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Accessibility as a Key Structural Driver of Rural Tourism Development: An Integrated ISM-AHP Analysis in Sumedang Regency

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ABSTRACT

Rural tourism development is often constrained by interrelated structural problems that hinder destination performance. This study aims to identify and prioritize the key constraints affecting the development of Kampung Karuhun Tourism Village in Sumedang Regency, West Java, Indonesia, using an integrated Interpretive Structural Modeling (ISM) and Analytic Hierarchy Process (AHP) approach. Data were collected through focus group discussions and expert judgments involving five purposively selected experts representing destination management, academia, local government, and tourism awareness groups. Five experts were considered sufficient because ISM emphasizes informed expert consensus rather than large sample sizes, and previous ISM studies recommend panels of approximately 5–10 knowledgeable experts. The ISM analysis identified four main driving constraints: road accessibility (A1), government support (A2), supporting facilities (A4), and tourism promotion activities (A9). Among these, accessibility (A1) exhibited the highest driving power. The AHP results consistently ranked accessibility as the highest-priority constraint, with weights of 0.476, 0.497, and 0.467 across stakeholder groups, while A2, A4, and A9 received lower priority weights. All consistency ratio values were below 0.10, indicating acceptable judgment consistency. The findings suggest prioritizing improved accessibility infrastructure as a strategic intervention for sustainable rural tourism development through coordinated infrastructure investment and multi-stakeholder collaboration.

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1. INTRODUCTION

Rural tourism has increasingly been recognized as an important strategy for promoting regional economic diversification and sustainable local development, particularly in developing countries with rich natural and cultural resources (Choudhary et al., 2025; Geng et al., 2025). In Indonesia, tourism villages have become a key policy instrument for stimulating local economic growth, community participation, and destination diversification (Eddyono, 2024). Tourism destinations, particularly tourism villages, are widely understood as integrated systems comprising interconnected components, including attractions, accessibility, amenities, and ancillary services, which collectively determine destination competitiveness and sustainability (Cooper & Hall, 2022). Recent studies further emphasize that destination competitiveness increasingly depends on smart tourism ecosystems, digital transformation, stakeholder collaboration, and value co-creation to support sustainable and resilient destination development (Buhalis et al., 2023; Buhalis, 2025). However, many rural tourism destinations continue to experience structural development constraints that limit their competitiveness and long-term sustainability (Yasin et al., 2024; Choudhary et al., 2025).

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One emerging rural tourism destination in West Java Province is Kampung Karuhun, located in Citengah Village, Sumedang Regency. Although the destination possesses considerable natural and cultural tourism potential, its development remains relatively limited compared to other tourism destinations in West Java. Several challenges persist, including inadequate road accessibility, limited supporting facilities, weak institutional support, and insufficient tourism promotion. In rural tourism destinations, attractions can function effectively only when supported by adequate infrastructure, transportation systems, governance quality, and stakeholder collaboration (Gao & Wu, 2017). These conditions indicate that rural tourism development is constrained not only by the availability of attractions, but also by the interrelationships among structural, institutional, and managerial factors within the destination system.

Previous studies on rural tourism development have primarily focused on individual aspects such as community participation, destination attractiveness, sustainability, or tourism governance (Gao & Wu, 2017; Nunkoo, 2017). Governance quality, institutional support, community involvement, and stakeholder collaboration strongly influence sustainable rural tourism development (Geng et al., 2025). Nevertheless, tourism village development frequently encounters structural challenges, including limited managerial capacity, fragmented stakeholder coordination, inadequate infrastructure, and dependence on temporary event-based tourism activities (Gao & Wu, 2017). While previous studies offer important insights, most examine development factors independently and pay limited attention to the structural relationships and hierarchical influence among constraints affecting rural tourism destinations. Existing tourism studies have also predominantly used descriptive or single-method approaches, making it difficult to identify which constraints drive complex rural tourism systems.

This gap is particularly important in rural destinations because tourism development problems are highly interconnected and involve multiple stakeholders with different interests and perspectives. Strategic tourism development also evolves dynamically across different stages of destination development, requiring governance strengthening, product diversification, infrastructure readiness, and service quality improvement to maintain destination competitiveness and sustainability (Cooper & Hall, 2022). Without understanding which constraints drive the system, tourism development policies may become fragmented, reactive, and ineffective. Previous studies indicate that destination competitiveness and sustainability are strongly influenced by accessibility, governance quality, stakeholder collaboration, infrastructure readiness, and adaptive destination management (Gössling et al., 2020; Gössling & Hall, 2019). These findings are also consistent with empirical evidence from rural tourism destinations in Indonesia (Eddyono et al., 2021; Eddyono, 2022). Therefore, a systematic analytical approach is needed to identify the most influential constraints and determine strategic intervention priorities in rural tourism development.

