

An Empirical Study on Coupling and Coordinating Development of Culture and Tourism Industry in Liaoning Province

Aihua Zhao

aihua8663@sina.com

Eastern Liaoning University, Dandong, Liaoning Province, China

Abstract—Cultural industry and tourism are the most promising "sunrise industries". To develop and promote the integration of the two industries has become a national strategy. Liaoning has rich cultural resources and tourism resources, but there are many problems in the development of these two industries. In order to understand the current situation of the coupling degree of the two industries, this paper adopts the coupling coordination degree model, selects five indicators of the cultural industry and tourism industry in Liaoning province from 2011 to 2019, and analyzes the coupling coordination degree of the cultural industry and tourism industry in time and space. The results show that the coupling degree of culture and tourism industry in Liaoning province fluctuates little and is in a highly coupling stage. From the initial tourism lag, it gradually changes to the state of cultural industry lag. There is a high correlation between culture and tourism industry in Liaoning province, and they influence each other. Therefore, we should give full play to the leading role of the government, establish and improve the policy support mechanism, excavate the ethnic cultural elements in the tourism industry, create a good integration environment, attach importance to the construction of professional team of cultural and tourism integration, and continue to promote the in-depth integration of culture and tourism development in Liaoning.

Keywords- coupling coordination degree; cultural industry; tourism industry; Liaoning

1 Introduction

Culture is the soul of tourism development, always contained in tourism activities; tourism is the basis of cultural development, and all elements of tourism reflect the influence and application of culture^[1]. Since 2009, the state has issued a series of documents and directives on cultural and tourism industries and their integration. The release of this series of documents and policies on the integration of tourism and cultural industries not only highlights the top-level design of the integration of tourism and cultural industries, but also points out the path of the integration of tourism and cultural industries in a certain field and provides policy and institutional guarantee. In particular, on March 13, 2018, The State Council issued the institutional reform plan. According to the plan, the National Tourism Administration and the Ministry of Culture were merged to form the Ministry of Culture and Tourism, so as to promote

the integrated development of cultural undertakings, cultural industries and tourism. Suddenly, "poetry and distance finally together" has become a hot topic, and the research on the integration and development of culture and tourism industry has once again become a hot topic of attention of many scholars. In fact, the industrial integration between culture and tourism is a kind of inheritance and expansion of industrial combination and integration. It is not only the sharing and integration of technology and knowledge between culture and tourism industries, but also the all-round cooperative utilization and interactive influence of market, production factors, product research and development, and technological innovation. The author conducted a search on CNKI with the keyword of "integration of Liaoning culture and tourism industry", and there were only 6 relevant literatures, which is also the significance of this study.

2 Current development of cultural industry and tourism industry in Liaoning Province

2.1 Current development of cultural industry in Liaoning Province

Liaoning has a long history, profound cultural deposits and rich cultural resources. It has 6 World cultural heritage sites, 190 provincial intangible cultural heritage sites, 24,115 cultural relics, 128 national key cultural relics protection units and 472 provincial key cultural relics protection units. In recent years, the cultural industry in Liaoning Province has shown a good momentum of rapid development, with its total volume growing continuously, its main structure continuously optimized and its strength enhanced significantly. This is not only the strategic plan of the central government, but also the practical needs of the revitalization and development of Liaoning's old industrial base. It is also the new expectations of the people for a better cultural life. We must do our best to raise the development of the cultural industry to a new and higher level. According to the "Cultural Industry Development Index of Chinese Provinces and Cities (2018)" sponsored by Renmin University of China, it can be seen that Liaoning Province, Tianjin, Chongqing, Sichuan, Fujian and other 11 provinces and cities belong to the second plate, and the comprehensive index, productivity sub-index and influence sub-index of the cultural industry development index are growing steadily. By the end of 2022, there will be 66 cultural industry demonstration parks and bases in Liaoning Province, 123 cultural centers and art galleries, 129 public libraries, 65 museums and 143 archives.

