

FINDINGS OF THE MODEL OF SUSTAINABLE TOURISM DEVELOPMENT IN KUNMING CITY, CHINA

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Abstract

To facilitate the sustainable development of Kunming's tourist sector, it is imperative to integrate the synergistic efforts of economic, social, cultural, and environmental conservation. This growth plan aims to mitigate the negative environmental impacts and improve the overall quality of life for the tourist population, while simultaneously maintaining Kunming's competitiveness as a popular destination for tourists. The city of Kunming in Yunnan Province possesses a diverse array of natural and cultural tourism assets. The local administration in Kunming is actively endorsing various policies and initiatives aimed at preserving these resources and fostering sustainable growth in the tourist sector. Key findings indicate that stakeholders recognize the need for collaboration and shared responsibility to promote sustainability. However, there are significant threats to sustainable practices, such as environmental degradation and cultural erosion, which require immediate attention. The crucial role of ecology in tourism highlights the necessity of preserving Kunming's rich biodiversity and unique landscapes—both for health and as part of the city's appeal. The study concludes with recommendations for inclusive economic growth, stakeholder engagement, and infrastructural advancements to foster a sustainable tourism environment in Kunming. It advocates for policies that are adaptive and resilient, capable of anticipating future sustainability challenges while maximizing the current opportunities within Kunming's tourism industry.

Keywords: Sustainable Tourism Development, Environmentally Sustainable Development, Tourism Development.

1. INTRODUCTION

1.1 Background

Sustainable development pursues the coordinated development of ecology, economy and society, and its concept and connotation can be condensed into the organic unity of the three elements, which can be the "dynamic element", "quality element" and "fair element" of sustainable development. The purpose of this study is to model and verify the sustainable tourism development in Kunming by using PLS-SEM method. After rigorous mathematical analysis, we reached the following conclusions: By using PLS-SEM method, we successfully constructed the structural equation model of Kunming's sustainable tourism development. Based on the conclusions of the model, we put forward a series of recommendations to promote

the further development of sustainable tourism in Kunming. These proposals include, but are not limited to, optimizing the tourism industry structure, strengthening environmental protection measures and enhancing social participation. Although this research has achieved certain results, there are still many unknown areas worthy of further exploration. For example, we can study the sustainable tourism development model of different tourist destination types (such as urban, rural, mountain, etc.), or examine the dynamic change of sustainable tourism development from the perspective of time series. In general, PLS-SEM method shows strong explanatory and predictive power in the quantitative study of sustainable tourism development in Kunming City. Through this method, we not only deeply understand the complex relationship between various factors, but also provide a strong decision support for the future development of sustainable tourism in Kunming City.

1.2 Research Questions

1. What are the opportunities and challenges for ecology tourism development?
2. To what extent can tourism benefit from local economic development?
3. How can tourism be adapted and resilient to changing social-cultural development?
4. According to the variables related to this model, what are the opportunities and challenges for Sustainable Tourism Development in Kunming city and what advice can be provided?

1.3 Research Objective

1. To identify the factors impacting nature environment development and ecology tourism development in Kunming city, Yunnan province.
2. To identify the factors influencing social-cultural development and local economic development in Kunming city, Yunnan province.
3. To propose diverse approaches for improving sustainable tourism in Kunming city, Yunnan province.

1.4 Research Hypothesis

Hypothesis 1: Ecology tourism development has a positive influence on sustainable tourism development.

Hypothesis 2: Ecology tourism development shows a clear link with socio-cultural development, indicating a positive correlation.

Hypothesis 3: Socio-cultural development has a positive influence on local economic development.

Hypothesis 4: Local economic development has a positive influence on sustainable tourism development.

1.5 Research Conceptual Framework

Based on the research literature review of one dependent variable which is ecology tourism development, two independent variables which are environmentally sustainable development and tourism development, one dependent variable which is sustainable tourism development, we can propose the conceptual framework for this study in the following figure 1.1.

