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Visitor Priorities and Destination Performance: An Importance–Performance Analysis of Sustainable Heritage Tourism on Mansinam Island, Indonesia

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Abstract: Sustainable heritage tourism requires destinations to balance visitor experience, heritage conservation, environmental quality, governance, and community benefits. This study examined visitor perceptions of sustainable heritage tourism management on Mansinam Island, West Papua, Indonesia, using Importance–Performance Analysis (IPA). A quantitative cross-sectional survey was conducted in July 2026 using accidental intercept sampling. Of 115 collected questionnaires, 114 unique responses were analyzed. Thirty destination-management attributes were assessed across tour guiding, local culture and economy, governance, and environmental sustainability. Performance was significantly lower than importance across all four dimensions ($p < .001$), with effect sizes ranging from $r = .42$ to $.60$. The largest attribute-level gaps concerned cleanliness, toilets and waste facilities ($-.70$), transparency of tourism economic benefits ($-.55$), conservation awareness ($-.55$), restoration of sacredness following intensive visitation ($-.51$), and guide-mediated visitor behaviour ($-.51$). IPA identified five priority attributes requiring immediate attention: guide knowledge of Christianity in Papua, benefit transparency, destination-management clarity, enforcement of visitor norms, and environmental facilities. The findings indicate an interconnected destination-management deficit requiring coordinated improvements in environmental services, heritage interpretation, governance, visitor management, and community benefits.

Keywords: sustainable heritage tourism, Importance–Performance Analysis, heritage interpretation, destination governance, Mansinam Island.

INTRODUCTION

Heritage tourism occupies a distinctive position within sustainable tourism because destinations must simultaneously accommodate visitor experiences, heritage conservation, environmental protection, and the interests of local communities. Unlike conventional tourism attractions, heritage destinations contain cultural, historical, religious, and social values that may be vulnerable to excessive visitation or poorly coordinated tourism development. Sustainable heritage tourism therefore requires more than increasing visitor numbers or improving service quality; it also requires appropriate management of heritage resources, stakeholder participation, environmental conditions, visitor behaviour, and the distribution of

tourism-related benefits. Research on sustainable heritage tourism has shown that tourism may generate economic opportunities, cultural revitalization, infrastructure improvements, and enhanced services, but these benefits are not automatically distributed equitably. Sustainable outcomes depend substantially on the inclusion of host communities in governance, decision-making, and access to tourism resources (Asmelash & Kumar, 2019; Brooks et al., 2023).

Visitor perceptions provide an important demand-side perspective for evaluating whether these management objectives are being achieved. Destination performance is experienced through both tangible and intangible attributes, including cleanliness, sanitation, accessibility, interpretation, information, visitor regulation, cultural authenticity, and the quality of interactions with local communities. Consequently, evaluating what visitors consider important and how well they perceive those attributes to be delivered can help destination managers identify areas requiring managerial intervention. In this context, Importance–Performance Analysis (IPA) provides a practical framework for comparing the importance assigned to destination attributes with their perceived performance. Originally introduced by Martilla & James (1977), IPA combines importance and performance ratings in a two-dimensional matrix to facilitate the identification of management priorities. The approach has subsequently been widely applied in tourism research because of its ability to translate visitor evaluations into actionable management strategies, although methodological issues concerning the interpretation and measurement of importance and performance have also been discussed in the literature (Azzopardi & Nash, 2013; Oh, 2001).

IPA is particularly relevant to cultural and heritage destinations because management priorities often extend beyond conventional service attributes. Recent applications have demonstrated that IPA can be used to evaluate cultural and heritage characteristics and to identify attributes requiring immediate intervention (Hu et al., 2024; Karimi & Boley, 2022). Hu et al. (2024), for example, applied IPA to cultural and heritage attributes at Mount Yunqiu, while Karimi & Boley (2022) compared multiple IPA approaches in assessing service quality at cultural heritage sites. These studies demonstrate the usefulness of IPA for destination diagnosis; however, much of the existing application remains centred on visitor experience, service quality, or individual destination attributes. A broader sustainability-oriented application is needed when the principal management challenge involves several interrelated domains simultaneously.