To address this gap, this study employs an integrated Interpretive Structural Modeling (ISM) and Analytic Hierarchy Process (AHP) approach. ISM is an analytical method that identifies and structures relationships among elements within complex, interdependent systems through systematic expert judgments. The method identifies key driving factors, causal relationships, and hierarchical structures among system elements, making it particularly relevant for rural tourism studies characterized by multidimensional interactions among infrastructure, institutions, communities, and tourism management systems. While ISM has been widely applied in strategic planning and systems research, its application in rural tourism studies remains relatively limited. This limitation has contributed to tourism development policies that are often fragmented and insufficiently grounded in systemic analysis (Nunkoo, 2017). In this study, AHP complements ISM by evaluating stakeholder priorities and determining the relative importance of strategic interventions within the destination development system.

This study contributes in three ways. First, it extends the rural tourism literature by examining the structural interrelationships among development constraints rather than treating them as isolated factors. Second, it integrates ISM and AHP in the context of rural tourism development, an approach that remains underused in tourism research. Third, the study provides empirical evidence from an emerging rural tourism destination in Indonesia, offering practical insights for policymakers and destination managers regarding strategic intervention priorities for sustainable rural tourism development.

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Accordingly, this study aims to identify the key constraints affecting the development of Kampung Karuhun Tourism Village, analyze the structural relationships among these constraints, and determine priority development strategies based on stakeholder perspectives (Eddyono, 2025). More specifically, the study examines which constraints drive the rural tourism development system and how they influence other interconnected elements. The study also builds on previous findings that rural tourism competitiveness and sustainability are strongly influenced by structural readiness, stakeholder collaboration, and destination accessibility (Eddyono, 2022; Eddyono, 2024). By integrating ISM and AHP, this study aims to provide a more systematic basis for determining strategic intervention priorities that support sustainable rural tourism development in emerging rural destinations.

2. METHODS

2.1 Research Methodology

This study adopts an exploratory qualitative approach with a case study design, focusing on the development of Kampung Karuhun Tourism Village located in Citengah Village, Sumedang Regency, Indonesia. A qualitative approach is employed because the study's primary objective is to understand the structural relationships among factors within the tourism village development system, which is inherently complex, interdependent, and not readily amenable to purely quantitative measurement (Creswell & Poth, 2016).

To analyze this complexity, the study employs Interpretive Structural Modeling (ISM) as the main analytical method. ISM was developed to map contextual relationships among elements within complex systems through systematic expert judgment and has therefore been widely applied in strategic planning, public policy analysis, and multi-criteria decision-making studies. ISM is particularly relevant to tourism village development because rural destinations are characterized by multidimensional interactions among actors, destination components, and institutional arrangements (Nunkoo, 2017).

2.2 Data Collection Techniques

This study utilizes both primary and secondary data sources. Secondary data were obtained through a systematic literature review, including reputable international journal articles, academic textbooks, policy documents, and official statistical reports related to tourism village development, sustainable tourism, and destination planning. This stage aimed to identify the system's initial elements and ensure the variables analyzed were grounded in robust theoretical foundations (Fletcher et al., 2017).

Primary data were collected through in-depth interviews and structured discussions with experts. Expert involvement is a critical component of the ISM approach, as relationships among elements are determined by professional interpretation and experiential knowledge rather than solely by numerical data. Experts were selected using purposive sampling based on the following criteria: (1) direct experience in tourism village management or planning; (2) familiarity with regional tourism governance and policy frameworks; and (3) academic or professional expertise in sustainable tourism. A total of five experts were involved, as recommended in the ISM literature, to balance analytical depth with consistent judgments.

2.3 Expert Selection and Validation

Five experts were purposively selected based on their expertise in rural tourism development, destination management, and tourism governance. The selection criteria included: (1) a minimum of ten years of professional or academic experience in tourism-related fields; (2) active involvement in tourism planning, destination management, or tourism policy; and (3) demonstrated knowledge of rural tourism development.

The eligibility of the experts was assessed prior to data collection by reviewing their professional profiles, institutional positions, academic qualifications, and documented experience relevant to the study. Only experts

who satisfied all predefined selection criteria were invited to participate. This process ensured that the expert panel possessed the knowledge and practical experience required to provide reliable judgments for the ISM–AHP analysis. The expert panel comprised representatives from academia, the Tourism Office, and Kampung Karuhun management, representing the principal stakeholders directly involved in the planning and management of the destination. Using five experts is appropriate for ISM because the method relies on informed expert judgment rather than statistical representation. Previous ISM studies have commonly employed relatively small expert panels to develop reliable structural models.