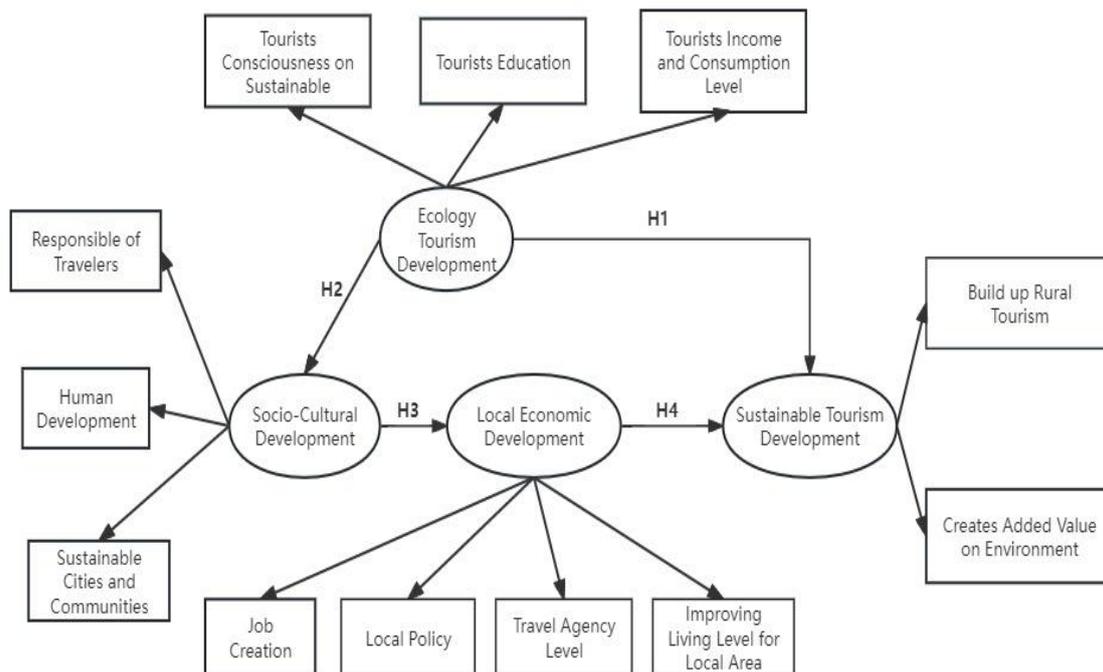


Figure 1.1: Research Conceptual Framework

2. RESEARCH FINDINGS

2.1 Quantitative Analysis

2.1.1 Descriptive Statistical Analysis

The descriptive statistics provided for Local Economic Development, Social Cultural Development, and Sustainable Tourist Development into the distributional aspects of important variables within the research. The fact that the mean values for all three structures are presented as 0.000 indicates a central tendency at the zero point. It is important to examine this crucial truth.

Table 2.1: Descriptive Analysis of Variables

	Mean	Median	Observed min	Observed max	Standard deviation	Excess kurtosis	Skewness	Number of observations used	Cramér-von Mises test statistic	Cramér-von Mises p value
Ecology Tourism Development	0.000	0.072	-2.739	1.859	1.000	-0.515	-0.321	333.000	0.186	0.008
Local Economic Development	0.000	0.037	-2.519	2.135	1.000	-0.688	-0.134	333.000	0.121	0.058
Socio-Cultural Development	0.000	-0.051	-2.310	2.345	1.000	-0.590	-0.044	333.000	0.094	0.134
Sustainable Tourism Development	0.000	0.005	-2.835	2.074	1.000	-0.225	-0.346	333.000	0.112	0.077

According to the analysis above, the medians, which range from negative to positive and span from -0.051 to 0.072, corroborate the constancy of the central tendency. A considerably higher median than the others for one of them, Sustainable Tourist Development, suggests that the distribution is positively biased. For instance, there is a wide range of answers to the concept of Sustainable Tourist Development, ranging from -2.835 to 2.739. This indicates that there is a significant degree of variance among the participants' perspectives regarding this particular topic.

2.1.2 Measurement Model

The measurement model discussed thoroughly based on CR, AVE, reliability and validity values. A structural equation model called the Full Information Correlation Model (PLS-SEM) can be used to investigate the benefits of Sustainable Tourism Development. It can be used to process many variables and dimensions which is visible and more examining the model of this paper. In the meanwhile, Smart PLS can create a path in short time which could be very effective in the data processing, shown in figure 2.1.

