



## Bibliometric Analysis of the Role of Local Wisdom in Sustainable Tourism Management

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### ARTICLE HISTORY

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### ABSTRACT

This study presents a bibliometric analysis of scholarly literature on the role of local wisdom in sustainable tourism management, aiming to map its intellectual structure, key contributors, thematic developments, and emerging research trends. Using the Scopus database, 385 relevant documents published between 2000 and 2024 were analyzed through VOSviewer. The co-occurrence analysis reveals that sustainable tourism, local wisdom, and ecotourism are the dominant themes, often interconnected with concepts such as community-based tourism, traditional knowledge, and cultural heritage. Temporal analysis indicates a shift from conceptual discussions to more applied themes, including tourism development and circular economy. The density visualization underscores the centrality of sustainability-oriented concepts, while co-authorship mapping highlights a fragmented collaboration landscape, with limited integration between local and global researchers. These findings suggest a maturing but still evolving field, where future studies should emphasize interdisciplinary approaches, empirical implementation, and greater engagement with community stakeholders. Strengthening the incorporation of local wisdom offers a promising path toward culturally inclusive and environmentally sustainable tourism practices.

**Keywords:** Sustainable tourism; Local wisdom; Traditional knowledge; Community-based tourism; Cultural heritage; Bibliometric analysis

## INTRODUCTION

Tourism has become one of the most dynamic and influential sectors in the global economy, contributing significantly to economic growth, job creation, and cultural exchange. However, the rapid expansion of tourism has often come at the expense of environmental sustainability and socio-cultural integrity [1]. In response, the concept of sustainable tourism has emerged as a guiding principle to ensure that tourism development meets present needs without compromising the ability of future generations to meet theirs [2]. Sustainable tourism emphasizes the balance between economic viability, environmental preservation, and socio-cultural responsibility, requiring innovative strategies that incorporate local contexts and values.

Among the strategies proposed for enhancing sustainable tourism is the incorporation of local wisdom—traditional knowledge, cultural practices, and belief systems passed down through generations. Local wisdom plays a critical role in shaping sustainable behaviors, fostering environmental stewardship, and preserving cultural identities within tourism destinations [3]. For instance, indigenous community-based approaches to resource management often reflect deeply rooted ecological awareness and ethical relationships with the environment. These traditional practices can inform and enrich modern tourism management models, making them more adaptable, community-oriented, and resilient.

Scholarly interest in the integration of local wisdom into sustainable tourism practices has grown substantially over the past two decades. Researchers have examined various dimensions, such as the influence of indigenous beliefs on conservation strategies, the role of traditional

ceremonies in attracting culturally respectful tourists, and the engagement of local communities in tourism governance [4], [5]. Despite this increasing attention, there remains a lack of synthesized understanding of the intellectual structure, emerging themes, and knowledge gaps in the literature. A comprehensive bibliometric analysis can provide an evidence-based overview of how local wisdom has been discussed in relation to sustainable tourism, identifying major contributors, influential works, and evolving research directions.

Moreover, the increasing pressure of globalization, modernization, and commercialization often poses a threat to local cultures and ecosystems. Tourist destinations frequently undergo transformations that erode traditional values and commodify local heritage, leading to cultural homogenization and ecological degradation [6]. By understanding how local wisdom has been employed—or neglected—in sustainable tourism literature, stakeholders can be better equipped to develop culturally embedded, locally led, and environmentally sound tourism policies. This approach not only enhances authenticity and uniqueness in tourism offerings but also empowers local communities to take ownership of development processes.

In addition to academic insights, policy frameworks at national and regional levels increasingly advocate for the inclusion of cultural values and traditional knowledge systems in tourism planning. For instance, UNESCO and the UN Sustainable Development Goals (SDG 11.4 and SDG 12.b) emphasize the safeguarding of intangible cultural heritage and sustainable tourism practices. As the discourse on sustainability becomes more inclusive and interdisciplinary, it is crucial to assess how local wisdom is positioned within the academic debate and to what extent it influences decision-making processes in the tourism sector. Bibliometric analysis provides a valuable methodological tool to uncover the trajectory, scope, and impact of this discourse across time and geography.