Table 1. Constraint Elements Affecting the Development of the Kampung Karuhun Tourist Attraction

Expert	Institution	Area of Expertise	Role
E1	Universitas Sahid	Rural tourism and destination management	Academic expert
E2	Universitas Sahid	Tourism planning and sustainable tourism	Academic expert
E3	Regional Tourism Office	Tourism policy and destination development	Government expert
E4	Kampung Karuhun Management	Destination management and tourism operations	Destination manager
E5	Kampung Karuhun Management	Community-based tourism management	Destination manager

2.4 Stages of Interpretive Structural Modeling (ISM) Analysis

The initial stage of the ISM analysis involves identifying system elements and sub-elements relevant to tourism village development. These elements were derived from an extensive literature review and subsequently validated through expert discussions. This stage aims to ensure that all critical factors influencing the system are adequately captured prior to structural modeling. In this study, the elements include attractions, accessibility, amenities, ancillary services, institutional arrangements, and community participation, which are widely recognized as core components of rural tourism destinations. Following the identification of system elements, the next step is to construct the Structural Self-Interaction Matrix (SSIM) to determine the contextual relationships among elements. At this stage, experts assess pairwise relationships between elements using the symbols V, A, X, and O, which indicate the direction and nature of influence among factors. The SSIM is central to the interpretive ISM approach, as it represents the collective expert perception of cause–effect relationships within the system. This method enables the exploration of relationships that are not necessarily linear or quantitative, while remaining systematic and replicable.

The SSIM is subsequently converted into a reachability matrix in the form of a binary matrix with values of 1 and 0. This conversion follows standard ISM rules, translating the direction of relationships among elements into a mathematical representation that enables further analysis. At this stage, the principle of transitivity is also applied, which assumes that if element A influences element B and element B influences element C, then element A indirectly influences element C. Applying transitivity ensures logical consistency within the system structure and is a fundamental characteristic of the ISM method. Based on the final reachability matrix, a level partitioning process is conducted to classify elements into different hierarchical levels. Elements positioned at lower levels exhibit higher driving power and function as key factors, whereas elements at higher levels tend to be more dependent in nature. The results of the level partitioning are then visualized as an ISM hierarchical model, which illustrates the structure of influence and strategic priorities in tourism village development. This model serves as the basis for strategic analysis and the formulation of more structured, systematic, and sustainable tourism village development policies and interventions (Nunkoo, 2017).

3. RESEARCH RESULTS

3.1 Identification of Constraints Affecting the Development of Kampung Karuhun Tourist Attraction

Constraints affecting the development of the Kampung Karuhun tourist attraction were identified through a Focus Group Discussion (FGD) involving experts and relevant stakeholders. The FGD was held on 27 February 2024 at the research site. Using FGD at this initial stage aimed to elicit key actors' collective perceptions of the principal challenges facing the destination, as recommended in studies on community-based tourism development and strategic destination planning (Nunkoo, 2017).

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The process of identifying constraint elements was guided by the four core components of tourism destinations—attractions, accessibility, amenities, and ancillary services—which are widely applied in studies of destination development and competitiveness. This approach enables the formulation of constraints that extend beyond purely physical aspects to also encompass institutional and governance-related dimensions of destination development. Based on the FGD results, a total of eleven major constraint elements influencing the development of the Kampung Karuhun tourist attraction were identified (Table 2). These elements represent structural and operational constraints that directly affect destination performance and tourist visitation levels, consistent with findings from tourism village studies conducted in various rural contexts (Gao & Wu, 2017).

Table 2. Constraint Elements Affecting the Development of the Kampung Karuhun Tourist Attraction

Code	Destination Component	Constraint Description
A1	Accessibility	Limited road access to the tourist attraction due to damaged, narrow roads.
A2	Ancillary Services	Insufficient support from local government authorities.
A3	Ancillary Services	Limited number of tourism events organized by the Sumedang Regency government.
A4	Amenities	Inadequate supporting tourism facilities.
A5	Ancillary Services	Limited funding for tourism-related business activities.
A6	Attractions	Existing tourism attractions lack distinctiveness and appeal.
A7	Amenities	Low number of tourist arrivals.
A8	Accessibility	Limited number of travel partners and tour operators serving Citengah Village.
A9	Accessibility	Limited use of technology in tourism promotion activities.
A10	Ancillary Services	High costs for tourists visiting the destination.
A11	Ancillary Services	High operational costs of the Kampung Karuhun tourist attraction.

3.2 Structural Self-Interaction Matrix (SSIM)

Following the identification of constraint elements, the next stage involved constructing the Structural Self-Interaction Matrix (SSIM). The SSIM was developed based on expert judgments regarding the contextual relationships among elements, using the symbols V, A, X, and O in accordance with standard ISM procedures. The SSIM assessment involved multiple expert groups, including academics, representatives of local and village governments, destination managers, and members of tourism awareness groups. The involvement of these diverse actors was essential to capture the multidimensional nature of the destination system and the variety of interests embedded in tourism village development (Nunkoo, 2017). The SSIM results indicate that most constraint elements exhibit reciprocal and interdependent relationships. This finding suggests that developing the Kampung Karuhun tourist attraction is a complex system that cannot be effectively addressed through isolated or sectoral interventions alone; it requires an integrated, systemic approach.

