



STRATEGIC PLANNING FOR SUSTAINABLE HISTORICAL TOURISM DEVELOPMENT AT SUMBERAWAN TEMPLE IN MALANG, INDONESIA: A VISITOR-BASED ASSESSMENT USING IMPORTANCE-PERFORMANCE ANALYSIS

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Abstract

The Sumberawan temple is a heritage building from the Singasari Kingdom and it is located at the spring of Mount Arjuna. This small stupa-shaped building is considered a place of worship for Buddhists and other religious groups, as well as a symbol of spring preservation. Currently, the Sumberawan temple is being developed as a historical tourist attraction. Due to its religious, cultural, and ecological significance, the development of historical tourism at the site requires appropriate and sustainable strategies. Therefore, this research used the Important Performance Analysis (IPA) method to evaluate the performance of the Sumberawan temple as a tourist attraction, place of worship, and ecological monument. Data were collected through field observations and presented descriptively. Subsequently, a survey was carried out using a questionnaire to determine the performance of the site based on visitors' perceptions. The field observations focused on the availability of facilities, their maintenance, condition, function, and ease of use, with the main attributes being facilities, visitor experience, pricing, and accessibility. A quantitative analysis was then carried out based on the results of field observations and IPA analysis. In conclusion, this research proposed strategies for developing the Sumberawan temple, including building and improving tourist facilities (focusing on quadrants I and III), and engaging all stakeholders in the management of the site.

Keywords: heritage, sustainable, springs, tourism

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INTRODUCTION

The Sumberawan temple is a cultural heritage site constructed during the late period of the Majapahit Kingdom (14th-15th centuries) (Suwardono, 2003). Located in Toyomerto Village, Singosari District, at the foot of Mount Arjuna, this temple sits on a water source that creates swamps within a forest. It is situated approximately 20 km north of the center of Malang City.

The Sumberawan temple is the only stupa temple in East Java (Nugroho et al., 2021) and it serves as a place of worship for both Buddhists and other religious groups. The temple is recognized as a *punden*, an ancient Javanese building for ancestor worship, and its water is considered sacred *tirta amerta* (Titisari, 2021). Typically, stupa store relics (Orzech, 2015; Snodgrass, 1992), and at the Sumberawan temple, the 'relic' discovered beneath the stupa is regarded as the sacred water, *tirta amerta*. The existence of the temple and its *tirta amerta* is also reflected in the toponyms of Toyomerto and Sumberawan Villages. The name Toyomerto is derived from the words *toya* (water) and *amerta* (life), representing the ancient Hindu-Javanese belief in sacred spring water. Furthermore, the name Sumberawan refers to the location of the source in the form of *rawan* (swamps).

Apart from being a place of worship, the Sumberawan temple has become a natural and cultural-historical tourism destination (Fadli et al., 2021). This provincial-scale cultural heritage building is designed with a bell-shaped stupa constructed of andesite stone (Titisari, Antariksa, Wulandari, et al., 2017). The uniqueness of the architecture blends with the natural landscape with the dominance of water sources, pine forests, cool air, and a mountain-foot village atmosphere. The location of the Sumberawan temple is quite remote, separated from settlements, thereby making it perfect for ritual activities and natural tourism. The site is used for a variety of reasons, including camping, rest places, outbound excursions, study tours, art performances, festivals, and natural recreation. Natural tourism has a lot of promise in East Java because of its rich biodiversity and charming landscapes (Hakim, 2008). The Sumberawan temple along with its stunning natural landscapes, draws a large number of tourists. In 2023, the average number of tourists per month was 950, largely for leisure trips, an increase from 800 monthly tourists in 2021-2022.

Parking lots, inns, prayer rooms, toilets, stalls, ticket boxes, temple guard posts, camping sites, public pools, sacred pools, meditation buildings, a traditional dance studio, and a religious-ceremonial equipment store are among the tourist facilities available in the Sumberawan temple. Before the COVID-19 pandemic, the site was equipped with spots for selfies, signage, and other recreational facilities, which are now in despair. The development of tourism at the Sumberawan temple needs to integrate historical culture and ecological conservation since both aspects are intertwined in shaping the cultural landscape

(Titisari, 2021). Additionally, tourism development must be carefully managed to ensure that it adheres to conservation and sustainable development guidelines. For ages, the Sumberawan Springs has provided communities with an essential supply of water. Therefore, the cultural-historical tourism development of the temple must consider both natural and cultural-historical conservation.

