The Contribution of Sustainable Tourism to Economic Development: A Bibliometric Approach

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ABSTRACT

This study employs bibliometric analysis to investigate the expansive field of sustainable tourism, focusing on the thematic evolution, research trends, emerging opportunities, and author collaboration networks from 1990 to 2024. Through a comprehensive review of the literature using VOSviewer, we identified key thematic clusters such as economic impacts, governance structures, social dimensions, and innovative practices in sustainable tourism. The temporal analysis revealed a shift in focus towards innovation and stakeholder perceptions, underscoring the dynamic nature of this research area. Emerging opportunities in the field include integrating advanced technologies and exploring the impact of local policies on sustainable tourism practices. Furthermore, the analysis of author collaboration networks highlighted the importance of scholarly partnerships in advancing the discourse, with prominent researchers playing pivotal roles in bridging various aspects of the field. This study not only maps the existing landscape but also highlights potential pathways for future research, aiming to enhance the efficacy and scope of sustainable tourism.

Keywords: Sustainable Tourism, Economic Development, Bibliometric Analysis, VOSviewer

1. INTRODUCTION

Tourism is universally acknowledged as a critical driver of economic growth and development [1], [2]. It contributes significantly to employment generation, infrastructure development, and the influx of foreign exchange [3]. The evolution of tourism from conventional models to more sustainable approaches has marked a shift towards integrating environmental, economic, and socio-cultural sustainability into tourism development strategies [4]. Sustainable tourism aims not only to mitigate its environmental impacts but also to enhance the host communities' economic and social conditions [5].

Globally, the transition to sustainable tourism is seen as essential for the survival of natural and cultural resources [5]. Countries rich in biodiversity and cultural heritage, such as those in Southeast Asia and Africa, are particularly focusing on sustainable tourism to harness its benefits while preserving their unique assets [6]. This approach helps in maintaining the ecological balance and promoting local cultures, which are crucial for tourism longevity [7], [8]. Economically, sustainable tourism has been recognized for its potential to create more stable and equitable growth than traditional tourism models, which often lead to uneven development and exploitation of resources [9].

However, despite its apparent benefits, the adoption of sustainable tourism practices presents complex challenges [10]. These include balancing resource use, maintaining cultural integrity, ensuring social inclusiveness, and achieving economic benefits [11]. The effectiveness of sustainable tourism in contributing to economic development varies widely across different contexts and regions, influenced by local policies, community engagement, and the extent of stakeholder collaboration in planning and implementation [12].
The integration of bibliometric analysis in this research offers a novel perspective on the existing academic and practical understanding of sustainable tourism [13]. By analyzing research trends, major themes, and knowledge gaps in the literature, this study seeks to provide a comprehensive overview of how sustainable tourism has been framed in academic discourse and its real-world implications on economic development [14], [15].

Despite the increasing focus on sustainable tourism, there remains a significant gap in systematically understanding its direct and indirect contributions to economic development. Existing studies often focus on case-specific outcomes or short-term impacts, lacking a broader, more integrated assessment of how sustainable practices in tourism genuinely enhance economic outcomes at different scales. Moreover, there is a need to identify the mechanisms through which sustainable tourism can be more effectively linked to broader economic policies and development agendas. This gap hinders policymakers and stakeholders in the tourism sector from formulating strategies that effectively leverage tourism for economic development while ensuring sustainability.

The primary objective of this research is to elucidate the contribution of sustainable tourism to economic development using a bibliometric approach. This study aims to map out the existing academic landscape, identify prevalent themes and emerging trends, and evaluate the depth of empirical evidence supporting sustainable tourism’s economic benefits. Through this analysis, the research seeks to offer insights into optimizing sustainable tourism practices that could serve as a catalyst for comprehensive economic development.

2. LITERATURE REVIEW

2.1 Conceptualizing Sustainable Tourism

Sustainable tourism is defined as tourism that fully considers its current and future economic, social, and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities. The concept originated from the broader sustainable development principles outlined in the Brundtland Commission’s report in 1987, which emphasized that sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs [16]. In the context of tourism, this means developing strategies that contribute positively to the natural, economic, and social environment.