2.2 Present situation of tourism development in Liaoning Province

Tourism is one of the pillar industries that started earlier and developed more mature in Liaoning Province. "Manchu Customs, Colorful Liaoning" reflects the characteristics and characteristics of Liaoning tourism resources. Relying on the good spatial combination of tourism resources, we will actively build comprehensive tourism destinations such as island tourism, ice and snow tourism, historical tourism, hot spring tourism, border tourism and red tourism. At present, Liaoning Province is in a critical period of economic transformation and development. The provincial government pays great attention to the development prospect of tourism and has issued a series of documents, proposing to optimize the spatial layout of tourism industry, improve the value chain of tourism industry and enhance the core competitiveness of tourism industry. By the en

d of 2022, the province has 268 hotels above the star level, of which 22 are five-star or above. There were 1,571 travel agencies at the end of the year. By the end of the year, there were 558 national A-level tourist attractions, including 6 5A tourist attractions. The National Tourism Administration has published a list of two batches of national tourism demonstration zones. Among the 262 demonstration zones in the first batch, 11 are in Liaoning province, and among the 238 in the second batch, 9 are in Liaoning province. The construction and development of all-regional tourism demonstration zones provide policy support and strong impetus for the development and rise of tourism industry in Liaoning Province.

2.3 Liaoning Province cultural tourism industry integrated development basis

First of all, tourism resources are rich, profound cultural deposits. Liaoning has rich and unique tourism resources and profound cultural deposits. The Memorial Hall of Liaoshen Campaign and the Memorial Hall of Resisting America and Aiding Korea both have rich connotations and are the anthems of Liaoning's red revolutionary culture. The "one palace and three tombs" culture of the Manchu Dynasty, which consists of the Forbidden City, Yongling Mausoleum, Fuling Mausoleum and Zhaoling Mausoleum, has provided a new growth point for Liaoning's tourism industry. The four famous mountains of Qianshan, Fenghuang Mountain, Yaoshi Mountain and 15 and Five Mountains are the representatives of Liaoning's green ecological culture. With the development of hot spring tourism in Tanggangzi, Wulongbei, Gongchangling and other places, bath culture, health culture, leisure culture and holiday culture emerged at the historic moment. All these have laid a good foundation for the interactive and integrated development of the two industries of culture and tourism. Secondly, the construction of cultural tourism platform is in good condition. Promoting the construction of cultural industrial parks and enterprise development is an important part of Liaoning's cultural tourism platform. The Outline of the Plan for the Revitalization of Cultural Industry of Liaoning Province clearly puts forward that the important direction of the development of cultural industry is to adhere to the agglomeration development of cultural industry, focus on the construction of a large number of cultural industrial parks, and realize the development of cultural industry clusters, coordinated development, intensive development and efficient development [2]. At present, there are Liaohe Cultural Industry Park, Liaoning Folk Art Troupe, Shenyang (National) Animation Industry Development Base, Dalian High-tech Zone Animation Corridor, Dandong Animation Game Service Outsourcing Base, Liaoning Grand Theater, Dalian Puli Cultural Industry Base, Jinzhou Liaoxi Cultural Antique Mall, Shenyang Cultural Industry Demonstration Base and other cultural industry parks in Liaoning Province, as well as some key enterprises in the cultural industry. Such as North United Publishing Media (Group) Co., LTD., Liaoning Performing Arts Group Co., LTD., Liaoning Seven Star Pictures Co., LTD., Shenyang Film Co., LTD., Dalian Daqing Cultural Industry Group Co., LTD., Benshan Media Group Co., LTD., etc. In recent years, relying on local cultural resources, Liaoning has vigorously promoted the planning, integration and packaging of cultural and tourism integration projects, which has played a positive role in further tapping the tourism potential of Liaoning, thriving folk culture, and enhancing the popularity and influence of Liaoning culture.

