Vol. 3 No. 1 Edisi Januari 2026 E. ISSN. 3032-2472
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# FROM COLLABORATION TO RESILIENCE: MODELING THE MEDIATING ROLE OF SUSTAINABLE TOURISM MANAGEMENT IN COMMUNITY-BASED TOURISM SYSTEMS

# DARI KOLABORASI KE KETAHANAN: PEMODELAN PERAN MEDIASI PENGELOLAAN PARIWISATA BERKELANJUTAN DALAM SISTEM PARIWISATA BERBASIS MASYARAKAT

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DOI: https://doi.org/10.62567/micjo.v3i1.1661

**Abstract**

This study aims to analyze the influence of multi-stakeholder collaboration on the resilience of tourism activities and to examine the mediating role of sustainable tourism management within a community-based tourism village context. A quantitative explanatory research design was employed, using Partial Least Squares Structural Equation Modeling (PLS-SEM). The research was conducted in Nglanggeran Tourism Village, Special Region of Yogyakarta, Indonesia, with data collection carried out in 2025. A total of 90 respondents were selected through purposive sampling based on their active involvement in village tourism activities. The three main constructs, namely multi-stakeholder collaboration, sustainable tourism management, and tourism activity resilience, were measured using a 5-point Likert scale instrument. PLS-SEM analysis was employed to evaluate the measurement and structural models, encompassing assessments of validity, reliability, $R^2$, $Q^2$, and hypothesis testing via bootstrapping. Findings indicate that multi-stakeholder collaboration has a positive and significant effect on both sustainable tourism management and tourism activity resilience. Sustainable tourism management also shows a positive and considerable influence on tourism activity resilience. Furthermore, a partial mediation effect was identified, wherein sustainable tourism management strengthens the impact of multi-stakeholder collaboration on the strength of tourism activities. Structured and inclusive multi-stakeholder collaboration, when integrated with sustainable tourism management practices, enhances the resilience of tourism activities in community-based destinations. These results underscore the crucial importance of collaborative governance and sustainable management practices in fostering destination sustainability and resilience.

**Keywords :** Multi-Stakeholder Collaboration; Sustainable Tourism Management; Tourism Resilience; Village Tourism; Community-Based Tourism.

**Abstrak**

Penelitian ini bertujuan untuk menganalisis pengaruh kolaborasi multipihak terhadap ketahanan aktivitas pariwisata serta menguji peran mediasi pengelolaan pariwisata berkelanjutan dalam konteks

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desa wisata berbasis komunitas. Penelitian ini menggunakan desain kuantitatif eksplanatori dengan pendekatan Partial Least Squares Structural Equation Modeling (PLS-SEM). Penelitian dilaksanakan di Desa Wisata Nglanggeran, Daerah Istimewa Yogyakarta, Indonesia, dengan pengumpulan data dilakukan pada tahun 2025. Sebanyak 90 responden dipilih melalui teknik purposive sampling berdasarkan keterlibatan aktif mereka dalam aktivitas pariwisata desa. Tiga konstruk utama, yaitu kolaborasi multipihak, pengelolaan pariwisata berkelanjutan, dan ketahanan aktivitas pariwisata, diukur menggunakan instrumen skala Likert 5 poin. Analisis PLS-SEM digunakan untuk mengevaluasi model pengukuran dan model struktural, yang mencakup pengujian validitas, reliabilitas, nilai $R^2$, $Q^2$, serta pengujian hipotesis melalui prosedur bootstrapping. Hasil penelitian menunjukkan bahwa kolaborasi multipihak berpengaruh positif dan signifikan terhadap pengelolaan pariwisata berkelanjutan dan ketahanan aktivitas pariwisata. Pengelolaan pariwisata berkelanjutan juga menunjukkan pengaruh positif dan signifikan terhadap ketahanan aktivitas pariwisata. Selain itu, ditemukan adanya efek mediasi parsial, di mana pengelolaan pariwisata berkelanjutan memperkuat pengaruh kolaborasi multipihak terhadap ketahanan aktivitas pariwisata. Kolaborasi multipihak yang terstruktur dan inklusif, ketika diintegrasikan dengan praktik pengelolaan pariwisata berkelanjutan, mampu meningkatkan ketahanan aktivitas pariwisata di destinasi berbasis komunitas. Temuan ini menegaskan pentingnya tata kelola kolaboratif dan praktik pengelolaan berkelanjutan dalam mendorong keberlanjutan dan ketahanan destinasi pariwisata.

