Coupling Development of Sports Industry and Tourism Industry in Hunan Province in the Context of Supply-Side Structural Reform

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Abstract: In the context of economic globalization and high-tech development, industrial integration is a new way of industrial development. It promotes the realization of the integration of the sports tourism (ST) industries and provides policy support for the integration of the two major industries. In order to promote the coupling between the ST industry in Hunan Province, this paper analyzes the development status of ST in Hunan Province, finds the driving force of the combination of ST in Hunan Province, and finds the most suitable development path and development model for Hunan Province. Secondly, based on the investment and output data of the five stages of Hunan Province from 2010 to 2020, and using the direct consumption indicators of the ST industries, it is concluded that the degree of integration of the ST industries in Hunan Province has continued to grow, and the degree of integration reached 10 in 2020.Finally, it is recommended that the Hunan Provincial Government should establish and improve a macro-guarantee system, build reasonable market demand, promote enterprises to further micro-cooperative relations, and promote the integration of ST industries. Therefore, the research on the coupling development of the ST industry in Hunan Province is particularly important in the context of supply-side structural reform.

1. Introduction

China's economic development in recent years has been rapid, but there have also been some problems. China's economic structure has different supply and demand relationships in the two

important aspects of sports and the service industry. Therefore, supply-side reforms have emerged in this context. Hunan Province is very rich in natural and humanistic tourism resources, and the tourism industry has developed relatively rapidly. In recent years, due to its own unique charm, its development potential is also great, but with the development of the economy, a single industrial development model no longer has advantages [1]. Effectively correct the position of the ST industry in the national economy, improve the efficiency of its resource allocation, and actively guide the healthy, sustainable and rapid development of the ST industry in Hunan Province, and seek new economic core growth points for the industrial development of Hunan Province [2-3]. As an inevitable trend of economic development, industrial integration has brought new ways to the transformation of the industry. The development of the sports tourism industry as a hot research topic in the economic field has certain theoretical and practical significance [4].

The ST industry penetrate each other through the industrial value chain, projects, sports events, large-scale stadiums and other sports body resources. Wang Y analyzed the overall development trend of sports tourism based on econometric models from the perspective of macroeconomics. He uses tourism services as the carrier, through the integration of technology, business integration and market integration, and the gradual development of a new service ecosystem that combines the characteristics of sports tourism [5]. From the perspective of supply structure change, Erzhen conducted an in-depth analysis and discussion on the necessity and feasibility of China's sports tourism development, and conducted a preliminary exploration of its implementation methods. Through a deep understanding of China's sports tourism development and supply structure reform, it is pointed out that the current problems in the integration and development of China's sports tourism are structural problems [6]. With the deepening of regional economic integration, the integration of Beijing, Tianjin and Hebei is the trend of the times. Cui Y analyzes the distribution and influencing factors of sports tourism resources. The results show that the structure of the Beijing-Tianjin-Hebei sports industry is very complementary, and the cooperative development is conducive to giving full play to comparative advantages and the optimization and upgrading of the sports industry structure [7].

Taking Hunan Province as the research area, this paper analyzes the development of the ST industries in the region in detail, calculates the degree of integration between the ST industries, and constructs a model to quantitatively analyze the impact of the integration of the ST industries on the performance of the tourism industry in Hunan Province.

2. A Method of Integrating the ST Industries in Supply-Side Reform

2.1. Supply-Side Structural Reforms

The biggest problem hindering China's long-term stable economic growth is the "mismatch between supply and demand". Structural contradictions are prominent, and the efficiency of allocating resources is very low. The fundamental way out for the matching of supply and demand in the ST industries and achieving good development lies in reform and innovation. In this context, the implementation of "supply-side reform" is the general trend [8]. The "supply-side reform" was proposed to solve the various challenges facing China's development, shift from the "troika" to the "four elements", optimize from both production and supply, fundamentally solve the problem of domestic demand, and seek new development momentum.

2.2. The Degree of Coupling between the ST Industry

The coupling between the ST industries can be achieved because the two continue to influence and interact in the development process. It is usually mentioned that the degree of coordination

refers to the degree of coupling correlation, which refers to the determination of whether there is a connection between the systems after measuring the distance between the static systems [9]. Here, the sports industry is represented by S, and the tourism industry is represented by T. U (x,r) and V (y,r) are used as functions to measure the development level of these two industries. X is the feature vector of system S, and y is the feature vector of system T. The coordination between the ST industry refers to the relative coefficients of U (x, r) and V (y,r). The smaller c, the better, then:

$$c = \frac{2\,|U(x,r) - V(y,r)|}{U(x,r) + V(y,r)} \tag{1}$$

Through the calculation, c1 can be set as the measurement model, $0 < c1 < 1$.