3 Liaoning Province cultural tourism industry integrated development basis

3.1 Data source and index system construction

On the basis of referring to the existing research and combining the connotation and characteristics of the cultural industry and tourism industry, this paper starts from the two levels of industrial elements and industrial performance, strictly follows the basic principles of the construction of the evaluation system, and constructs the following evaluation index system according to the specific development situation of the cultural industry and tourism industry in Liaoning Province from 2011 to 2019, as shown in Table 1 below.

TABLE 1: INDEX SYSTEM OF COUPLING DEGREE BETWEEN CULTURAL INDUSTRY AND TOURISM INDUSTRY

<i>First-order index</i>	<i>Secondary index</i>
Cultural industry	Added value of cultural industry
	Number of cultural centers and art galleries
	Number of public libraries
	Number of museums
	Types of newspapers and periodicals
	Number of books
Tourism industry	Receive domestic and foreign tourists
	Gross tourism income
	Number of hotels above star level
	Number of travel agencies
	Number of national A-level tourist attractions

3.2 The measurement of industrial comprehensive index

3.2.1 The measurement of industrial comprehensive index

3.2.1.1 Data standardization processing

In the research, the influence of different units is removed through dimensionless quantization, then coordinate translation is carried out, and fixed values are added to avoid negative values, forming a new series. The formula is:

$$x'_{ij} = \frac{x_{ij} - \min_i x_{ij}}{\max_i x_{ij} - \min_i x_{ij}} \quad x'_{ij} \in [0,1]$$

3.2.1.2 Entropy is a measure of the disorder

Degree of the system. If the information entropy of the index is smaller, the information provided by the index will be larger. Therefore, it should play a larger role in the comprehensive evaluation, and the weight should be higher. In this study, entropy weight is defined as w_j

$$w_j = \frac{1 - e_j}{\sum_{j=1}^n (1 - e_j)} \quad w_j \in [0, 1], \quad \sum_{j=1}^n w_j = 1$$

3.2.1.3 Two industry contribution calculation.

The annual contribution of cultural industry and tourism industry can be obtained by weighting the data obtained from the above formula, namely the comprehensive development level. The higher the value, the better the development of the industry.

$$G_i = \sum_{j=1}^n w_j x'_{ij} \quad 0 \leq G_i \leq 1$$

3.2.2 Measurement of coupling degree

The coupling degree of the two systems of cultural industry and tourism industry is expressed. In calculation, the contribution degree of the two systems is set as G_i^1, G_i^2

$$C_i = \frac{2\sqrt{G_i^1 G_i^2}}{G_i^1 + G_i^2} \quad 0 \leq C_i \leq 1$$

According to the calculation results, the coupling degree of the two systems can be classified as follows:

TABLE 2: COUPLING DEGREE INTERVAL CLASSIFICATION TABLE

<i>interval</i>	<i>Degree of coupling</i>
0	uncoupled
$0 < C < 0.3$	Low coupling
$0.3 \leq C < 0.7$	Moderate coupling
$0.7 \leq C \leq 1$	Highly coupled

3.3 Analysis of coupling degree and Coordination Degree of cultural industry and tourism industry in Liaoning Province

According to the above formula, entropy, difference coefficient and weight are calculated, and then the coupling development level of culture and tourism industry in Liaoning Province is calculated, as shown in the table 3 below.

TABLE 3: COUPLING DEGREE OF CORRESPONDING TYPES BETWEEN CULTURAL INDUSTRY AND TOURISM INDUSTRY IN LIAONING PROVINCE

<i>Year</i>	<i>Contribution of Tourism Industry</i>	<i>Contribution of Cultural Industry</i>	<i>Coupling Degree of the Two Systems</i>
2011	0.076154731	0.318402117	0.789326762
2012	0.187492518	0.15555658	0.99565729
2013	0.172909512	0.097515967	0.960350344
2014	0.320342362	0.275245875	0.997129305
2015	0.439248194	0.560093215	0.992661688
2016	0.39295311	0.507412354	0.991886664
2017	0.498827934	0.613470491	0.994674295
2018	0.900616356	0.870545092	0.999855859
2019	1	0.742052432	0.988976723