**Kata Kunci :** Kolaborasi Multipihak; Pengelolaan Pariwisata Berkelanjutan; Ketahanan Pariwisata; Desa wisata; Pariwisata Berbasis Komunitas.

## 1. INTRODUCTION

Tourism villages, such as Nglanggeran, a UNESCO Global Geopark, play a vital role in promoting inclusive, sustainable tourism in Indonesia by integrating ecotourism, cultural heritage and community participation (Iqbal et al., 2021; Ristiawan et al., 2021). Although they receive international recognition, governance imbalance, participatory disparities, and weak institutional inclusion remain ongoing, indicating a governance paradox that requires empirical research.

Empirical studies highlight these structural tensions. Ristiawan et al. (2021) observed an unequal distribution of tourism benefits based on social capital, which creates participation gaps and community tensions. Filantropi & Bella (2022) identified institutional exclusion of village enterprises (BUMDes) in financial and managerial decisions, while Iqbal et al. (2021) and Rahman et al. (2023) reported fragmented visions between local actors and external stakeholders, weakening governance continuity. These issues raise important questions about the effectiveness of stakeholder collaboration in achieving sustainable and resilient tourism governance.

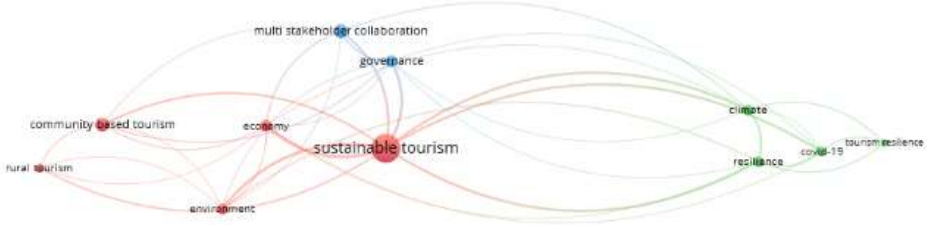


**Figure 1. Results of bibliometric analysis via VOSviewer**

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A VOSviewer (2015–2025) bibliometric analysis confirms this empirical gap. Although sustainable tourism remains a central theme, it stays conceptually separate from resilience, governance, and multi-stakeholder collaboration. Keywords like community-based tourism and rural tourism form isolated sub-clusters. In contrast, tourism resilience, COVID-19, and climate change mainly appear in reactive crisis contexts rather than proactive governance frameworks. These patterns reveal a fragmented research landscape, emphasizing the need for a more integrated approach.

To address this conceptual fragmentation, this study synthesizes three theoretical perspectives: (1) Collaborative Governance Theory (Ansell & Gash, 2008; Emerson et al., 2012), which emphasizes inclusive, trust-based, and structured stakeholder engagement; (2) the framework of Sustainable Tourism Management (Bramwell & Lane, 2011; Choi & Sirakaya, 2006; Swarbrooke, 2011), which evaluates governance practices balancing ecological, social, and economic priorities; and (3) the concept of Tourism Resilience (Bui et al., 2020; Cheer & Lew, 2017; Chhabra et al., 2024; Hall et al., 2017, 2023; Lew, 2014; Nguyen, 2023), which assesses a destination's ability to absorb, adapt, and recover from shocks.

These three perspectives are unified within the broader framework of Multi-Stakeholder Collaboration Theory, which highlights the significance of participatory, coordinated, and equitable governance in complex social-ecological systems (Lacitignola et al., 2007; Petrosillo et al., 2006), such as tourism villages. However, empirical studies applying this integration remain limited, especially in village-based tourism contexts.

Therefore, this study aims to analyze how multi-stakeholder collaboration directly impacts sustainable tourism management and the resilience of tourism activities. It also examines whether sustainable tourism management mediates the relationship between collaboration and resilience outcomes.

Unlike previous studies that view collaboration as an abstract ideal, this research develops a measurable definition of collaboration. It considers it both an enabler of sustainability and a catalyst for resilience. The resulting conceptual model (Figure 2) connects these three constructs and provides the empirical basis for the hypotheses tested in this study.

