

## Study on the Development Strategy of Yunnan Sports Industry Based on SWOT-AHP Model

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**Abstract:** This paper firstly uses SWOT analysis method to qualitatively analyze the factors affecting the development of sports industry in Yunnan, designs the AHP network structure that can accurately reflect the relationship between the influencing factors to measure the influence weight coefficient of the related factors, and then establishes SWOT- AHP comprehensive analysis model to choose a development strategy of the sports industry. The research shows that Yunnan sports industry has great advantages in developing natural resources and human landscapes, along with development opportunities such as national policies, it is necessary to adopt SO development strategy. And this paper proposes following two suggestions. Make full use of the opportunities including the resource advantage of sports industry, policy opportunities and reform of residents' consumption structure to promote the sustainable development of sports industry; consolidate the foundation of sports industry, improve the infrastructure, form a diversified financing mechanism, attach importance to the training and introduction of employees in the sports industry, and focus on creating a number of well-known brands with distinctive characteristics.

With the vigorous development of China's economic and social undertakings, the sports industry is growing rapidly and has now become a new economic growth point in China[1]. In this context, the State General Administration of Sports seized the opportunity and issued 13th Five-Year Plan for the Development of Sports Industry which made a scientific and systematic plan on the development foundation, situation, overall requirements, major tasks, key fields and major measures of the sports industry, fully reflecting the state's emphasis on the sports industry. However, compared with European and American countries, the development of China's sports industry is still in its infancy, accounting for only 0.1%-0.3% of the total GDP[2]. Yunnan is located in the southwestern frontier of China and has unique advantages in the development of sports industry. But there are still many problems in the development of sports industry, and the advantages of resources are still not fully reflected. This paper mainly uses SWOT-AHP model to analyze the factors influencing the development of sports industry in Yunnan. It first uses SWOT to comprehensively analyze the internal and external factors affecting the development of sports industry in Yunnan, and then uses AHP analysis method to qualitatively and quantitatively evaluate the sports industry, to provide a theoretical basis for its subsequent development.

### 1 Research Method

SWOT is a tool to comprehensively analyze the influence of internal and external environmental factors, also known as situational analysis method, which is widely used in various development strategies for its simplicity and intuitiveness[3]. American scholar Andrews first used this analysis method to analyze the internal advantages, opportunities and external environment of the enterprise, and this method mainly focuses on qualitative analysis. This leads to certain defects and shortcomings in SWOT analysis method, and it is impossible to analyze the priority of each element[4]. SWOT is the abbreviation of strength, weakness, opportunity, and threat.

Analytic hierarchy process was proposed by American operations researcher T. L. Saaty in the early 1970s, which is an effective decision analysis method that can be used in complex strategic

decisions[5]. The combination of SWOT and AHP methods can systematically assess the priority of each element in the decision-making process, and also achieve a combination of qualitative and quantitative research, thereby enhancing the ability of SWOT analysis method in strategic decision-making[6]. And it has been widely used by researchers at home and abroad for decision-making in various fields.

## **2 SWOT Analysis on the Development of Sports Industry in Yunnan**

### **2.1 Strength of the Development of Sports Industry in Yunnan (S)**

As a famous tourist province in China, Yunnan has its unique strength in sports industry. (1) Uniquely endowed natural resources. Yunnan is rich in natural resources, with a wide variety of flora and fauna. Its plant species ranks first in China, its climate is pleasant, it has the characteristics of Castel landforms, and there are numerous mountains and rivers, which are especially suitable for carrying out outdoor sports such as mountain climbing, rafting and hiking[7]. Yunnan Province has a vast territory with a large difference in altitude, for the difference between the highest and lowest points is more than 6,000 meters, which is suitable to carry out plateau training for all kinds of sports. In 2016, the number of people coming for body-building in Haigeng Base reached more than 70,000, and the number of people engaged in sports team training reached nearly 100,000. (2) Unique ethnic resources. Different regions nurture different cultures, and three towns in Yunnan have been rated as national-level sports and leisure town by the State Sports General Administration[8]. In “2015 China Sports Culture and Sports Tourism Expo”, 10 projects in Yunnan won the title of “Excellence Project of China Sports Tourism”. The human tourist resources are also abundant, and multi-ethnic blending has formed a unique culture. For example, the Dai people’s Mongol Song Festival, the Yi people’s beating songs and the Naxi people’s jumping are all potential sports tourism resources. (3) Emphasis from local governments. In 2017, Yunnan Provincial Government issued Yunnan Industrial Development Planning (2016-2025) (hereinafter referred to as Planning) after judging the situation. The great health industry is listed as one of the eight industrial projects that will be developed vigorously in the future 10 years. The 13th Five-year Plan proposes to establish 1 national sports industrial park, 5 plateau training bases, and 20 sports events that can promote the development of sports tourism by 2020.