Despite the acknowledged importance of local wisdom in fostering sustainable tourism, there has been limited systematic analysis of the academic landscape addressing this intersection. Existing studies are often fragmented across disciplines, case-specific, and lacking in cumulative insights that can guide comprehensive frameworks for sustainable tourism grounded in cultural and ecological knowledge. Consequently, stakeholders—from policymakers to practitioners—are left with an incomplete understanding of how local wisdom is conceptualized, applied, and evaluated within the broader context of sustainable tourism development. This gap hinders efforts to mainstream local values into tourism governance and limits the potential of culturally grounded sustainability initiatives. This study aims to conduct a bibliometric analysis of the scholarly literature on the role of local wisdom in sustainable tourism management.

## METHOD

This study employed a bibliometric analysis to systematically examine scholarly publications on the role of local wisdom in sustainable tourism management. The methodology follows a quantitative approach, utilizing bibliometric techniques to identify publication patterns, influential authors, major themes, and knowledge structures within the selected literature corpus. Data were retrieved from the Scopus database, chosen for its comprehensive coverage of peer-reviewed journals across disciplines. The search was conducted using keywords such as “local wisdom”, “indigenous knowledge”, “traditional knowledge”, and “sustainable tourism”, connected with Boolean operators (AND/OR) to maximize relevance. The search string was refined to include publications from 2000 to 2024, in English, and limited to articles, reviews, and conference papers. The search yielded 415 documents. After screening for relevance and duplicates, 385 publications were included for analysis. Metadata such as title, authors, affiliations, keywords, abstract, year of publication, source title, and citations were exported in CSV and RIS formats for processing. VOSviewer was used for keyword co-occurrence, citation, co-authorship, and bibliographic coupling analysis. Microsoft Excel was used for frequency analysis and publication trends over time.

The analysis focused on identifying key authors, institutions, countries, journals, and clusters of research themes.