[17] argue that sustainable tourism should not only minimize its negative impacts but actively contribute to environmental conservation, social justice, and economic inclusiveness. This involves ensuring that tourism development does not lead to overconsumption of natural resources, disrupts local economies, or leads to cultural erosion. Studies have shown various models of sustainable tourism, including eco-tourism, cultural tourism, and community-based tourism, each focusing on different aspects of sustainability [18].

2.2 Economic Impacts of Sustainable Tourism

Economically, sustainable tourism has been identified as a significant contributor to national and local economies. It generates revenue, creates jobs, and stimulates the development of new enterprises. According to the [19], the travel and tourism sector accounted for 10.4% of global GDP and was responsible for generating one in ten jobs worldwide. More importantly, regions that have adopted sustainable tourism practices
report a higher quality of job creation and revenue generation, as these models emphasize local hiring and sourcing, thus keeping economic benefits within local communities [20].

Sustainable tourism also plays a vital role in promoting infrastructural development that benefits both tourists and local residents. This includes the enhancement of transportation networks, sanitation, and healthcare services, which are critical to improving the quality of life for local populations and enhancing tourist experiences [21].

2.3 Social and Environmental Impacts

The social impacts of sustainable tourism are significant as they promote a greater understanding and respect for cultural diversity. This form of tourism encourages interaction between tourists and local populations, which can lead to improved mutual respect and more robust cultural exchanges. It also provides significant opportunities for preservation of local traditions, arts, and crafts, which might otherwise be at risk of extinction [22].

From an environmental perspective, sustainable tourism encourages practices that reduce environmental degradation and promote conservation efforts. Eco-tourism, a subset of sustainable tourism, specifically focuses on conserving nature and improving the well-being of local people. It actively contributes to conservation efforts, such as wildlife preservation initiatives, and educates tourists about the importance of biodiversity and conservation [23].

2.4 Bibliometric Analysis in Sustainable Tourism Research

Bibliometric analyses have been increasingly used in sustainable tourism research to map the knowledge base and identify trends and gaps in the literature. These studies employ statistical methods to analyze a large number of academic articles and publications, providing a macroscopic view of the research landscape. [24] utilized bibliometric techniques to identify the most influential authors, articles, and journals within the field of sustainable tourism. The findings indicated that while there is a growing body of literature on the subject, there are still significant gaps, particularly in understanding the long-term economic impacts of sustainable tourism on local economies.

Recent bibliometric studies have focused on emerging themes such as the role of technology in sustainable tourism, the impacts of global climate change on tourism practices, and the integration of local communities into tourism planning and development [25]. These studies are crucial for understanding how sustainable tourism evolves in response to global economic and environmental changes.

3. METHODS

This research uses a bibliometric approach to analyze the contribution of sustainable tourism to economic development. Bibliometric methods allow researchers to measure trends and patterns in the scientific literature, providing a deep understanding of how a topic has evolved over time. This analysis was conducted through an extensive review of scientific publication data, including journal articles, conferences, and other academic materials related to sustainable tourism.
Data for the bibliometric analysis was collected from the Google Scholar database. The inclusion criteria for documents were publications that explicitly addressed sustainable tourism and its economic impacts. The search was conducted using keywords such as "sustainable tourism", "economic impact of sustainable tourism", and "economic development through tourism". The time span for the data collected is from 1990 to 2024, to ensure the analysis covers the most recent development of the concept.

The collected data will be processed using bibliometric analysis software such as VOSviewer. The first step is to perform data cleaning, which includes removing duplicates and correcting entry errors. Next, the data will be analyzed to identify publication frequency patterns, and collaboration trends between researchers. Co-citation analysis will be used to identify important documents and their influence in the literature. This helps in determining seminal works that have contributed greatly to knowledge in the field of sustainable tourism. In addition, cluster analysis will be conducted to uncover sub-topics in the sustainable tourism literature relating to economic development.

