Research on the Heterogeneity and Driving Force of Cultural Tourism Integration in Western China under the New Normal—A Case Study of Shaanxi Province

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Abstract: This paper takes Shaanxi Province as an example to explore the effect and driving factors of cultural and tourism integration in western China. It analyses the effect of cultural industry and tourism industry integration and the driving factors affecting integration in various regions of Shaanxi Province from 2011 to 2020 through a coupled coordination model and a driving force panel model. The results show that the coordination degree of cultural tourism coupling in various cities in Shaanxi Province is on the rise as a whole, but the regional imbalance and inadequacy are prominent, and the types of coordination degree of coupling are quite different. The level of cultural and tourism integration in the province declines significantly due to the impact of the new crown epidemic. From the perspective of driving factors, there is an "inverted U-shaped" relationship between government policy support and the integration development, and the marginal effect of policies starts to decrease. Under the new normal of economy, more attention should be paid to innovation drive. At present, the role of technological innovation in integrated development needs to be improved. There is a mismatch between supply and demand in the human capital market. It is suggested to accelerate the use of technological innovation to promote the development of large-scale high-quality projects, strengthen regional linkage, stimulate the vitality of market players, improve the innovative talent training mechanism, and accelerate the production and construction of industrial content from the supply side.

1. Introduction

Under the new normal of the economy, the economic growth rate has slowed down, and the development approach needs to shift from a scale-speed type to a quality-efficiency type. The development momentum also needs to shift from relying mainly on factors such as resources and low-cost labor to innovation-driven development. Since the merger of the national culture and tourism departments in 2018, the integration of culture and tourism has become a new direction for

the development of China's cultural industry and tourism industry. The report of the 20th National Congress of the Communist Party of China pointed out that we should adhere to the approach of "using culture to shape tourism, and using tourism to enhance culture," and promote the deep integration and development of culture and tourism. The Outline of the Strategic Plan for Expanding Domestic Demand (2022-2035) stated that we need to expand cultural and tourism consumption, and promote the creative transformation and innovative development of excellent traditional Chinese culture. Deep integration and innovative development have become key words for the future development of cultural tourism integration. In addition, the culture and tourism industry and the national cultural tourism integration strategy are not only reflected in economic benefits, but also more importantly in the construction value of national culture[1].

In the late 1970s, cultural tourism began to be seen as part of a series of existing tourism experiences. Researchers realized that some people traveled specifically to gain a deeper understanding of the culture or heritage of a destination, and cultural tourism was considered a special product category[2]. Cultural tourism had been identified as a powerful tool for economic development, capable of creating employment opportunities and attracting investment, and it's particularly important for rural communities and ethnic minority areas with limited economic development projects[3]. In China, "cultural tourism integration" was based on natural landscapes, and as a new "tourism+" industry model, it was an inevitable choice to promote the transformation and development of the tourism and cultural industries[4]. Around 2010, a large number of studies on the integration and development of culture and tourism began to emerge. Researches on integration and coordination from an industrial perspective mainly focused on two aspects: industrial integration and coupling coordination[5]. In early related research, a certain region was often used as the research object to measure and evaluate the coupling and coordination between the cultural industry and tourism industry[6]. A few research results had studied the coupling coordination problem of China's national cultural tourism, believing that the overall pattern is: eastern > central > northeast > western regions[7]-[8]. China had earlier research attention on the development of western tourism[9], but there is currently little analysis of the integration status and development balance of cultural tourism, as well as empirical research on the driving forces of cultural tourism industry integration in western regions of China.

In the past two years, there had been a boom of tourism in the western region. Shaanxi Province, as a major province with rich cultural and tourism resources, had a total of 9,972 cultural and tourism resources[10]. In 2021, the provincial government proposed to "strive to write a new chapter of high-quality development in Shaanxi", which required continuous promotion of high-quality development of cultural tourism and the creation of high-quality products and services. Shaanxi Province has continuously explored the integration mechanism between the cultural industry and tourism industry by developing cultural and creative products with regional cultural characteristics, performing arts and dramas, and has become a typical region for the coupled development of China's cultural and tourism industries. This article takes Shaanxi Province as an example, and analyzes the integration status of the cultural tourism industry based on relevant data from 2011 to 2020 in Shaanxi Province and various regions within the province by using a coupling coordination model. The article also analyzes the factors that affect the integration of cultural tourism industry, which has certain research significance for promoting high-quality development of the cultural tourism industry in western China in the new era.