Accordingly, the study hypothesizes the following relationships as shown in Figure 2: H1: Multi-stakeholder collaboration has a positive effect on sustainable tourism management, H2: Multi-stakeholder collaboration has a positive effect on tourism activity resilience, H3: Sustainable tourism management has a positive effect on tourism activity resilience and H4: Sustainable tourism management mediates the relationship between multi-stakeholder collaboration and tourism activity resilience.

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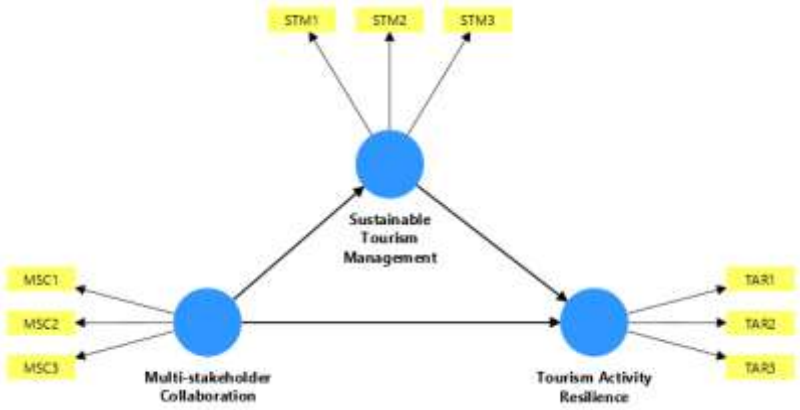


**Figure 1. Results of bibliometric analysis via VOSviewer**

Theoretically, this study contributes by developing an integrated empirical model that connects collaboration, sustainability, and resilience, an underexplored approach in tourism village governance. The findings provide evidence-based insights for policymakers and tourism stakeholders to institutionalize collaborative governance mechanisms that foster participation, strengthen institutional capacity, and support long-term environmental and social sustainability in rural tourism destinations.

## 2. RESEARCH METHOD

This study employed a quantitative explanatory research design to examine the effect of multi-stakeholder collaboration on tourism activity resilience, with sustainable tourism management serving as a mediating variable (Hair et al., 2021; Henseler, 2021; Lin & Huynh, 2024; Sarstedt et al., 2019; Sugiarto et al., 2023; Vogt, 2015). The research was conducted in Nglanggeran Tourism Village, located in the Special Region of Yogyakarta, Indonesia. This village is recognized as a community-based independent tourism destination developed within a geopark context, with natural and cultural richness as its main attractions.

The unit of analysis consisted of individuals directly involved in planning, managing, or implementing tourism-related activities in the village. A total of 90 respondents were selected through purposive sampling (Turner, 2020), based on the following inclusion criteria: (1) actively involved in tourism for at least one year; (2) holding formal or informal roles in tourism development; and (3) being permanent residents of the village. This approach ensured that participants possessed relevant experience and contextual knowledge.

Data were collected using a structured questionnaire consisting of three constructs: multi-stakeholder collaboration, sustainable tourism management, and tourism activity resilience. Each construct was measured through three reflective indicators, adapted from established theoretical and empirical literature. All items were rated on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree) (Robinson, 2023). Indicator development was grounded in theoretical frameworks including multi-stakeholder collaboration theory (Ansell & Gash, 2008; Emerson et al., 2012), sustainable tourism governance (Bramwell & Lane, 2011; Choi & Sirakaya, 2006; Rocio et al., 2023; Swarbrooke, 2011), and destination resilience models

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(Bui et al., 2020; Cheer & Lew, 2017; Chhabra et al., 2024; Hall et al., 2017, 2023; Lew, 2014; Nguyen, 2023; Pyke et al., 2021).

Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS 4. The analytical process involved two main stages: (1) the evaluation of the measurement model (outer model), which assessed convergent and discriminant validity along with construct reliability, and (2) the structural model assessment (inner model), which tested the hypothesized relationships, predictive strength ($R^2$, $Q^2$), and overall model fit bootstrapping to test the statistical significance of both direct and indirect effects (Hair et al., 2021).

This methodological approach provides robust explanatory power in understanding the dynamic interrelations between community-based collaboration, sustainability practices, and destination resilience within the context of rural tourism development.

## 3. RESULT AND DISCUSSION

This section outlines the empirical findings derived from the Partial Least Squares Structural Equation Modeling (PLS-SEM) analysis using SmartPLS 4. The analysis is structured into two main stages: (1) measurement model evaluation to assess the reliability and validity of constructs, and (2) structural model evaluation to test hypotheses and examine the strength and direction of relationships between constructs. The discussion integrates empirical insights with relevant theoretical perspectives and the contextual dynamics of Nglanggeran Tourism Village.