Although cl can be used to measure the relationship between the ST industry, in some specific cases, this model does not reflect the actual situation and extent of the two industries [10]. Measuring the degree of correlation between the two is only to understand the connection between the two. Its ultimate goal is to promote the healthy interaction between the ST industry. Using cl as a relevant measure lacks scientific and guiding significance [11]. Therefore, to truly reflect the actual situation of the ST industries, it is necessary to establish a coupling relationship between the two and establish a coordinated model so that it can reflect the development status of the two. On this basis, combined collaborative scheduling refers to the level of related development between the two industries.

$$D = (c1 \bullet T)^u, T = vU(x,r) + wV(y,r) \tag{2}$$

In the above formula, D is used to represent coupling coordination and c1 is used to represent correlation; T is the indicator of the comprehensive benefits and development status of the two major industries; the pending parameters are represented by u, v, and w, usually their value is 0.5.

Although the coupling coordination model is very simple, it combines the coordination state D of the sports tourism industry to reflect the degree of development of the two and avoid the difference between the two. Compared with the correlation model, this model has wider application prospects and higher stability, and is suitable for the development of ST industries in the same region or at various stages of development in different regions [12-13].

3. The Structural Power System of the ST Industry for Supply-Side Reform

According to the point of view of system theory, the fundamental reason why the ST industry can continue to develop and grow is that many driving factors have formed a driving force and formed a driving power system. This power system is open and controllable from a functional point of view, and its input, output, and control are all composed of multiple factors, which are a collection of variables[14].

The research in this paper draws on the analysis of ST industry institutions by other scholars, and then constructs a structural power system of ST industry. From the perspective of the relevant theories of the supply-side structural reform of ST, the influencing factors of the structure of the ST industry are analyzed and explained in detail from the supply-side and demand-side aspects. In this paper, the research on the structure of the ST industry based on the comprehensive system science theory and the balance of supply and demand theory is combined with the problems existing in the ST industry from the perspective of the supply-side structural reform of ST. The structure of the ST industry is recognized as a dynamic growth system, which works from the supply side and the demand side at the same time, and works together to affect the structure of the ST industry[15].

When constructing the structural power system of the ST industry, this paper comprehensively considers various factors and divides them into four subsystems: supply, demand, decision-making, and support, as shown in Figure 1.
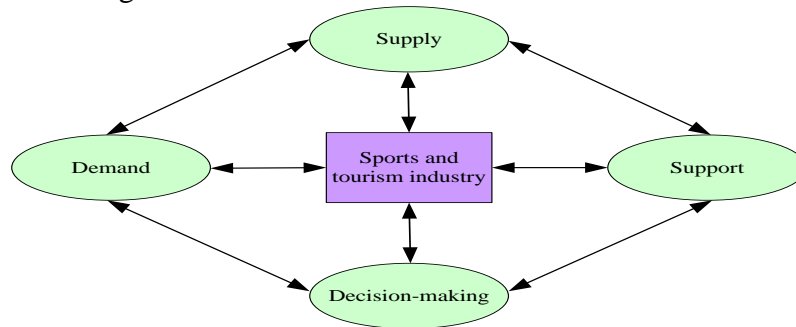

Figure 1. Dynamic model of ST Industry

This system is relatively complex[16]. The demand subsystem in the power system is the driving engine, which plays a driving role in the operation of the entire power system; the supply-side subsystem in the power system mainly plays a driving role, promoting consumers to transform potential needs into real needs; the main role played by the support subsystem in the power system is to assist in the promotion role, which can provide a suitable hardware and software environment to ensure the effective operation of the power system; the main role played by the decision-making subsystem in the power system is to induce action, which is an effective guarantee for the operation of the power system. Therefore, the structural power system of the ST industry, as a large system with a complex system, no matter which subsystem or the internal elements of the subsystem change, it will have an impact on the whole.