## RESULT

### Keyword Co-Occurrence Network

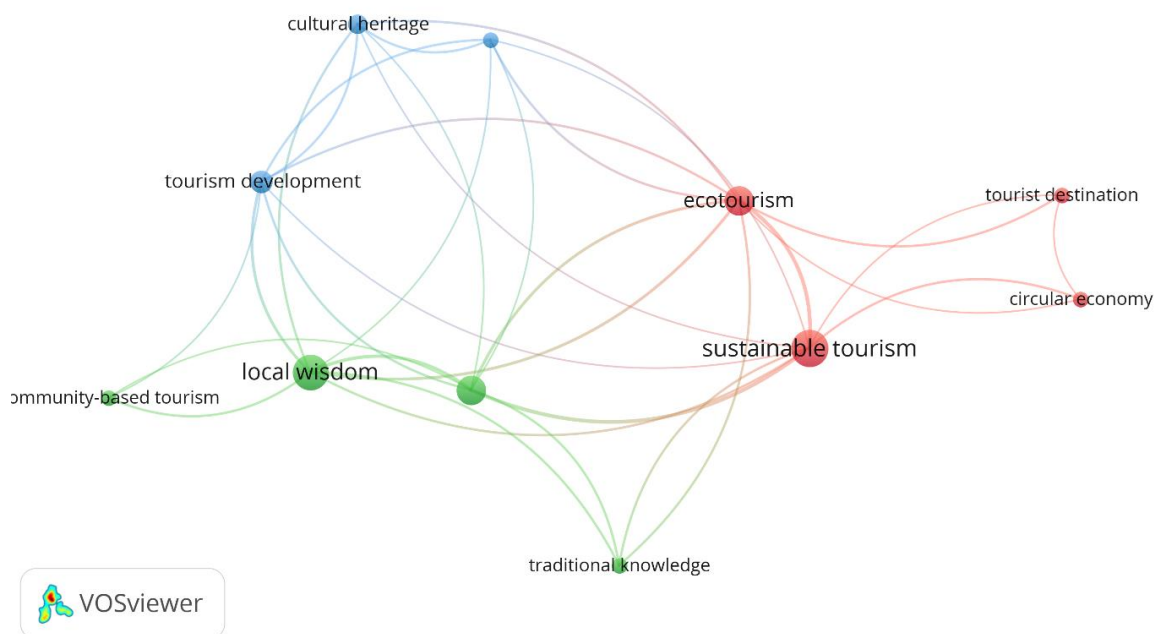


Figure 1. Network Visualization  
Source: Data Analysis

The visualisation in the Figure 1 displays a keyword co-occurrence network derived from the bibliometric data on the role of local wisdom in sustainable tourism management. The network is structured into several clusters, each representing thematically related keywords, with the size of each node indicating frequency of occurrence, and the thickness of connecting lines representing the strength of co-occurrence. Central to the map is the term “sustainable tourism”, which acts as a hub connecting multiple conceptual domains, affirming its central role in the discourse. The red cluster, anchored by sustainable tourism and ecotourism, encompasses terms such as tourist destination and circular economy. This indicates a strong thematic link between environmentally focused tourism strategies and broader sustainable development models. The presence of circular economy suggests an emerging integration of waste reduction, resource efficiency, and closed-loop systems into sustainable tourism discussions—particularly in contexts seeking to reduce the environmental footprint of tourism-related activities.

The green cluster, centering on local wisdom, includes traditional knowledge and community-based tourism. This grouping reflects a culturally grounded paradigm in tourism management that emphasizes bottom-up approaches. The link between local wisdom and traditional knowledge suggests that the literature often explores how indigenous practices and inherited values serve as foundations for community-led sustainability efforts. The strong connection to community-based tourism underlines the participatory nature of these strategies, where local people are not only passive subjects but active agents in tourism planning and benefit sharing. The blue cluster, which includes tourism development, cultural heritage, and their connections to local wisdom, reflects the socio-cultural dimensions of sustainable tourism. This suggests that preserving local culture and heritage is not merely a backdrop for tourism, but a dynamic component that shapes development

outcomes. The interconnection between these terms points to a growing recognition in the literature that tourism must respect and integrate cultural identity and historical continuity as part of its sustainability agenda.