### **2.2 Internal Weakness of the Development of Sports Industry in Yunnan (W)**

The weakness of sports industry development in Yunnan is also obvious. (1) Weak foundation of sports industry. The foundation of sports industry development in Yunnan is relatively weak and small in scale, and resource advantages have not been transformed into development advantages yet. In addition, the development of sports industry is imbalanced. The development of the sports industry based on plateau training base has obvious advantages and has formed a certain scale, while the development in professional sports, sporting goods and sports events lags behind. (2) Imperfect infrastructure. In recent years, Yunnan has also increased its investment in high-speed rail. The successive working of Shanghai-Kunming high-speed railway and Yunnan-Guizhou high-speed railway brings great convenience for passenger circulation, and the distance between cities is shortening. However, compared with the eastern and central regions, the development is relatively lagging. The high-speed railways of many tourist destinations in the province have not yet been opened, and the traffic in small and medium-sized cities and towns is relatively backward. The passengers in the cities of the province mainly rely on road transportation. There are big problems in terms of hotels, reception and other services, and the reception ability and service quality still need to be improved. (3) Relatively simple investment channels. In the development process of sports industry, it is necessary to invest funds in infrastructure, sports tourism projects, brand building and event promotion to ensure normal operation and enlarge scale. The sources of funds invested for Yunnan sports industry development are relatively few, mainly from government investment, which has not made full use of social resources and is still relatively backward in attracting foreign investment. This mode relying mainly on government development will inevitably

be greatly restricted.

### **2.3 External Opportunities for the Development of Sports Industry in Yunnan (O)**

At present, the development opportunities of Yunnan sports industry are all right. (1) Policy dividends of sports industry. In 2014, the State Council issued Opinions of the State Council on Accelerating the Development of Sports Industry to Promote Sports Consumption (National Development [2014] No.46) to promote the development of sports industry. In December 2014, the State Sports General Administration issued Opinions of the General Administration of Sports on Promoting the Reform of the Examination and Approval System for Sports Events (Sports and Politics[2014] No. 124), relaxing the examination and approval of commercial sports events and strengthening the operation of sports fitness equipment. (2) Reform of residents' consumption structure. The economy of Yunnan develops rapidly and has reached the rapid start stage of cultural consumption. In 2017, the province's regional GDP was 1,653,134,000,000 yuan, increased by 9.5% over the previous year, and the growth rate was 2.6% higher than the national level. The per capita GDP was 34,545 yuan, increased by 8.8% over the previous year. This means that many residents in the province have already had certain consumption power. In 2016, China's per capita GDP reached 8,280.09 dollars, the disposable income of residents increased, and sports consumption increased substantially. (3) Opportunities of "The Belt and Road" Initiative. Yunnan is bordered by Myanmar, Vietnam and Laos and also close to Thailand, having superior geographical advantages. Under context of national "The Belt and Road" initiative, its links with Southeast Asian countries become closer, and capital circulation and personnel exchanges would be more convenient and faster, which is conducive to carrying out more comprehensive cooperation[9]. Policy opportunities can speed up the cooperation with Southeast Asian countries and attract people outside the province and abroad to Yunnan for sports tourism and leisure and fitness.

### **2.4 External Threats to the Development of Sports Industry in Yunnan (T)**

The external threats to the development of sports industry in Yunnan are mainly listed as follows. (1) Competition with other provinces. In the southwestern region, neighboring Sichuan and Guizhou are also strong tourism provinces in China, having rich tourism resources. In 2016, in the tourism revenue ranking of 31 provinces and cities in China, Sichuan ranked 5th, Guizhou ranked 7th, and Yunnan ranked 12th. Compared with other two provinces, Yunnan does not have much advantage in attracting tourists. In terms of domestic demand, Yunnan's total GDP in 2016 ranked 23rd in China, people who can afford sports consumption are not much, and internal demand is slightly insufficient. (2) Lack of personnel in the industry. Personnel engaged in the sports industry in Yunnan are not sufficient, and the overall quality of employees is low. Both sports colleges and comprehensive universities in Yunnan are deficient in the training of talents in majors related to sports industry, and are not attractive enough for high-quality comprehensive talents. A high-quality talent team that can guarantee the development of sports industry has not come into being yet. (3) Insufficient well-known brands. Since the development of Yunnan sports industry, in addition to the large scale of plateau training base and three national-level characteristic tourist towns, other brands that are well-known among sports consumers are few. It is especially difficult to highlight the characteristics of sports industry, and people who have a certain awareness of the sports industry in the province are in a small quantity.

