

Analysis on the Formation and Innovation Mechanism of Tourism Industry Cluster

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ABSTRACT. As the leading industry of service industry, tourism industry has a wide range of industrial clusters because of its close connection and obvious aggregation. The formation of tourism industry cluster needs certain conditions and power, and needs continuous innovation. Innovation ability plays an important role in improving the development and competitiveness of tourism industry cluster. This paper discusses the formation conditions of tourism industry cluster from two dimensions of space and industry, and analyzes the driving mechanism of tourism industry cluster from the internal and external driving forces of enterprises. On this basis, it discusses the innovation mechanism and influencing factors of tourism industry cluster, which is helpful to deepen the theoretical and practical development of tourism industry cluster and promote the sustainable innovation of tourism industry cluster.

KEYWORDS: tourism industry cluster; formation conditions; dynamic mechanism; innovation mechanism; influencing factors

1. Introduction

Since 1990s, along with the process of economic globalization, industrial cluster has become an important engine of economic growth competition. Michael Porter pointed out that there are significant effects of knowledge spillover and economies of scale in industrial clusters, and with the continuous diffusion of technology, a strong and sustained competitive advantage has been formed[1].The tourism industry is characterized by its unique resource endowment, long industrial value chain, and close links between industries. In order to cope with the increasingly competitive tourism market, local tourism industries tend to form tourism industry clusters around the core attractions of tourism, accelerate the realization of the goal of rapid development of tourism industry through cluster strategy, and improve market competitiveness [2].With the rapid development of economy and society, consumers' high-level "tourism experience" requires tourism enterprises to continuously innovate. Innovative industrial clusters are important parts of national and regional innovation systems. At present, China is in the strategic stage of innovation-driven development. Cultivating innovative tourism industry cluster and

analyzing its innovation mechanism and influencing factors play an important role in the evolution and development of the cluster, the adjustment of industrial structure and the realization of the strategic goal of promoting economic development through innovation.

In the relevant literature about the formation of tourism industry cluster, some of them discuss whether the tourism industry is suitable for the development of cluster. Some scholars believe that the theory of industrial cluster is not suitable for the study of tourism industry (Xueying Huang and Hui Zhang, 2013) [3]. They believe that the specific areas of industrial clusters need to include core product manufacturers, service providers and other relevant institutions. These related industries are closely interactive cross industry concepts, while in the tourism industry cluster, they cannot fully meet the conditions for the existence of industrial clusters. Most scholars at home and abroad generally believe that the theory of industrial cluster can be applied to the study of tourism industry, but it is different from the industrial cluster of manufacturing industry. Tourism industrial cluster has its unique features in product composition, consumption mode, product innovation, and the relationship and interaction between enterprises. The existing researchs mainly focus on the definition, constituent elements and evolution mode of tourism industry cluster [4-7]. The description of the formation conditions and driving mechanism of tourism industry cluster are not systematic, and the literatures about the innovation mechanism and its influencing factors of tourism industry cluster are relatively lacking. From the development stage to the mature stage, tourism industry cluster needs certain conditions and impetus. Cluster is conducive to the optimal allocation of resources. At the same time, in reality, the lack of innovative thinking and innovation ability of industrial clusters is easy to suffer from shrinking and declining prestige. The innovation involved in tourism industry cluster not only refers to technological innovation, but also involves service, product, management, operation and other aspects. The construction of innovation mechanism of industrial cluster is the internal requirement of the survival and development of industrial cluster, which can enhance the overall strength of the cluster, expand the influence scope of the cluster, and also is the necessary condition for the sustainable development and evolution of industrial cluster.

To sum up, this paper will make a systematic theoretical explanation of the formation conditions and dynamic mechanism of tourism industry cluster, and discuss the innovation mechanism and influencing factors of tourism industry cluster here, which is conducive to improving the innovation ability and economic growth competitiveness of tourism industry cluster under the new economic situation, and deepening the theoretical and practical development of tourism industry cluster [8].

2. The forming conditions and driving mechanism of tourism industry cluster

Padmore and Gibson (1996) creatively applied the "Diamond Model" proposed by Michael Porter to the study of industrial clusters [9]. They believed that resources, infrastructure, enterprises, relevant auxiliary institutions, markets and other factors play an important role in the formation of industrial cluster competitiveness. By

integrating these elements, this paper holds that "spatial agglomeration" and "industrial association" are the necessary conditions for the formation of tourism industry cluster. Next, it discusses the conditions for the formation of tourism industry cluster from the spatial dimension and industrial dimension, and then discusses the driving mechanism of promoting the development of tourism industry cluster from the external and internal driving forces.