One such domain is heritage interpretation. Interpretation plays a role beyond simply communicating historical information because it can help visitors understand the significance of heritage resources, develop appropriate attitudes, and influence their behaviour within heritage settings. A systematic review by Nowacki (2021) shows that heritage interpretation can contribute to sustainable development through educational functions, communication of heritage values, guide-interpreter activities, and visitor-traffic management. Empirical evidence further indicates that tour-guide interpretation can strengthen visitors' perceptions of heritage values (Weng et al., 2020) and may contribute to pro-environmental behaviour at heritage sites (Alzghoul et al., 2023). Thus, guiding should not necessarily be understood only as a tourism service. At heritage destinations, it may also operate as a mechanism for communicating conservation principles, managing visitor conduct, and mediating interactions between visitors and sensitive cultural spaces.

These considerations are especially important at religious heritage destinations, where tourism activities take place within spaces that retain spiritual, symbolic, and community meanings. Visitors may simultaneously experience such places as tourist attractions and sacred environments, requiring destination managers to balance visitor access with the preservation of religious values and appropriate behaviour. Pande & Shi (2023) demonstrate the particular importance of religious and cultural dimensions in visitor experiences at religious heritage sites and show that an importance–performance framework can be used to identify areas for improvement in the management of sacred destinations. For religious heritage destinations,

therefore, environmental quality, visitor behaviour, interpretation, crowd management, and the preservation of sacredness should be considered as interconnected elements of destination performance rather than as isolated service attributes.

Environmental management represents another central dimension of sustainable heritage tourism. Visitors often encounter sustainability through practical destination conditions, including cleanliness, sanitation, waste management, crowding, and the physical condition of heritage spaces. At cultural heritage sites, tourism experiences can also influence environmentally responsible behaviour, particularly when visitors develop stronger cultural attachment and awareness of the destination (Cheng & Chen, 2022). Similarly, research on tourism in heritage and geoheritage settings has emphasized the importance of visitor knowledge, beliefs, norms, and destination characteristics in shaping environmentally responsible behaviour (Fenitra et al., 2022). These findings suggest that environmental sustainability at heritage destinations involves both the provision of adequate physical infrastructure and the development of visitor awareness and behaviour.

Sustainability also depends on governance and the equitable distribution of tourism benefits. Heritage destinations commonly involve multiple actors, including government institutions, local communities, religious organizations, tourism businesses, cultural custodians, and visitors. Without sufficiently clear institutional responsibilities, functions such as sanitation, heritage conservation, visitor regulation, interpretation, fee management, and community benefit distribution may become fragmented. Mandić & Kennell (2021) emphasize that heritage tourism governance is shaped by stakeholder engagement, community involvement, environmental performance, and institutional capacity. Likewise, a systematic review of heritage tourism research found that sustainable community outcomes depend substantially on the inclusion of host communities in governance, decision-making, and access to tourism resources (Brooks et al., 2023). This makes transparency in tourism-related economic benefits an important component of destination sustainability rather than merely an economic concern. Research on living heritage sites has similarly shown that unequal or insufficiently transparent benefit sharing may place pressure on heritage custodians and weaken the sustainability of tourism development (Quang et al., 2024).

Despite these developments, a gap remains in how destination-level sustainability problems are diagnosed through visitor perceptions. Existing studies have often examined environmental performance, interpretation, visitor experience, service quality, governance, or community benefits as separate topics. Yet these components can coexist within the same destination-management system. In an emerging heritage destination, inadequate sanitation may be linked to weak institutional responsibility; visitor behaviour may depend partly on interpretation and enforcement; and community support may depend on whether tourism benefits are perceived as transparent and equitable. An integrated visitor-based assessment can therefore provide a more useful picture of where destination-management resources should be concentrated.

Mansinam Island in West Papua, Indonesia, provides a relevant case for examining this issue. Located off the coast of Manokwari, the island possesses religious and historical significance associated with the history of Christianity in Papua, historical traces related to the Second World War, and living cultural connections with local communities. The coexistence of religious meaning, historical heritage, community interests, and tourism activities creates distinctive management requirements. The destination must preserve sacred values and heritage narratives while responding to environmental pressures, visitor behaviour, infrastructure needs, and expectations concerning local economic participation.

The present study addresses this issue by applying IPA to 30 destination-management attributes across four interconnected dimensions: tour guiding, local culture and economy, governance, and environmental sustainability. The attributes were developed as destination-specific diagnostic indicators based on field observations and the management conditions of

Mansinam Island rather than as a direct application of a previously validated psychometric scale. This approach enables the study to examine not only whether visitors perceive service deficiencies, but also whether sustainability-related management functions are delivered at levels consistent with their perceived importance.

Accordingly, this study addresses two research questions. First, to what extent does perceived performance differ from visitor-rated importance across the four dimensions of sustainable heritage tourism management on Mansinam Island? Second, which destination-management attributes represent the most urgent intervention priorities for strengthening heritage interpretation, environmental sustainability, visitor management, institutional governance, and local economic benefits?