### a. Respondent Description

Ninety respondents participated in this study, and all stakeholders were actively engaged in tourism activities within Nglanggeran.

**Table 1. Respondent Demographic Profile**

| Characteristics | Category | Total Respondents (n=90) | Presentation (%) |
|---|---|---|---|
| Gender | Male | 52 | 57.78% |
| | Female | 38 | 42.22% |
| | | | |
| Age Group | < 25 years | 10 | 11.11% |
| | 25–35 years | 32 | 35.56% |
| | 36–45 years | 28 | 31.11% |
| | > 45 years | 20 | 22.22% |
| | | | |
| Tourism Role | Tourism Entrepreneurs | 34 | 37.78% |
| | Pokdarwis Members | 18 | 20.00% |
| | Village Officials | 12 | 13.33% |
| | Community Figures/ Volunteers | 16 | 17.78% |
| | Others (youth, academics, etc.) | 10 | 11.11% |

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| | | | |
|---|---|---|---|
| Years of Involvement | < 1 year | 6 | 6.67% |
| | 1–3 years | 28 | 31.11% |
| | 4–6 years | 30 | 33.33% |
| | > 6 years | 26 | 28.89% |

*Source: Data processing results, 2025*

Table 1 presents the demographic profile, including gender, age, tourism role, and duration of involvement. Most respondents were male (57.78%) and within the productive age range of 25–45 years. Tourism entrepreneurs and Pokdarwis members were most represented, indicating diverse actors contributing to the governance landscape. This diversity enhances the credibility of the data in capturing the realities of multi-stakeholder collaboration and tourism management at the village level.

**b. Evaluation of the Measurement Model (Outer Model)**

Measurement model evaluation ensures that constructs are measured accurately and consistently (Hair et al., 2021). This includes examining convergent validity, discriminant validity, and construct reliability for the three primary constructs: Multi-Stakeholder Collaboration (MSC), Sustainable Tourism Management (STM), and Tourism Activity Resilience (TAR).

**1) Evaluation of the Measurement Model (Outer Model)**

Convergent validity refers to the degree to which indicators of a construct converge to measure the same concept (Hair et al., 2021). It is assessed using outer loadings and Average Variance Extracted (AVE). Indicators are considered valid if their loadings exceed 0.70 and the AVE surpasses 0.50 (Fornell & Larcker, 1981; Hair et al., 2021).

**Table 2. Outer Loading of Research Indicators**

| Variable | Indicator | Outer Loading | Status |
|---|---|---|---|
| Multi-stakeholder Collaboration | MSC1 | 0.841 | Valid |
| | MSC2 | 0.877 | Valid |
| | MSC3 | 0.862 | Valid |
| Sustainable Tourism Management | STM1 | 0.826 | Valid |
| | STM2 | 0.851 | Valid |
| | STM3 | 0.854 | Valid |
| Tourism Activity Resilience | TAR1 | 0.804 | Valid |
| | TAR2 | 0.846 | Valid |
| | TAR3 | 0.873 | Valid |

*Source: Data processing results, 2025*

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**Table 3. Variance Extracted (AVE)**

| | Average Variance Extracted (AVE) |
|---|---|
| Multi-stakeholder Collaboration | 0.742 |
| Sustainable Tourism Management | 0.705 |
| Ketahanan Aktivitas Pariwisata | 0.714 |

*Source: Data processing results, 2025*

All indicators in this study met the Criteria, with outer loadings ranging from 0.804 to 0.877 and AVE values ranging from 0.705 to 0.742 (Tables 2 and 3). These values indicate that each indicator contributes strongly to its respective construct, and a substantial portion of variance is captured by the constructs rather than error, confirming strong convergent validity.

**2) Discriminant Validity**

Discriminant validity determines whether constructs are empirically distinct. It is evaluated using cross-loadings, the Fornell-Larcker criterion, and the Heterotrait-Monotrait Ratio (HTMT). According to Hair et al. (2021), discriminant validity is achieved when an indicator loads highest on its construct, the square root of AVE exceeds inter-construct correlations, and HTMT values remain below 0.90.

