



Problems and countermeasures of integrated development of tourism and cultural industry in Sichuan Province

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Abstract

This research adopts a quantitative approach. The objective is to identify the stages of integration of cultural and tourism industries in Sichuan Province and to explore the problems faced by the integration of cultural and tourism industries in Sichuan Province. This paper selects data on various indicators of tourism and cultural industries in Sichuan Province from 2016-2020. Using the grey system theory research method, a coupling degree evaluation model of integration development is established to evaluate the coupling degree of integration development of the two industries.

The main findings are: (1) The integration of the tourism industry and cultural industry in Sichuan Province is at the stage of linkage and coupling development, and there is still more room for improvement. The integration of tourism and cultural industries in Sichuan Province is problematic in four aspects: unreasonable management mechanism; the low rate of development of cultural tourism resources The competitiveness of tourism and cultural industry is not strong; The hard and software need to be improved (2) Combining tourism and cultural industries in Sichuan Province (2) Combining the current situation and problems of the integration development of tourism and cultural industry in Sichuan Province, this paper puts forward countermeasures and suggestions for the deep integration development of tourism and cultural industry in Sichuan Province.

Keywords: *tourism industry, cultural industry, integrated development*

1. Introduction

1.1 Background of the study

By the end of 2021, there were 49 art performance groups, 35 art performance venues, 207 public libraries, 206 cultural centers, 58 art museums and 4,089 comprehensive cultural stations in the Sichuan cultural system. There is one national-level cultural industry demonstration (pilot) park, two national-level demonstration bases for the integration of culture and science and technology, five national pilot cities for cultural consumption, one national-level base for animation and games, 15 national-level cultural industry demonstration bases, 11 provincial-level cultural industry demonstration parks, five provincial-level cultural industry pilot parks and 59 provincial-level cultural industry demonstration bases.

The value added of cultural and related industries in Sichuan province maintained its growth

trend between 2015 and 2020, increasing from RMB 57 billion to RMB 196.35 billion. 2020 saw a more significant decline due to the epidemic, with the value added to cultural and related industries at RMB 110.078 billion.

Table 1: Value added of cultural and related industries in Sichuan Province, 2015-2020

Year	Value added of cultural and related industries (billion yuan)
2015	570
2016	930.24
2017	1537.54
2018	1700
2019	1963.5
2020	1100.78

Sichuan is a large province of tourism resources, with beautiful natural scenery, long history and culture and unique ethnic customs, featuring a large number, full range of types, wide distribution, and high quality.

By the end of 2021, Sichuan Province had 679 tourist attractions of grade A or above, including 13 tourist attractions of grade 5A, 269 tourist attractions of grade 4A, 275 tourist attractions of grade 3A, 119 tourist attractions of grade 2A, and 3 tourist attractions of grade 1A.

Table 2: A-class scenic spots in Sichuan Province in 2020

Category	Number (pcs)
Grade 1A Tourist Attractions	3
Grade 2A Tourist Attractions	119
Grade 3A Tourist Attractions	275
4A Grade Tourist Attractions	269
5A Grade Tourist Attractions	13

Tourism revenue in Sichuan Province has maintained an overall upward trend, with total tourism revenue reaching RMB 621.05 billion in 2015, successfully surpassing RMB 1 trillion in 2018 and reaching RMB 1159.43 billion in 2019. Due to the impact of the epidemic, Sichuan Province's total tourism revenue slumped to RMB650 billion in 2020. As shown in Table 4, the ratio of tourism revenue to regional GDP in Sichuan Province, maintained an upward trend from 2015 to 2019. in 2020, due to the impact of the epidemic, Sichuan Province's total tourism revenue declined significantly, and the ratio of total tourism revenue to regional GDP declined to 13.37%.

Table 3: Total Tourism Revenue in Sichuan Province, 2015-2020

Year	Total tourism revenue (billion yuan)	Sichuan GDP (billion yuan)	Percentage (%)
2015	6210.5	30053.1	20.67
2016	7705.5	32934.54	23.39
2017	8923.1	36980.22	24.13
2018	10112.8	42902.1	23.57
2019	11594.3	46615.82	24.87
2020	6500	48598.8	13.37

1.2 Research objectives

The objectives of this paper are: (1) to analyse the current situation of the development and integration of the two major industries in Sichuan Province respectively, and to affirm certain achievements, while also profoundly pointing out the problems that exist in the process of their development; (2) to put forward ideas and countermeasures to promote the in-depth integration of tourism and cultural industries in Sichuan Province, taking into account the problems that exist in the integration of the two major industries in Sichuan Province and the stage at which the integration of the two industries is taking place.

