Study on Unbalanced Occurrence Mechanism of Talent Agglomeration in Sports Industry Cluster

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Abstract: In the development of sports industry cluster, the agglomeration level of talent resources, which is an important factor, will be uneven, resulting in shortage or excess of talent resources, which will lead to the loss of output benefits of the sports industry. Besides, the deviation between the individual's judgment of the balanced level based on the subjective value and the actual level of talent agglomeration will also affect the effect of the talent agglomeration of sports industry cluster and hinder the long-term development of the sports industry cluster. This study probes into the occurrence mechanism of unbalanced effect of talent agglomeration in sports industry cluster from the perspective of economics, sociology, and psychology. It also provides relevant suggestions for how to avoid the unbalanced talent agglomeration in the development of sports industry cluster and maximizing the benefit of sports resources.

Keywords: Sports Industry Cluster ; Talent Agglomeration ; Unbalanced Effect

1. INTRODUCTION

In January, 2015, *Measures for the Operation and Management of Gymnasiums* issued by State Sport General Administration encourages to construct sports service complex and sports industry cluster. In November, *Layout planning of sports industry agglomeration area in Shanghai city (2017-2020)* issued by Shanghai Administration of Sports, Shanghai Municipal Development and Reform Commission, Shanghai Planning and Land Resource Administration Bureau and Shanghai Municipal Tourism Administration aims at leading the development of Shanghai sports industry in the direction of high cluster, high-end customization, high integration, unique features and high quality, promoting the process of Shanghai as a world-famous sports city. China has bided for a series of international competitions such as Winter Olympics, Asian Games and Universiade, etc. Great progress has been made in the development of China's sports industry. The importance of the development of the sports industry has also been raised to an unprecedented height [2].

The concept of industrial cluster was proposed by Professor Michael Boer of Harvard University in 1990 and first appeared in the book *National Competitive Advantage*. Industrial cluster is a new form of industrial organization with the advantages of higher efficiency of its internal resource allocation, greater competitive advantages, which has a stronger promoting effect on the economic development of local areas.[3] The process of industrial agglomeration is usually accompanied by a large number of talent resources agglomeration at the same time. In turn, a large number of talents agglomerated through this process can also help industrial cluster to get rapid promotion and promote the formation and development of industrial cluster. Especially, talent agglomeration will produce certain agglomeration effect, which is of great significance for improving the industry's ability to continuously maintain innovation[4].

The development of China's sports industry cluster is forwarded. Promoting the development of sports industry cluster through sports talents cluster also faces some practical problems that need to be solved: How to take effective measures to improve the talent agglomeration ability of sports industry cluster? By what means and measures can we speed up the flow of sports talents to sports industry agglomeration areas? How to maintain the sustainable and deepening development of sports industry clusters is worthy of high attention and deep research and discussion. Through the empirical analysis of China's sports industrial agglomeration and cluster evolvement, Song Yu [5] [6] [7] concluded that the development of China's sports industry cluster is unbalanced, which is mainly reflected in the development of urban and rural sports industry as well as the development of regional sports industry, etc. By researching the generation mechanism of the unbalanced effect of talent agglomeration in sports industry cluster, this paper can enrich the research results of talent agglomeration theory in sports industry cluster and provide some theoretical guidance and practical reference for the talent resources management in the development of sports industry cluster.

