An Empirical Analysis of Taizhou's Tourism Industry Integration based on Input-Output Model

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Abstract This paper uses input-output model to obtain the input coefficients of various industries to Taizhou's tourism from which we selected the problematic entertainment industry which with a relatively high proportion as the main research object. Firstly, the industry convergence of Entertainment Industry and Tourism Industry between 2002 and 2016 was analyzed by neural network. Then, through regression analysis, the empirical analysis of the impact on the output value of the tourism industry caused by the integration of the two industries is made and evaluations are given. The evaluations can provide certain theoretical support and suggestions for improvement of the policy for Taizhou Municipal Government's decision-making.

1. Analysis and Suggestions

Fusion has become the theme of the current era. In recent years, industry convergence has become the trend of the development. The tourism industry has gradually derived into a variety of new forms, such as cultural tourism, educational tourism, agricultural tourism, etc [1]. Therefore, in the face of the convergence of multiple industries, corresponding theory and practice guidelines and reasonable plans are needed to promote the development of the industry.

1.1 Tourist attraction and economic benefit

Taizhou has rich tourism resources, there are 27 national A-level tourist attractions, including 64A-level tourist attractions, 15A-level tourist attractions, 6 national industrial and agricultural tourism demonstration sites, 2 national red tourist attractions and 45 Jiangsu Province star-rated rural tourist spots.

Although there have been improvement regulations in the newly promulgated "The Thirteenth Five-Year Plan" tourism development plan, the income of Taizhou tourism is in a low position among the economic benefits to tourism in Jiangsu Province because of the lack of complete regulatory system and detailed cooperation plan. Apart from that, limited product, lacking of innovation and creativity, and unbalanced interests also lead to the problem.

1.2. Suggestions

According to the transformation and upgrading strategy of the tourism industry in Yunnan Province, the entry point can be determined. The transition policy of the tourism industry in Yunnan can be flexibly applied to the policy improvement in Taizhou, and explore the coupling between the tourism industry and other industries of Taizhou from the perspective of industry convergence, and determine the industries with higher relevance for specific research, and then give corresponding policy recommendations.

2. The empirical analysis

2.1. Introduction of evaluation methods

Firstly, this paper calculates the investment coefficient of the entertainment industry to the tourism industry and the investment coefficient of the tourism industry to the tourism industry in 2002, 2004, 2006, 2008, 2010, 2011, 2012 and 2016 respectively, constructs the formula of the industrial integration degree, and calculates the industrial integration degree of these eight years respectively.

Establish the input coefficient matrix:

$$A^{'} = (a_{ij})_{nxn}, a_{ij} = \frac{X_{ij}}{X_j} \tag{1}$$

Where, A' is the input coefficient matrix of order, a_{ij} represents the input coefficient of the secondary industry to the tertiary industry, X_{ij} represents unit consumption, X_j represents total consumption.

Then, the industry with high input coefficient is screened, and the industrial integration degree of the industry and Taizhou tourism industry is calculated, and the BP neural network model is used to further analyze the integration degree of the two industries.

Finally, the output value of the tourism industry is taken as the dependent variable, and the independent variable is the industrial integration degree of the recreational and sports industry and tourism industry. SPSS software is used for regression analysis, and the regression equation is studied in detail to obtain the degree of influence of the integration degree of the recreational and sports industry and the tourism industry on the output value of the tourism industry.

2.2. Example

Since the input-output date of 2002,2004,2006,2008,2010, 2011, 2012, 2016 given by Taizhou Statistical Yearbook are not detailed, the project team members made field visits to Taizhou Statistic Bureau, tourism Bureau, post office, and Transportation Bureau, etc. Through calculation, the investment coefficients of Taizhou to tourism, culture, sports and entertainment industry in each year and industry are obtained respectively [2].

According to the ranking of the investment coefficients of the eight years, it is obvious that the investment coefficient of the entertainment industry in Taizhou tourism rose from the 12th place in 2002 to the 6th place in 2016. Compared with the investment coefficient of various industries in tourism, the entertainment industry is in a high position and in a growing state. At the same time, since 2006, the investment coefficient of Taizhou tourism in sports and entertainment industry has increased significantly, rising rapidly from 16th to 5th. Although style entertainment and Taizhou correlation between tourism far less paper and paper products, wholesale and retail trade, transportation and so on, but with the passage of time, the relevance between tourism industry and it is more and more strong, so the following table 1 by specific calculation, 2002, 2004, 2006, 2008, 2010, 2011, 2012, 2016 style entertainment and Taizhou tourism industry alignment, make further discussion on the correlation between the two industries:

Table 1: Statistical table of the integration degree of Taizhou culture, sports, entertainment and tourism

	In 2004	In 2004	In 2006	In 2008
alignment	0.0017	0.0026	0.0043	0.0056
	In 2010	In 2011	In 2012	In 2016
alignment	0.0062	0.0075	0.0070	0.0124