1.3 Literature review

Some domestic scholars have researched industrial integration. Li Lingyan and Weng Gangmin (2015) analyzed the principles and influencing factors of the integration development of tourism and cultural industries, considered that the coupling between the two is the basic condition of integration development, and demand is the promotion factor of integration development, and constructed the integration development model of the two industries, and finally proposed relevant development strategies. Geng Songtao and Zhang Xinyang (2021) used grey correlation analysis to empirically analyze the integration of tourism and cultural industries in Shaanxi Province and concluded that the total number of tourism employees has the greatest influence on the development of cultural industries, followed by the number of the greatest, followed by the number of star-rated hotels, the number of travel agencies, and the total number of tourists.

2. Methodology

The research in this paper adopts a quantitative approach. The scope of this study is to identify the stages of integration of cultural and tourism industries in Sichuan Province and to explore the problems faced by the integration of cultural and tourism industries in Sichuan Province. This paper selects data on various indicators of tourism and cultural industries in Sichuan Province from 2016-2020. The data were obtained from the China Statistical Yearbook, the Sichuan Statistical Yearbook, the China Tourism Statistical Yearbook, the Sichuan Tourism Bureau, the Sichuan Provincial Department of Culture, and the Sichuan Provincial Bureau of Statistics. After collecting data about

the development of the tourism industry and cultural industry in Sichuan Province, descriptive statistical analysis was conducted on the data using statistical software. The coupling degree evaluation model of integration development was then established using the grey system theory research method to evaluate the coupling degree of integration development of the two industries.

2.1 Grey correlation analysis

This paper intends to screen the sequential covariate index system reflecting the integration development of tourism and cultural industries, establish the coupling degree evaluation model of integration development, and evaluate the coupling degree of integration development of the two industries.

2.2 Selection of Indicator System

The key to evaluating the degree of integration and development of tourism and cultural industries lies in determining the index system for evaluating the coupling degree of the two industries. Given that there are no uniform regulations in China, this paper combines the characteristics of tourism and cultural industries, follows the above-mentioned principles, refers to the coupling analysis of cultural industries and tourism industries by Bao Hongjie and Wang Shengpeng (2010), and develops an index system for evaluating the integration and development of tourism and cultural industries, as shown in Table 4.

Table 4: Value added of cultural and related industries in Sichuan Province, 2015-2020

Indicators	Unit	Weighting (%)
L1: Total tourism receipts	billion	22
L2: Number of travel agency businesses	individual	8
L3: Number of domestic visitors	10,000 people	6
L4: Turnover of restaurant chains	billion	9
L5: Rate of consumption of tourism services	Percentage	7
C1: Revenue from the main business of cultural industries	billion	18
C2: Number of institutions in the cultural sector	individual	6
C3: Average annual number of employees	People	7
C4: Museum Attendance	million people	9

C5: Cultural industries fees	billion	8
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2.3 Standardisation of data

In general, evaluation systems have multiple indicators, but due to the nature of each indicator, there are issues such as different orders of magnitude and units. Therefore, before calculating the degree of coupling between tourism and cultural industry integration development, the raw data needs to be standardized. In this paper, the Min-max method will be used for standardization.

2.4 Building a matrix of correlation coefficients for sequential parameters

As a core component of grey system theory, the correlation coefficient matrix is used to describe the degree of connection and the trend of change of the relationship between factors in a complex system by calculating the correlation coefficients between the sequential parameters and to predict the evolutionary trend of the system. Based on the correlation coefficient matrix of the tourism and cultural industry subsystem, the degree of integration between the tourism and cultural industry can be assessed. Based on grey system theory, this paper first finds out the vector of correlation coefficients between the subsystems of tourism and cultural industry. The average of the vector of correlation coefficients is obtained according to the time series, and the correlation coefficients between the two sequential parameters are derived.