**Table 4. Cross Loadings among Latent Constructs**

| | Multi-stakeholder Collaboration (MSC) | Sustainable Tourism Management (STM) | Tourism Activity Resilience (TAR) |
|---|---|---|---|
| MSC1 | 0.841 | 0.526 | 0.487 |
| MSC2 | 0.877 | 0.534 | 0.498 |
| MSC3 | 0.862 | 0.512 | 0.475 |
| STM1 | 0.519 | 0.826 | 0.498 |
| STM2 | 0.505 | 0.851 | 0.473 |
| STM3 | 0.491 | 0.854 | 0.489 |
| TAR1 | 0.482 | 0.466 | 0.804 |
| TAR2 | 0.494 | 0.479 | 0.846 |
| TAR3 | 0.465 | 0.481 | 0.873 |

*Source: Data processing results, 2025*

**Table 5. Matriks Fornell Larcker**

| | MSC | STM | TAR |
|---|---|---|---|
| Multi-stakeholder Collaboration (MSC) | **0.861** | | |
| Sustainable Tourism Management (STM) | 0.631 | **0.839** | |

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| | | | |
|---|---|---|---|
| Tourism Activity Resilience (TAR) | 0.598 | 0.623 | **0.845** |

*Source: Data processing results, 2025*

**Table 6. Heterotrait Monotrait Ratio (HTMT)**

| | MSC | STM | TAR |
|---|---|---|---|
| Multi-stakeholder Collaboration (MSC) | - | | |
| Sustainable Tourism Management (STM) | 0.732 | - | |
| Tourism Activity Resilience (TAR) | 0.693 | 0.741 | - |

*Source: Data processing results, 2025*

The cross-loadings (Table 4) showed that each item correlated more with its assigned construct than with other constructs. The Fornell-Larcker matrix confirmed that the square root of AVE for each construct exceeded its correlations with other constructs (Table 5). Additionally, HTMT values (Table 6) were all below 0.90. These results collectively confirm that MSC, STM, and TAR are conceptually and statistically distinct, satisfying the criteria for discriminant validity.

**3) Construct Reliability**

Construct reliability examines the internal consistency of indicators using Cronbach's Alpha, rho_A, and Composite Reliability (CR). Thresholds for acceptable reliability are set at ≥ 0.70 (Hair & Alamer, 2022).

**Table 7. Construct Reliability Indicators: Cronbach's Alpha, rho_A, and Composite Reliability**

| | CA | | rho_A | CR | Conclusion |
|---|---|---|---|---|---|
| Multi- stakeholder Collaboration | 0.812 | | 0.834 | 0.884 | Reliable |
| Sustainable Tourism Management | 0.798 | | 0.815 | 0.872 | Reliable |
| Tourism Activity Resilience | 0.823 | | 0.838 | 0.887 | Reliable |

*Source: Data processing results, 2025*

Based on Table 7, all constructs surpassed these thresholds (CR values ranged from 0.872 to 0.887), indicating high internal consistency. This suggests that the measurement instruments are reliable and consistent across multiple indicators, supporting their use in subsequent structural model evaluation.

**c. Structural Model Evaluation (Inner Model)**

Measurement model evaluation ensures that constructs are measured accurately and consistently (Hair et al., 2021). This includes examining convergent validity, discriminant

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validity, and construct reliability for the three primary constructs: Multi-Stakeholder Collaboration (MSC), Sustainable Tourism Management (STM), and Tourism Activity Resilience (TAR).

**1) Collinearity Diagnostics**

Variance Inflation Factor (VIF) values were used to detect multicollinearity. All indicators had VIFs below 5.0, with most below the stricter threshold of 3.3 (Hair et al., 2021; Kock & Lynn, 2012). These findings confirm that multicollinearity is not a concern, and the path coefficients can be interpreted confidently.

**Table 8. Collinearity Statistics (VIF) at the Indicator Level**

| | VIF |
|---|---|
| MSC1 | 2.145 |
| MSC2 | 2.388 |
| MSC3 | 2.524 |
| STM1 | 2.301 |
| STM2 | 2.779 |
| STM3 | 2.935 |
| TAR1 | 2.487 |
| TAR2 | 3.014 |
| TAR3 | 3.126 |

*Source: Data processing results, 2025*

**2) Predictive Power**

The coefficient of determination ($R^2$) and $Q^2$ predicted values were used to evaluate explanatory and predictive power (Hair & Alamer, 2022).