According to Table 1, the integration of Taizhou's entertainment industry and tourism industry has been increasing. In order to further study the impact of the degree of integration on the two industries, this paper USES the neural network model to estimate the uncollected data, and obtains the change trend of the evaluation of the degree of integration between the entertainment, sports and tourism in Taizhou from 2002 to 2016. Figure 1:
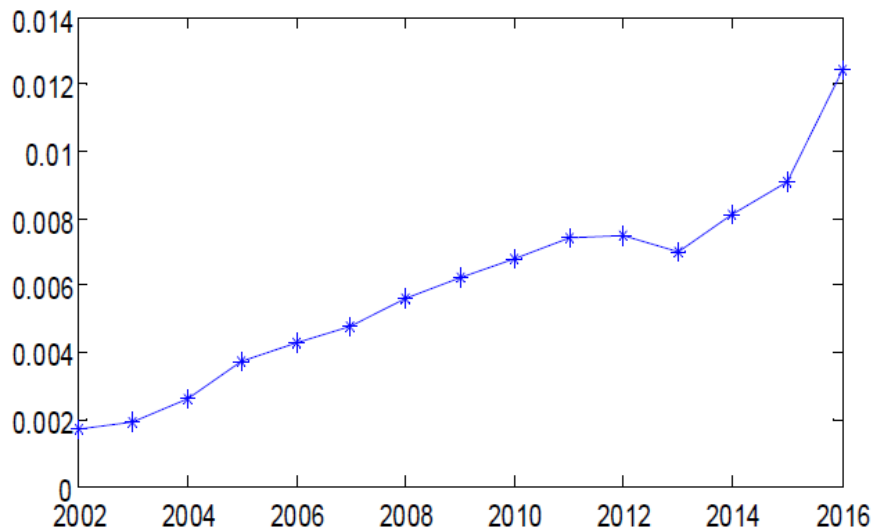
Figure 1: Trend chart of the industrial integration degree of Taizhou Cultural, entertainment and tourism industries from 2002 to 2016

It can be seen from Figure 1 that from 2002 to 2016, the degree of industrial integration between the entertainment, sports and tourism industries was on the rise with an obvious increase. Reflects the correlation degree deepening, which indicates that the Taizhou government in "much starker choices-and graver consequences-in planning put forward vigorously support the development of the tourism industry, tourism development strategy innovation, strengthen the tourism industry can be integrated with the literary style entertainment industry policy, the literary style entertainment and promote the change of the tourism industry of industry alignment, and continuously strengthen and deepen.

Then, SPSS software was used for regression analysis, and the following regression results were obtained:

$R^2 = 0.930, F = 103.571, Sig < 0.05, DW \approx 2$ (2)

With a good fitting degree and no auto-correlation between samples, the established regression equation is effective. Therefore, x has a certain influence on y,

which satisfies the equation:

$y = -40.604 + 272215.483x + 28709.881x^2$ (3)

According to the regression equation, it can be seen that there is a positive correlation about the degree of industrial integration between the tourism-entertainment industry and the output value of tourism in Taizhou; when, the output value of Taizhou tourism industry increased obviously, and achieved profitability; when, although the output value of Taizhou's tourism industry still increased with the increasing degree of integration between the entertainment industry and the tourism industry, the growth rate was slow, so the output value of the tourism industry showed a deficit at this time. Therefore, under certain conditions, the integration of Taizhou's tourism and the entertainment industry can improve its tourism development and further promote economic growth.

3. Conclusions and recommendations

Based on the above- mentioned research results, when tackling out industrial integration, we should pay attention to the ways and means of integration, and it is not arbitrary and unilateral. From a long-term perspective, the tourism industry and the development of the cultural, sports and entertainment industries have a co-integration relationship. After the degree of industrial integration reaches a certain standard, the interactive integration of the cultural, sports and entertainment industries and the tourism industry reflects the mutual support and mutual promotion of industries. Vigorously promoting the integrated development of the tourism industry and the cultural industry is conducive to breaking through the existing bottleneck of the tourism industry in Taizhou, broadening horizons, enriching resources, and enabling the rapid development of Taizhou's tourism industry. For this purpose, this article puts forward three suggestions on the development of tourism in Taizhou as follows:

(1) The city government leads. According to the local culture, sports and entertainment characteristics, the municipal government sets a series of relevant policies to create a good environment for the integration of culture, entertainment and tourism, make overall planning, make reasonable use of resources, comprehensively study and provide support and guidance for projects with economic and social benefits, and provide certain financial support.

(2) Focusing on innovation. We should make innovation in theory, practice and technology, use local stylistic characteristics, and make reasonable design integrate into the tourism industry, attract people's interest, deepen people's understanding of Taizhou culture and education, and thus better drive the development of the industry.

(3) Win-win cooperation. By gradually eliminating regulatory barriers between the management of various industries, tourism and cultural, sports and entertainment industries will be integrated and managed, and the interaction, cooperation and joint operation of tourism and other related industries such as the cultural, sports and entertainment industries will be encouraged to make the tourism industry more present Yuan, flexible and more distinctive, more effectively stimulate people's consumer demand and stimulate economic growth.

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