2. UNBALANCED EFFECT AND RELATED CONCEPTS

(1) Unbalanced effect

The unbalanced effect refers to that in the stage of developing sports industry, whether it is due to the unbalanced of objective factors between sports industry agglomeration and the demand for sports talents, or the unbalance of supply and demand experienced by individuals through cognition, the unbalanced state above will have a negative impact on the development of sports industry cluster and hinder the sustainable development of sports industry cluster. At present, there are several situations in our country in the early stage of hosting large-scale competitions and developing new sports industry cluster areas : (1) the degree of talent agglomeration increases sharply, and a large number of sports talents gather in the same area, far exceeding the demand of local sports industry talents, resulting in unnecessary waste of human resources, unable to give full play to the strength of various sports talents, making the efficiency of the output of sports industry resources low, causing the overall output benefit of the entire sports industry cluster to be dragged down by the human cost. Conversely, the lack of talent agglomeration leads to the lack of human resources, which will also affect the output efficiency of sports industry resources and reduce the output benefit. (2) The quality and quantity of the sports industry cluster's demand for talents are not completely matched and corresponding. Blind entry of talents of the same type will intensify their competitive relationship, making the relationship between individuals become excessive competition that should have been mutual and healthy. (3) In addition, individuals will not choose to enter the sports industry because they subjectively feel that it has reached a state of balanced, thus the outstanding talents who have high-capacity capital and can play a role in the sports industry field may flow to other clusters or other fields of talent demand markets. The mismatch between the quantity and the demand of talent , the intensification of excessive competition and the loss of high-capacity human capital will weaken the ability of sports industry clusters to gather talents, thus hindering the innovation and development of sports industry.

(2) Optimal scale of sports industry cluster

The essence of sports industrial cluster is the extension of the phenomenon of industrial clusters in the field of sports industry. It is mainly manifested in various related sports industries. Under the guidance of the agglomeration of production factors, the highly centralized phenomenon in geographical areas appears [9]. It is those sports-related industries that reach a high degree of concentration in a certain geographical area. In this process, various production factors are concentrated in space at the same time [9]. The research on the scale of sports industrial cluster is mainly carried out through the research and analysis of the scale of industrial cluster. The most commonly used theory is represented by Hoover in the 1950s. Hoover [9] believes that the agglomeration effect of industries does not always exist, which has an optimal scale. For any industry, if the scale of agglomeration does not match the industrial development, it cannot promote the industrial development better. For example, in a certain region, if the scale of industrial agglomeration is relatively small, it cannot be able to gather enough factors of production, which will restrict the development of local industries. If the scale of industrial agglomeration in this region is too large, it will cause the scale of production materials too large and the oversupply of some production materials, which are not conducive to the healthy development of local industries. Europe and America have made relatively obvious achievements in the early development of sports industry cluster, such as Manchester sports industry cluster area, Sheffield sports industry cluster area, Aspen sports industry cluster area in the United States, Aiken county sports industry cluster, etc. These sports industry cluster areas have fully coordinated various production resource factors to promote the healthy development of local sports industry clusters. With the deepening exchange of the global economy, China's sports industry is developing rapidly. In order to better promote the healthy development of China's sports industry, a sports industry cluster oriented by the national sports industry base is being actively constructed. Scholar Huo Pengxiang [21] pointed out that although the sports industrial clusters in the central region of China have begun to take shape, however, compared with the eastern region, there exist many problems such as the low efficiency of the clusters, the need for further expansion of the cluster market, the imbalance of the industrial structure, the imperfect functions of the clusters and the need to improve the innovative ability of the clusters. Therefore, for the development of sports industry clusters, it is necessary to avoid the problems of too large or too small scale of clusters resulting in reduced efficiency of resource allocation, unbalanced production factors and loss of industrial benefits.

3.GENERATION MECHANISM OF UNBALANCED SPORTS TALENTS AGGLOMERATION

(1) The development stage of sports industry cluster and the unbalance of sports talent agglomeration

Like all industrial development or product development, sports industrial clusters have an objective life cycle. According to Ttichy G[9],who did the research of industrial clusters from the time dimension referred to the product life cycle theory in 1998, we can also divide the life cycle of sports industrial clusters into four phases, namely, the Formative Phase, the Growth Phase, the Maturity