The study makes three contributions to the sustainable heritage tourism literature. First, it extends the application of visitor-based IPA from conventional service-quality evaluation toward a broader assessment of destination sustainability that integrates interpretation, environmental management, governance, and local economic benefits. Second, it contributes empirical evidence from an emerging island heritage destination in eastern Indonesia, a context that remains comparatively underrepresented in the international heritage-tourism literature. Third, it uses the cross-dimensional pattern of IPA priorities to develop an interconnected destination-management deficit perspective. This perspective does not imply statistically tested causal relationships among the dimensions; rather, it provides a management-oriented interpretation of how multiple sustainability deficiencies can be experienced simultaneously by visitors. The objective is therefore not only to identify which individual attributes require improvement, but also to clarify how environmental conditions, interpretation, visitor management, governance, and community benefits can be addressed as complementary components of sustainable heritage destination management.

METHODS

Study Area and Research Design

The study was conducted on Mansinam Island, located off the coast of Manokwari, West Papua, Indonesia. Mansinam is a culturally and historically significant island associated with the history of Christianity in Papua, historical traces related to the Second World War, and continuing cultural connections with local communities. Visitors primarily access the island by small boats from the Manokwari mainland. These characteristics make Mansinam an appropriate setting for examining sustainable heritage destination management.

A quantitative cross-sectional survey was conducted using an on-site visitor intercept approach in July 2026. Visitors who had actually visited Mansinam during the study period were invited to participate voluntarily, particularly while waiting for boat transportation to return to Manokwari. A total of 115 questionnaires were collected. During data screening, one exact duplicate record was identified and removed, resulting in 114 unique observations for analysis.

Data collection coincided with a period when Manokwari hosted a national choral event. Because participation in the event was not recorded in the questionnaire, respondents were not formally classified according to event participation. This circumstance is considered only when interpreting the representativeness of the sample.

Survey Instrument

The questionnaire contained 30 destination-management attributes evaluated through paired importance and performance ratings. The attributes were developed from field observations of destination-management conditions on Mansinam Island and organized into four practical management dimensions. They were therefore treated as destination-specific diagnostic attributes rather than as a previously validated psychometric scale.

Table 1. Sustainable Heritage Tourism Management Dimensions

Dimension	Items	Main aspects assessed
Tour guiding	7	Guide availability and knowledge, heritage interpretation, visitor behaviour, communication, and visitor-flow management
Local culture and economy	8	Local products, artisan participation, tourism-benefit transparency, cultural identity, authenticity, and cultural activities
Governance	8	Formal management body, visitor regulation, institutional roles, sanctions, stakeholder collaboration, community participation, and financial transparency
Environmental sustainability	7	Crowding, cleanliness and sanitation, heritage-site condition, conservation awareness, visitor quotas, restoration of sacredness, and tourism-spiritual balance

Source: Author's field observations and survey instrument, 2026.

Importance was measured using a five-point Likert-type scale ranging from 1 = Very Unimportant to 5 = Very Important, while performance was measured using a corresponding scale from 1 = Very Poor to 5 = Very Good. No separate pilot survey was conducted before the main fieldwork; therefore, the instrument was treated as a destination-specific diagnostic tool, with internal consistency assessed using the final dataset.

Data Screening and Statistical Analysis

The dataset was screened for duplicate records, missing values, and out-of-range responses. One identical duplicate was removed, resulting in 114 unique observations. Missing responses occurred mainly in the later questionnaire sections; therefore, importance-performance comparisons were based on matched valid observations for each indicator. Complete paired observations at the dimension level ranged from 63 to 74 respondents.

Internal consistency was assessed separately for the importance and performance items within each management dimension using Cronbach's alpha. The coefficients ranged from 0.803 to 0.919 for importance and from 0.890 to 0.947 for performance, indicating acceptable to excellent internal consistency.

Importance-Performance Analysis (IPA) was conducted following the framework introduced by Martilla and James (1977), with subsequent applications in cultural and heritage tourism providing additional methodological support (Hu et al., 2024; Karimi & Boley, 2022). The performance gap for each attribute was calculated as:

$$Gap = Performance - Importance$$

Negative values indicated that perceived performance was lower than visitor-rated importance. The IPA matrix was constructed using the grand mean of the importance and performance ratings as the cross-hair values. The resulting thresholds were 4.356 for importance and 3.953 for performance. Attributes were classified into four quadrants: Concentrate Here, Keep Up the Good Work, Low Priority, and Possible Overkill.