The purpose of this research is to create a long-term strategy for sustainable-historical tourism development at the Sumberawan temple. Sustainable tourism development aims to integrate ecological and cultural conservation in order to create economic and recreational benefits, as well as to improve the welfare of local communities. It also promotes the simultaneous experience and appreciation of nature and culture (Quintana, 2020).

Previous research of the Sumberawan temple have looked into various aspects of its cultural heritage, including tangible and intangible elements (Titisari et al., 2016; Titisari, Antariksa, Dwi, et al., 2017), cosmological architecture (Titisari et al., 2018), activities and spatial usage (Titisari et al., 2019), and territorial identity (Titisari, 2021). That research gives detailed information on the Sumberawan temple's physical characteristics, conservation efforts, activities, and cultural legacy. Additional research backs up these results, with investigations on the quality of service in tourism activities (Nugroho et al., 2021), 3D virtual reality creation for travel promotion (Kholimi et al., 2022), legal aspects and the role of government in tourism development (Fadli et al., 2021), as well as the role of society (Firmansyah & Fadlilah, 2016). Others examine folklore, ritual activities, and local wisdom for tourism branding and ecological conservation (Rahmawati et al., 2021; Sukmawan et al., 2021; Sulistyo & Dewanti, 2021), as well as ecological aspects and water source utilization in the context of conservation and water resource management. Therefore, this research contributes to the development of the Sumberawan temple as a historical tourism destination based on the results of the Important Performance Analysis (IPA). The IPA is a strategic management tool that uses visitor perceptions to identify areas of strength and areas for improvement. IPA gives researchers the best opportunity to understand the innermost deliberation of the 'lived experiences' of research participants (Alase, 2017). This method has never been used in research regarding the development strategies for the Sumberawan Temple. In this research, the analysis is conducted in the context of sustainable development. The research question is about the strategy for developing the Sumberawan temple that integrates historical-cultural and ecological conservation evaluation aspects. The development strategy was prepared based on the performance of the site as a historical tourist destination.

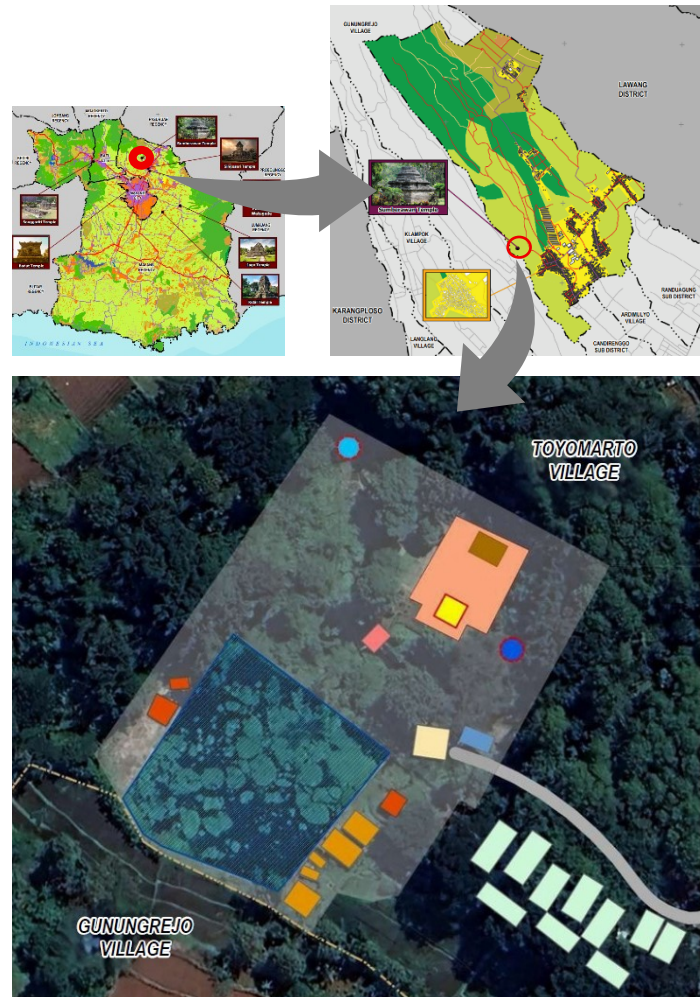


Figure 1. Map of the Sumberawan Site Location in Toyomarto Village, Singosari District, Malang Regency, East Java, Indonesia