Coupling coordination degree is calculated on this basis, and the results are shown in Table 4 and Figure 1:

TABLE4: COUPLING AND COORDINATION DEGREE OF CORRESPONDING TYPES OF CULTURAL INDUSTRY AND TOURISM INDUSTRY IN LIAONING PROVINCE

<i>Year</i>	$T=\alpha G1+\beta G2$	<i>Coupling Coordination Degree</i>
2011	0.173053685	0.369588832
2012	0.174718143	0.417084395
2013	0.142752094	0.370259399
2014	0.302303767	0.549031825
2015	0.487586203	0.695706937
2016	0.438736808	0.659679611
2017	0.544684957	0.736059866
2018	0.88858785	0.942581438
2019	0.896820973	0.941772301

Note: in T, $\alpha=0.6$, $\beta=0.4$

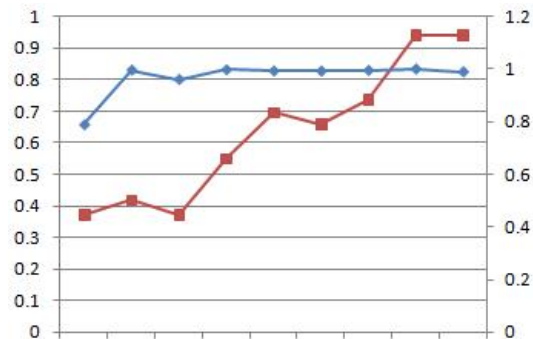


Figure 1. Coupling degree and coupling coordination degree of Liaoning 2011-2019

Among them  Is the coupling,  Is the coupling coordination degree.

As can be seen from Table 4 and Figure 1, since 2011, the development level of cultural industry in Liaoning Province has shown a fluctuating upward trend, and only showed a downward trend during 2015-2016. During 2017-2019, the factor level of the cultural industry in Liaoning Province was higher than its performance level, but after 2019, the performance level of the cultural industry was much higher than its factor level, which indicates that the income transformation ability of the cultural industry in Liaoning Province is constantly improving. From the Angle of coupling coordination degree analysis. Although the coupling coordination degree between cultural industry and tourism industry is relatively stable, the overall coordination degree needs to be improved.

3.4 Existing major problems

3.4.1 The cultural connotation of tourism resources lacks in-depth exploration.

At present, the total amount of scale cultural tourism products developed in Liaoning Province is small, and distinctive cultural resources are insufficient in the development and utilization. Liaoning's cultural tourism still takes natural scenery, red culture, and historic culture as the main content, and sightseeing as the main form. Most scenic spots are of low cultural value, lack of rich connotation and lack of tourist attraction. The development of cultural tourism resources can not keep up with the pace of industrial development, and the utilization rate of cultural resources is low. In short, the integration degree between tourism industry and cultural industry is not high. The cultural connotation of tourism products is not deep or insufficient, In particular, cultural and creative products are less sufficient. The core competitiveness of cultural tourism industry is weak. The correlation degree between cultural tourism scenic spots is not high, and the development of cultural and creative formats is not enough^[3].

3.4.2 Lack of overall planning of industrial integration.

Affected by many factors, different regions in Liaoning failed to carry out in-depth research and comprehensive investigation in the early stage of product planning and development, resulting

in the lack of characteristics, high degree of homogeneity and low attractiveness of the developed products. The scenic spots with similar cultural connotations in different regions of the province are not closely connected and have no sense of overall development. The development level of cultural tourism resources is not high and the means are single. It is difficult to form a standardized and large-scale tourism market.

4 Strategies and Suggestions for the integrated development of cultural tourism industry in Liaoning Province

4.1 We will give full play to the government's guiding role in the cultural and tourism industries

The local government should attach great importance to the integrated development of culture and tourism industry, give full play to the function of policy support, and provide guarantee for the integrated development of culture and tourism in Liaoning Province^[4]. In terms of the system, the separation and division of various departments should be broken, and the organizational boundaries should be blurred to realize the efficient aggregation of various elements of the cultural and tourism industry, including the effective aggregation of talents, capital, science and technology, excellent entrepreneurs, etc. In terms of responsibilities, departments related to cultural tourism industry should weaken industry management, strengthen coordination and promotion of industry development, and build a modern system of cultural tourism industry by guiding investment in different ports.