4. RESULTS AND DISCUSSION

4.1 Research Data Matriks

<table>
<thead>
<tr>
<th>Table 1. Research Data Metrics</th>
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<tbody>
<tr>
<td>Publication years</td>
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<td>Citation years</td>
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<td>Paper</td>
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<td>Citations</td>
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<tr>
<td>Cites/paper</td>
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<td>Cites/author</td>
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<td>Papers/author</td>
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<tr>
<td>Author/paper</td>
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<tr>
<td>h-index</td>
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<tr>
<td>g-index</td>
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<tr>
<td>hI,norm</td>
</tr>
<tr>
<td>hI,annual</td>
</tr>
<tr>
<td>hA-index</td>
</tr>
<tr>
<td>Papers with ACC</td>
</tr>
</tbody>
</table>

Source: Publish or Perish Output, 2024

Table 1 presents a comprehensive set of bibliometric indicators from a large-scale analysis covering publications from 1990 to 2024 in the field of sustainable tourism and its economic impacts. The dataset encompasses 980 papers with an impressive total of 169,879 citations, averaging 4996.44 citations per year. This high citation rate suggests a robust and significant impact within the academic community, indicative of the field’s relevance and the substantial influence of its research outputs. The average citations per paper stand at 173.35, highlighting the quality and recognition of the published works. The h-index of 206 further underscores the depth of quality research, as it indicates that 206 papers have each been cited at least 206 times, suggesting a strong core of influential research within the dataset.

The additional metrics provided, such as the g-index of 370 and the normalized and annual h-index (hI,norm and hI,annual) of 160 and 4.71, respectively, offer insights into the distribution and longevity of citation impact. The g-index, considerably higher than the h-index, reflects that highly cited papers significantly contribute to the total citation count, pointing to some exceptionally
influential works. The dataset also shows a significant depth in author collaboration, with an average of 2.28 authors per paper, and productivity, with an average of 578.05 papers per author. The distribution of papers with accumulated citations (Papers with ACC) across various thresholds (1, 2, 5, 10, 20) confirms that the majority of the papers are highly cited, with 970 papers cited at least once, indicating a broad dissemination and acceptance of the research findings within the field.

4.2 Network Visualization

At the heart of the visualization, the term "sustainable tourism" is prominently placed, serving as the nexus for numerous other related terms. This central positioning underscores its significance as a pivotal area of study within tourism research. The size of the node indicates a high volume of references, suggesting that sustainable tourism is a well-established and frequently discussed topic in academic circles.

1. Cluster 1: Core Concepts of Sustainable Tourism
   This cluster forms the core of the discourse, focusing on the foundational concepts and overall strategies for implementing and managing sustainable tourism practices. It underscores the need for systematic planning and management to ensure that tourism is both environmentally friendly and beneficial to local communities.

2. Cluster 2: Economic and Developmental Aspects
   This cluster deals with the economic implications of sustainable tourism. It highlights how sustainable practices can spur economic development, particularly in rural and ecologically sensitive areas. The focus on ecotourism indicates a strong link between environmental conservation efforts and tourism, which can drive local economies while preserving natural resources.

3. Cluster 3: Governance and Policy
   Reflecting the governance aspect, this cluster addresses the regulatory and policy frameworks essential for fostering sustainable tourism. It suggests an emphasis on how laws, policies, and governance structures can support or hinder the development of
sustainable tourism practices. The mention of local government points to the critical role of municipal and regional authorities in implementing and enforcing these policies.

4. Cluster 4: Social Dimensions and Stakeholder Engagement

This cluster focuses on the social dimensions of sustainable tourism, particularly the perceptions and attitudes of local residents and other stakeholders. It indicates a scholarly interest in how tourism impacts communities and how residents’ and stakeholders’ perceptions can influence the success of sustainable tourism initiatives. This area is crucial for understanding community engagement and support, which are vital for sustainable development.

5. Cluster 5: Innovation and Adaptive Strategies

Although not densely populated with terms, this cluster likely encompasses discussions on innovation within the tourism industry. It reflects the need for new solutions and technologies to overcome challenges in sustainable tourism. Innovation is linked with adapting to changing environmental conditions and meeting the evolving demands of both tourists and host communities.