2. Assessment Model for the Integrated Development of Cultural Tourism Industry in Shaanxi

2.1 Data sources

This article uses relevant data from 2011 to 2020 to study the integration development status of

cultural industry and tourism industry in Shaanxi Province. The data sources mainly include statistical yearbooks such as "China Tourism Statistical Yearbook", "China Cultural and Related Industries Statistical Yearbook", "China Culture and Cultural Relics Statistical Yearbook", "China Culture and Tourism Statistical Yearbook", "Shaanxi Province Statistical Yearbook", "Xi'an City Statistical Yearbook" etc.

2.2 Construction of index system

Based on the indicators adopted by Hou and Zhou (2015) and Weng and Li (2016), this article follows the principles of scientificity, systematization, availability, and representativeness to construct an indicator system for the development level of tourism industry and cultural industry in Shaanxi Province from two aspects of industrial input and industrial output (Table 1).

Table 1: Indicators for the Development Level of Tourism Industry and Cultural Industry

System	Primary Indicators	Secondary Indicators	Unit
Culture Industry	the Input of Cultural Industry	Number of Public Libraries	/
		Public Library Collections	Million Copies
		Mass Art Museum	/
		Number of Performing Arts Groups	/
		Number of People of Performing Arts Groups	/
		Number of Art Performances	/
		Number of Cultural Stations	/
	the Output of Cultural Industry	Number of Audiences of Performing Arts Groups	1000 person times
		Revenue from Cultural Undertakings	Ten thousand yuan
Tourism Industry	the Input of Tourism Industry	Number of Star Hotels	/
		Number of Legal Entities in the Accommodation Industry	/
		Number of Legal Entities in Catering Industry	/
	the Output of Tourism Industry	Operating Income of Accommodation Industry	Ten thousand yuan
		Operating Income of Catering Industry	Ten thousand yuan
		the Amount of Tourists	10,000 person times
		Revenue form Tourism Industry	Ten thousand yuan

2.3 Evaluation methods and model

Based on the indicator system constructed in the previous paragraph, the standardized values of cultural industry development level and tourism industry development level are obtained through range method, and the entropy weight method is used to determine the weights and calculate the comprehensive development level of cultural industry and tourism industry.

(1) Data standardization

The range standardization method is used to non-dimensional process the original data to obtain the standardized value Y_{ij}.

$$y_{ij} = \frac{X_{ij} - min(X_{ij})}{max(X_{ij}) - min(X_{ij})}$$

$$Y_{ij} = y_{ij} + 0.01$$

(i=2011,2012,…2020;j=1,2,…m)

X_{ij} represents the raw value of the j-th indicator in the i-th year for a certain region. $\max(X_{ij})$ and $\min(X_{ij})$ represent the maximum and minimum of the j-th indicator, respectively. Y_{ij} is the value after standardization processing.

(2) Determining indicator weights

Firstly, calculate the proportion P of the j-th indicator in the i-th year for a certain region.

$P_{ij}=\frac{Y_{ij}}{\sum_{i=1}^{n} Y_{ij}}$, (n is the number of sample years.)

Secondly, calculate the information entropy of the j-th indicator: E_j.

$$E_j=-k \sum_{i=1}^{n}\left(P_{ij} \ln P_{ij}\right)$$

Among them, K is greater than 0, In is the natural logarithm, the constant k is related to the number of sample years n, so let $K=\frac{1}{\ln n}$.

Thirdly, calculate the redundancy of the information entropy of the j-th indicator: G_j.

$$G_j=1-E_j$$

Finally, calculate the weight of the j-th indicator: W_j.

$W_j=\frac{G_j}{\sum_{j=1}^{m} G_j}$, $\sum_{j=1}^{m} W_j = 1$, (m is the number of indicators)

(3) Comprehensive development level model

$u_i=\sum_{j=1}^{m} Y_{ij} W_j$, (i=2011,2012,…2020;j=1,2,…m)

u_i is the development level of cultural industry and tourism industry in the i-th year.

(4) Coupling coordination model

This article constructs a coupling coordination model for cultural industry and tourism industry in Shaanxi Province.

$$T=\alpha u_1 + \beta u_2$$

$$C=2\sqrt{\frac{u_1 u_2}{(u_1+u_2)^2}}$$

$$D=\sqrt{C \times T}$$

C represents the coupling degree between the cultural industry and tourism industry. u_1 and u_2 are the development evaluation values of the cultural industry and tourism industry, respectively. T is the comprehensive coordination index, which reflects the contribution of the overall development level of the cultural industry and tourism industry to the coordination degree. Among them, α + β = 1, and this study believes that the cultural industry and tourism industry are equally important, so α and β are both taken as 0.5. D represents the coupling coordination degree between the cultural industry and tourism industry.