**Table 9. R Square and Adjusted R Square Values of EndogenousConstructs**

| | R Square | R Square Adjusted | Kategori |
|---|---|---|---|
| Sustainable Tourism Management | 0.463 | 0.452 | Weak |
| Tourism Activity Resilience | 0.577 | 0.563 | Moderate |

*Source: Data processing results, 2025*

**Table 10. $Q^2$ Predict Values and Predictive Power Interpretation**

| | $Q^2$ Predict | Interpretasi |
|---|---|---|
| Sustainable Tourism Management | 0.284 | Medium Predictive Power |

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| | | |
|---|---|---|
| Tourism Activity Resilience | 0.361 | High Predictive Power |

*Source: Data processing results, 2025*

Based on Hair et al. (2021), $R^2$ values between 0.25 and 0.50 are considered weak to moderate. STM had an $R^2$ of 0.463, and TAR had 0.577, indicating satisfactory explanatory power (Table 9).

Blindfolding procedures produced $Q^2$ values of 0.284 for STM and 0.361 for TAR (Table 10), suggesting moderate to high predictive relevance (Hair et al., 2021). This demonstrates that the model is statistically significant and capable of predicting the variation in the endogenous constructs.

**3) Model Fit**

Model fit was evaluated using SRMR and NFI. Based on Table 11, SRMR = 0.064 (< 0.08) and NFI = 0.912 (> 0.90), indicating an acceptable model fit (Hair et al., 2021). These values confirm that the proposed model aligns well with the empirical data.

**Table 11. Model Fit Summary**

| | Estimated Model |
|---|---|
| SRMR | 0.064 |
| NFI | 0.912 |
| Chi-Square | 122.786 |
| d_ULS | 0.965 |
| d_G | 0.874 |

*Source: Data processing results, 2025*

**d. Hypothesis Testing**

Measurement model evaluation ensures that constructs are measured accurately and consistently (Hair et al., 2021). This includes examining convergent validity, discriminant validity, and construct reliability for the three primary constructs: Multi-Stakeholder Collaboration (MSC), Sustainable Tourism Management (STM), and Tourism Activity Resilience (TAR).

Hypothesis testing assesses the significance of relationships between latent constructs in the proposed structural model. The analysis was conducted using the bootstrapping procedure in PLS-SEM with the following statistical criteria (Hair et al., 2021); T statistic ≥ 1.96 (for significance at $\alpha = 5\%$), P values ≤ 0.05 and Original Sample (O) values are used to interpret the direction and magnitude of the path coefficients.

Hypothesis Testing Results:

- ✓ H1: Multi-Stakeholder Collaboration → Sustainable Tourism Management.
  The results indicate a positive and significant effect, suggesting that stronger stakeholder collaboration leads to more effective and sustainable tourism management practices.
- ✓ H2: Multi-Stakeholder Collaboration → Tourism Activity Resilience.
  The results show a positive and statistically significant effect, meaning that inclusive collaboration contributes directly to enhancing the resilience of tourism activities.
- ✓ H3: Sustainable Tourism Management → Tourism Activity Resilience.

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The results confirm a significant influence, indicating that well-structured and sustainable management enhances the ability of tourism activities to withstand disruptions and environmental pressures.

✓ H4: Sustainable Tourism Management mediates the relationship between Multi-Stakeholder Collaboration and Tourism Activity Resilience

The findings demonstrate a significant indirect effect of Multi-Stakeholder Collaboration on Tourism Activity Resilience through Sustainable Tourism Management, indicating the presence of a mediating effect. This suggests that collaboration has a direct impact and strengthens resilience through sustainable management pathways.

**Table 12. Results of Hypothesis Testing Using Bootstrapping Estimates**

| | Original Sample (O) | T Statistic | P Values |
|---|---|---|---|
| Multi-Stakeholder Collaboration → Sustainable Tourism Management | 0.681 | 13.215 | 0.000 |
| Multi-Stakeholder Collaboration → Tourism Activity Resilience | 0.318 | 3.874 | 0.000 |
| Sustainable Tourism Management → Tourism Activity Resilience | 0.461 | 5.719 | 0.000 |
| Multi-Stakeholder Collaboration → Sustainable Tourism Management → Tourism Resilience (Indirect) | 0.314 | 4.996 | 0.000 |