Phase and the Petrify Phase[10]. As shown in figure 1, there exists a certain difference between industrial cluster and the life cycle of enterprise. For an individual enterprise, its life cycle includes its creation, development, and destruction cycle, while the life cycle of an industrial cluster is within its cluster, and the overall number and scale of all enterprises are the judging criteria. Compared with enterprise, the life cycle of industrial clusters is longer, and its life cycle is mainly influenced by the cooperation, competition and development of enterprises in clusters [11]. The sports industry cluster is formed by every sports-related industry. Once a cluster economy is formed, the cluster provides an external environment for all enterprises in the region to survive and develop. Each enterprise obtains more economic benefits under the external environment provided by the cluster, realizing specialized division of labor and cooperation benefits, thus having a strong attraction to a large number of enterprises engaged in sports-related activities, which will also have a great impact on talent agglomeration. While once the economic benefits brought by the external environment are reduced, all enterprises within the cluster will begin to withdraw one after another, then the local sports industry cluster economy gradually declines and the function of talent agglomeration decreases, even a large number of people in the cluster will choose to leave the cluster.

At different stages of the development of the sports industry cluster, the balance level of talent resource agglomeration will change with the development of different stages. We propose a concept of talent agglomeration balanced density ρ, that is, the proportion between the actual number of talent agglomeration and the actual number of talent needed in the cluster. When ρ is equal to or infinitely close to 1, it is the optimal value, indicating that the number of talents in industrial clusters matches the number of talents needed for cluster development. When ρ is less than 1, it indicates that the gathered talents cannot meet the requirements of the development of sports industry clusters. When ρ is greater than 1, it indicates that there is an excess demand for the gathered talents relative to the sports industry. Generally speaking, when an industrial cluster reaches its maturity phase, the value of ρ is equal to about 1. when the scale of the cluster continues to develop, it is necessary to continuously adjust the agglomeration density of talents so as to keep the value of ρ unchanged in the dimension of 1 and prolong the optimal state life of the sports industrial cluster, as shown in figure 1.

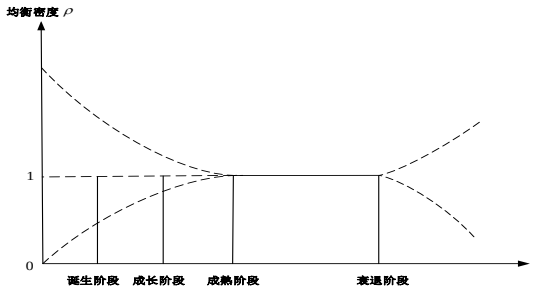

Figure 1 Relation curve between sports industry cluster cycle and balanced density of talent agglomeration

(2) Decision basis for sports industry talents entering the cluster

First of all, the proportion of the balanced density ρ of talent agglomeration needs to be known. ρ is greater than 1, which proves that the number of talent agglomeration is greater than the number of talent agglomeration needs. ρ is less than 1, which proves that the number of talent agglomeration is less than the number of talent agglomeration needs. Secondly, subjective individual has a sensory ρ value for talent balanced, which is a psychological balanced estimation value produced by talents after judging their cognitive values. In the process of sports industry agglomeration, it not only attracts professional talents specialized in sports industry development, but also attracts other high-level talents in sports-related industries or development directions. Before deciding whether to enter the sports industry cluster, outstanding talents in all these industries and related industries make a proportional estimation of the existing number of talents in the cluster and the maximum number of talents that the cluster can accommodate to form a balanced sense value ρ. When the sense value ρ is less than 1, the number of talents in the cluster does not meet the demand, the degree of competition among individuals is small, and talents will consider entering the cluster. when the sense value ρ is greater than or equal to 1, the number of talents in the cluster has reached the maximum capacity, so talents choose not to enter the cluster. Certainly, the sports industry has its particularity, including the complexity of the cycle of construction scale, the diversity of sports products, and the symmetry of information about the sports industry as well as the differences between professional sports talents and non-professional sports talents in the cognition of the sports industry field. In general, as individuals, especially those who have not yet entered the cluster, cannot correctly estimate the true balanced value of talents in the region. Therefore, the judgment basis for the decision of whether to enter the sports industry cluster by talents outside the cluster is not the actual value of the balanced value ρ of talent agglomeration but the perceived balanced value ρ .