2.5 Judgement of the stage of integration development

The coupled development process of tourism and cultural industries is specifically reflected in the interactive links between the respective subsystems of the two industries. Therefore, the magnitude of the correlation coefficient between each sequential covariate reflects the stage of integration and development between the subsystems of tourism and cultural industries, as judged by the criteria shown in Table 5.

Table 5: Criteria for judging the stages of integration development

Number of contacts	Stages of coupling development
0	Mutual independence phase
(0,0.3]	Associated Development Stage
(0.3,0.6]	Linkage development phase
(0.6,0.8]	Synergistic development phase
(0.8,1)	Integration development stage
1	Integration phase

2.6 Measurement of the degree of integration of tourism and cultural industries

The integrated development of the two industries of tourism and culture is a complex and open system that is constantly evolving in an orderly manner, so the degree of integration between the two industries and their subsystem indicators should be taken into account when measuring the degree of

their integrated development. This paper constructs a coupling degree measurement function based on a matrix of sequential covariate correlation coefficients.

$$C = \sum_{i=1}^i \sum_{j=1}^j W_i W_j r_{ij}$$

C is a measure of the degree of integration between tourism and cultural industries, and W_i and W_j are the weight of each sequential covariate of tourism and cultural industries, in that order.

3. Results

3.1 Empirical results

3.1.1 Coupling Results

The degree of coupling between tourism and cultural industry integration development in Sichuan Province is calculated from the following 3 steps.

(1) Standardisation of data

In this paper, the raw data were standardized using the Min-max standardization method, and the standardized data are shown in Table 6.

Table 6: Evaluation Indicators of Culture and Tourism Industry in Sichuan Province

Projects	Indicators	Weighting (%)	Type	2016	2017	2018	2019	2020
Tourism industry accounting indicators	L1	22	Positive indicators (+)	0	0.053	0.413	0.675	1
	L2	8	Positive indicators (+)	0	0.142	0.739	0.873	1
	L3	6	Positive indicators (+)	0	0.065	0.452	0.708	1
	L4	9	Positive indicators (+)	0	0.0243	0.332	0.592	1
	L5	7	Negative indicators (-)	1	0.641	0.613	0.813	0
Cultural Industries Accounting Indicators	C1	18	Positive indicators (+)	0	0.114	0.531	0.779	1
	C2	6	Positive indicators (+)	0	0.087	0.142	0.761	1
	C3	7	Positive indicators (+)	0.036	0.009	0	0.452	1

	C4	9	Positive indicators (+)	0	0.413	0.841	0.687	1
	C5	8	Negative indicators (-)	1	0.829	0.457	0.273	0

(2) Calculation of correlation coefficients

Analysing and applying the formulae, we can obtain a matrix of correlation coefficients between tourism and cultural enterprises in Sichuan Province, as shown in Table 7.

Table 7: Evaluation Indicators of Culture and Tourism Industry in Sichuan Province

Tourism Industry System						
	Indicators	L1	L2	L3	L4	L5
Cultural Industries Accounting Indicators	C1	0.5792	0.3926	0.3902	0.3504	0.3942
	C2	0.4016	0.4219	0.4327	0.5231	0.3816
	C3	0.4432	0.5403	0.4705	0.4506	0.3983
	C4	0.4795	0.5236	0.3796	0.3897	0.4027
	C5	0.3815	0.4579	0.5034	0.4757	0.5049

The coupling degree between tourism and cultural industries in Sichuan Province is 0.436, which is compared with the assessment criteria, and shows that this is the stage of linkage between cultural and tourism industries in Sichuan Province, and there is still a need to strengthen the integration between them.

3.1.2 Correlation results

To further test the correlation between the tourism industry and the cultural industry in Sichuan Province, this paper chooses to conduct correlation tests on GNP, total tourism revenue and main business income of the cultural industry in Sichuan Province, and the test results are shown in Table 7. From the correlation test results, it can be seen that the total tourism industry revenue and the main business income of the cultural industry are positively correlated, with a correlation coefficient of 0.368, which is more consistent with the coupling degree of the integrated development of tourism and cultural industry in Sichuan Province. At the same time, the cultural industry, the tourism industry and the gross national product of Sichuan Province are all positively correlated, indicating that tourism and the cultural industry play a positive role in promoting the development of the national

economy of Sichuan.