LITERATURE REVIEW

Sustainable historical tourism aimed to preserve cultural and historical heritage while minimizing negative environmental impacts and improving people's welfare. This strategy integrated sustainable tourism concepts with historic site management (Blake, 2015; Buckley, 2011). The concerning impact of tourism was the environmental effect caused by the increasing number of visitors and the diversity of activities (Permatasari et al., 2020). These activities resulted in

increased water use, land conversion, food production, and consumption, all of which have serious implications for gas emissions and clean water use (Gössling & Peeters, 2015). Several theories that deal with sustainable historical tourism include the following.

1. *The triple bottom line theory*, which focused on efforts to improve the sustainable economy for local communities. The theory also involved the participation and empowerment of communities and the preservation of culture and history.
2. Visitor management theory, which involved controlling the number and behavior of tourists to reduce negative impacts on historical site and the environment,
3. *Carrying capacity theory*, which determined the maximum limit on the number of tourists to avoid physical, social, and environmental damage (Sofield, 2003; Weaver, 2013).

The increase in tourist activities, attractions, research, and the development of facilities and infrastructure over the last 10 years indicated that the government and local communities aimed to develop the tourism potential of the Sumberawan temple (Firmansyah & Fadlilah, 2016; Titisari et al., 2019). Integrating ecological considerations into the development of sustainable historical tourism necessitated a holistic approach to maintain a balance between environmental conservation and tourism development. These included maintaining ecosystems, introducing environmentally friendly practices, managing natural resources wisely and sustainably, and increasing awareness of cultural and environmental preservation. Additionally, it involved educating and interpreting the environment to inform the ecological values of tourist areas (Buckley, 2011; Garrod & Fyall, 2000). An important aspect to examine was the level of tourist satisfaction with their experience and awareness of sustainable tourism practices and impacts. This included variables of service quality, tourist experience, price, accessibility, as well as the cleanliness and comfort of tourist facilities (Ivars-Baidal et al., 2023; Sharma & Sarkar, 2024).

RESEARCH METHODOLOGY

This research adopted a rationalistic strategy and a sustainable development framework to examine the relationship between historical tourism and ecological conservation (Pociovalișteanu & Niculescu, 2010; Quintana, 2020). The analysis was carried out in three stages, including (1) characterizing existing conditions, (2) performing the IPA analysis based on questionnaire results, and (3) developing strategies based on the results of the IPA analysis.

The descriptions of existing conditions were based on field observations and literature reviews. The focus was on tourist facilities, spatial zones and territory, landscape elements, infrastructure, and accessibility, with a focus on tourist facility maintenance, condition, and function, facility design relevant to tourism themes, as well as support for cultural and ecological conservation. To verify data reliability, statistics on the performance of the Sumberawan temple as a tourist destination were collected using a questionnaire distributed to 100 visitors aged 20-55. Visitor satisfaction was measured through their experiences, price suitability, and accessibility to the site.

The questionnaire was evaluated using the Important Performance Analysis (IPA) method (Kokkhangplu & Kaewnuch, 2021; Rašovská et al., 2021; Wu & Jimura, 2019). The performance level was measured based on conformity level and quadrant. The level of conformity/satisfaction (Tk_i) was calculated by comparing the performance and importance scores. The Tk_i was measured using a Likert scale ranging from dissatisfied to very satisfied for performance measurement, and from non-essential to important for interest measurement (1-5). The calculation of the Tk_i was carried out by determining the lower limit value of the interval based on the percentage of the respondents with the lowest and highest scores. This resulted in a lower limit of 20% and a value range of 16% (very low 20-36%, low 36.1-52%, medium 52.1-68%, high 68.1-84%, very high 84.1-100%). The level of satisfaction was calculated as the percentage of the performance assessment score (x_i) divided by the importance assessment score (y_i).

$$Tk_i = (x_i/y_i) \times 100\%$$

The results of each indicator/attribute assessment were shown in the Cartesian Diagram Quadrant and analyzed to identify attributes that needed improvement and strengthening. Quadrant I showed those variables needed to be maintained (*keep up the good work*), while quadrant II showed variables that were important and needed improvement (*concentrate here*). Quadrant III showed variables that were not important and had low performance (*low priority*), and quadrant IV showed variables with low importance but good performance (*possible overkill*). Finally, a strategy for sustainable historical tourism development was developed based on the results of this analysis and interpretation.