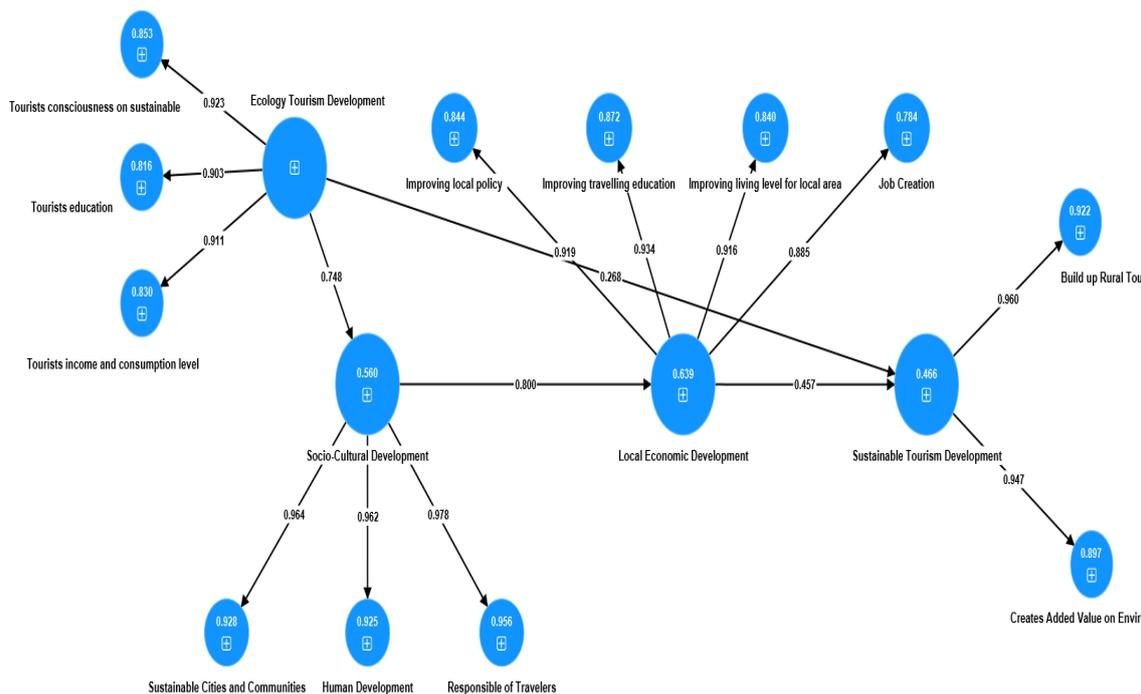


Figure 2.1: Structural Equation Model

2.1.3 Construct Reliability and Validity

The validity and reliability of the basic components listed in Table 2.2 were assessed in this study using Cronbach's alpha, mean variance extraction (AVE), composite reliability (rho_a), and composite reliability (rho_c). These metrics are crucial for assessing the tool's effectiveness and the model's resilience.

Table 2.2: Construct Reliability and Validity Overview

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Ecology Tourism Development	0.895	0.896	0.914	0.515
Local Economic Development	0.932	0.933	0.940	0.466
Socio-Cultural Development	0.965	0.965	0.967	0.466
Sustainable Tourism Development	0.888	0.889	0.909	0.527

A scale or tool's internal consistency is evaluated statistically using Cronbach's alpha, which has a suitable range of values between 0.888 and 0.965 for all structures. A high alpha coefficient is a positive indication that the project consistently assesses the same underlying principles in every possible structure. Composite reliability, measured by rho_a and rho_c, offers additional information about a structure's internal consistency. Both the Rho a and Rho c values go outside of the suggested 0.70 threshold, where the former ranges from 0.889 to 0.965 and the latter from 0.909 to 0.967. This study's composite reliability score demonstrates the measurement model's credibility and the internal consistency of the structure.

2.1.4 Hypothesis Test

This research investigates the route coefficient in the fictitious model of tourist sustainable development in Kunming, Yunnan Province, using the bootstrap approach, and it yields impressive findings. China is the location of Kunming City. The path coefficient is 0.423 and the bootstrap 95% confidence interval is 0.426±0.089, as presented in Table 4.10, suggesting a strong positive link between the growth of ecotourism and the advancement of Socio-Cultural aspects of society. It may be concluded that there is a statistically significant link because the strong T-statistic for the relationship under study is 4.744 and the P-value for the association is 0.000. The sustainable development of ecotourism and the sustainable development of tourism also significantly positively correlate. The T-statistic was 4.197, the P-value was statistically significant (0.000), the route coefficient was 0.375, and the bootstrap confidence interval was rather small (0.378±0.089). The path coefficient, which stands at 0.449, suggests a noteworthy association between the advancement of the natural environment and the advancement of social and cultural aspects.