3.3 Reachability Matrix (RM)

The SSIM was subsequently converted into a Reachability Matrix (RM) by transforming the relational symbols into binary values (1 and 0) according to standard ISM rules, namely V (1,0), A (0,1), X (1,1), and O (0,0). Separate reachability matrices were constructed for each group of experts. Variations in the RM values reflect differences in actors' perspectives on the strength and direction of influence among constraint elements. Nevertheless, the overall pattern of the reachability matrices indicates that constraints related to accessibility, institutional support, and supporting facilities exhibit strong structural influence within the system. This finding is consistent with previous studies on rural tourism development, which emphasize the central role of infrastructure and governance-related factors in shaping destination performance (Gao & Wu, 2017)

3.4 Aggregated Expert Judgments and the Final Reachability Matrix

To obtain a more representative system structure and to reduce individual bias, expert judgments were aggregated using the geometric mean method. This approach is widely recommended in ISM studies to integrate diverse expert perspectives into a single consensus-based structure.

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Final Reachability Matrix

	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11
A1	1	1	1	1	1	1	1	1	1	1	1
A2	0	1	1	1	1	1	1	1	1	1	1
A3	0	1	1	1	1	1	1	1	1	1	1
A4	1	0	1	1	1	1	1	1	1	1	1
A5	0	1	1	0	1	1	1	1	1	1	1
A6	0	0	1	1	0	1	1	1	1	1	1
A7	1	1	1	1	0	0	1	1	1	1	1
A8	1	0	1	1	1	1	0	1	0	1	1
A9	1	0	1	1	1	1	1	1	1	1	1
A10	0	0	1	1	0	1	0	0	1	1	1
A11	1	1	1	1	0	0	0	1	1	0	1

Fig. 1. Final Reachability Matrix Based on Aggregated Expert Judgments (ISM)

The aggregation process resulted in the Final Reachability Matrix, which is presented in Figure 2. This matrix represents both direct and indirect relationships among constraint elements after applying the transitivity principle, assuming indirect relationships exert structural influence within the system.

3.5 Canonical Matrix and Ranking of Constraint Elements

Based on the Final Reachability Matrix, the driving power and dependence values were calculated for each constraint element. These values were then mapped into a Canonical Matrix to determine each element's relative position and ranking within the system. The analysis results indicate that the highest-ranked constraint elements are A1, A2, A4, and A9, which are identified as the primary constraints affecting the development of the Kampung Karuhun tourist attraction (Figure 2). These elements exhibit high driving power and influence most other elements in the system, consistent with the characteristics of key driving factors in the ISM framework.

Data Output Result Of Transitivity Graph

Canonical Matrix

	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	DriverPower	Rank	Dependence	Hirarki
A1	1	1	1	1	1	1	1	1	1	1	1	11	1	6	6
A2	0	1	1	1	1	1	1	1	1	1	1	10	2	6	6
A3	0	1	1	1	1	1	1	1	1	1	1	9	3	11	1
A4	1	0	1	1	1	1	1	1	1	1	1	10	2	10	2
A5	0	1	1	0	1	1	1	1	1	1	1	9	3	7	5
A6	0	0	1	1	0	1	1	1	1	1	1	8	4	9	3
A7	1	1	1	1	0	0	1	1	1	1	1	9	3	8	4
A8	1	0	1	1	1	1	0	1	0	1	1	8	4	10	2
A9	1	0	1	1	1	1	1	1	1	1	1	10	2	10	2
A10	0	0	1	1	0	1	0	0	1	1	1	6	6	10	2
A11	1	1	1	1	0	0	0	1	1	0	1	7	5	11	1

Fig. 2. ISM Results Showing the Ranking of Constraint Elements According to Driving Power

3.6 Driving Power–Dependence Power Diagram (MICMAC Analysis)

The driving power and dependence values were subsequently mapped into a MICMAC (Cross-Impact Matrix Multiplication Applied to Classification) diagram to classify the elements into four sectors: independent, linkage, autonomous, and dependent. The MICMAC results indicate that elements A1, A2, A4, and A9 are positioned in the sector characterized by high driving power (Figure 3), highlighting their roles as strategic factors within the destination development system. This finding is consistent with the literature, which emphasizes that accessibility, government support, supporting facilities, and promotional activities are key determinants of success in rural tourism destinations.

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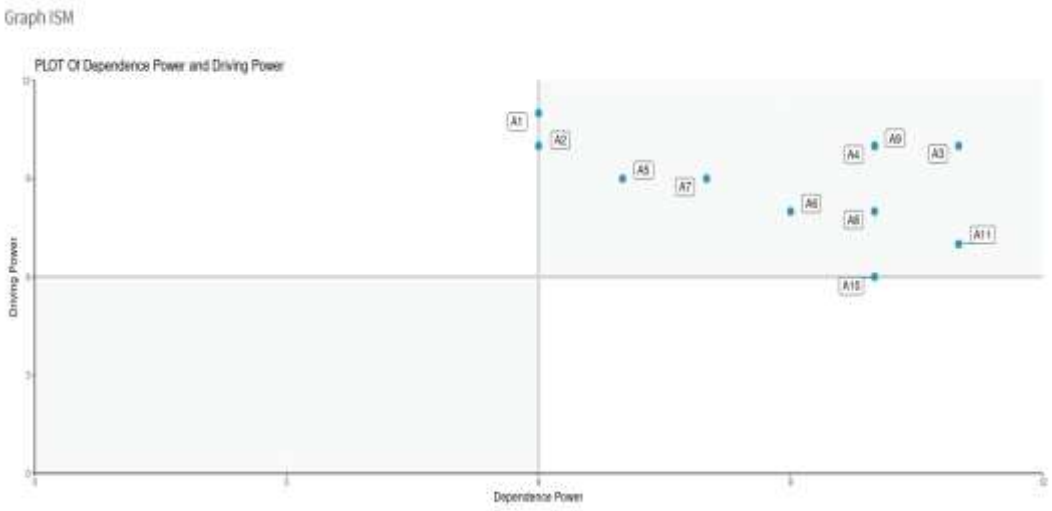