Because the importance and performance measurements were paired ordinal observations and normality could not be assumed, the Wilcoxon signed-rank test was used to examine differences between importance and performance at the dimension level. Effect size was calculated as $r = Z/\sqrt{N}$, where Z represents the standardized test statistic and N represents the number of paired observations.

Statistical significance was evaluated at $p < .05$. Attribute-level gaps and IPA quadrant positions were then examined to identify the destination-management attributes requiring priority attention.

RESULTS AND DISCUSSION

Respondent Characteristics

After data screening, the final sample consisted of 114 unique visitors. Women represented 54.4% of the respondents ($n = 62$), while men represented 45.6% ($n = 52$). The sample was predominantly young, with visitors aged 21–30 years constituting the largest age group (48.2%, $n = 55$). Most respondents were first-time visitors (70.2%, $n = 80$), and visits were generally short, with 71.1% ($n = 81$) spending three to six hours on the island. Tour-guide use was relatively limited: 66.7% ($n = 76$) visited without a guide, while 21.1% ($n = 24$) used official guides and 12.3% ($n = 14$) used informal local guides. Among the 110 respondents who reported expenditure, half spent less than IDR 100,000.

Table 2. Visitor Characteristics

Characteristic	Category	n	%
Gender	Female	62	54.4
	Male	52	45.6
Age	<20 years	22	19.3
	21–30 years	55	48.2
	31–40 years	21	18.4
	Other age groups	16	14.0
Visit frequency	First visit	80	70.2
	2–3 visits	21	18.4
	>3 visits	13	11.4
Length of stay	<3 hours	28	24.6
	3–6 hours	81	71.1
	6–12 hours	2	1.8
	>12 hours/overnight	3	2.6
Guide use	No guide	76	66.7
	Official guide	24	21.1
	Informal local guide	14	12.3

Source: Author's analysis, 2026.

The visitor profile provides important context for interpreting the IPA findings. The dominance of first-time and short-duration visits suggests that many respondents encountered Mansinam primarily as a relatively brief heritage experience rather than as a destination involving extended stays. More importantly, the high proportion of unguided visitors has direct implications for heritage interpretation and visitor management. A destination where most visitors do not use guides cannot rely exclusively on interpersonal guiding to communicate historical meaning, sacred-space etiquette, or conservation messages. This becomes particularly important because tour guiding subsequently emerged as the dimension with the largest importance–performance effect size.

Dimension-Level Importance–Performance

Visitors consistently rated the importance of all four management dimensions higher than their perceived performance. Environmental sustainability received the highest importance score ($M = 4.51$), followed by governance ($M = 4.43$), local culture and economy ($M = 4.35$), and tour guiding ($M = 4.26$). Performance scores were lower across all four dimensions. The largest gap was observed for tour guiding (-0.42), followed by environmental sustainability (-0.41), governance (-0.36), and local culture and economy (-0.32). All differences were statistically significant ($p < .001$), with effect sizes ranging from $r = 0.42$ to 0.60 .

Table 3. Dimension-Level Importance–Performance Results

Dimension	n	Importance M	Performance M	Gap	Effect size (r)	p
Tour guiding	74	4.26	3.83	−0.42	0.60	<.001

Local culture and economy	70	4.35	4.03	-0.32	0.49	<.001
Governance	63	4.43	4.08	-0.36	0.42	<.001
Environmental sustainability	63	4.51	4.10	-0.41	0.55	<.001

Source: Author's analysis, 2026.

The consistent negative gaps indicate that the perceived management deficit at Mansinam is systemic rather than confined to one isolated service. The particularly large effect sizes for tour guiding and environmental sustainability suggest that visitors perceive meaningful shortcomings in both the mechanisms through which heritage experiences are communicated and the physical conditions supporting sustainable visitation. This pattern is consistent with the broader understanding of sustainable heritage tourism as a multidimensional process involving visitor experience, conservation, environmental quality, governance, and community outcomes (Asmelash & Kumar, 2019; Brooks et al., 2023; Mandić & Kennell, 2021).

The high importance assigned to environmental sustainability is especially noteworthy. Visitors rated environmental sustainability at 4.51, the highest among the four dimensions, indicating that basic environmental conditions are not peripheral to their heritage experience. Rather, cleanliness, sanitation, conservation, and the quality of the destination environment appear to form part of what visitors expect from a sustainable heritage destination. This interpretation is consistent with research showing that experiences at cultural heritage sites can influence environmentally responsible behaviour and that environmental conditions form an important part of sustainable destination management (Cheng & Chen, 2022; Fenitra et al., 2022).