Table 8: Pearson correlation test

	Gross National Product	Total Tourism Revenue	Main business income from cultural industries
Gross National Product	1	0.419***	0.292***
Total Tourism Revenue	0.419***	1	0.368***
Main business income from cultural industries	0.292***	0.368***	1

As can be seen from Table 8, the correlation coefficients between all variables are relatively small and

3.2 Problems in the integrated development of the cultural tourism industry in Sichuan Province

3.2.1 Unreasonable management mechanism

One of the obstacles to the integration of the tourism and cultural industries in Sichuan Province is the irrational management mechanism, which is a major problem that is difficult to eradicate in a short period, as it involves the coordination of management between the relevant government departments. Many of the cultural and tourism resources in Sichuan are managed by several government departments at the same time, with the cultural department mainly responsible for the management of entertainment venues and cultural venues and the establishment of a series of cultural relics protection units and museums, the landscape department for theme parks, the forestry department for nature reserves and forest parks, and the tourism department for scenic areas and resorts. This management mechanism tends to result in fragmentation and isolation from each other.

3.2.2 Low rate of development of cultural tourism resources

Integrating cultural factors into the tourism development process not only enriches the connotation of tourism products and expands the industrial chain, but also can further promote the sustainable development of tourism and meet the consumption needs of tourists. The integration of tourism activities can inject strong vitality into the cultural industry, improve the universality and acceptability of cultural products and meet people's needs to experience a different kind of cultural life. As such, the integration of tourism and cultural industries should encompass a wide range of areas. However, from the actual situation of the integration of the two, these industries have not yet been fully developed, while the objectives of industrial development are not clear, and the structure of cultural industries in Sichuan Province has not yet been perfected, resulting in the synergistic development effect of the industries not yet formed at present.

3.3 Competition between tourism and cultural industries Strength Not strong

From the perspective of the tourism industry, the cultural connotations of tourism resources have not been fully explored and effectively integrated to highlight the characteristics of Sichuan Province and create advantageous cultural tourism products. Specifically, although the tourism industry in Sichuan Province has developed rapidly and played a role in promoting economic development, the integration of the industry needs to be further strengthened to avoid development bottlenecks to promote the transformation and upgrading of the tourism industry in Sichuan Province. Due to the lack of overall planning and coordination between regions, it is difficult to form a mutual synergy between regions, so the positioning of tourism products in Sichuan Province is not clear and the tourism image is not very clear. Furthermore, many places have adopted a trendy approach to development, with a high rate of repetition of tourism projects, a lack of innovation, a failure to impress tourists, and a lack of participatory development of cultural and experiential tourism products, so the sustainable development of cultural tourism in Sichuan Province faces a greater challenge.

3.4 Hard and software need to be improved

In the process of integrating tourism and cultural industries in Sichuan Province, the poor hardware infrastructure for the development of tourism and culture can be considered a major obstacle, mainly in the following aspects: firstly, there is a serious lack of cultural and cultural museums, as Sichuan Province has a deep cultural heritage and strong cultural diversity, the number of cultural and cultural museums in Sichuan Province is lacking and the scale is limited, which is unable to carry the rich and profound human history of Sichuan Province; secondly, the cultural Secondly, the infrastructure of the tourist attractions is relatively backward, and the backwardness of the infrastructure and service facilities makes it impossible to meet many of the needs of the tourists during their visit, thus affecting the overall impression of the tourist attractions, and the presentation and transmission of the historical and cultural connotations are also affected to a certain extent; thirdly, the existence of a large number of obstructive landscapes, the existence of obstructive landscapes seriously affects the visual and psychological feelings of the tourists, and will reduce tourists' overall evaluation of the cultural attractions.