3. Analysis of the Integration Development Effect of Cultural Industry and Tourism Industry in Shaanxi

Using the coupled coordination degree model, this article calculates the coupling coordination degree D of cultural industry and tourism industry in Shaanxi Province from 2011 to 2020, and draws a table (Table 2) presenting the coupled coordination degree of cultural industry and tourism industry in Shaanxi Province from 2011 to 2020. To visually reflect the coupled coordinated development of the two industries in Shaanxi Province, this article draws on the classification standards for coupled coordination proposed by Liao(1999)[11] to analyze the integration status of

cultural industry and tourism industry in Shaanxi.

As shown in Table 2, the coupling coordination degree D values of the cultural industry and tourism industry in Shaanxi Province and in different cities have shown an overall upward trend with the passage of time, but D values are generally low except for the provincial capital Xi'an, and the rate of increase is relatively slow. From 2011 to 2019, the integration level of the two industries in Shaanxi Province continued to increase, but in 2020, it was significantly affected by the COVID-19 pandemic, leading to a significant decrease in the level of integration.

Table 2: Coupling Coordination Degree of Cultural Industry and Tourism Industry in Shaanxi Province from 2011 to 2020

region\year		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Shaanxi province	D value	0.459	0.556	0.649	0.676	0.646	0.664	0.749	0.825	0.832	0.766
	Type	Proximate dissonance	tentative coordination	Primary coordination	Primary Coordination	Primary coordination	Primary coordination	Intermediate coordination	Good coordination	Good coordination	Intermediate coordination
Xi'an City	D value	0.818	0.859	0.865	0.838	0.791	0.850	0.876	0.921	0.956	0.890
	Type	Good coordination	Good coordination	Good coordination	Good coordination	Intermediate coordination	Good coordination	Good coordination	Quality coordination	Quality coordination	Good coordination
Tongchuan City	D value	0.132	0.151	0.152	0.163	0.162	0.166	0.179	0.192	0.201	0.177
	Type	Severe dissonance	Severe dissonance	Severe dissonance	Severe dissonance	Severe dissonance	Severe dissonance	Severe dissonance	Severe dissonance	Moderate dissonance	Severe dissonance
Baoji City	D value	0.355	0.370	0.394	0.410	0.430	0.442	0.467	0.483	0.494	0.469
	Type	Mild dissonance	Mild dissonance	Mild dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance
Xianyang City	D value	0.376	0.391	0.413	0.420	0.444	0.463	0.441	0.453	0.465	0.447
	Type	Mild dissonance	Mild dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance
Weinan City	D value	0.398	0.419	0.425	0.425	0.437	0.448	0.460	0.476	0.478	0.480
	Type	Mild dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance
Yan'an City	D value	0.394	0.383	0.398	0.392	0.423	0.431	0.440	0.456	0.462	0.439
	Type	Mild dissonance	Mild dissonance	Mild dissonance	Mild dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance
Hanzhong City	D value	0.345	0.347	0.368	0.373	0.374	0.392	0.414	0.443	0.457	0.444
	Type	Mild dissonance	Mild dissonance	Mild dissonance	Mild dissonance	Mild dissonance	Mild dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance
Yulin City	D value	0.377	0.418	0.426	0.417	0.405	0.412	0.424	0.428	0.450	0.426
	Type	Mild dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance
Ankang City	D value	0.306	0.320	0.333	0.353	0.361	0.376	0.400	0.417	0.434	0.428
	Type	Mild dissonance	Mild dissonance	Mild dissonance	Mild dissonance	Mild dissonance	Mild dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance	Proximate dissonance
Shangluo city	D value	0.209	0.237	0.268	0.265	0.253	0.258	0.269	0.278	0.289	0.266
	Type	Moderate dissonance	Moderate dissonance	Moderate dissonance	Moderate dissonance	Moderate dissonance	Moderate dissonance	Moderate dissonance	Moderate dissonance	Moderate dissonance	Moderate dissonance

