2382 | 0.8748 | | |
| TO1 | 3.96 | 15.52 | 3.64 | 0.2552 | 0.9290 | 3,362 | 67.2% |
| TO2 | 3.91 | 15.52 | 3.80 | 0.2519 | 0.9572 | | |
| TO3 | 3.89 | 15.52 | 3.18 | 0.2506 | 0.7971 | | |
| TO4 | 3.76 | 15.52 | 2.96 | 0.2423 | 0.6789 | | |

Source: Processed Data

Partially, the service quality attribute obtained a CSI value of 67.7% (satisfied), which indicates that tourists feel that the service of the officers is quite reliable, provides a sense of security, and shows empathy, although responsiveness still needs to be improved. The facility attribute has a CSI value of 63.4% (satisfied), indicating that the availability of public facilities as well as information and health facilities is considered adequate, but the comfort and cleanliness of the facilities are not felt evenly. Infrastructure obtained a CSI value of 66.4% (satisfied), which reflects tourist satisfaction with basic infrastructure and public facility support, although its quality and maintenance still need further attention.

The accessibility attribute recorded a CSI value of 61.7% (satisfied), indicating that the ease of access to the location and road conditions were considered quite good, but limited public

transportation and clarity of route information were still felt by some tourists. Cleanliness obtained the lowest CSI value of 59.3% (quite satisfied), indicating that although the cleanliness of the environment and facilities was considered quite good, the cleanliness facilities and awareness of visitors and the community were still not optimal. The security attribute had a CSI value of 60.4% (satisfied), indicating that tourists felt relatively safe, although the presence of security officers and emergency preparedness were not yet fully distributed.

Meanwhile, the experience attribute achieved the highest CSI score of 74% (satisfied), confirming that direct interaction with nature and emotional satisfaction are the main strengths of the destination. The tourist attraction attribute had a CSI score of 67.2% (satisfied), indicating that the uniqueness, authenticity, and natural beauty of Sekumpul Waterfall are able to provide satisfaction,

although the variety of tourism activities as well as management and preservation aspects still need to be improved.

3.4 Discussion

Based on the results of the Importance Performance Analysis (IPA), the average level of conformity of tourist satisfaction factors at the Sekumpul Waterfall tourist attraction reached 85.2% and was in the very suitable category. This finding indicates that in general the performance of destination management has been able to meet tourist expectations regarding the main attributes of satisfaction, namely service quality, facilities, infrastructure, accessibility, cleanliness, security, experience, and tourist attractions. The attributes of service quality, facilities, infrastructure, accessibility, security, experience, and tourist attractions were in the very suitable category, while cleanliness was in the suitable category. Tourist experiences and natural attractions are the main strengths of the destination, especially through direct interaction with nature and visual beauty. Conversely, aspects that still require attention are service responsiveness, facility cleanliness, infrastructure maintenance, limited public transportation, and visitor and community awareness in maintaining environmental cleanliness.

The results of the Cartesian diagram mapping indicate that attributes in quadrant I need to be prioritized for improvement due to their high importance but relatively low performance. Quadrant II reflects attributes with high performance and importance that need to be maintained consistently as destination strengths. Quadrant III contains supporting attributes with a relatively low influence on satisfaction, while quadrant IV shows

attributes that have performed very well but are not the main determinants of tourist satisfaction. Overall, improving tourist satisfaction at Sekumpul Waterfall needs to be focused on improving responsive service quality, facility cleanliness, infrastructure maintenance, and strengthening sustainable tourism environmental management.

Based on the Customer Satisfaction Index (CSI) calculation, the level of tourist satisfaction at the Sekumpul Waterfall tourist attraction is in the satisfied category with a CSI value of 67.4%. This finding indicates that in general, the performance of destination management has been able to meet most tourist expectations regarding the quality of service, facilities, infrastructure, accessibility, cleanliness, security, tourist experience, and tourist attractions, although not all aspects are felt to be optimal equally. The tourist experience attribute obtained the highest CSI value (74%) and is the factor that most influences tourist satisfaction, especially through natural beauty, natural atmosphere, and direct interaction with the environment.

The attributes of service quality, infrastructure, facilities, accessibility, security, and tourist attractions were in the satisfactory category, reflecting that the service, supporting facilities, ease of access, and the uniqueness and beauty of the destination were well-received by tourists. However, several weaknesses remained, such as staff responsiveness in crowded conditions, the comfort and cleanliness of facilities, limited public transportation, and irregular infrastructure maintenance in several areas. The cleanliness attribute received the lowest CSI score (59.3%) and was in the fairly satisfied

category, indicating that the cleanliness of the environment and facilities did not fully meet tourist expectations. This condition was influenced by limited cleaning facilities and the low consistency of visitor and community behavior in maintaining the cleanliness of the tourist area. Furthermore, the security aspect, although in the satisfactory category, still requires strengthening of staff preparedness and emergency situation handling in high-risk areas.

Overall, the CSI analysis results indicate that Sekumpul Waterfall has been able to provide a good level of satisfaction for tourists, although there is variation in satisfaction across attributes. This indicates that tourist satisfaction is influenced by a combination of natural beauty as the main attraction and the quality of overall destination management. This finding aligns with research by [5], which states that tourist satisfaction is influenced by the quality of service, facilities and infrastructure, accessibility, cleanliness, security, perceived value, and the tourist experience and attractions. Research by [6] also confirms that service quality, particularly aspects of cleanliness, health, and safety, plays a dominant role in shaping tourist satisfaction.