4. Conclusions and recommendations

4.1 Conclusion

The integration of tourism and cultural industries in Sichuan Province is at the stage of linkage and coupling development, and there is still much room for improvement. The integration of tourism and cultural industries in Sichuan Province has four problems: unreasonable management mechanism; the low rate of development of cultural tourism resources The competitiveness of tourism and cultural industry is not strong. The hard and software needs to be improved The problems are as follows

4.2 Recommendations

4.2.1 Reforming management mechanisms and injecting development momentum

Because of the unreasonable management mechanisms that exist in the process of integrating the two industries of tourism and culture in Sichuan Province, it is possible to reform and innovate the relevant management mechanisms to give impetus to the integration of the two industries in Sichuan Province. This could be done by establishing a regular cooperation and coordination

mechanism, mobilizing the resources of all government agencies and departments, strengthening the cooperation of all relevant departments, and building a mechanism for the integration of the two industries, with the government taking the lead, the culture and tourism departments in charge, all relevant departments working together and the whole society participating. The relevant departments should hold regular meetings to discuss cooperation matters and solve problems arising from the integration of the two industries promptly; in the integration of the two industries, establish the main mechanism of enterprises, take cultural tourism enterprises and large groups with distinctive characteristics as the breakthrough point, set up large cultural tourism groups and carry out the market-oriented operation, to realize the integration between enterprises and drive the in-depth integration of the two industries.

4.2.2 Further development of cultural tourism resources

Regional governments in Sichuan Province can provide financial resources to support the tourism and cultural industries, thereby further developing cultural tourism resources. At the same time, create a tourism platform. The integration of tourism and cultural industries has broad market development prospects and can effectively drive rapid economic and social development, hence the competition to organize 'festivals and exhibitions' and build 'cultural tourism industrial parks'. Sichuan Province should continue to develop and build cultural and tourism industrial parks through its industrial layout and development plan, while also building an effective cultural and tourism information exchange platform through cultural and tourism fairs, cultural and tourism networks, and other forms to promote the in-depth integration of the two industries in Sichuan Province.

4.2.3 Enhancing the competitiveness of the tourism and cultural industries

Any idea with novelty and creativity can be called creative, and the development of projects for the integration of tourism and cultural industries relies on creative ideas and planning. Those projects that are new, unique and highly creative are often more favored by tourists and the attention of society, thus achieving good economic and social benefits. Through the creative planning of projects for the integration of the two industries, more experiential and innovative tourism activities are constantly developed to provide tourists with more knowledgeable and cultural tourism products, enabling tourists to enhance their interest in cultural tourism through various tourism experience activities, thus enhancing the attractiveness of cultural tourism projects, boosting consumption and driving economic development.

4.2.4 Improving the level of hardware and software facilities

The integration of tourism and cultural industries is based on certain science and technology as the basis and fundamental path of development and science and technology play a vital role in the integration of tourism and cultural industries in Sichuan Province. In the context of the integration of the two industries in Sichuan Province, the strengthening of science and technology is not only an important contributing factor to the development of integration but also a necessary means to fully reflect the characteristics and charm of cultural tourism products. For the integration of the tourism and cultural industries, increased scientific and technological strength is essential for the diversification of tourism functions, the innovation of new tourism formats, and the realization of high-added value in cultural tourism products. At the same time, Sichuan Province needs to improve

the level of hardware to combine the needs of the integration of the tourism and cultural industries. Combined with the level of financial income of the region, the investment in hardware and software construction should be increased.

References

- [1] Li Lingyan, Weng Gangmin. Analysis of spatial and temporal differences in measuring the level of integration development of tourism and cultural industries in China[J]. Geography and Geographic Information Science,2015,31(06):94-99.
- [2] Weng Gangmin, Li Lingyan. Coupled coordination degree and spatial correlation analysis of integrated development of tourism and cultural industries in China[J]. Economic Geography,2016,36(01):178-185.
- [3] Geng Songtao, Zhang Xinyang. Research on the synergistic development of rural tourism and cultural industry in the context of rural revitalization [J]. Journal of Nanjing Agricultural University (Social Science Edition),2021,21(02):44-52.
- [4] Kong Yonghe. The path selection of the integration development of tourism industry and cultural industry--Taking Hebei Province as an example[J]. Social Science Forum,2016,(10):240-244.
- [5] Li Xiangyue. Progress and trends of research on the integration of cultural industry and tourism industry in China--based on Citespace econometric analysis[J]. Economic Geography,2019,39(12):212-220+229.