4. Coupling Results and Discussion of ST Industry in Hunan Province

4.1. Coupling Degree Development

Figure 2 shows the degree of integration of the ST industry in Hunan Province from 2010 to 2020, as well as the trend chart of the degree of integration of the ST industry segments, which more intuitively shows the development and changes of the degree of integration.
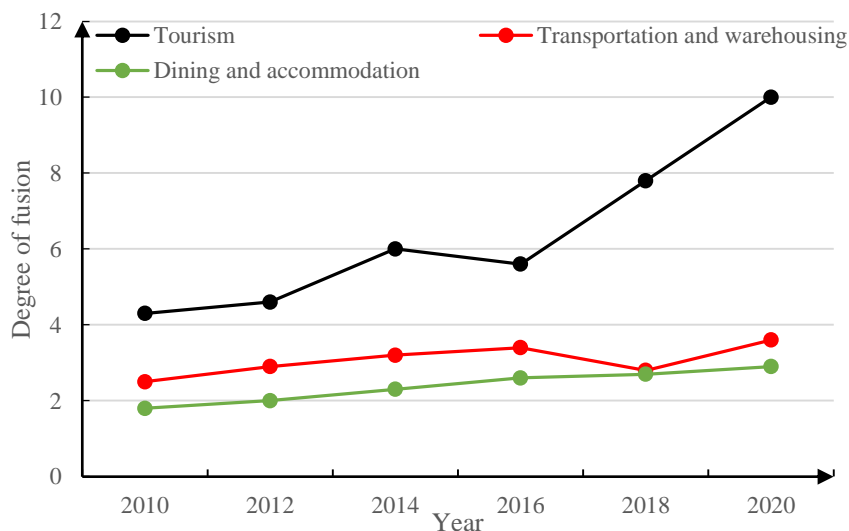

Figure 2. The degree of integration of the ST industry in Hunan Province

The degree of integration between the ST industry in Hunan Province is not the same. Since 2010, except for the accommodation and catering industry, the value of the degree of integration of other industries has gradually increased, indicating that the degree of correlation between related industries is getting closer and closer. By 2020, in the degree of integration between the ST industry, the transportation and warehousing industry is higher than that of the accommodation and catering industry. The development trend of the integration of transportation has changed more than that of other industries; the degree of integration of the hotel industry has fluctuated less. It can be seen that with the continuous improvement of material living standards, people's psychological consumption level will gradually increase. Traditional tourism products and forms can no longer meet the needs of the market. New products that combine ST will become new tourism resources that attract more tourists. With the development of the sports industry, the influence of traditional catering, accommodation and other industries on the tourism industry has gradually weakened.

4.2. Coupling Strategy

(1) Strengthen school-enterprise cooperation
The ST industry belong to the heads of two departments, namely the Sports Bureau and the Tourism Bureau. Therefore, in the integration of the ST industry, adhere to the leading role of the government. In these two industries, the formulation and issuance of government policies and documents are essential, which plays a very important role in promoting the development of the ST industry.
(2) Resource integration
The coupling development of Hunan Province's ST industry has brought about the common development of the ST industry. When the coupling of the two major industries in Hunan Province is still in its infancy, it is necessary to absorb the cultural essence of the two major industries to expand the shortcomings in the process of brand creation. Based on Qing culture, ice and snow culture, etc., modern cultural resources are injected to develop an industrial brand with Hunan characteristics; on the other hand, it integrates the folk culture and local characteristics of ethnic minorities in Hunan to form a wide-channel industrial coupling method, and enhances the core competitiveness of the coupled development of the ST industry.
(3) Formulate relevant policies
Formulate preferential fiscal, financial, price and other policies, and give strong support to the integration and coordination of the ST industry from the policy point of view; give full play to its guiding role, increase financial investment in the ST industry, and at the same time, encourage the development of integrated sectors of the ST industry, and appropriate discounts. The purpose of ST activities is to make people's physical and mental entertainment, which is a cause for the benefit of the people. The government should appropriately restrict prices for various venues, attractions or event services to ensure that most people have the strength to consume.

5. Conclusion

The integration and synergy of the ST industry in Hunan Province need to formulate strategies to achieve optimal development. For example, it can start from the three aspects of the government, the market and society: formulate relevant policies, innovate the system, and rationally allocate integrated resources; take market demand as the guide, strengthen corporate cooperation, and enhance the cultural connotation of integrated products; promote the socialization of the sports industry, encourage active investment from all walks of life, and take advantage of the advantages of modern media. Build a more scientific and reasonable coupling evaluation index system for the ST industry. Due to the difficulty of collecting the latest data on the sports industry, the evaluation

index system currently constructed for the coupling of the ST industry fails to fully reflect the latest developments. It only reflects a trend, and the latest data needs to be further explored in subsequent research.

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Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

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