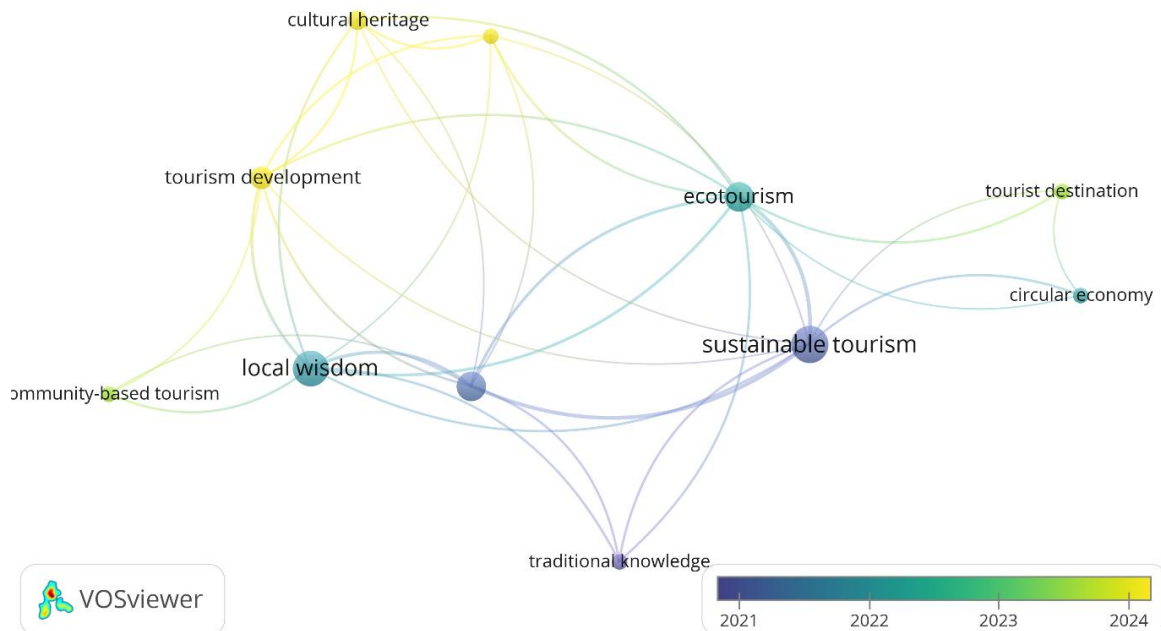


Figure 2. Overlay Visualization  
Source: Data Analysis

The overlay visualization illustrates the temporal evolution of keywords in the literature on local wisdom and sustainable tourism management between 2021 and 2024. Each keyword node is colored based on the average publication year of the documents in which it appears, with the color gradient ranging from dark blue (earlier) to yellow (most recent). This temporal mapping provides insights into shifts in research focus and the emergence of newer thematic interests in the field. From the map, keywords such as “sustainable tourism”, “traditional knowledge”, and “local wisdom” appear in darker blue hues, indicating that these themes were foundational and prominent in earlier publications (around 2021–2022). These core concepts reflect the initial scholarly effort to conceptualize the integration of indigenous and local practices within the broader discourse of sustainability in tourism. Their central position and multiple linkages also demonstrate their role as thematic anchors in the bibliometric network. In contrast, keywords like “cultural heritage”, “tourism development”, and “tourist destination” are highlighted in yellow, showing a shift in recent publications (2023–2024) toward applied and policy-oriented perspectives. This indicates that contemporary studies are increasingly addressing the practical implementation of local wisdom in developing tourism destinations and preserving cultural assets. The appearance of “circular economy” in light green suggests a newer trend, signaling interdisciplinary integration with sustainable business models.