ANALYSIS AND DISCUSSION

The conservation area of the Sumberawan temple was administratively managed by the Cultural Heritage Preservation Center (BPCB) of East Java Province. The

site was delineated by a wire fence and was located in a forest managed by the State Forestry Public Company (Perum Perhutani or Perhutani). The management of the site should be a collaborative effort involving Perhutani, BPCB, and the local community. The community was particularly concerned about the forest and water resources, as they considered the Sumberawan temple to be a sacred place and were responsible for total sustainability. (Rahmawati et al., 2021; Sukmawan et al., 2021; Titisari et al., 2018).



Figure 2. The temple area (a); Vesak Ceremony at Sumberawan Temple (b); Sacred pool inside the temple area (c dan d)
(Doc: Titisari, 2024)

The Sumberawan temple served as a venue for various activities organized by different groups (Sulistyo & Dewanti, 2021; Titisari et al., 2019). The conservation area of the cultural heritage building was clearly defined, with a grassy field and a path encircling the temple, acting as a barrier for the core zone. Wire fences marked the territorial boundaries for the conservation buffer zone. Within the buffer zone, there were additional buildings such as a temple guard and conservator post, a warehouse, a worship studio, and two ponds for ritual ceremonies and meditation. The landscape was covered with grass, and decorative vegetation was planted along the paths. In front of the temple, there was a grassy field that was commonly used as a gathering place during religious ritual ceremonies, as shown in Figure 1. Approximately 10 meters in front of the temple, there were stone seats and offerings on a paved area, arranged as small

altars and seating. In the temple, some remnants of ancient plants, such as banyan, ketinggalan, and bendha trees, still thrived and there was proper maintenance of other decorative plants and shrubs. At about 1.5 meters around the temple's base, there was a brick barrier covered with gravel, serving as a boundary to prevent damage to the temple during religious ceremonies or art performances and protect it from vandalism.