2.1 Formation conditions

The formation conditions of tourism industry cluster can be analyzed from two dimensions, including spatial conditions and industrial conditions, as shown in Figure 1. When the tourism industry gathers in space, it needs some space conditions to form an industrial cluster, including: (1) rich tourism resources, including natural conditions, cultural connotation, human environment, etc. The diversity, heterogeneity and quality of tourism resources are the main source of attraction for tourists, which is the important basis for forming the core attraction of tourism industry cluster. (2) Geographical location and convenient transportation. Tourism products are immovable and regional. Superior regional location and convenient traffic conditions have a positive impact on the accessibility of tourist attractions, which is conducive to the flow of production factors and is the forerunner of the development of tourism industry cluster. (3) Domestic and foreign market demand. The demand of domestic and foreign markets is the driving force for the growth of tourism industry cluster, which can bring opportunities and innovation to the cluster. (4) Relevant supporting enterprises and institutions. Tourism industry cluster is not only a kind of agglomeration of tourism industry, its core attraction layer has strong cohesion, and the relevant enterprises and institutions that play a supporting role in the core elements are agglomerated for supporting development. The related enterprises and related institutions in the cluster have close connection and connection between the front and back items. The division of labor and cooperation among industries form an organic whole of mutual cooperation, competition and active interaction. (5) Government support. On the one hand, the government provides the necessary infrastructure and system planning for the tourism industry cluster. On the other hand, it provides scientific and reasonable cluster policies to promote the competition of enterprises in the industry cluster.

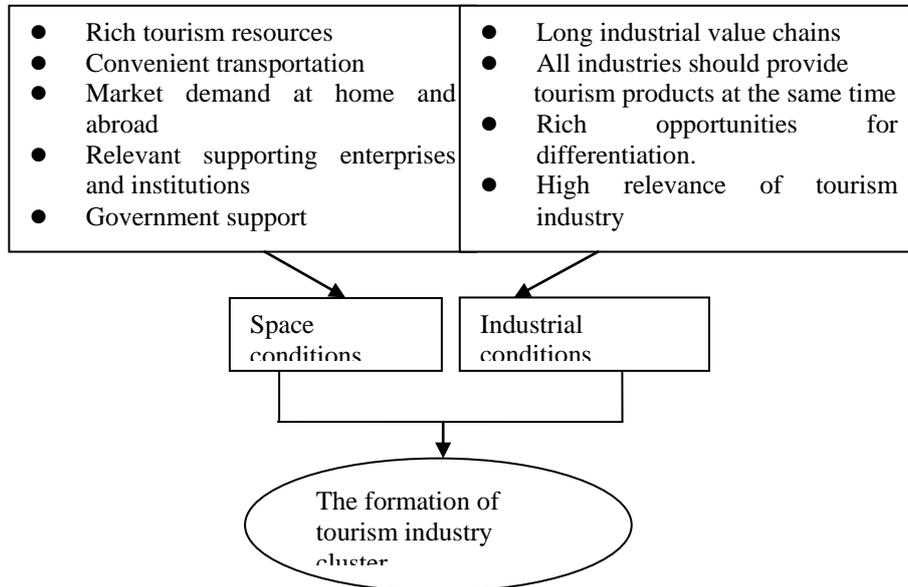


Figure. 1 The formation of tourism industry cluster

The industrial conditions for forming tourism industry cluster include: (1) A long industrial value chain and a certain industrial scale. Tourism industry has a long industrial value chain based on tourism products or services, including core service chain, basic service chain, extended service chain and support service chain. The service functions of industrial cluster fully penetrate into the industrial chain to provide complete services for consumers. (2) All industries of tourism industry should provide tourism products at the same time. Different from the production products of manufacturing industry, the core products of tourism are immovable and the consumption of products is vertically separated. In order to make tourists have a complete experience, the enterprises in various industries in the tourism industry cluster need to provide tourism products at the same time. (3) There are rich opportunities for differentiation in tourism products. Tourism resources have natural differences. At the same time, in order to meet the increasing consumer demand, enterprises need to constantly innovate and provide differentiated tourism products. The cluster improves the competitiveness of the cluster through differentiation strategy. (4) The tourism industry is highly connected and easy to be connected. The tourism industry is the accumulation of a division of labor process, and the leading industries in the industrial chain are related. The core attraction of tourism, relevant auxiliary institutions and external market, technology and institutional environment will produce innovative relationship network through interaction, and promote the coordinated development of downstream industry and upstream industry.