Attribute-Level Performance Gaps

The attribute-level analysis provides a more specific picture of the management problems underlying the dimension-level differences. The largest negative gap occurred for cleanliness, toilets, and waste facilities (ENV2; -0.70). This was followed by transparency of tourism economic benefits to local residents (CE3; -0.55), collective awareness of cleanliness and heritage conservation (ENV4; -0.55), restoration of sacredness or quietness following mass visitation (ENV6; -0.51), guide ability to manage respectful visitor behaviour (TG5; -0.51), and clarity of a formal destination management body (GOV1; -0.50).

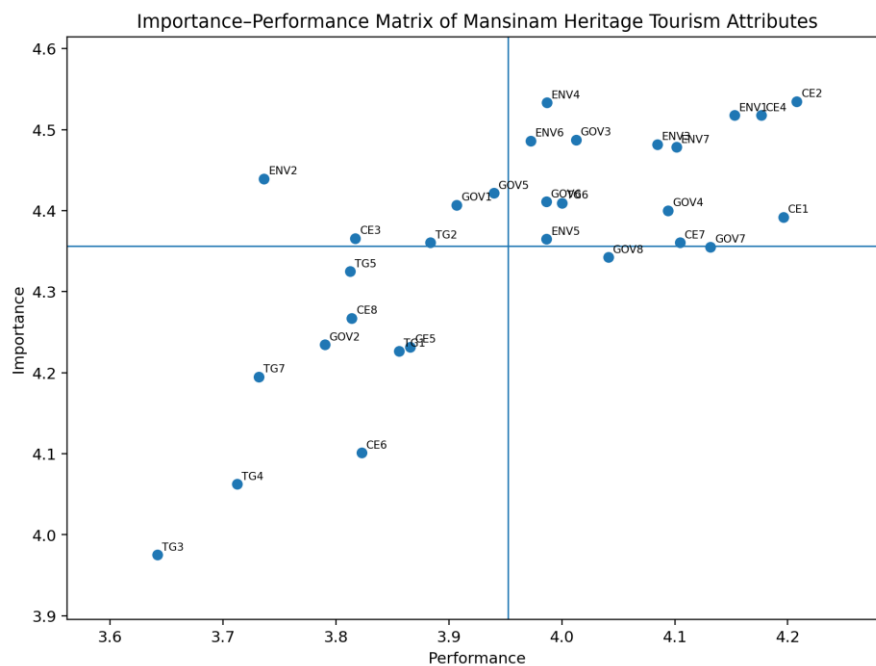
Table 4. Largest Importance–Performance Deficits

Rank	Attribute	n	Importance	Performance	Gap
1	Cleanliness, toilets and waste facilities (ENV2)	91	4.44	3.74	-0.70
2	Transparency of tourism economic benefits to local residents (CE3)	82	4.37	3.82	-0.55
3	Collective awareness of cleanliness and heritage conservation (ENV4)	75	4.53	3.99	-0.55
4	Restoration of sacredness/quietness after mass visitation (ENV6)	72	4.49	3.97	-0.51
5	Guide ability to manage respectful visitor behaviour (TG5)	80	4.33	3.81	-0.51
6	Clarity of a formal destination management body (GOV1)	86	4.41	3.91	-0.50

Source: Author's analysis, 2026.

The distribution of the attributes across the IPA quadrants provides an additional perspective on these deficits. Figure 1 shows that five attributes fall within the “Concentrate Here” quadrant, namely TG2 (guide knowledge of the history of Christianity in Papua), CE3 (transparency of tourism economic benefits), GOV1 (clarity of a formal destination management body), GOV5 (sanctions or reprimands for inappropriate visitor behaviour), and ENV2 (cleanliness, toilets, and waste facilities). These attributes combine relatively high

importance with comparatively lower perceived performance and therefore represent the most immediate management priorities.



Source: Author's analysis, 2026.

Figure 1. Importance–Performance Analysis (IPA) Quadrant Map

The largest deficit in environmental infrastructure suggests that sustainability is encountered by visitors through highly tangible conditions. Toilets, waste facilities, cleanliness, and sanitation are basic operational requirements, but their importance becomes greater in an island heritage setting where infrastructure capacity can be constrained. The result suggests that environmental sustainability at Mansinam cannot be framed only in terms of broad conservation principles; it also requires reliable everyday services that maintain acceptable visitor conditions.