4.2 Dig deep cultural elements in tourism industry and optimize the integration mode with other industries

The cultural tourism in Liaoning Province has strong ethnic characteristics and its ethnic cultural tourism resources are relatively concentrated. The Manchu resources are mainly concentrated in Shenyang and Fushun. The Qing Dynasty culture in Fushun, Shenyang is relatively mature, and a distinctive Qing Dynasty cultural and historical tour of quality tourism routes has been formed. The Korean population in Liaoning is mainly concentrated in the cities of Dandong and Shenyang. The dance, architecture, clothing, food and other aspects of the Korean people have distinctive characteristics and full of charm. The Mongolian resources in Liaoning are mainly concentrated in Chaoyang and Fuxin. Therefore, in the publicity of Liaoning cultural tourism, we should strengthen the national characteristics, highlight an attractive point for centralized publicity, and form cultural tourism products with core competitiveness in each region. At the same time, it is necessary to accelerate the integration of "Internet + culture + tourism", realize the intellectualization and informatization of the cultural and tourism industry, and enhance the popularity of the cultural and tourism industry through new short video media^[5]. We will use the concept of cultural elements to promote the transformation of tourism products, implement the strategy of "Internet + culture + tourism", promote the combination of science and technology and tourism industry, and optimize the industrial structure.

4.3 We will intensify efforts to cultivate high-quality talents integrating culture and tourism

The integration between culture and tourism industry cannot be separated from high-quality talents. To revitalize Liaoning Province with talents and promote the integrated development of culture and tourism industry in Liaoning Province, the government needs to issue special talents incentive measures and formulate talent training plans. Internally, we should set up related majors in colleges and universities integrating culture and tourism, pay attention to the combination of theory and practice, and cultivate a large number of professionals. Graduates from the province should be encouraged to find jobs and start businesses in cultural tourism; It is necessary to optimize the mechanism of cultural and tourism talent introduction, strengthen the introduction of talents, give special care to the introduced high-end talents, encourage high-end talents to return to their hometown for employment and entrepreneurship, and provide talents support for the integration of culture and tourism industry in Liaoning Province.

5 Conclusion

The experience of international tourism development tells us that the higher the degree of integration between tourism industry and cultural industry is, the more developed the tourism economy will be. We must deeply integrate the two industries, inject cultural soul into the tourism industry, and promote tourism with culture. At the same time, we should see tourism as a carrier and marketplace for the cultural industry and further stimulate its vitality. We will continue to upgrade the quality of cultural tourism products, create high-quality cultural tourism experience projects, and comprehensively promote the quality growth and development upgrading of the two major industries in Liaoning Province.

THE RESEARCH PROJECT

2022 Social Science Planning Foundation Project of Liaoning Province, (L22BJY029)

REFERENCES

- [1] X.P Bao,L.P Zhang, Y.Pang,and F.P Jia,Analysis of coupling coordination degree of cultural industry and tourism industry in Ulanqab City.Journal science, 2019(1)115-120.
- [2] X.Liu, The Study of the Foundation and Path of the Integration of Cultural and Tourism Industry in Guizhou Province,Journal of Guizhou University of Commerce, 2018(31) 21-28.
- [3] W.Si,and C.Wang, Research on coupling upgrading of agriculture and tourism in Sichuan province based on capacity coupling model,Guangdong AgriculturalSciences,2018(45)165-172.
- [4] B.Yang,X.P Wang,A Study on the Countermeasure of Transforming and Upgrading Liaoning's Culture Industry in the Background of Revitalizing the Economy of Northeast China. Ability and Wisdom, 2018(1)69-75.
- [5] Q.Y WU,A study on the evaluation of tourism industry competitiveness in Fujian Province,North University of China,2011.