Note: The data was calculated by the author based on the model

From the perspective of different regions, there is a problem of imbalanced development among different regions in Shaanxi Province. Among them, Xi'an has the best cultural tourism integration development effect, with a coordination degree between 0.8 and 0.9, which is in a good coordination and quality coordination range, and its overall integration level is much higher than other areas. The next best integration effect is found in areas such as Weinan, Yulin, Baoji, Hanzhong, Yan'an, and Ankang, but there is a significant development gap compared to Xi'an, falling into the range of mild dissonance to proximate dissonance. The integration development level is relatively poor in Shangluo and Tongchuan areas, which are in a moderate dissonance and severe dissonance. There is a significant difference in the coordination level of different cities, and the main reasons are as follows: (1) As the capital city, Xi'an has gathered high-quality cultural and historical resources and tourism resources. Most of Shaanxi's 5A-level tourist attractions are concentrated in Xi'an, resulting in a higher level of cultural industry and tourism industry development and greater advantage in the integration of the two industries. (2) The coupling

coordination degree of Weinan, Yulin, Baoji, Hanzhong, Yan'an, Ankang, Tongchuan, and Shangluo areas is relatively low. On the one hand, due to the siphon effect, Xi'an has attracted most of the high-quality capital and human resources in the surrounding areas, leaving other cities facing talents, capital shortage, immature technology and other situations that affect the integration development of cultural and tourism. On the other hand, the development of cultural industry and tourism industry in these areas is at a relatively low level, public cultural services and infrastructure are not perfect enough, and the comprehensive development level of the industry is low, which further affects the integration effect of cultural industry and tourism industry.

The integration degree of the cultural industry and tourism industry can be divided into three types: (1) When $u_1 > u_2$, it belongs to the tourism industry development lag type. (2) When $u_1 = u_2$, it belongs to the type of synchronized development of cultural industry and tourism industry. (3) When $u_1 < u_2$, it belongs to the cultural industry development lag type. Based on this, the type of Shaanxi's cultural and tourism integration development is obtained (Table 3). In general, before 2016, the development level of the cultural industry in Shaanxi Province was higher than that of the tourism industry, which belonged to the primary coordinated type driven by cultural resources. After 2016, the development level of the cultural industry became lower than that of the tourism industry, and the integration type began to transition from primary coordination to advanced coordination type. In terms of different regions, except for Tongchuan and Baoji, which showed a general cultural lag after 2013, most cities had encountered a tourism lag in the past ten years of cultural tourism integration development. This indicates that each region has different issues in the process of integrated development of the two industries and needs to formulate development plans according to local characteristics.

Table 3: Coupling Coordination Degree Types of Cultural Industry and Tourism Industry in Shaanxi Province

Region / Year	Shaanxi	Xi'an	Tongchuan	Baoji	Xianyang	Weinan	Yan'an	Hanzhong	Yulin	Ankang	Shangluo
2011	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag
2012	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag
2013	Tourism lag	Tourism lag	Cultural lag	Cultural lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag
2014	Tourism lag	Tourism lag	Cultural lag	Cultural lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag
2015	Tourism lag	Tourism lag	Cultural lag	Cultural lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag
2016	Cultural lag	Tourism lag	Cultural lag	Cultural lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag
2017	Cultural lag	Tourism lag	Cultural lag	Cultural lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Cultural lag	Tourism lag
2018	Cultural lag	Tourism lag	Cultural lag	Cultural lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Cultural lag	Tourism lag
2019	Cultural lag	Cultural lag	Cultural lag	Cultural lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Cultural lag	Tourism lag
2020	Cultural lag	Cultural lag	Cultural lag	Cultural lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Tourism lag	Cultural lag	Tourism lag

Note: The data was calculated by the author based on the model

4. Analysis of the Driving Forces of Cultural and Tourism Integration in Shaanxi Province

In order to further explore which factors affect the development of cultural and tourism integration and the coupled coordination degree model, this article constructs an influencing factor analysis model. Through reading relevant literature[12]-[14] and considering the characteristics of cultural industry and tourism industry development, we comprehensively consider influencing factors such as policy support, demand factors, technological innovation, and transportation location,

and select relevant variables for research.