Furthermore, [7], [8] found that accessibility, facilities, and infrastructure positively contribute to the comfort and ease of travel. These findings are supported by Octaviani and [9], [10], who emphasized the importance of tourist attractions, ease of access, cleanliness, and security in shaping tourist satisfaction. [11]–[13] shows that perceived value and tourism experience are key factors in creating tourist satisfaction. Thus, tourist satisfaction at Sekumpul Waterfall is formed through the synergy between the quality of

destination management and the direct tourism experience.

4. CONCLUSION

Based on the results of the Importance Performance Analysis (IPA), the level of conformity of tourist satisfaction attributes at the Sekumpul Waterfall tourist attraction reached 85.2% and was in the very suitable category, indicating that the management's performance has generally met tourist expectations. The attributes of experience and tourist attractions were the main strengths of the destination with the highest level of conformity, while the attributes of cleanliness, service responsiveness, and infrastructure maintenance still showed a gap between the level of importance and performance.

Based on the CSI calculation results, the overall tourist satisfaction level reached 67.4% and was in the satisfied category. All attributes studied, including service quality, facilities, infrastructure, accessibility, security, experience, and tourist attractions, were in the satisfied category, except for cleanliness, which was in the quite satisfied category and was the aspect with the lowest satisfaction level. These findings indicate that although tourists were satisfied with the overall management of the destination, improvements in cleanliness and the quality of supporting services are still needed to optimize overall tourist satisfaction.

4.1 Theoretical Implications

The results of this study provide relevant theoretical implications in strengthening the application of Expectancy Disconfirmation Theory (EDT) in terms of tourist satisfaction at natural tourism destinations. Based on the results of the IPA and CSI analysis, it is known that most of the tourist satisfaction attributes at the Sekumpul Waterfall Tourist Attraction are in the appropriate to very appropriate category, and the satisfaction level is in the satisfied category. These findings indicate that in general, the performance of destination management has been

able to meet, and in some aspects even approach or exceed, the initial expectations of tourists. In the EDT framework, tourist satisfaction is formed through a process of comparing pre-visit expectations with the actual performance experienced during the tourist destination. The results of this study reflect the occurrence of confirmation, namely a condition when the performance perceived by tourists is in accordance with their expectations, especially in the attributes of the experience and tourist attractions that have the highest levels of conformity and satisfaction. This strengthens Oliver's (1980) view that satisfaction is the result of a cognitive evaluation of the match between expectations and perceived performance.

However, on the other hand, the presence of attributes with relatively lower CSI scores, such as cleanliness and service responsiveness, indicates the potential for negative disconfirmation, a condition where perceived performance does not fully meet tourist expectations. This finding aligns with the development of EDT, which is rooted in Cognitive Dissonance Theory (CDT), where a mismatch between expectations and reality can cause psychological discomfort and affect overall satisfaction evaluations.

Thus, this study theoretically confirms that tourist satisfaction at natural tourism destinations is influenced by the superiority of the main attractions, as well as by the consistency of management performance in meeting tourist expectations across all service attributes. These findings extend the application of EDT in tourism by demonstrating that the process of confirmation and disconfirmation of tourist expectations can occur differently for each satisfaction

attribute, thus forming a multidimensional level of satisfaction.

4.2 *Practical Implications*

Practically, the results of this study provide strategic input for Sekumpul Waterfall tourism managers in their efforts to improve tourist satisfaction sustainably. The experiential attributes and tourist attractions that are the main strengths of the destination need to be maintained and developed through environmental conservation efforts, sustainable tourism area management, and the creation of authentic and memorable tourism experiences for tourists. Attributes that still show a gap between the level of importance and performance, particularly cleanliness, service responsiveness, and infrastructure maintenance, need to be prioritized for improvement. Managers are advised to improve the cleanliness management system, add facilities and infrastructure supporting cleanliness, and carry out routine infrastructure maintenance to improve tourist comfort evenly throughout the tourism area.

Furthermore, improving the quality of human resources through training in tourism services, safety preparedness, and communication skills is also an important step to improve the consistency of service quality, especially during times of high tourist numbers. Management also needs to strengthen the provision of information and accessibility, both through directions, route information, and digital media, to facilitate tourists in accessing and enjoying the destination. Overall, the practical implications of this study confirm that increasing tourist satisfaction at Sekumpul Waterfall requires an integrated management strategy, balancing the maintenance of natural attractions as a primary advantage with improving the quality

of supporting services as a determining factor for tourist comfort.

4.3 Suggestion

Based on the research results, the management of the Sekumpul Waterfall tourist attraction has generally met tourist expectations. However, management is advised to prioritize improvements to attributes within the priority quadrant, particularly those related to service responsiveness, facility cleanliness and comfort, and infrastructure quality and maintenance. These efforts can be achieved through improving staff competency, regular facility maintenance, and strengthening hygiene education for visitors and the surrounding community. Attributes that have become the destination's strengths, particularly the tourist experience and attractions, need to be maintained and managed sustainably to maintain a competitive advantage. Management is also advised to evaluate and adjust resource allocation proportionally to other

attributes to maintain management efficiency without compromising service quality.

In line with the satisfied tourist satisfaction level, managers need to pay more attention to attributes with relatively lower satisfaction levels, such as cleanliness, facilities, accessibility, and security, by improving supporting facilities, providing clear access information, and enhancing security preparedness. Furthermore, regular evaluation of all tourist satisfaction attributes is essential to minimize the gap between expectations and performance and support sustainable destination management.

For further research, it is recommended to develop the study of tourist satisfaction by adding other variables such as perceived value, destination image, price or cost of visit, as well as loyalty and intention to revisit, and using a more diverse analytical approach to obtain a more comprehensive understanding of the factors that shape tourist satisfaction at natural tourism destinations.

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