Based on Ttichy G[9]'s cluster life cycle theory, we

can also divide the development process of sports industry cluster into four stages, as can be seen from the chart, 1. When the sports industry has reached different stages of scale, when the actual balanced density of talent agglomeration is less than 1 optimal density, talents outside the cluster will consider entering the sports industry cluster. When the actual balanced density of talent agglomeration is greater than the optimal balanced density, talents will continue to produce agglomeration effect, which will lead to crowded elements of talent resources, waste and idleness of talents. 2. When the actual density of talent agglomeration is less than the optimal density, a large number of talents choose to enter the sports industry cluster from the formative phase to the growth phase, which plays an important role in promoting the development of the whole sports industry. 3 When the scale of the sports industry cluster reaches its optimal state, it needs a good interaction between the talent agglomeration and the industry cluster. At this time, it is necessary to reasonably control the proportion of the actual state of the talent balanced. Blind expansion and absorption of external talents will easily lead to crowded talent agglomeration. However, some analysts believe that in the phase of growth and maturity, temporary unbalanced is sometimes a kind of benign unbalanced. It will be beneficial to the development of industrial clusters as long as reasonable and appropriate measures are taken.

Table 1 Decision Analysis of Individuals Entering Cluster at Different Stages of Cluster Development

Different scale stages of cluster development	Actual situation	Whether to enter the cluster	Decision	The influence of the decision of talents entering the cluster on the development of industrial clusters
The formative phase	ρ real value ≤ 1	ρ real value ≤ρ sense value	Do not enter	Negative effect
		ρ real value> ρ sense value	Enter	Positive effect
	ρ real value＞1	ρ real value ≤ρ sense value	Do not enter	Positive effect
		ρ real value> ρ sense value	Enter	Negative effect
The growth phase	ρ real value ≤ 1	ρ real value ≤ρ sense value	Do not enter	Negative effect
		ρ real value> ρ sense value	Enter	Positive effect
	ρ real value＞1	ρ real value ≤ρ sense value	Do not enter	Positive effect
		ρ real value> ρ sense value	Enter	Negative effect
The maturity phase	ρ real value ≤ 1	ρ real value ≤ρ sense value	Do not enter	Negative effect
		ρ real value> ρ sense value	Enter	Positive effect
	ρ real value＞1	ρ real value ≤ρ sense value	Do not enter	Positive effect
		ρ real value> ρ sense value	Enter	Negative effect
The petrify phase	ρ real value ≤ 1	ρ real value ≤ρ sense value	Do not enter	Negative effect
		ρ real value> ρ sense value	Enter	Positive effect
	ρ real value＞1	ρ real value ≤ρ sense value	Do not enter	Positive effect
		ρ real value> ρ sense value	Enter	Negative effect

4. CONCLUSION AND ENLIGHTENMENT

(1) Unbalanced talent agglomeration includes both the objective deficiencies and excesses of the human

resource factors and the individual's subjective judgment errors in the balanced state of talent agglomeration in the sports industry clusters. Both are not conducive to the sustainable development of sports industry clusters. For this reason, for the talent flow in the sports industry, it is necessary not only to fully strive for the market's basic support for the sports industry's human resources, but also to make use of relevant government departments to make reasonable plans for the flow of talent resources needed for the development of sports industry clusters.

(2) The unbalanced state of talent agglomeration in sports industry clusters can be divided into two types: benign unbalanced and non-benign unbalanced. In the practical development of sports industry clusters, we try to evade the occurrence of non-benign balanced. If there is a temporary benign unbalanced state, we must take some timely and effective measures to intervene and avoid the development of non-benign balanced.

4.3 The development of sports industry clusters will reach a mature stage in the future. At this time, the sports industry clusters will also face transformation and upgrading. In the future development, higher, stricter and more detailed requirements will be put forward for the structure and quality level of the talent resources of the sports industry. Therefore, in the long-term development of sports industry clusters, we must not only prevent the problem of insufficient talent agglomeration, but also avoid the phenomenon of excess talent agglomeration at each stage.

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