*Source: Data processing results, 2025*

**Table 13. Direct and Indirect Effects Between Constructs**

| | Pathway | | |
|---|---|---|---|
| | Direct Effect | Indirect Effect | Total Effect |
| Multi-Stakeholder Collaboration → Sustainable Tourism Management | 0.681 | - | 0.681 |
| Multi-Stakeholder Collaboration → Tourism Activity Resilience | 0.318 | 0.314 | 0.632 |
| Sustainable Tourism Management → Tourism Activity Resilience | 0.461 | - | 0.461 |

*Source: Data processing results, 2025*

Based on the path analysis, Multi-Stakeholder Collaboration directly and significantly impacts Tourism Activity Resilience, with a path coefficient of 0.318, a t-statistic of 3.874, and

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a p-value < 0.001. This indicates that collaboration among stakeholders directly contributes to strengthening the resilience of tourism activities at the community level.

Additionally, Multi-Stakeholder Collaboration exhibits a significant indirect effect on Tourism Activity Resilience through Sustainable Tourism Management, with a coefficient of 0.314 ($t = 4.996$, $p < 0.001$). This confirms the mediating role of Sustainable Tourism Management, suggesting that effective management practices serve as a strategic channel through which collaborative efforts influence tourism resilience more strongly.

The mediation is classified as partial since direct and indirect effects are statistically significant (Hair & Alamer, 2022). These findings are consistent with prior studies emphasizing the role of collaboration in achieving sustainable tourism outcomes—for example, Emerson et al. (2012) and Nguyen (2023) highlighted that multi-stakeholder engagement enhances institutional coordination and promotes adaptive governance. Bramwell & Lane (2011), Choi & Sirakaya (2006), and Swarbrooke (2011) also underscored the importance of integrated governance for long-term tourism sustainability. The positive effect of sustainable tourism management on resilience aligns with (Biggs et al., 2012; Bui et al., 2020; Cheer & Lew, 2017; Chen & Li, 2022; Nguyen, 2023; Pyke et al., 2021), who identified system adaptability and cross-actor learning as key to resilience in socio-ecological systems.

Notably, the mediating role of sustainable management remains underexplored in tourism village research, making this study a valuable contribution. The total effect of multi-stakeholder collaboration on tourism activity resilience (0.632) reflects a strong combined influence. Following Cohen (1988) and Hair et al. (2021) guidelines, a path coefficient above 0.60 is considered strong, indicating statistical and practical significance.

In conclusion, all proposed hypotheses (H1–H4) are fully supported, reinforcing the conceptual model's robustness. These findings underscore the strategic importance of institutionalized collaboration and sustainable tourism governance in enhancing resilience within community-based tourism systems.

## 4. CONCLUSION

This study addressed the governance gap observed in Nglanggeran Tourism Village by empirically examining the influence of multi-stakeholder collaboration on tourism resilience, mediated by sustainable tourism management.

The empirical findings using PLS-SEM confirmed that all three direct hypotheses (MSC → STM, MSC → TAR, STM → TAR) and one mediating hypothesis (MSC → STM → TAR) were statistically supported. Stakeholder collaboration was found to exert direct and indirect influence on tourism resilience. The mediating role of sustainable tourism management underscores the importance of institutional practices in translating collaborative processes into resilient tourism outcomes.

Following the interpretation guideline suggested by Cohen (1988) and Hair et al. (2021), the total effect of 0.632 from MSC to TAR indicates a strong influence. The significance of

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both direct and mediated pathways confirms not only the model's statistical validity but also its practical relevance in the field of sustainable tourism development.

These findings provide theoretical implications by reinforcing the relevance of stakeholder-based and sustainability-driven frameworks in explaining community tourism resilience. Practically, they highlight the critical role of inclusive collaboration, transparent governance, and adaptive planning in enhancing local capacities to withstand socio-environmental disruptions.

For tourism planners and policymakers, these results suggest the need to strengthen multi-actor coordination mechanisms at the village level. Formal recognition and institutional support should be extended to inclusive community-based structures like Pokdarwis (tourism awareness groups) to ensure broader participation and shared responsibility. In particular, sustainable tourism management practices must be embedded into local governance systems to foster long-term resilience, especially in post-crisis recovery planning and sustainable innovation initiatives.

Further studies could adopt a comparative or longitudinal approach to examine how different community settings mediate the collaboration resilience relationship. Investigating the role of leadership, digital literacy, or socio-cultural capital may also provide a more nuanced understanding of resilience-building in rural tourism contexts.

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