4.3 Overlay Visualization

The figure provided illustrates a temporal overlay network visualization created using VOSviewer, showcasing the focus and evolution of key topics in sustainable tourism research from 2008 to 2016. The color gradient from blue to yellow indicates the temporal progression of research themes, with blue representing earlier years and yellow indicating more recent years. This visualization helps to identify how different themes have gained or lost prominence over time and how scholarly attention has shifted within the field of sustainable tourism.

In the network, the central node, “sustainable tourism,” signifies the overarching theme, with strong connections to various sub-themes such as “sustainable tourism management,” “sustainable tourism planning,” and “ecotourism.” The transition in colors around these nodes suggests that foundational concepts like “sustainable tourism management” and “sustainable
economic development” have remained consistently relevant throughout the observed period. However, there appears to be a shift towards topics like “innovation” and “perception,” which are more prominent in the later years (as indicated by their yellow coloring), reflecting a possibly increasing interest in how new technologies and stakeholder perceptions influence sustainable tourism practices.

The visualization also highlights specific areas such as “local government” and “rural tourism,” which show a progression in focus, possibly indicating an increasing recognition of the role of local policies and rural settings in the sustainable tourism discourse. The spread and density of connections among terms like “economic growth,” “rural area,” and “tourism destination” suggest an expanding dialogue around integrating sustainable practices in diverse tourism models and environments. This shift underscores a broader trend towards understanding and implementing sustainability in various tourism contexts, emphasizing the importance of local and customized approaches as critical to the evolution and effectiveness of sustainable tourism initiatives.

### 4.4 Citation Analysis

Table 2. The Most Impactful Literatures

<table>
<thead>
<tr>
<th>Citations</th>
<th>Authors and year</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>5503</td>
<td>[26]</td>
<td>The competitive destination: A sustainable tourism perspective</td>
</tr>
<tr>
<td>2999</td>
<td>[27]</td>
<td>Sustainable tourism management</td>
</tr>
<tr>
<td>2188</td>
<td>[28]</td>
<td>Sustainable tourism: A state-of-the-art review</td>
</tr>
<tr>
<td>2099</td>
<td>[29]</td>
<td>Food, place and authenticity: local food and the sustainable tourism experience</td>
</tr>
<tr>
<td>2032</td>
<td>[30]</td>
<td>Determinants of market competitiveness in an environmentally sustainable tourism industry</td>
</tr>
<tr>
<td>2030</td>
<td>[31]</td>
<td>Sustainable tourism development: A critique</td>
</tr>
<tr>
<td>1882</td>
<td>[32]</td>
<td>Tourism and sustainable development: Exploring the theoretical divide</td>
</tr>
<tr>
<td>1799</td>
<td>[16]</td>
<td>Sustainable tourism as an adaptive paradigm</td>
</tr>
<tr>
<td>1725</td>
<td>[33]</td>
<td>Sustainable tourism in protected areas: Guidelines for planning and management</td>
</tr>
<tr>
<td>1586</td>
<td>[34]</td>
<td>Sustainable tourism: Research and reality</td>
</tr>
</tbody>
</table>

Source: Publish or Perish Output, 2024

Table 2 lists the ten most impactful literature pieces in the realm of sustainable tourism, based on citation counts, highlighting significant contributions to the field between 1997 and 2012. Leading the table is the work by JRB Ritchie and GI Crouch (2003) titled “The competitive destination: A sustainable tourism perspective,” which has amassed 5503 citations. This seminal work underscores the competitive aspects of destinations within the sustainable tourism discourse, suggesting that the attractiveness and viability of tourism locations depend not just on inherent attributes but also on how sustainability is integrated into their management and marketing strategies.