At the same time, the -0.55 gap for collective awareness of cleanliness and heritage conservation (ENV4) indicates that infrastructure alone will not resolve the environmental problem. Sustainable visitation also depends on visitor behaviour and conservation awareness. This finding is consistent with research showing that tourism experiences, cultural attachment, knowledge, and visitor norms can influence environmentally responsible behaviour at heritage destinations (Cheng & Chen, 2022; Fenitra et al., 2022). Thus, investments in sanitation and waste facilities should be accompanied by communication and interpretation that encourage visitors to use facilities appropriately and respect heritage values.

The -0.51 gap for restoration of sacredness or quietness after mass visitation (ENV6) adds an important dimension to the environmental findings. At Mansinam, environmental quality is not exclusively physical. Noise, crowding, waste, and intensive visitor movement may also influence how visitors perceive the sacred atmosphere of the destination. This is particularly relevant to religious heritage tourism, where visitors experience places through both tourism and spiritual meanings (Pande & Shi, 2023). The result therefore supports an interpretation of sustainability that includes the protection of the experiential qualities of sacred space.

The -0.51 gap for guide ability to manage respectful visitor behaviour (TG5) further connects heritage interpretation with visitor management. Tour guides can function not only as sources of historical information but also as mediators of appropriate behaviour and heritage

values. Previous research has shown that tour interpretation can strengthen perceived heritage values and that guide performance can support environmentally responsible visitor behaviour (Alzghoul et al., 2023; Weng et al., 2020). At Mansinam, this suggests that guide development should encompass behavioural communication and conservation messaging rather than focus exclusively on historical knowledge.

Finally, the -0.50 gap for clarity of a formal destination management body (GOV1) indicates an institutional dimension to the observed performance deficits. Clear responsibility for environmental services, visitor regulation, heritage protection, and stakeholder coordination is important for translating sustainability objectives into consistent destination practices. Heritage destination governance depends on institutional arrangements, stakeholder engagement, and community involvement (Mandić & Kennell, 2021). Accordingly, the IPA results suggest that improvements in physical facilities and visitor services should be accompanied by clearer institutional responsibility.

Heritage Interpretation and Visitor Management

Tour guiding produced the largest dimension-level effect size ($r = 0.60$), while 66.7% of respondents visited without a guide. At the attribute level, guide knowledge of the history of Christianity in Papua (TG2) was identified as a Quadrant I priority, and the ability of guides to manage respectful visitor behaviour (TG5) showed one of the largest negative gaps (-0.51).

These findings suggest that guiding at Mansinam should be understood as more than the delivery of historical information. Heritage interpretation can connect visitors with heritage values, influence behaviour, and contribute to visitor-flow management (Nowacki, 2021). Weng et al. (2020) similarly demonstrated the importance of tour interpretation for visitors' perceived heritage values, while Alzghoul et al. (2023) found that guide interpretation can be associated with tourists' pro-environmental behaviour.

The Mansinam findings therefore indicate a potential mismatch between visitor expectations and the current interpretation system. Visitors place considerable importance on guide-related functions, but most of them do not use a guide. This does not necessarily mean that guide services should simply be expanded in isolation. Instead, the destination requires a hybrid interpretation system in which trained local guides provide deeper historical and cultural interpretation, while essential information about heritage significance, respectful behaviour, conservation, and sacred-space etiquette is also accessible to unguided visitors through signage, interpretive panels, maps, QR-based information, or other appropriate media.

This approach is consistent with the literature, which recognizes both the value of interpersonal interpretation and the role of non-personal interpretation in communicating heritage values (Nowacki, 2021; Weng et al., 2020). For Mansinam, interpretation can therefore become a direct visitor-management mechanism rather than simply an informational tourism service.

Governance and Institutional Responsibility

Governance recorded a significant importance–performance gap (-0.36 , $p < .001$). Most notably, clarity of a formal destination management body (GOV1) recorded a gap of -0.50 and was classified within Quadrant I. Sanctions or reprimands for visitors who violate local norms (GOV5) were also positioned in Quadrant I.

These findings suggest that visitors are concerned not only with whether rules exist but also with whether destination responsibilities and behavioural norms are clearly communicated and implemented. Heritage destinations commonly involve government, local communities, religious institutions, cultural custodians, and tourism actors. Without clear institutional arrangements, responsibilities for sanitation, visitor regulation, heritage protection, interpretation, and benefit distribution can become fragmented. This interpretation is consistent with Mandić & Kennell (2021), who emphasize stakeholder engagement and institutional

capacity in heritage destination governance, as well as Brooks et al. (2023), who highlight inclusive governance and community participation as important conditions for sustainable heritage tourism.