## **3 Construction and Analysis of SWOT-AHP Model for the Development of Sports Industry in Yunnan**

### **3.1 AHP Structure Chart and Judgment Matrix Construction**

According to SWOT analysis on the development of sports industry in Yunnan Province, the target layer, criterion layer and program layer are constructed and AHP structure chart is established (Figure 1).

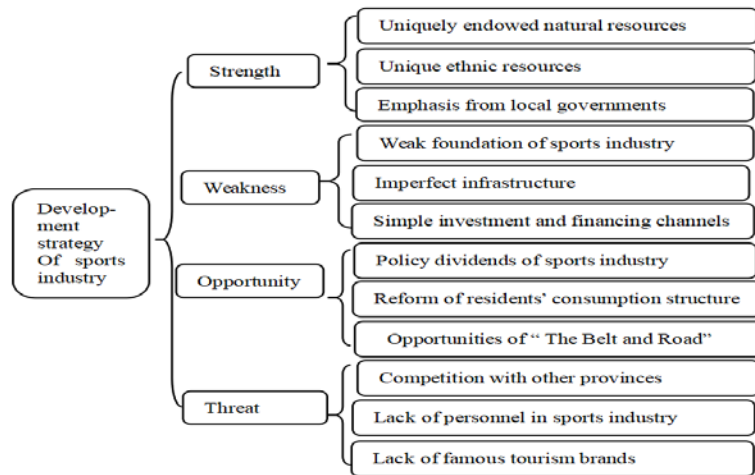


Fig. 1 AHP Structure Chart of Sports Industry in Yunnan

After determining the main factors affecting the development strategy of sports industry in Yunnan, according to the measurement scale of 1-9 in AHP of Table 1, experts in the field of sports industry are invited to compare the SWOT elements in pairs, compare the internal elements between each group in the SWOT group in pairs, and then use Delphi method to obtain the specific scores of each group through four rounds of information feedback. The judgment matrix of the four groups of SWOT is shown in Table 2[10].

Tab. 1 AHP Measurement Scale

Quantitative number	Qualitative description
1	Factor 1 is of the same importance as factor 2
3	Factor 1 is slightly more important than factor 2
5	Factor 1 is more important than factor 2
7	Factor 1 is obviously more important than factor 2
9	Factor 1 is significantly more important than factor 2
2, 4, 6, 8	The relative importance of factor 1 and factor 2 is between the above levels
1/3, 1/5, 1/7, 1/9	Factor 2 is slightly more important, more important, obviously important and significantly important than factor 1 respectively

Tab. 2 Comparison Matrix of SWOT Group

SWOT group	S	W	O	T
S	1	2	5	7
W	1/2	1	2	6
O	1/5	1/2	1	3
T	1/7	1/6	1/3	1

Based on the AHP measurement scale of Table 2, Delphi method is used to compare the elements in each group in pairs to obtain a judgment matrix<sup>[11]</sup>, as is shown in Table 3.

Tab. 3 Comparison matrix of Each SWOT Group

S group	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	W group	W <sub>1</sub>	W <sub>2</sub>	W <sub>3</sub>	O group	O <sub>1</sub>	O <sub>2</sub>	O <sub>3</sub>	T group	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>
S1	1	1/3	1/5	W1	1	3	4	O1	1	5	6	T1	1	2	5
S2	3	1	4	W2	1/3	1	3	O2	1/5	1	5	T2	1/2	1	2
S3	5	1/4	1	W3	1/4	1/3	1	O3	1/6	1/5	1	T3	1/5	1/2	1

### 3.2 Consistency Check and Sorting

The deviation size of negative mean of the eigenvalues  $\lambda_1, \lambda_2, \dots, \lambda_{\max}$  from zero is used to measure the disturbance degree of judgement matrix elements, as the measure of the inconsistency degree of judgment matrix, recorded as  $C.I.$ ,  $C.I. = \frac{\lambda_{\max} - n}{n - 1}$ . The random

$$\frac{C.I}{C.R.}$$

consistency ratio is recorded as  $C.R.$ , that is  $C.R. = \frac{C.I}{C.R.}$ . If  $C.R. \leq 0.1$ , the judgment matrix is considered to have good consistency, and the calculated  $\omega$  (weight coefficient) is acceptable. It can be seen from the calculation results that the judgment matrix of each group has a good consistency, indicating that the results are desirable (Table 4).