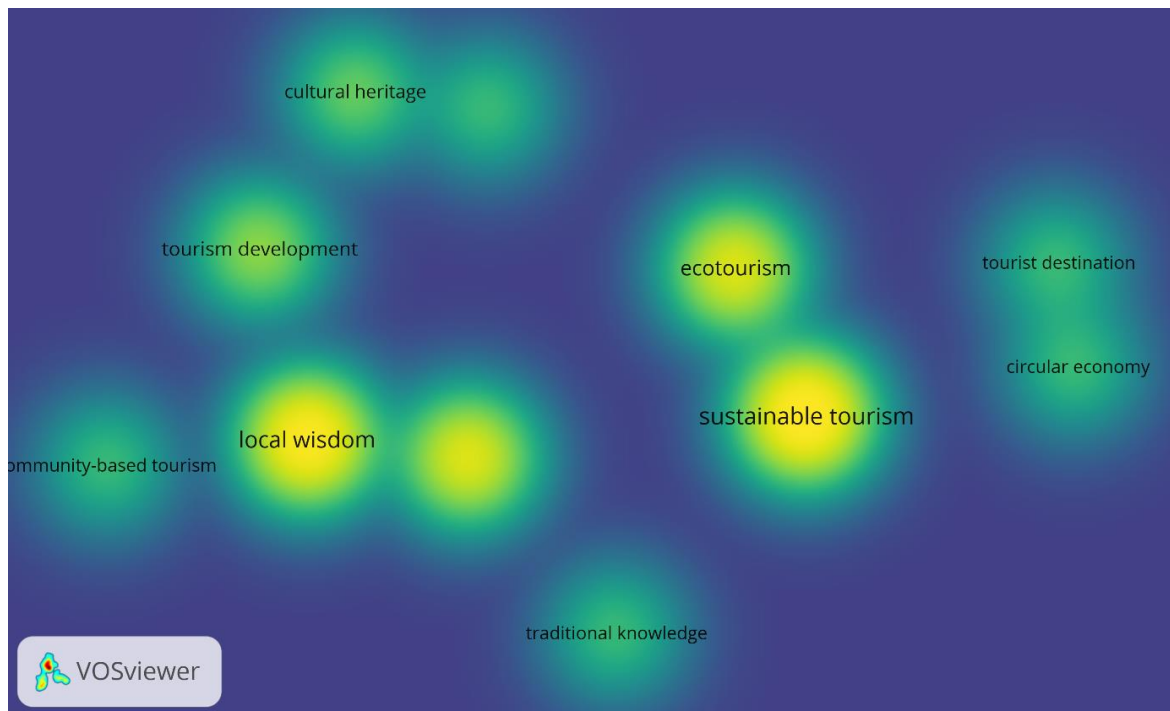


Figure 3. Density Visualization

Source: Data Analysis

The heatmap visualization illustrates the density of keyword occurrences in the field of local wisdom and sustainable tourism management. Areas with brighter yellow tones indicate keywords that appear more frequently and have stronger connections with other terms in the literature, while darker blue or green areas represent less frequently mentioned or less central keywords. The keywords “sustainable tourism”, “local wisdom”, and “ecotourism” emerge as the most intense hotspots, highlighting their dominant role as core concepts in the scholarly discourse. This suggests a concentrated academic focus on these themes as foundational pillars for building sustainable tourism frameworks informed by cultural and ecological values. The heatmap visualization generated by VOSviewer illustrates the density of keyword occurrences in the field of local wisdom and sustainable tourism management. Areas with brighter yellow tones indicate keywords that appear more frequently and have stronger connections with other terms in the literature, while darker blue or green areas represent less frequently mentioned or less central keywords. The keywords “sustainable tourism”, “local wisdom”, and “ecotourism” emerge as the most intense hotspots, highlighting their dominant role as core concepts in the scholarly discourse. This suggests a concentrated academic focus on these themes as foundational pillars for building sustainable tourism frameworks informed by cultural and ecological values.