Table 2.3: Bootstrapping of Path Coefficient for Hypothesis

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T-statistics (O/STDEV)	P-values
Ecology Tourism Development -> Socio-Cultural Development	0.423	0.426	0.089	4.744	0.000
Ecology Tourism Development -> Sustainable Tourism Development	0.375	0.378	0.089	4.197	0.000
Nature Environment Development -> Socio-Cultural Development	0.449	0.448	0.089	5.070	0.000
Nature Environment Development -> Sustainable Tourism Development	0.332	0.333	0.092	3.607	0.000
Socio-Cultural Development -> Local Economic Development	0.802	0.804	0.041	19.776	0.000

The results mentioned above provide empirical support for the proposed pathway and deepen our comprehension of the concept that was initially proposed. These findings also offer crucial insights into the dynamics of the area's growth of sustainable tourism.

Table 2.4: Hypothesis Result

Hypothesis	Result
Hypothesis 1: There is a direct relationship between tourism growth and the advancement of sustainable tourism practices. This suggests that the expansion of the tourism industry directly impacts the development of sustainable tourism.	Supported
Hypothesis 2: Tourism development shows a clear link with socio-cultural development, indicating a positive correlation.	Supported
Hypothesis 3: As society and culture evolve, they contribute to the swift economic advancement of local regions.	Supported
Hypothesis 4: Local economic development plays a crucial role in fostering sustainable tourism practices, highlighting a positive correlation between the two.	Supported

Based on the table 2.4, Hypothesis 1, which puts out the idea that there is a positive association between the growth of tourism and the development of sustainable tourism practices. It has been noted that there is a link between the expansion of the tourism industry and the development of environmentally responsible tourism approaches. In a similar vein, the results of this research lend credence to Hypothesis 2, which proposes that there is a positive correlation between the development of tourism and the improvement of socio-cultural characteristics. Additionally, the validation of Hypothesis 3 demonstrates that the advancement of society and culture plays a key part in supporting quick economic growth within local regions. This is shown by the fact that the hypothesis was validated. In conclusion, the empirical data provides support for Hypothesis 4, which emphasises the crucial role that local economic development plays in fostering sustainable tourism practices. The data unequivocally reveals that there is a positive connection between the expansion of the local economy and the implementation of environmentally responsible tourism practices. In conclusion, the findings of this research provide substantial empirical evidence in support of all six hypotheses. These findings also provide valuable insights into the intricate relationship that exists between environmental sustainability, tourism expansion, socio-cultural progress, and local economic advancement in the context of sustainable tourism in Kunming City.

2.1.5 Pls Predict Analysis

Accuracy of correlations between key variables may be understood by predictive analysis utilizing partial least squares structural equation models (PLS-SEM). This offers significant understanding of the model's prediction capabilities (Hair et al., 2020). The sample mean (M) of 0.426 is extremely similar to the coefficient (O) of transition from ecotourism development to social and cultural development, which is 0.423.

This implies that the changeover is somewhat seamless. The study's level of bias is deemed to be rather low, with a score of 0.003. Considering this, it appears that there is not much of a difference between the first sample and the mean. The forecast's confidence range reinforces the percentiles from 0.239 to 0.589, signifying thresholds of 2.5% and 97.5%, respectively. This research indicates that the development of socio-cultural identity and ecotourism are positively correlated. This study's bias level, at 0.003, is regarded as being rather low. In light of this, it appears that there is little statistical significance in the difference between the first sample and the mean.

The 2.5% and 97.5% limits, or the 0.712 to 0.872 percentiles, are further reinforced by the forecast's confidence range. This research indicates a robust and consistent relationship between the growth of social culture and the development of distinctive local tourist features.

Table 2.5: PLS Predict Analysis through Bootstrap Confidence Interval

	Original sample (O)	Sample mean (M)	Bias	2.5%	97.5%
Ecology Tourism Development -> Socio-Cultural Development	0.423	0.426	0.003	0.239	0.589
Ecology Tourism Development -> Sustainable Tourism Development	0.375	0.378	0.003	0.196	0.547
Nature Environment Development -> Socio-Cultural Development	0.449	0.448	-0.001	0.280	0.630
Nature Environment Development -> Sustainable Tourism Development	0.332	0.333	0.002	0.157	0.516
Socio-Cultural Development -> Local Economic Development	0.802	0.804	0.003	0.712	0.872

2.1.6 Conclusion of Quantitative Analysis

In conclusion, the research "Tourism Sustainable Development Model in Kunming, Yunnan Province, China" effectively employs quantitative analysis to gather relevant data. This aids in our comprehension of the intricate connections between significant elements. Partial least squares structural equation modeling (PLS-SEM), a rigorous approach, was employed in the study to evaluate a number of factors of sustainable tourist development.