Fig. 3. Interpretive Structural Modeling (ISM) Diagram

3.7 Hierarchical Structure of Development Constraints

Based on the MICMAC results, a hierarchical structure of development constraints was constructed by positioning elements according to their level of influence within the system (Figure 4). Elements located at the base level represent fundamental factors that should be addressed as priority interventions in the development strategy. The hierarchical structure indicates that constraints A1, A2, A4, and A9 occupy the lowest level of the hierarchy, implying that interventions targeting these constraints are likely to generate systemic effects on other elements involved in the development of the Kampung Karuhun tourist attraction.



Fig. 4. The Hierarchical Structure that is Formed

The constraint elements with the highest driving power and the most fundamental roles in the development of the Kampung Karuhun tourist attraction are A1, A2, A4, and A9. These four elements are positioned at the base level of the ISM hierarchy, indicating that addressing them constitutes a prerequisite for the effectiveness of interventions targeting other constraint elements. Overall, the ISM results confirm that developing the Kampung Karuhun tourist attraction requires initial interventions in structural factors—particularly accessibility, institutional support, supporting facilities, and promotional strategies—before advancing operational improvements and enhancing tourism attractions.

Constraint A1 (road accessibility) emerges as the most dominant factor. Although Citengah Village is relatively close to the administrative center of South Sumedang Regency, road infrastructure conditions—characterized by narrow, damaged roads, inadequate signage, and high susceptibility to landslides—significantly restrict tourist vehicle access and reduce travel safety. This vulnerability was evidenced by a 2022 landslide that temporarily severed access to the village, underscoring accessibility as the primary structural barrier to destination development.

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Constraint A2 (government support) is associated with the suboptimal role of local government in the provision of infrastructure and destination promotion. This limited level of support has prevented the tourism potential of Kampung Karuhun from being effectively integrated into regional tourism development strategies, thereby contributing to low destination visibility and suppressed levels of tourist visitation.

Constraint A4 (supporting facilities) reflects deficiencies in destination amenities and service quality, including inadequate lighting, insufficient directional signage and tourist information, limited internet connectivity, and constrained human resource capacity. These shortcomings impede the delivery of a tourism experience that is safe, comfortable, and competitive in comparison with other rural destinations.

Constraint A9 (promotional events) highlights the underutilization of events as strategic instruments for destination marketing and branding. The absence of regular, culturally grounded events that draw upon local traditions and indigenous knowledge has resulted in relatively low exposure of Kampung Karuhun compared to competing destinations in the surrounding region.