The governance findings should not necessarily be interpreted as a call for creating an additional bureaucracy. Rather, the key issue is the existence of a recognizable and clearly communicated management arrangement in which responsibilities are understood by the relevant actors. The presence of governance in Quadrant I alongside guiding and environmental priorities further suggests that visitor regulation cannot be separated from interpretation and environmental management. Rules require communication, monitoring, and enforcement to become meaningful in practice.

Local Economic Benefits and Community Participation

The local culture and economy dimension showed the smallest overall gap (−0.32), but this aggregate result conceals an important attribute-level concern. Transparency of tourism economic benefits to local residents (CE3) had the second-largest deficit in the study (−0.55) and was classified in Quadrant I.

This finding indicates that visitors may perceive local culture and economic participation relatively positively while remaining uncertain about how tourism-generated economic value reaches local residents. Such a distinction is important because the presence of local tourism activities does not necessarily demonstrate equitable benefit distribution. Brooks et al. (2023) emphasize that the community outcomes of heritage tourism depend on meaningful participation in governance and access to tourism resources. Similarly, Quang et al. (2024) show that benefit-sharing arrangements are particularly important at living heritage sites, where unequal economic distribution can affect the well-being of heritage custodians and the sustainability of conservation.

The visitor expenditure profile reinforces the relevance of this finding. Most visits were short, and 50.0% of respondents who reported expenditure spent less than IDR 100,000. Under such conditions, increasing visitor volume alone may not substantially increase local economic benefits while potentially increasing pressure on the destination. A more sustainable strategy would be to increase local value capture per visit through locally delivered guiding, souvenirs, food and beverages, cultural activities, and short heritage interpretation experiences, accompanied by transparent mechanisms explaining how tourism income and opportunities benefit local residents.

Importance–Performance Priorities and Integrated Destination Management

The IPA matrix provides the clearest summary of the destination's priority areas. Five attributes were classified in Quadrant I (Concentrate Here): guide knowledge of the history of Christianity in Papua (TG2), transparency of tourism economic benefits to local residents (CE3), clarity of a formal destination-management body (GOV1), sanctions or reprimands for inappropriate visitor behaviour (GOV5), and cleanliness, toilets, and waste facilities (ENV2). Fourteen attributes were positioned in Quadrant II, nine in Quadrant III, and two in Quadrant IV.

The distribution of these five priorities across four management dimensions is analytically important. If the primary problem at Mansinam were solely environmental infrastructure, the priority attributes would be expected to cluster within the environmental dimension. Instead, the Quadrant I attributes span heritage interpretation, local economic benefit distribution, governance, visitor regulation, and environmental services. This pattern supports the interpretation of an interconnected destination-management deficit.

The pattern should not, however, be interpreted as evidence of causal relationships. The cross-sectional design and IPA approach do not establish that poor sanitation causes weak governance, that guiding deficiencies cause inequitable benefit distribution, or that governance

directly determines visitor behaviour. Rather, the results demonstrate that visitors simultaneously perceive weaknesses across several management functions that are conceptually connected within the destination system.

From a management perspective, the findings imply that isolated interventions may have limited effectiveness. Improving sanitation requires clear maintenance responsibilities; visitor rules require communication and enforcement; guide training requires mechanisms that allow visitors to access guiding services; and increasing tourism-related income requires transparent local benefit arrangements. This interpretation is consistent with the broader sustainable heritage tourism literature, which emphasizes the integration of conservation, visitor management, governance, and community participation (Brooks et al., 2023; Mandić & Kennell, 2021; Nowacki, 2021).

Managerial Implications

The results indicate that Mansinam should prioritize a limited number of mutually reinforcing interventions rather than attempting to improve all 30 attributes simultaneously. First, basic environmental services should receive immediate attention, particularly toilets, waste facilities, cleanliness, and waste-collection responsibilities. Second, heritage interpretation and visitor behaviour management should be strengthened through structured training for local guides and accessible interpretive information for visitors who travel without guides. Third, destination governance should clarify institutional responsibilities for visitor regulation, environmental management, heritage protection, and enforcement. Finally, local economic participation and benefit transparency should be strengthened so that tourism expenditure creates clearer and more visible benefits for local residents.