Co-Authorship Analysis

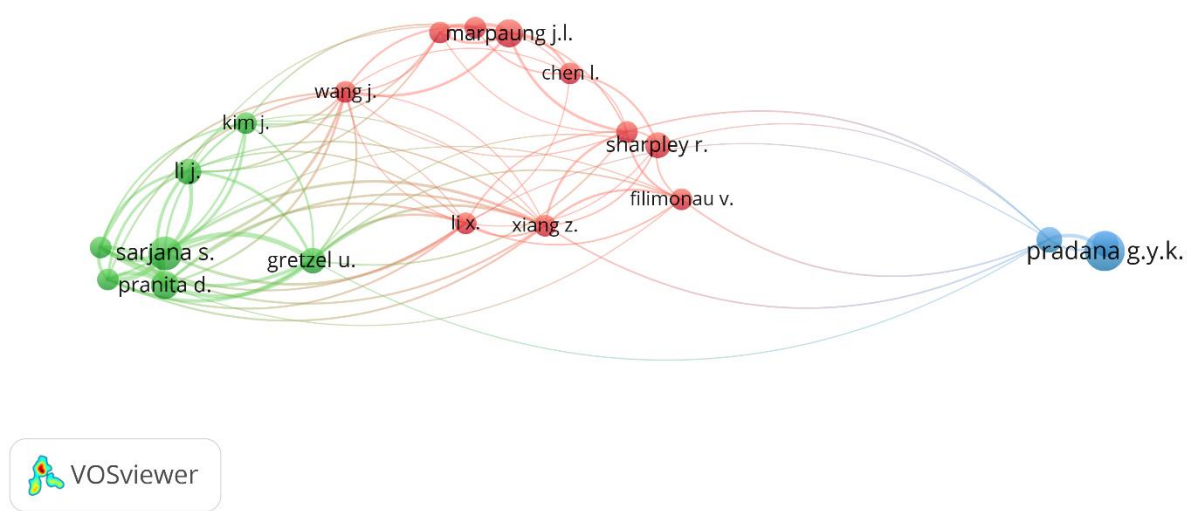


Figure 4. Author Visualization  
Source: Data Analysis

The co-authorship network visualized in this figure 4 reveals distinct clusters of researchers contributing to the field of local wisdom and sustainable tourism. Three major clusters are identified: the green cluster (e.g., Sarjana S., Pranita D., Gretzel U.) suggesting a collaborative group likely focusing on culturally grounded and community-based tourism studies; the red cluster (e.g., Sharpley R., Wang J., Marpaung J.L.) consisting of widely cited global tourism scholars, indicating a more theory-driven or conceptual focus on sustainability and tourism development; and the blue cluster, where Pradana G.Y.K. stands out as a key figure, likely contributing regionally significant or Indonesia-specific insights. The sparse links between the clusters indicate limited cross-collaboration, highlighting a fragmented scholarly landscape where researchers tend to collaborate within their thematic or regional circles rather than across them.

Citation Analysis

Table 1. Most Cited Article

Citations	Author and Year	Title
61	[7]	Local Wisdom, Environmental Protection And Community Development: The Clam Farmers In Tambon Bangkhunsai, Phetchaburi Province, Thailand
46	[8]	Strategy Of Tourism Village Development Based On Local Wisdom
28	[9]	Sustainable Marine Ecotourism Management: A Case Of Marine Resource Conservation Based On Local Wisdom Of Bajo Mola Community In Wakatobi National Park
27	[10]	Sustainable Tourist Villages Management Based On Javanese Local Wisdom ‘Memayu Hayuning Bawono’ Best Practice Of Desa Wisata Pentingsari, Yogyakarta
22	[11]	Smart Tourism Village, Opportunity, And Challenge In The Disruptive Era
21	[12]	Strategi Keberlanjutan Pengelolaan Hutan Mangrove Di Tahura Ngurah Rai Bali



20	[13]	Participation Of Green Environmental Group And Ulur-Ulur Local Wisdom On Buret Lake Ecotourism Management In Karst Area Of Tulungagung, Indonesia
20	[14]	Service Marketing Strategies And Performances Of Tourism And Hospitality Enterprises: Implications From A Small Border Province In Thailand
19	[15]	Application Of Criteria And Indicator For Sustainable Ecotourism: Scenario Under Globalization
18	[16]	Local Wisdom Of Kampung Naga In Mitigating Disaster

Source: Scopus, 2025

## DISCUSSION

### Thematic Centrality of Local Wisdom and Sustainable Tourism

The co-occurrence network map (Figure 1) demonstrates that sustainable tourism functions as a central concept connecting various branches of scholarly inquiry, such as local wisdom, ecotourism, community-based tourism, traditional knowledge, and cultural heritage. The prominence of local wisdom in the network underscores its foundational role in shaping tourism practices that align with community values and ecological integrity. Notably, the strong links between local wisdom and community-based tourism suggest that scholars increasingly recognize the importance of participatory, bottom-up models of tourism development rooted in indigenous practices and cultural traditions. This thematic interlinkage confirms the argument made by [17] that community-based tourism supported by local cultural values fosters authenticity and sustainability. The visualization further shows how ecotourism acts as a bridging concept, facilitating the integration of environmental sustainability with local socio-cultural practices. This multidimensional approach is aligned with the UNWTO's advocacy for tourism models that are economically viable, culturally appropriate, and environmentally responsible.

### Emerging Concepts: Circular Economy and Policy Shifts

One of the notable insights from the co-occurrence and overlay visualizations is the appearance of circular economy as a connected yet peripheral concept (Figures 1 and 2). Although relatively recent, its link to sustainable tourism and tourist destination points to a growing academic interest in integrating principles of resource efficiency and waste minimization into tourism systems. This development reflects a broader shift in sustainable tourism discourse toward incorporating economic models that reduce environmental impact and maximize local benefits [10]. Scholars appear to be exploring how traditional local knowledge—often based on cyclical use of natural resources—can align with modern circular economy frameworks, offering innovative and context-sensitive solutions.