3.8 Determining Development Strategy Priorities for the Kampung Karuhun Tourist Attraction

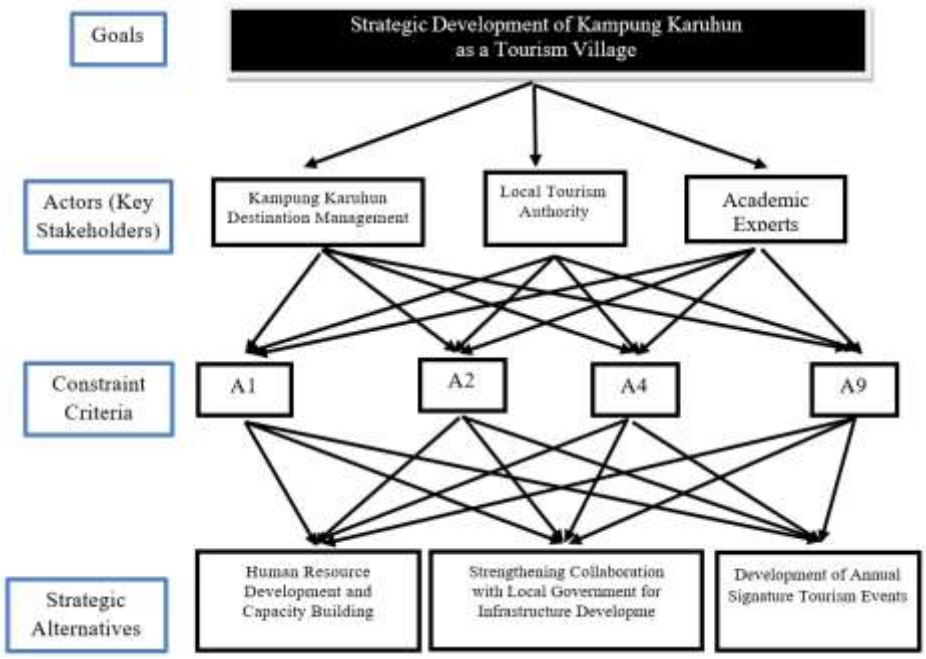


Fig. 5. AHP- Based Decision Hierarchy for Kampung Karuhun Tourism Development

To determine the development strategy priorities for the Kampung Karuhun tourist attraction, the Analytic Hierarchy Process (AHP) was employed. AHP was selected because it can systematically structure decision priorities through pairwise comparisons and assess the logical consistency of decision-makers' judgments. The selection of criteria was informed by the results of the Focus Group Discussion (FGD). Based on the FGD outcomes, the AHP model incorporated four primary constraint elements identified through the ISM analysis as decision criteria: A1 (road accessibility), A2 (government support), A4 (supporting facilities), and A9 (promotional events). The decision-making process involved key actors representing the principal stakeholders in destination development, including representatives from local government, destination management, and the education sector. This composition aligns with participatory approaches to tourism decision-making that emphasize stakeholder engagement and inclusivity.

The problem structure was formulated as a decision hierarchy comprising the development objective, key actors, constraint elements as criteria, and strategic alternatives (Figure 5). Weighting and priority calculations were performed using *Expert Choice* software, while the consistency of judgments was evaluated using the Consistency Ratio (CR). According to AHP criteria, a CR value of less than 0.10 indicates an acceptable level of inconsistency, confirming that the weighting results are methodologically reliable and valid.

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3.9 Comparison of Constraint Elements for Priority Determination

Overall, the Analytic Hierarchy Process results indicate cross-actor consensus that A1 (road access to the Kampung Karuhun Tourism Object) is the most critical constraint element in developing Kampung Karuhun as a tourism village. The consistency of these results, as evidenced by a Consistency Ratio (CR) value of < 0.10 across all actors (Table 3), confirms that the weighting process satisfies the criteria of methodological reliability and validity within the AHP framework.

These findings further reinforce the results obtained in the previous analytical stage, which identified accessibility as the element with the highest driving power within the tourism village development system. This aligns with the characteristics of fundamental factors in structural modeling approaches.

Table 3. Results of Weighting of Key Constraint Elements Based on Actor Perspectives

Actor Perspective	Dominant Constraint Element	Priority Weight	Consistency Ratio (CR)	Remarks
Kampung Karuhun Management	A1 – Road access to the Kampung Karuhun Tourism Object	0.476	0.00	CR < 0.10 indicates that the weighting results are acceptable and reflect consistent actor judgments
Academics	A1 – Road access to the Kampung Karuhun Tourism Object	0.497	0.01	CR < 0.10 indicates that the weighting results are acceptable and reflect consistent actor judgments
Tourism Office	A1 – Road access to the Kampung Karuhun Tourism Object	0.467	0.02	CR < 0.10 indicates that the weighting results are acceptable and reflect consistent actor judgments

3.10 Comparison of Alternative Development Strategies

The comparison of alternative development strategies was conducted based on the perspectives of key stakeholders involved in the development of Kampung Karuhun and the priority constraints identified through the Interpretative Structural Modeling (ISM) analysis. The second Focus Group Discussion (FGD) formulated the strategic alternatives, which were then evaluated using the Analytical Hierarchy Process (AHP). Three main development strategies were identified.

Enhancing human resource capacity. This strategy emphasizes strengthening human resource competencies to support quality and sustainable tourism development, particularly in service excellence, administrative capabilities, and hospitality-related skills. Capacity-building initiatives are implemented through partnerships with vocational institutions and tourism-related higher education institutions, including structured training programs and community-based education, research, and service activities at the destination level (Saadah & Eddyono, 2025).

Collaborating with local government to improve access infrastructure. This strategy focuses on strengthening collaboration among destination managers, village authorities, local governments, and local communities to improve and upgrade infrastructure leading to Kampung Karuhun. Infrastructure development is a structural constraint that exceeds local tourism operators' managerial capacity and therefore requires coordinated stakeholder engagement. Previous studies highlight that accessibility and basic infrastructure play a decisive role in determining the competitiveness and functionality of rural tourism destinations (Budiawan & Eddyono, 2025; Saadah & Eddyono, 2025).

Organizing regular tourism and cultural events. This strategy positions events as instruments for destination promotion and attractiveness by leveraging local cultural assets. Regular cultural and tourism events, including performances of traditional bamboo music (*Songah*), can enhance destination visibility, enrich visitor experiences, and strengthen local identity by presenting unique cultural expressions (Richards, 2020).