2.2 Dynamic mechanism

Generally speaking, the power mechanism of industrial cluster can be divided into two aspects. On the one hand, it is the internal dynamic mechanism, that is, the cluster growth driven by the internal forces such as division of labor and complementarity, high dependency demand of value chain. On the other hand, it is the external dynamic mechanism, that is, the cluster development driven by external forces such as external demand and knowledge spillover.

The internal dynamic mechanism of the formation of tourism industry cluster includes the following contents: (1) The pursuit of scale economy and scope economy by tourism enterprises. Schumpeter believes that when there is scale economy and scope economy in the enterprise, the enterprise can obtain the maximum profit with the minimum cost. This has become the most important motivation for the agglomeration of major tourism enterprises. Tourism enterprises use resource advantages to produce and process their own professional products, reduce the cost of conversion of production and processing links, and refine products to form differentiation advantages, improve brand effect, and reduce operating costs. At the same time, sharing the tourism resources and labor market in the tourism industry cluster can make the information transfer fast and convenient, reduce the transaction cost and search cost. Through efficient infrastructure to enhance the development ability of regional tourism, improve the utilization rate of service facilities to strengthen the ability to accept the entry of tourism enterprises, so as to maximize the external economic benefits of the tourism industry cluster and promote the long-term development of the whole cluster. (2) Based on the dynamic mechanism of high dependence demand of tourism industry value chain. The value chain of tourism industry is a kind of vertical structure of tourism industry in series, which is formed by the supply and demand relationship of various tourism related enterprises and institutions. Among them, the core value chain includes ticket sales, reception and value-added experience, the basic service chain includes accommodation, catering and urban transportation, the extended service chain includes shopping, entertainment and business exhibition, and the support service chain includes advertising consultation and long-distance transportation. These four industrial value chains continue to extend and expand. With the increase of the derivative demand of tourists, it is constantly attracting new factor industries to join the cluster, and improving the overall competitiveness of the tourism industry cluster by improving the product quality and service level [10].

The external driving mechanism of the formation of tourism industry cluster includes the following contents. (1) The driving mechanism of personalized demand based on tourism consumption. With the continuous improvement of economic and living standards, consumers' demand for tourism products presents personalization, diversification and complexity. From the initial simple tourism to catering and accommodation, to the emerging high-end meetings, creative experience, etc., it requires that all links in the value chain of the tourism industry have rapid response capabilities. On the one hand, if the tourism enterprises are separated and isolated from each other, the information cannot be shared, and the market division of labor

is not clear, it will not be able to meet this demand; on the other hand, the personalized product demand of tourism consumption can only be realized when the conditions of specialization in the value chain of tourism industry are met. This requires enterprises to have flexible production capacity, and enterprises should gather together for networking to make it highly collaborative and closely linked. Therefore, the way to meet the personalized demand of tourism consumption is specialization and "flexible specialization". (2) Based on the knowledge spillover effect of tourism industry cluster formation mechanism. Through the knowledge spillover effect, the operation and management cooperation of tourism products and services has been greatly promoted, which is conducive to the formation of the core advantages of each tourism enterprise, and then enhance the competitiveness of the overall tourism industry. At the same time, knowledge spillover will form diffusion effect, promote new enterprises to enter the market, improve the competitiveness and innovation ability of tourism enterprises and reduce innovation cost. Finally, it is conducive to the gathering of professional and technical talents, promoting the flow of human resources and increasing knowledge accumulation [11].

3. Innovation mechanism of tourism industry cluster

Different from other industrial clusters, the innovation involved in tourism industry cluster not only involves technology innovation, product development, policy and system innovation, but also includes cultural creativity, ecological development, modular development and other forms of innovation. Through the development of personalized and targeted information services, the online marketing of tourism destination image and brand can attract consumers' attention to the greatest extent. The innovation in tourism industry cluster is not the innovation of a single industry, but the result of collective innovation. We should take into account the innovation drive of other auxiliary institutions to tourism industry. Through the knowledge spillover effect, it needs the promotion of all members of the cluster to complete the cluster innovation. The innovation mechanism of tourism industry cluster is mainly manifested as collective learning mechanism, as well as the channel and mode of knowledge flow among various elements in the cluster, which is the basis of innovation of tourism industry cluster.