The overlay visualization (Figure 2) also reveals temporal shifts in research focus. Keywords such as traditional knowledge, local wisdom, and sustainable tourism are associated with earlier publications (2021–2022), while terms like cultural heritage, tourism development, and tourist destination are more prominent in recent years (2023–2024). This temporal evolution indicates a transition from conceptual explorations of local wisdom toward more applied discussions about its role in real-world tourism development and destination management. As policy emphasis increases on cultural preservation, scholarly attention has naturally followed, focusing on practical implementations that safeguard heritage while promoting responsible tourism.

### Density and Research Intensity

The heatmap visualization (Figure 3) supports the thematic centrality observed earlier, with sustainable tourism, local wisdom, and ecotourism appearing as the most densely cited and interconnected keywords. This high density reflects the core of academic discussions, where most contributions converge. The position of traditional knowledge, tourism development, and community-based tourism as moderately dense zones reinforces their supportive role in the research

field. Interestingly, while circular economy and tourist destination show lower density, their appearance on the map signals early-stage but potentially impactful areas of study. The academic community appears to be gradually expanding the discourse to include macroeconomic and spatial planning dimensions, paving the way for a more holistic approach to sustainability. The clustering pattern in the heatmap also reflects how different scholarly traditions contribute to the field. Environmental sciences, development studies, cultural anthropology, and tourism management converge around the idea that sustainability is most effectively achieved when local knowledge systems are recognized, respected, and integrated into planning and policy.

#### **Author Collaboration and Intellectual Fragmentation**

The co-authorship network (Figure 4) adds another layer of interpretation by revealing the structure of collaboration among researchers. The map illustrates three main clusters, with limited cross-cluster interaction. The green cluster, including scholars such as Sarjana S., Gretzel U., and Pranita D., appears to focus on cultural and community-based tourism approaches, potentially rooted in Southeast Asian or local case studies. The red cluster, led by internationally recognized scholars such as Sharpley R., Wang J., and Chen L., represents the mainstream discourse on sustainable tourism, offering theoretical and global perspectives.

Meanwhile, the blue cluster, notably featuring Pradana G.Y.K., is more isolated, possibly reflecting regionally focused or single-author research in the Indonesian context. The sparse connections between these clusters reveal a degree of fragmentation in the academic discourse. While the clusters are internally coherent, the lack of cross-collaboration may hinder the integration of local insights with broader theoretical frameworks. Encouraging interdisciplinary and interregional collaboration is essential to enrich the field and bridge the gap between conceptual theory and practical implementation.

#### **Implications for Future Research**

The findings of this bibliometric analysis suggest several directions for future research. First, there is a need to expand empirical studies that evaluate how local wisdom is operationalized in sustainable tourism initiatives, especially in underrepresented regions. While conceptual frameworks are well-established, implementation remains a challenge, often due to institutional or economic constraints. Comparative studies across different cultures and governance systems could shed light on the enabling conditions for successful integration of local wisdom into tourism planning. Second, the emerging connection with circular economy invites further investigation into how indigenous ecological practices align with modern sustainability metrics. Integrating economic, environmental, and cultural lenses can generate comprehensive models for policy and practice. Third, more effort is needed to foster cross-disciplinary collaboration between tourism scholars, anthropologists, planners, and environmental scientists to produce integrated and actionable knowledge. Finally, research should also address how local wisdom is affected by tourism development itself. Questions around commodification, authenticity, and cultural resilience are critical, particularly in the face of mass tourism and globalization. Engaging with local communities not just as subjects but as co-researchers can lead to more ethical and impactful scholarship.

## **CONCLUSION**

This bibliometric study reveals that the integration of local wisdom into sustainable tourism management has emerged as a dynamic and multidimensional research area, characterized by a strong conceptual foundation and growing thematic diversity. Core concepts such as sustainable tourism, local wisdom, and ecotourism dominate the intellectual landscape, while newer themes like circular economy and tourist destination development signal an evolving agenda toward practical and policy-relevant applications. Despite this progress, the field remains fragmented, with limited collaboration between global and local scholars. To advance this discourse, future research should focus on empirical validation, interdisciplinary collaboration, and community-driven approaches



that empower local actors. Ultimately, strengthening the role of local wisdom offers a culturally grounded pathway toward more resilient, inclusive, and sustainable tourism systems.

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