Taken together, these priorities suggest that the main management challenge at Mansinam is not simply a shortage of facilities or tourism services. It is the need to establish a coherent system in which environmental conditions, interpretation, visitor behaviour, institutional responsibility, and community benefits support one another. This is consistent with the study's broader contribution of extending IPA from a conventional service-prioritization tool toward a diagnostic framework for sustainable heritage destination management.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

This study examined visitor perceptions of sustainable heritage tourism management on Mansinam Island using Importance–Performance Analysis across four dimensions: tour guiding, local culture and economy, governance, and environmental sustainability. The findings demonstrated that perceived performance was significantly lower than visitor-rated importance across all four dimensions ($p < .001$), indicating that sustainable heritage management challenges on Mansinam are multidimensional rather than confined to a single tourism service. Environmental sustainability received the highest importance rating, while tour guiding produced the largest importance–performance effect size. At the attribute level, the most substantial deficits concerned cleanliness, toilets and waste facilities; transparency of tourism economic benefits to local residents; collective awareness of cleanliness and heritage conservation; restoration of sacredness or quietness following intensive visitation; guide-mediated visitor behaviour; and clarity of destination-management responsibility. The IPA matrix further identified five attributes in the Concentrate Here quadrant, namely guide knowledge of the history of Christianity in Papua, transparency of local tourism benefits, clarity of a formal destination-management body, enforcement of appropriate visitor behaviour, and cleanliness, toilets, and waste facilities. Collectively, these findings indicate that sustainable heritage tourism on Mansinam requires an integrated management perspective in which environmental infrastructure, heritage interpretation, visitor management, governance, and

community benefits are treated as interconnected destination functions rather than isolated service deficiencies.

Limitations

Several limitations should be considered when interpreting the findings. The study used accidental intercept sampling during a single fieldwork period in July 2026, and data collection coincided with a national choral event in Manokwari, although respondents' participation in the event was not directly measured; consequently, the findings should not be generalized to the entire annual visitor population of Mansinam. The cross-sectional design also captures visitor perceptions at a specific period and may not reflect conditions during major religious celebrations, ordinary visitation periods, or other seasons. Although the four dimensions demonstrated acceptable to excellent internal consistency, the questionnaire was not subjected to a separate pilot study before the main survey, and missing responses reduced the number of paired observations available for some analyses. Finally, the proposed interconnected destination-management deficit represents an interpretation of the observed IPA pattern rather than a statistically tested causal model. Future studies should therefore replicate the survey across different visitation periods, involve residents and other destination stakeholders, further validate the measurement instrument, and use larger samples, longitudinal designs, or multivariate modelling to examine relationships among interpretation, environmental responsibility, governance, community benefits, satisfaction, and visitor behaviour.

Recommendations

The findings suggest that destination management should prioritize coordinated interventions in the five attributes identified as priority areas by the IPA. Immediate attention should be given to basic environmental services, particularly toilets, waste facilities, cleanliness, waste collection, and routine monitoring during periods of high visitation. Heritage interpretation and visitor management should also be strengthened through structured training for local guides in Christian missionary history in Papua, broader heritage narratives, conservation communication, and respectful visitor behaviour, while essential information should be made accessible to the majority of visitors who currently travel without guides through signage, interpretive panels, maps, QR-based information, or other appropriate media. In parallel, Mansinam should establish a clearly communicated destination-management arrangement that defines responsibilities for environmental services, heritage protection, visitor regulation, interpretation, crowd management, and enforcement among relevant customary, church, government, community, and tourism actors. Tourism development should also improve opportunities for local value capture through locally provided guiding, souvenirs, food and beverages, cultural activities, and heritage experiences, while ensuring that tourism-related income, fees, and economic opportunities are managed transparently so that local residents can clearly understand the benefits generated by tourism. These interventions should be implemented as mutually reinforcing measures rather than independent projects because physical infrastructure, visitor behaviour, governance, interpretation, and community benefits are closely connected within the destination-management system.

Author Contributions

The author was solely responsible for the conceptualization of the study, development of the theoretical framework, data collection, data analysis, interpretation of the results, manuscript preparation, scholarly revision, and final approval of the manuscript for publication. The author confirms that the final version of the article has been read and approved and accepts full responsibility for its content.

AI Disclosure Statement

During the preparation of this manuscript, the author used OpenAI ChatGPT to assist with language editing, manuscript organization, and refinement of the academic presentation. The author thoroughly reviewed, verified, and revised the AI-assisted content and takes full responsibility for the accuracy, integrity, and originality of the final manuscript. AI was not used to generate or fabricate research data, statistical results, or research findings.

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