4.1 Variable selection and data sources

(1) Government policy (Gov). Industrial policies have created a more favorable environment for the integration of cultural and tourism. Due to the lagging effect of policy influence, and in order to avoid endogeneity issues, this article selects the financial expenditure of cultural tourism sports and media in Shaanxi Province one period behind as a proxy variable for government policies. In order to test the existence of a nonlinear relationship between government policies and the integration of cultural and tourism, the square term of government policy is also included. (2) Consumer demand (Cons). Diversified consumer demand drives the formation and development of new cultural tourism formats. As data on per capita cultural and tourism consumption expenditure is lacking, this article uses the disposable income of urban residents in various cities in Shaanxi Province as a proxy variable. (3) Technological innovation (Tech). Technological innovation can blur the boundaries between industries, thereby driving the integration and development of cultural industry and tourism industry. Considering that the total volume of post and telecommunications services comprehensively reflects the level of technological informationization, this article uses this indicator as a proxy variable for technological innovation. (4) Transportation location (Traf). The development of transportation can optimize the spatial and geographical structure of cultural tourism, enhance the correlation and integration effects among cultural industry and tourism industry. This article adopts the logarithm of the mileage of grade roads in Shaanxi Province as a proxy variable. (5) Education (Edu). The increase of human capital can exert knowledge spillover effects, promote the transformation of external division of labor in the cultural and tourism industries into internal division, and promote industrial integration. This article uses the logarithm of the number of graduates from ordinary higher education institutions as a proxy variable.

This article uses panel data from 10 urban districts in Shaanxi Province from 2011 to 2020 to examine the factors that affect the integration development of cultural industry and tourism industry. The data sources mainly include the "China Tourism Statistical Yearbook," "China Economic Census Yearbook," "China Social Statistical Yearbook," "China Third Industry Statistical Yearbook," and "Shaanxi Province Statistical Yearbook,"and so on. Data analysis is conducted using Stata 16.0 software.

4.2 Model building

Based on the selected variables above, this article constructs the following panel model:

$$LN(Inc)_{i,t} = \alpha + \beta_1 LN(Gov\_1)_{i,t} + \beta_2 LN(Gov\_1)sq_{i,t} + \beta_3 LN(Cons)_{i,t} + \beta_4 LN(Tech)_{i,t}$$
$$+ \beta_5 LN(Traf)_{i,t} + \beta_6 LN(Edu)_{i,t} + \mu_{i,t}$$

Among them, Inc is the coupling coordination degree of various cities in Shaanxi Province as measured in the previous paragraph, β is the parameter to be estimated, while $\mu_{i,t}$ is the error term.

4.3 Regression result analysis

According to the regression results from Stata16.0, the P-value from the F-test is 0.000, indicating that fixed effects are superior to mixed regression. The P-value from the LR test is also 0.000, indicating that random effects are superior to mixed regression. However, the P-value from the Hausman test is 0.0068, rejecting the null hypothesis and indicating that the fixed effects model

is superior to the random effects model. Table 4 displays the empirical results of all regression methods. Column (1) reports the OLS regression results, column (2) reports the fixed effects regression results using robust standard errors, column (3) reports the two-way fixed effects regression results, column (4) reports the random effects regression results using robust standard errors, column (5) reports the random effects regression results with a time trend term added, and column (6) reports the maximum likelihood estimation (MLE) regression results.

Table 4: Analysis of the driving forces for the integration of cultural industry and tourism industry

Explained Variable LN(Inc)	OLS (1)	FE_robust (2)	FE_trend (3)	RE_robust (4)	RE_trend (5)	MLE (6)
LN(Gov_1)	0.0845	0.0941***	0.0920***	0.0769**	0.0757**	0.0863***
	(0.0877)	(0.0276)	(0.0223)	(0.0298)	(0.0299)	(0.0240)
LN(Gov_1sq)	-0.0002	-0.0283***	-0.0351***	-0.0188***	-0.0200***	-0.0241**
	(0.0359)	(0.0053)	(0.0055)	(0.0049)	(0.0053)	(0.0097)
LN(Cons)	0.3138	0.2177**	0.1272	0.1676**	0.1391	0.1974***
	(0.2171)	(0.0836)	(0.1042)	(0.0696)	(0.0994)	(0.0710)
LN(Tech)	0.0403	0.0347**	-0.0178	0.0364***	0.0229	0.0362***
	(0.0240)	(0.0130)	(0.0101)	(0.0139)	(0.0269)	(0.0091)
LN(Traf)	0.2327**	0.4155**	0.2707	0.3013**	0.3022**	0.3437***
	(0.1025)	(0.1770)	(0.1589)	(0.1410)	(0.1507)	(0.1201)
LN(Edu)	0.1702***	-0.0073	-0.0366	0.0836	0.0752	0.0363
	(0.0399)	(0.0574)	(0.0562)	(0.0685)	(0.0730)	(0.0365)
t			0.0238***		0.0055	
			(0.0055)		(0.0107)	
_cons	-8.2012**	-7.2560***	-4.5762**	-6.4942***	-6.1057***	-6.7674***
	(2.6828)	(1.3720)	(1.5662)	(1.4237)	(1.4188)	(1.0479)

Note: *, **, and *** represent significance levels of 10%, 5%, and 1%, respectively.