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The AHP results generated using Expert Choice software indicate that collaboration with local government to improve and upgrade access infrastructure is the highest-priority strategy for the development of Kampung Karuhun. This strategy achieved the highest geometric mean weight (0.655) with a Consistency Ratio (CR) of 0.01, well below the acceptable threshold of 0.10, indicating high judgment consistency and methodological reliability. Operationally, this strategy focuses on improving the primary access road to Kampung Karuhun, complemented by the installation of traffic signage and road safety facilities. Given the narrow, winding road conditions and the area's exposure to landslide risks, improving accessibility is a strategic prerequisite before implementing promotional and product diversification strategies.

3.11 Discussion

From a theoretical perspective, this study advances the rural tourism and destination competitiveness literature by extending the conventional understanding of accessibility beyond its traditional role as a supporting infrastructure component. Previous destination competitiveness studies have generally conceptualized accessibility as one of several determinants influencing destination attractiveness and tourism performance. In contrast, the present study's findings show that, within emerging rural tourism destinations, accessibility functions as a structural trigger that activates the effectiveness of governance, infrastructure investment, stakeholder coordination, facility development, and destination promotion. Rather than operating as an independent infrastructure variable, accessibility initiates cascading effects throughout the destination system, determining the extent to which other tourism development interventions can generate sustainable outcomes. This finding extends previous rural tourism studies that have primarily emphasized destination attractiveness, community participation, and tourism products as the principal drivers of rural tourism development (Nunkoo, 2017; Choudhary et al., 2025).

The ISM results further demonstrate that rural tourism destinations operate as highly interdependent systems in which infrastructure readiness serves as the enabling mechanism linking governance capacity with destination competitiveness (Choudhary et al., 2025). Inadequate accessibility not only restricts tourist mobility, but also constrains investment opportunities, reduces the effectiveness of destination promotion, weakens stakeholder collaboration, and limits the integration of tourism products into broader regional tourism networks (Yang & Wall, 2023). Consequently, accessibility should be understood not merely as a transportation issue but as the primary structural mechanism through which governance effectiveness, tourism investment, service quality, and destination competitiveness are progressively established.

This systems-based interpretation is reinforced by consistent stakeholder assessments from destination managers, academics, and government representatives, all of whom identified accessibility as the highest strategic priority. The convergence of these assessments indicates that accessibility is collectively perceived as a systemic development issue rather than solely as a technical infrastructure concern. In the context of Kampung Karuhun Tourism Village, inadequate accessibility reinforces other structural constraints, including limited tourism investment, insufficient supporting facilities, weak promotional effectiveness, and constrained stakeholder collaboration. These findings suggest that accessibility generates cascading effects throughout the destination development system, ultimately influencing destination competitiveness, resilience, and long-term sustainability (Yang & Wall, 2023; Tichaawa et al., 2023; Eddyono et al., 2021).

Methodologically, this study also contributes to tourism research by integrating Interpretive Structural Modeling (ISM) and the Analytic Hierarchy Process (AHP). While previous tourism studies have frequently employed descriptive analyses or single-method approaches, the combined ISM–AHP framework enables the simultaneous identification of hierarchical causal relationships among development constraints and stakeholder-based strategic priorities. This integrated analytical framework provides a more comprehensive understanding of rural tourism systems by revealing not only the importance of individual constraints but also the structural interactions among accessibility, governance, infrastructure, investment, stakeholder coordination, and destination competitiveness. Accordingly, the study contributes to the growing application of systems thinking within tourism research by demonstrating that sustainable rural tourism development should be interpreted as a dynamic interaction among interdependent structural elements rather than as isolated managerial problems (Choudhary et al., 2025; Eddyono et al., 2025).

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Overall, the findings indicate that sustainable rural tourism development requires policies that prioritize resolving fundamental structural constraints before implementing promotional activities or developing destination products. The study therefore proposes that accessibility should be reconceptualized as the primary structural trigger that activates governance effectiveness, investment readiness, stakeholder coordination, tourism service development, and promotional performance within emerging rural tourism systems. This perspective enriches destination competitiveness theory by positioning accessibility as the enabling mechanism through which other destination attributes become operational, thereby providing a more integrated explanation of how rural tourism destinations achieve long-term competitiveness and sustainability (Gao & Wu, 2017).

4. CONCLUSION

This study aimed to identify the key constraints affecting the development of Kampung Karuhun Tourism Village and to determine strategic priorities for sustainable rural tourism development using an integrated Interpretive Structural Modeling (ISM) and Analytic Hierarchy Process (AHP) approach. The findings indicate that accessibility is the most fundamental structural constraint influencing the destination development system. Rather than functioning solely as a transportation issue, accessibility is the primary structural trigger shaping governance effectiveness, investment opportunities, supporting facilities, stakeholder coordination, destination promotion, and ultimately the competitiveness and sustainability of rural tourism destinations. Furthermore, integrating ISM and AHP demonstrates the value of combining systems-based analysis with stakeholder prioritization to support evidence-based tourism planning. From a theoretical perspective, this study extends destination competitiveness literature by conceptualizing accessibility as an enabling structural mechanism that activates other destination development components within emerging rural tourism systems. The findings further suggest that addressing fundamental structural constraints should precede promotional activities and tourism product development to achieve sustainable destination development.