3.1 Innovation mechanism of external knowledge

For the learning and innovation of external knowledge, the main body of collective learning is mainly at the level of government, employees and enterprises. Relevant government agencies should not only create a good hardware environment for the development of tourism industry clusters, but also carry out policy innovation, planning innovation, etc. The learning channels of the government are mainly through the organized research of the local government departments on market dynamics, conscious learning, proposing the motions about the internal adjustment and product innovation of the local tourism industry by carrying out planning activities, management consulting, marketing promotion, special

conferences of complex tourism. Learning can also be achieved through model imitation or observation, and then innovation of products and services can be carried out according to the demand characteristics of the target market. For employees of tourism enterprises, they learn together through education and training of tourism service and management personnel, expansion of their professional knowledge, informal communication between employees, on-site contact and communication. For enterprises, the innovation sources and channels of collective learning mechanism are various. First, it is inspired by exchanges with local peers, which helps to integrate innovation horizontally, make enterprises learn from each other, learn from each other, and optimize their value links. Second, enterprises go to other places to learn, strengthen personnel flow, and fully absorb the experience of other enterprises. Third, communication between cooperative enterprises helps to understand the new direction of innovation, and at the same time, media reports and advertising and other channels to expand innovative thinking.

3.2 Innovation mechanism of endogenous knowledge

For the learning and innovation of endogenous knowledge, there are mainly three ways. First, demand promotes innovation. There is a "learning by interacting" effect between enterprises and tourists, that is, innovation is carried out through the interaction between tourism innovation subjects and tourists. This innovation channel includes active innovation and passive innovation. The process of tourism innovation is an organic whole, which requires all enterprises in the tourism industry chain in the cluster to innovate the overall tourism products, so as to meet the innovation needs of consumers for tourism products. Active innovation is the first step for tourism service personnel to identify the needs of consumers for current products, expand innovative thinking through direct and positive interaction with tourists, and convey the information between tourists and tourism enterprises. The close and frequent interaction between the learning subjects and tourists in the cluster promotes the tourism enterprises to learn and improve their innovation ability, which is an important source of cluster innovation. Passive innovation is due to the diversity, difference and sudden demand of tourists in the consumption process. If they are not satisfied with tourism products and tourism process, consumers will express their demand through complaints and other ways. Enterprises need to find solutions as soon as possible, which makes enterprises passively innovate [12]. The second is cooperation to promote innovation, which is mainly reflected in the interactive learning among enterprises in the cluster. Tourism enterprises in the cluster affect the development of tourism in many aspects. First of all, good hardware service facilities are the guarantee for tourists to be satisfied with this tour. Secondly, the characteristic products of enterprises can attract consumers, and if the products want to have characteristics and innovation, the enterprises should enhance their innovation ability and make the products have rich cultural connotation, which can not only reflect the characteristics of tourist attractions, but also create unlimited commercial value on the limited tourism resources[13]. Finally, the enterprises in the tourism industry cluster have a high degree of internal connection in social and economic relations, so we should focus on cultivating the collective sense of honor

and loyalty of the enterprises in the industry cluster. Sharing information resources and paying attention to cultural exchange among members of enterprises in the region can generate high trust and cooperation among related enterprises. Through the cooperation between enterprises in the industrial chain and upstream and downstream enterprises, as well as the horizontal cooperation between enterprises, we can realize interactive learning and promote the innovation of tourism industry cluster. Third, relevant institutions support innovation. Relevant supporting institutions such as government management departments, public service departments, financial institutions and industry associations are the auxiliary power for the formation of tourism industry clusters, which have an important impact on the development of enterprises. Through interaction and learning with these relevant supporting institutions, an interactive relationship network is formed, with new affairs and concepts emerging constantly, which is conducive to the formation of an environment that encourages innovation and equality and openness Regional innovation environment, reduce the risk of economic exchange, and improve the economic efficiency of enterprises [14].

4. Influencing factors of innovation mechanism of tourism industry cluster

The innovation mechanism of tourism industry cluster is affected by many factors. This paper analyzes the influencing factors of innovation mechanism of tourism industry cluster from three perspectives of government, enterprise and external environment.

4.1 The government's innovation policy.

The government's innovation policy is a good guarantee for the innovation of tourism industry cluster. Cluster innovation cannot do without perfect policy support. Through the formulation of innovation policies and programs, the government establishes the system of factor flow and information flow throughout the tourism destination, so as to realize the effective application and promotion of innovative knowledge and information technology. At the same time, the government provides specific financial and technological innovation support for enterprises in resource development and management, industrial planning and support, market development and other aspects, which is conducive to the operation of innovation mechanism of tourism industry cluster, accelerating the practical transformation of scientific and technological innovation achievements of enterprises, and improving the competitiveness and innovation ability of social subjects.