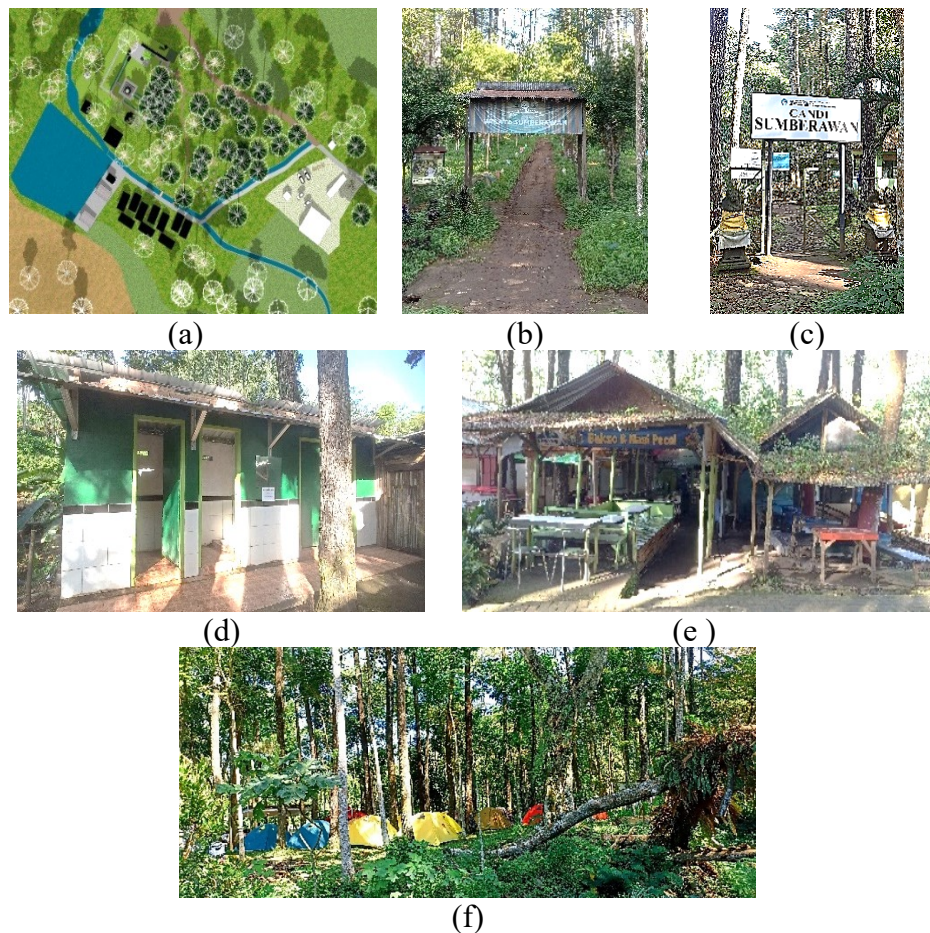


Figure 3. Sumberawan Temple area and pine forest (a); the gateway (b); gateway to the temple area (c); toilet (d); Food and drink stalls (e); camping ground (f)
(Doc: Titisari, 2024)

The forest area around the temple was used for several purposes, including housing a ticket box, camping grounds, outbound activities, tourist attractions, prayer rooms, pools, toilets, sacred tombs, and spots for taking selfies.

It also served as a rest area or parking lot when visitors surge in during the Vesak ceremony, Tirta Amerta Sari, or special events and tourist attractions. Outside the temple grounds, there were food and drink stalls along the riverbank, inns, and shops selling religious ceremony tools as well as dance studios. Additionally, parking and some other facilities, which were owned by the private sector were available in this area, as shown in Figure 2.

The Sumberawan temple could be accessed through a 3-meter-wide concrete road, which restricted car access. Alternatively, there was a path along the riverbank and rice fields that led to the temple. The site contained well-planned and high-quality pathways, which were made of stone, paving stones, or gravel.

The attributes of the Sumberawan temple were determined based on satisfaction, importance, and performance using IPA. The results of the IPA analysis were shown in Table 2.

Table 1. Levels of Importance, Performance, and Satisfaction Conformity according to the results of Important Performance Analysis in early 2024

Code	Elements	Xi (performance)	Yi (importance)	Tki (Conformity Level)
a1	Number of parking spaces	2	4,3	47%
a2	Condition and Function of Parking Lot	1,9	3,9	49%
a3	Access to the parking lot	1,9	4,3	44%
a4	Number of toilets	3,5	4,1	85%
a5	Toilet conditions and functions	2,5	4,3	58%
a6	Access to toilets	2,7	4,0	68%
a7	The gateway supports the theme of eco-cultural/historical tourism	1,5	4,2	36%
a8	Availability of ticket box	2,5	2,9	86%
a9	Ticket box design supports eco-cultural/historical tourism themes	1,5	3,8	39%
a10	Availability of ecology and cultural heritage building information centers	2,1	4,8	44%
a11	Availability of tourist information (brochures, tour guides, information from the internet/online, posters, etc.)	2,4	4,6	52%
a12	Availability of banking facilities	1	2,9	34%
a13	Zoning and territory for conservation areas, ritual areas, and tourist areas	2,4	4,7	51%
a14	Availability of tourist attractions	1,8	4,7	38%
a15	Conditions of tourist attractions	1,5	4,8	31%
a16	Number of seats or rest area	2,2	4,3	51%
a17	Seating and rest area conditions	1,6	3,2	50%
a18	Adequacy of signage related to the conservation of cultural and ecological heritage buildings	2,7	4,2	64%

Code	Elements	Xi (performance)	Yi (importance)	Tki (Conformity Level)
a19	Representative and informative signage design and placement	1,5	4,6	33%
a20	Availability of pathways between facilities or tourist areas	3,2	4,1	78%
a21	Design and capacity of connecting paths between facilities or tourist areas	2,1	4,3	49%
a22	Availability of ritual facilities such as studios or places of worship	3,7	4,7	79%
a23	Condition of the studio or place of worship	2,9	4,6	63%
a24	Access to the studio or place of worship	3,3	4,0	83%
a25	Availability of natural tourism facilities	2,2	4,7	47%
a26	Garbage bin adequacy	2,5	4,2	60%
a27	Garbage bin condition	3	3,9	77%
a28	Easy access to bins	3	3,8	79%
a29	Number of food and beverage stalls	4,1	4,2	98%
a30	The condition of food and beverage stalls supports historical-ecological tourism	2,3	4,1	56%
a31	Access to food stalls	3,8	4,1	93%
a32	Number of souvenir shops, souvenirs, or ritual facility providers	2	3,7	54%
a33	The store design supports the tourism theme	3,1	3,3	94%
a34	Access to the store	3,2	3,3	97%
a35	Availability of prayer rooms	2,5	3,9	64%
a36	The design of the prayer room supports the tourism theme	2,9	3,5	83%
a37	Access to the prayer room	2,8	3,2	88%
a38	Availability of security facilities	2,8	4,6	70%
a39	Easy access to security facilities	2,5	4,5	56%
a40	Availability of security facilities against forest fires	1	3,8	26%
a41	Availability of clean water facilities and infrastructure	3,9	4,0	98%
a42	Quality of telecommunications network (signal)	3,9	4,0	98%
a43	Quality of the electricity network	3,7	4,3	86%
b1	The beauty and preservation of cultural heritage buildings (temples)	3,6	4,6	78%
b2	The beauty of the temple landscape and the surrounding nature	3,4	4,3	79%
b3	The beauty of attractions (landscape attributes for tourism, art performances, traditional rituals, outdoor activities, etc.)	4	4,5	89%
b4	Cool and fresh air conditions	4,1	4,7	87%