This study has several limitations. First, the analysis was conducted in a single tourism village, limiting the generalisability of the findings to other rural tourism contexts. Second, the ISM–AHP analysis relied on a relatively small panel of experts, reflecting the methodological characteristics of these approaches. Future research should therefore examine multiple tourism villages with diverse geographical and institutional characteristics, involve a broader range of stakeholders, and incorporate emerging issues such as digital transformation, climate resilience, and community adaptive capacity. From a policy perspective, prioritize improving accessibility through road widening and regular maintenance, landslide mitigation along access routes, standardized directional signage, and integrated digital navigation systems. These interventions should be implemented through coordinated collaboration among local governments, destination managers, and local communities to strengthen destination competitiveness and establish a more resilient foundation for sustainable rural tourism development.

REFERENCES

Budiawan, N. F. H., & Eddyono, F. (2025). Pengembangan Potensi Atraksi Berbasis Community-Based Tourism Di Kawasan Pantai Kastela, Kota Ternate. *Inovasi Pembangunan: Jurnal Kelitbangan*, *13*(03).

Choudhary, V., Datta, B., & Mukherjee, S. (2025). Rural Tourism: A Hybrid Review and Future Research Agenda. *International Journal of Consumer Studies*, *49*(1). https://doi.org/10.1111/ijcs.70006

Cooper, C., & Hall, C. M. (2022). *Contemporary tourism: An international approach*. Goodfellow Publishers Limited.

Creswell, J. W., & Poth, C. N. (2016). *Qualitative Inquiry & Research Design: Choosing among Five Approaches*. Los Angeles, CA: Sage Publications.

Eddyono, F. (2022). *Pemahaman Tentang Daya Saing Pariwisata*. Madza Media.

Eddyono, F. (2025). *Perencanaan Desa Wisata Berkelanjutan* (Edisi ke-1). Damera Press.

Eddyono, F., Darusman, D., Sumarwan, U., & Sunarminto, T. (2025). Optimization model: the innovation and future of e-ecotourism for sustainability. *Journal of Tourism Futures*, *11*(1), 96–113. https://doi.org/10.1108/JTF-03-2021-0067

Fletcher, J., Fyall, A., Wanhill, S., & Gilbert, D. (2017). *Tourism: Principles & Practice* (6th ed.). Pearson Education.

Gao, J., & Wu, B. (2017). Revitalizing traditional villages through rural tourism: A case study of Yuanjia Village, Shaanxi Province, China. *Tourism Management*, *63*, 223–233. https://doi.org/https://doi.org/10.1016/j.tourman.2017.04.003

Geng, Y., Zhao, S., Zhang, X., Li, J., Yan, Y., & Gao, J. (2025). Bibliometric analysis of sustainable rural tourism. *Humanities and Social Sciences Communications*, *12*(1), 1–28. https://doi.org/10.1057/s41599-025-05213-z

Gössling, S., & Hall, C. M. (2019). Sustainable tourism: A global perspective. *Journal of Sustainable Tourism*, *27*(7), 1047–1065.

Ishizaka, A., & Labib, A. (2011). Review of the main developments in the analytic hierarchy process. *Expert Systems with Applications*, *38*(11), 14336–14345. https://doi.org/https://doi.org/10.1016/j.eswa.2011.04.143

Lane, B., & Kastenholz, E. (2015). Rural tourism: the evolution of practice and research approaches – towards a new generation concept? *Journal of Sustainable Tourism*, *23*(8–9), 1133–1156. https://doi.org/10.1080/09669582.2015.1083997

Nunkoo, R. (2017). Governance and sustainable tourism: What is the role of trust, power and social capital? *Journal of Destination Marketing & Management*, *6*(4), 277–285. https://doi.org/https://doi.org/10.1016/j.jdmm.2017.10.003

Nunkoo, R., & Ramkissoon, H. (2012). Power, Trust, Social Exchange and Community Support. *Annals of Tourism Research*, *39*(2), 997–1023. https://doi.org/10.1016/j.annals.2011.11.017

Richards, G. (2020). Designing creative places: The role of creative tourism. *Annals of Tourism Research*, *85*, 102922. https://doi.org/https://doi.org/10.1016/j.annals.2020.102922

Saadah, N. M., & Eddyono, F. (2025). Self-reliance and Sustainability in Crisis: Resilience Practices of Tinalah Tourism Village Post-Pandemic. *Journal of Applied Management Research*, *5*(1), 32–40.

Tichaawa, T., Dayour, F., & Nunkoo, R. (2023). Residents' trust in government, tourism impacts, and quality of life: Testing a structural model Residents' trust in government, tourism impacts, and quality of life: Testing a structural model. *Development Southern Africa*, *40*(2), 223–242. https://doi.org/10.1080/0376835X.2021.1974820

Yang, L., & Wall, G. (2023). *Ethnic Tourism: Impacts, Challenges and Opportunities* (1st ed.). Routledge. https://doi.org/https://doi.org/10.4324/9781003373964

DOI: http://dx.doi.org/10.36441/jamr