4.2. Capital accumulation of enterprises

The accumulation of capital is an important foundation for the formation of cluster innovation. The capital of tourism industry cluster innovation includes tangible capital and intangible capital, such as human capital, technological capital,

social capital, etc. For the tourism industry, consumers are directly facing the tourism service personnel. In the process of tourism experience and consumption, it is inevitable to interact with the service personnel. The professional quality, basic quality and service consciousness of tourism service personnel directly affect the satisfaction of tourists to the current tourism process. Therefore, it is very important for the sustainable development of tourism industry cluster to carry out innovative talents education and train high-quality talents in tourism industry. The intangibility of social capital lies in the fact that the industrial cluster is not a simple gathering of enterprises in space, but also in the integration of tourists with local tourism culture and management system, which is conducive to the information transmission and sharing between enterprises in the cluster and those outside. The ability of information accumulation is very important for tourism enterprises. Good information accumulation ability can weaken the problem of poor information circulation in the process of cluster innovation, effectively cooperate with relevant institutions, and enhance the interaction and exchange of internal and external information.

4.3 Technology diffusion capability

According to Schumpeter's innovation theory, technology diffusion is a complex non-linear process. Through new Internet technologies such as big data and cloud computing, the development of tourism industry cluster is constantly improved, so as to evolve, apply and expand new technologies, methods and concepts. On the one hand, in the tourism industry cluster, in order to meet the needs of tourists to enjoy the complete tourism products, different enterprises form an integral part of the overall tourism products or services. Each enterprise has a long-term cooperative relationship and interaction mechanism, which influence each other closely. Through communication and learning, enterprises can carry out innovation and cooperation, and improve the enterprises in the cluster the speed of innovation diffusion with relevant institutions. On the other hand, due to the externality of tourism products, the intangibility of tourism services, and the high risk and investment of independent innovation, the enterprises in tourism industry cluster tend to imitate innovation. This kind of imitation innovation refers to the introduction of new tourism products, services and processes, the adoption and application of new technologies to launch unique tourism products and services, and the continuous improvement of the system to meet the needs of consumers [15].

5. Conclusion and research prospect

The development of tourism industry cluster can achieve scale benefits, resource sharing, knowledge spillover and other effects, with economic benefits and competitive advantages, but its formation needs certain conditions, and innovation is an important way to maintain the sustainable competitiveness of tourism industry cluster. This paper finds that the formation conditions of tourism industry cluster include rich tourism resources, convenient transportation, domestic and foreign

market demand and other spatial conditions, as well as a long industrial value chain and a certain industrial scale, high degree of relevance of tourism industry, and easy networking and other industrial conditions. The driving mechanism of tourism industry cluster includes the pursuit of scale economy, high dependence of industrial value chain, variability of consumer demand and knowledge spillover effect. The innovation mechanism is mainly embodied in the collective learning mechanism. In the learning of external knowledge, there are differences in learning channels and mechanisms at the level of government, employees and enterprises. The main ways of learning and innovation of internal knowledge include the needs of consumers to promote innovation, the cooperation between enterprises to promote innovation and relevant institutions to support innovation. The government's innovation policy, the capital accumulation of enterprises and the ability of technology diffusion play important roles in the operation of innovation mechanism of tourism industry cluster.

Therefore, in order to improve the innovation ability of tourism industry cluster, the policy suggestions of this paper include: First, the government should further optimize the innovation environment, strengthen the government's macro-control over the tourism industry, improve policy and institutional innovation, replace industrial policies with industrial cluster policies, and strengthen innovation incentives. Second, enterprises should improve their competitiveness, vigorously promote the development of small and medium-sized enterprise clusters, improve the industrial supporting environment, and enable enterprises to continuously innovate and learn in the global value chain competition. Third, further strengthen the guidance of professional education and training activities and institutions for tourism talents, so that enterprises can acquire new technologies and knowledge, adapt to and improve products and processes, and improve their technological capabilities.

Innovation is a complex process of multi factor interaction. To cultivate innovative tourism industry cluster is the development trend and requirement of China's new industrialization road and the economy entering the stage of innovation driven development. However, in the process of evolution and innovation of tourism industry cluster, there are inevitable risks, such as network risk, structural risk, etc. If the risk is not reasonably avoided, the innovation ability of the cluster will be seriously weakened. At the same time, the structure and behavior of different types of clusters will produce different innovative behaviors and effects. Therefore, in the future research, in order to enhance the competitiveness of industrial clusters to a greater extent, we can analyze the evolution and innovation of tourism industrial clusters from the perspective of risk management, and explore the innovation mechanism and influencing factors of different types of industrial clusters.

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