The test results of the model indicate that fixed effects are superior to random effects and mixed effects, so the analysis is based on the results of the second column. It can be seen from the results that the government-related financial expenditure in the previous period had a significant positive impact on the cultural and tourism integration. For every 1% increase in related financial expenditure, the degree of integration increased by 0.09%. When combined with the squared term of the financial expenditure, the squared term is significantly negative, indicating that there was a significant inverted U-shaped relationship between government policy support and the integration. As government policy support increases, the degree of integration first increased, but when policy support exceeded a certain limit, the degree of integration would actually decrease, indicating that the marginal effect of policies started to decline. From the perspective of consumer demand, the increase in demand for cultural tourism products had a significant positive impact on the degree of integration. For every 1% increase in urban residents' disposable income, the degree of integration increased by 0.22%. When combined with the previous policy focus on demand management, resulting in a decreasing marginal effect, the government needs to recognize the connotation of "supply-side + structural + reform,"[15] starting from the supply side and promoting structural adjustment to promote high-quality development of industrial integration. In terms of technological innovation, it also had a significant positive impact on the degree of integration. For every 1% increase in regional post and telecommunications business output, the degree of integration increased by 0.03%. However, from the absolute value of the coefficient, technological innovation has not yet played a significant role in promoting cultural and tourism integration. In terms of transportation location, it also had a significant positive impact on the degree of integration. For every 1% increase in regional highway mileage, the degree of integration increased by 0.42%. Education had a negative impact on the degree of integration and was not significant. Currently, in view of the development status of cultural and tourism integration, there is a lack of suitable talents for integration in the market, especially high-end management talents. The talent supply market does not match the demand market. The fixed effects with time trend included in the third column show that the time trend term t is significant at the 5% level. For Shaanxi cultural and tourism integration, with time passing by, the degree of integration increased by about 2.38% every period.

After adding the time trend term, policy effects are still significantly characterized by an inverted U-shape pattern, while other variables become non-significant.

In summary, from the perspective of driving factors affecting the integration of cultural industry and tourism industry, the impact strength is ranked from high to low as transportation location, consumer demand, government policy, technological innovation, and education. According to the results of various regression methods, there is not much difference between the overall significance of variables and regression coefficients, and the results have stable characteristics.

5. Conclusions and Recommendations

Based on the above analysis, it shows that the main problems in the integrated development of the cultural industry and tourism industry in Shaanxi Province are as follows: (1) The degree of coupling and coordination between cultural industry and tourism industry in Shaanxi Province is generally low. (2) There is a significant regional gap in the integrated development of culture and tourism among different regions within the province. (3) The integrated development of cultural tourism in various cities in Shaanxi Province is unbalanced and insufficient, and there is a large difference in the types of coupled coordination degrees among different regions. (4) Shaanxi Province still needs to make more preparations to respond to public emergencies when it comes to cultural tourism. (5) Currently, the integration of cultural tourism in Shaanxi Province is still at an initial and growing stage. The policy support from the government has an inverted U-shaped impact on the integration of regional cultural tourism, with the marginal effect of policies beginning to decline. Scientific innovation has not yet played its due key role in the integrated development, and there is a significant shortage of talent supply related to the integrated development.

As an important frontier of China's western development, Shaanxi Province plays a strong typical and leading role in the integration of cultural tourism. Therefore, to further promote the deep integration development of cultural industry and tourism industry in Shaanxi and even the western region, the following aspects need to be addressed.

Firstly, we need to further strengthen the development of tourism resources and cultural resources, with particular emphasis on utilizing technological innovation to deeply explore the value of cultural resources in the tourism industry and identifying high-quality tourism projects in the cultural industry for development. Secondly, we need to form regional linkage and build a policy support system that stimulates the vitality of market players to improve the current situation of uneven development among various regions. Thirdly, we need to improve the relevant talent training mechanisms. The industrial characteristics of cultural tourism determine that the integrated development of the industry requires innovative leading talents. Each region needs to invest more efforts in integrating production, teaching, and research to address the imbalance between supply and demand in the cultural tourism market. Fourthly, we need to start from the supply-side perspective, rely on deepening reform to promote structural adjustment in the integration of cultural tourism industry, innovate new models of industrial development, and improve the cultural tourism content production system.

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