Code	Elements	Xi (performance)	Yi (importance)	Tki (Conformity Level)
b5	Tranquility and comfort	4,3	4,8	90%
b6	The condition of vegetation in the landscape around the temple	3,2	4,7	68%
b7	Clean and cool water conditions and water sources	3,7	3,8	97%
c1	Entrance and parking ticket prices	3,7	3,9	95%
c2	Food and beverage prices	3,5	3,6	97%
c3	Food and beverage prices	2,8	4,2	67%
c4	Prices of souvenirs and tools for ritual ceremonies	3,8	3,9	97%
d1	Cost of transportation services	2,4	4,4	55%
d2	Ease of accessibility to the location	2,7	4,4	61%
d3	Road condition/access to the location	2,2	4,2	52%
d4	Easy access to public transportation and/or car rental	1,9	4,2	45%
	Total	163,1	244,2	3973%
	Average	2,8	4,1	0,67

The scientific analysis results showed a visitor satisfaction rate of 67%, which fell within the moderate range. The average performance level was 2.8, indicating a fair to good rating. This suggested that many average attributes in the Sumberawan temple needed improvement. The quadrant graph further showed that most attributes required improvement.

Attributes with very high-performance values included the freshness and coolness of the air, the beauty of natural attractions, traditional rituals, art attractions, comfort and tranquillity, as well as the availability of food and drink stalls. Conversely, attributes with low-performance ratings consisted of parking lots, gate and ticket box designs that did not support eco-cultural/historical tourism themes, and banking facilities. They also included the availability and condition of supporting facilities/tourist attractions, signage placement and design, availability and design of benches and areas for resting, availability of safety facilities from fire hazards, and ease of access to public transportation facilities.

Based on the results of a visitor satisfaction survey using a Cartesian diagram with four quadrants, it was evident that 25 attributes needed to improve their performance. These attributes were considered very important and fell under quadrant I on the diagram. They included ease of accessibility, availability of public transportation facilities, and design of tourist facilities, specifically gates, food stalls, ticket boxes, park benches, circulation lines, and signage that supported the theme of tourism activities. These attributes also consisted of ecological and cultural heritage buildings information centers, tourist information centers, signage placement, availability of information boards that supported

ecological and cultural conservation, improvement of security facilities, as well as improvement of the quality of ritual facilities.

When analyzing visitor satisfaction within the eco-cultural/historical tourism framework, several strategies for maintaining sustainable tourism were developed. The fundamental principle of sustainable historical tourism involved integrating the concept of sustainable tourism with historical area management. (Blake, 2015) Furthermore, the second zone of conservation areas, particularly those related to cultural heritage buildings and forests, should have clear boundaries and regulations for activities. It was also important to control the number of visitors to prevent potential damage to the forests and cultural heritage buildings. (Sofield, 2003; Weaver, 2013). The control and management of this site must be jointly conducted by Perhutani, BPCB, the local community, the private sector, the government, and other stakeholders. The collaboration should be guided by a vision of cultural and ecological preservation as well as adhere to the principles of sustainable development (Parris & Kates, 2003; Pociovalişteanu & Niculescu, 2010).