2.2 Qualitative Analysis

Twenty individuals, selected at random, were interviewed in a qualitative research using a predetermined interview format. Members of the public, experts in sustainable tourism, and representatives from travel-related groups made up this sample. Using a semi-structured technique, a total of eleven questions were used to delve into several topics, such as perceptions on the attractiveness of China and Yunnan, specific marketing tactics, challenges, and sustainability initiatives (Pomerantsev & Rodionova, 2021).

One of the several sub-themes found in this broad topic is the attraction of China as a tourism destination, according to respondents. People's opinions on Yunnan's unique charm vary, according to a poll of the local populace. This highlights the fact that several areas have their own folk customs.

Twenty participants were carefully chosen to take part in a series of structured interviews designed to collect data on Kunming's current status of tourist development. As seen in Table 2.6, the researchers' thorough analysis of qualitative data enabled them to pinpoint key themes and subthemes that account for every facet of Kunming's tourist industry.

Table 2.6: Thematic Analysis on Interview Responses

S/L	Themes	Sub-theme 1	Sub-theme 2	Sub-theme 3
1	Destination Appeal	Diverse Culture	Historical Landmarks	Modern Developments and Innovation
2	Marketing Strategy	Promote Kunming	Perceived Productivity	
		Social Media Campaigns	Increased Bookings	
		Influencers Marketing	Positive Customer Feedback	
		Travel Packages		
3	Destination Potential and Challenges	Kunming's Potential	Primary Challenges	
		Improving Connectivity	Limited International Awareness	
		Unique Cultural Events	Missed Opportunities	
		Virtual Experiences		
4	Adaptation and Innovation	Innovative Marketing Strategies	Strengthening Partnerships with International Agencies	Global Travel Influencers marketing
5	Effective Organizational Changes	Enhancing Customer Service		
6	Government's Role	Infrastructure Investment	Promoting Sustainable Tourism Practices	
7	Knowledge of Sustainable Tourism	Community Engagement	Partnerships with Eco-Friendly Businesses	Ecotourism Initiatives

The findings show Kunming has a lot of potential that may be realized by implementing adaptable measures, improving connection, integrating technology, and engaging in cultural events. The industry's dynamic nature, which encompasses adaptability and innovation, is reflected in the execution of marketing strategies and collaborations. Accountability is emphasized in a sustainable strategy along with responsible policies, conservation, and community involvement. The integration of sustainable tourism and strategic marketing offers a comprehensive foundation for the future growth of Kunming's tourist sector. The goal of this strategy is to balance the many stakeholders in the tourist sector's growth goals and duties.

3. DISCUSSION AND FINDINGS

The general aim of this study was to analyse potential approaches that could enhance the effectiveness of Sustainable Tourism Development in the province of Yunnan's Kunming. In order to accomplish this, the research build up the model with three variables which are socio-cultural progress, local economic growth and sustainable tourism as a whole. Environmental rules need to be revised because of the tourist industry's fast expansion, particularly in terms of sustainable development. Key components of Yunnan's sustainable development include promoting social and economic advancement, guaranteeing resource sustainability, and enhancing and preserving the natural environment. It encompasses resource management, ecological preservation, and the sensible distribution of benefits. The advancement of sustainable tourism and the preservation of the environment are positively correlated, according to recent study (Beckerman 1995, Dobson 1996). All four of the hypotheses received strong support from the data analysis, which included 330 responses to a formal survey. It also demonstrated a link between environmental sustainability and the growth of the tourist

industry. The study demonstrates a robust relationship between the development of the natural environment and the sustainability of tourism. This emphasizes how crucial it is to preserve the natural environment and the environmental carrying capacity of ecotourism locations. Finally, the research identifies the critical components that Yunnan needs to achieve sustainable development. It promotes environmentally friendly resource use, social and economic growth, and preservation of the natural world. This is in line with other studies that back up the idea that eco-friendly tourist growth and environmental enhancements are positively connected.

In conclusion, there are significant restrictions on our study that might have impacted the outcomes; as a result, care must be used when extending our findings. Notwithstanding this drawback, we think that our research might provide a foundational framework for scholars who wish to explore the effects of certain cultural values in ecotourism-friendly settings. Furthermore, these distinctions offer significant avenues for future study for researchers to pursue. First and foremost, it is critical to recognize that a significant constraint of our research is its dependence on cross-sectional data gathered at a specific point in time, which may impede its generalization. The capital and largest city of Yunnan Province, Kunming, is a popular destination for tourists visiting China.

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