It can be seen from the comparison between SWOT groups in Table 4 that the influence of advantage group in the development of sports industry in Yunnan is greater than that of the other three groups, with the weight coefficient  $\omega$  of 0.593, while the least affected is the challenge group, with the weight coefficient of 0.059. In the comparison of weakness group, “weak foundation of sports industry” has the highest weight coefficient, which reaches 0.531. The most influential factor in the opportunity group is “policy dividends of sports industry”, and its weight coefficient in the group reaches 0.532.

Finally, the total priority values of various factors affecting the development of sports industry in Yunnan Province are compared. The order of influence ranks as follows: uniquely endowed natural resources, unique ethnic resources, weak foundation of sports industry, emphasis from local governments on development, imperfect infrastructure, policy dividends of sports industry, simple financing channels, reform of residents’ consumption structure, strategic opportunities of “The Belt and Road”, lack of personnel in sports industry, lack of famous tourism brands and competition with other provinces.

Tab.4 Hierarchical Sorting and Consistency Check

SWOTgroup	C.R	Weight $\omega$	SWOT factor	C.R	Weight in group $\omega$	Total weight $\omega$
Strength	0.06<0.1	0.593	Uniquely endowed natural resources	0.06	0.623	0.369
			Unique ethnic resources		0.235	0.139
			Emphasis from local governments on development		0.142	0.084
Weakness	0.06<0.1	0.236	Weak foundation of sports industry	0.056	0.436	0.103
			Imperfect infrastructure		0.332	0.078
			Simple financing channels		0.232	0.055
Opportunity	0.06<0.1	0.112	Policy dividends of sports industry	0.08	0.531	0.060
			Reform of residents’ consumption structure		0.234	0.026
			Strategic opportunities of “The Belt and Road”		0.235	0.026
Threat	0.06<0.1	0.059	Competition with other provinces	0.045	0.237	0.014
			Lack of personnel in sports industry		0.429	0.025
			Lack of famous tourism brands		0.344	0.020

#### 4 Conclusion

The following conclusion is drawn through the SWOT-AHP analysis of the development of sports industry in Yunnan. The development of sports industry in Yunnan Province should adopt SO strategy, give full play to the strengths including rich natural resources and human landscapes in Yunnan and great emphasis from the government, and make good use of the new policies of sports industry, the reform of residents’ consumption structure and the opportunity of “The Belt and Road” under the premise of protecting the ecological environment, so as to promote the rapid development of the sports industry. First, integrate the natural resources for developing sports industry in Yunnan and the cultural resources of the minority’s sports. A “government-led, society-led” strategy should be adopted to make sports industry fully developed. That is, the government introduces relevant policies and regulations for the development of sports industry, and

at the same time guides social organizations and individuals to participate in the development of sports industry, so that social resources can be fully utilized. Secondly, while exerting its own resource advantages, take advantage of national strategies and increase publicity to attract sports consumers inside and outside the province to participate. In the development of sports industry, we should first make breakthroughs in sports fitness and leisure, sports tourism and event experience to achieve point-to-area development.

While adopting the SO strategy, the development of sports industry in Yunnan Province should not ignore the negative impacts brought by weakness and opportunities. In this regard, it is necessary to further consolidate the foundation of sports industry, gradually separate sports tourism, sports and leisure from the process of relying on tourism, to become an independent industrial sector, integrate the industry elements with weaker foundation such as professional sports, competitive performances and sports betting, increase infrastructure investment, change government-oriented investment methods, and fully mobilize the enthusiasm of all aspects, to form a diversified financing mechanism. Second, attach importance to the training and introduction of employees in the sports industry. Third, take advantage of the current scale of plateau training base and the emergence of the sports characteristics towns, and focus on creating a group of well-known and leading brands.

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