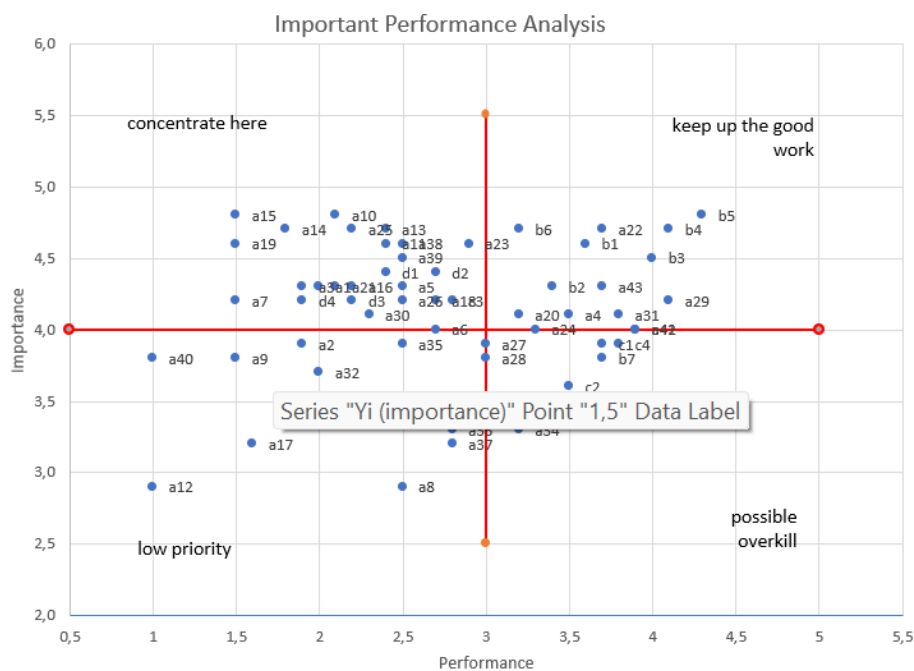


Figure 4. Importance Performance Analysis of Visitor Satisfaction and Conformity with Eco-Cultural and Historical Tourism Attributes in Sumberawan Temple Area

In the case of the Sumberawan temple, it was essential to engage in dialogue and discussion with all stakeholders to ensure that the design of the site was integrated and similar to the appropriate theme. The design plan for the site included the temple conservation area, forests, water sources, and the surrounding environments. Additional facilities that should be provided comprised ecological and historical buildings information centers, tourist information centers, security facilities, hygiene facilities, signage and information boards supporting ecological and cultural conservation, tourist attractions, natural tourism facilities, and utility infrastructure.

A significant improvement in the condition or quality of various attributes was necessary for almost all facilities, such as the design of gates, ticket boxes, signage, toilets, landscapes or parks, arrangement of circulation lanes, zoning regulations, road widening, provision of public transportation, and expansion of parking lots. It was also important to have well-programmed and scheduled various tourist attractions and annual ritual activities in order to enhance tourist appeal, promote regional identities and sustainable tourism destinations, as well as be supported by accurate information dissemination. The in-depth analysis using the scientific method showed that attributes related to the visitor experience fell within quadrant II (keep the good work), while the pricing was categorized under quadrant III (possible overkill), signifying its adequacy.

CONCLUSION

In conclusion, this research has successfully examined all attributes related to the historical tourist area of the Sumberawan temple within the framework of eco-cultural/historical tourism, based on sustainable development principles. A total of 43 attributes of tourist facilities, including availability, condition, design, and accessibility, as well as 7 attributes of visitor experience, 4 attributes related to visitor pricing, and 4 attributes concerning accessibility to the site were identified.

An analysis of visitor satisfaction was conducted to prioritize areas for improvement, facilitating the preparation of an integrated and sustainable development strategy for the historical and ecological tourism areas. The results showed that there was a substantial need for enhancement and provision of tourist facilities, making it a concentration area and low priority. Attributes related to visitor experience were considered satisfactory and should be maintained. However, the pricing attributes were considered to be very adequate, possibly excessive.

The sustainable development strategy for the Sumberawan temple covered the aspect of improving the condition and quality of facilities and introducing tourist attractions that supported the conservation of cultural and ecological history. This development program was considered to be a collaborative effort including BPCB, Perhutani, local communities, the private

sector, governments, and other stakeholders. The collaboration aimed to establish the Sumberawan temple as a collectively managed unit within the area. Further research should focus on planning, design, empowerment, community engagement, stakeholder participation, and interdisciplinary fields in sustainable tourism development.

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