Following Ritchie and Crouch, J Swarbrooke’s “Sustainable tourism management” (1999) and RW Butler’s “Sustainable tourism: A state-of-the-art review” (1999) have garnered 2999 and 2188 citations, respectively. Swarbrooke’s book provides comprehensive management strategies that align with sustainable principles, serving as a fundamental resource for tourism managers aiming to balance environmental, economic, and social objectives. Butler’s review, on the other hand, critically examines the sustainability paradigms within tourism studies, setting a foundational academic framework that has influenced subsequent research and discussion in the field.
Other notable works include "Food, place and authenticity: local food and the sustainable tourism experience" by R Sims (2009), which explores the nexus between local food production and authentic tourism experiences, emphasizing the role of authenticity in enhancing the sustainability of tourism. Similarly, SS Hassan’s work (2000) discusses the determinants that foster market competitiveness in environmentally sustainable tourism sectors, indicating that sustainability can be a significant competitive advantage. Collectively, these works have shaped academic and practical approaches to sustainable tourism, offering diverse perspectives that underline the complexity and multidimensionality of the field.

4.5 Author Visualization

The figure provided illustrates a co-authorship network among researchers in the field of sustainable tourism, visualized using VOSviewer. This type of visualization helps identify key scholars in the field and the connections between them based on their collaborative works. In the network, each node represents an author, and the size of each node often signifies the volume of publications or the prominence of the researcher within the network. Lines between the nodes indicate collaborative relationships, with thicker lines generally representing more frequent collaboration.

From the visualization, it appears that certain authors such as Bramwell, B., Hall, C.M., and Gössling, S. are central to the network, suggesting they are pivotal figures in sustainable tourism research with extensive collaborations. These individuals likely serve as hubs within their scholarly community, contributing significantly to the field through joint research efforts. The clustering of nodes into different colors may denote different research groups or clusters within the broader community, each focusing on various aspects or approaches to sustainable tourism. This network not only highlights the collaborative nature of academic research in sustainable tourism but also shows the interconnectedness of ideas and contributions across different researchers and their collective influence on the field.
4.6 Density Visualization

Figure 4 illustrates the thematic landscape of sustainable tourism as a field of study, as captured through the analysis of academic literature. The large, central node labeled "sustainable tourism" represents the core subject around which all other related themes orbit, signifying its central importance and integrative role in the discussions surrounding tourism and sustainability. The surrounding nodes, each labeled with terms related to different aspects of sustainable tourism, reflect the diverse components that researchers focus on when studying this topic.

Several key themes can be observed branching out from the central concept. For instance, "sustainable tourism management" and "sustainable tourism planning" suggest a focus on the strategies and operational aspects of implementing sustainability in tourism practices. These are closely linked to "governance" and "local government," indicating a significant interest in the role of policy-making and regulatory frameworks that support sustainable tourism initiatives. Additionally, terms like "economic growth," "rural tourism," and "ecotourism" highlight the economic dimensions of sustainability in tourism, stressing the impacts and benefits that sustainable tourism has on local economies, particularly in rural settings.

Moreover, the visualization shows a cluster of terms associated with the perception and participation of stakeholders, including "stakeholder," "attitude," "resident," and "perception." These terms underscore the importance of how sustainable tourism is viewed and experienced by local communities and other stakeholders, reflecting the social and psychological dimensions of sustainability in tourism. The placement and interconnectivity of these terms within the network suggest an intricate balance between management practices, policy, economic impact, and community engagement, all of which are crucial for the successful implementation and operation of sustainable tourism initiatives.

CONCLUSION

The comprehensive analysis of sustainable tourism using bibliometric tools reveals a multifaceted academic landscape marked by diverse themes, evolving research trends, emerging
opportunities, and collaborative dynamics among researchers. Thematic clustering identifies core areas including economic impacts, governance, social dimensions, and innovative practices, emphasizing the complexity and integrated nature of sustainable tourism studies. Temporal trends in the literature highlight a shift towards topics like innovation and stakeholder perceptions, suggesting growing areas of interest that align with contemporary challenges in tourism sustainability. Emerging research opportunities are indicated by the need for deeper understanding of local policy impacts and the integration of advanced technologies in sustainable tourism practices. Finally, the author collaboration network underscores the importance of scholarly partnerships in enriching the field, with key figures like Bramwell and Hall playing central roles in driving forward the discourse on sustainable tourism. Collectively, these insights not only delineate the current state of research but also pave the way for future studies aimed at addressing the gaps and expanding the scope of sustainable tourism.

REFERENCES


