

Research on the Construction and Operation Mechanism of the Ice and Snow Industry Chain

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Keywords: Industry chain, Construction, Operation mechanism, Ice and snow industry

Abstract: The ice and snow industry chain is of great practical significance for guiding corporate behavior and the formulation of government industrial policies. This paper focuses on analyzing the construction and operation mechanism of China's ice and snow industry chain. The research believes that the structure of China's ice and snow industry chain presents a network-like characteristic, and the industrial and business boundaries are blurred. Horizontal expansion, vertical extension and mixed construction are the main construction methods of the ice and snow industry chain. Enterprise groups, strategic alliances, and industrial clusters are the main organizational forms of the ice and snow industry chain. The effective operation of the ice and snow industry chain must follow mechanisms such as trust contracts, communication and coordination, sharing benefits and risks, diversified governance, industrial integration, and institutionalized incentives and supervision.

1. Introduction

With the successful obtainment of the right to host the Beijing Winter Olympics in 2022, a series of national policies have made China's ice and snow industry officially enter the market-oriented development stage. Enterprises have deployed the ice and snow industry, and market demand has expanded rapidly. New business development model appeared with the combination of the ice and snow sports and the industry [1]. The formation of the ice and snow industry depends on the natural resources of ice and snow. The development of the ice and snow industry with natural resources has become a fixed mindset [2]. However, the large-scale development of the ice and snow industry requires the interactive development of related industries such as ice and snow sports events, ice and snow tourism, ice and snow training, and ice and snow equipment manufacturing. The essence of the industrial chain is the industrial association relationship, which is a chain association form formed by various industrial departments based on certain technological and economic associations [3]. The ice and snow industry chain is a chain-like relationship formed by various ice and snow industry related departments on the basis of their technical and economic relationships, according to specific logical relationships and space-time layout relationships. It is essential to the development of my country's ice and snow sports and the ice and snow industry.

2. The Construction of the Ice and Snow Industry Chain

2.1 The Structure of the Ice and Snow Industry Chain

The structure of an industry chain is essentially the structure of division of labor within the industrial chain. China's ice and snow industry is mainly composed of sub-industries such as ice and snow events, ice and snow tourism, ice and snow training, and ice and snow equipment manufacturing. On the whole, the ice and snow industry chain has the characteristics of cross-industry, industry intensity, and strong scalability. The upstream of the industry chain provides ideas for the development of the ice and snow industry by planning ice and snow events, planning ice and snow scenic spots, formulating training standards, and designing equipment products. It determines the positioning of the ice and snow industry. By hosting ice and snow events, constructing ice and snow venues, providing ice and snow training, and producing equipment

products, the midstream realizes the transformation of the development of the ice and snow industry from concept to product. The downstream is directly oriented to consumers, engaged in activities like ice and snow event broadcasting, ice and snow product marketing, ice and snow training publicity, ice and snow product sales.

2.2 The Construction Manners of the Ice and Snow Industry Chain

At present, there are three main ways to construct China's ice and snow industry chain: First, relying on the core resources of ice and snow enterprises, uniting other enterprises in the horizontal direction of the industry chain. Through integrating resources, increasing the added value of core resources, that is, horizontal expansion [4]. For example, it cooperated with Tencent's King's Glory, successfully created the world's largest cross-border fusion product of ice and snow sculpture art and digital cultural creation-King's Canyon. The second is to extend the business scope to the upstream or downstream of the ice and snow industry chain by relying on the core business of enterprises, that is, vertical extension. For example, Tencent has extended its sponsorship rights, offline events and competitions, electronic games, e-commerce and so on to the development of the entire IP industry chain after receiving live broadcasts of the National Hockey League (NHL) for five consecutive seasons. The third is that ice and snow enterprises carry out horizontal expansion and vertical extension at the same time to achieve deep integration of related industries, technologies, and capital in the ice and snow industry chain, that is, mixed construction. For example, Zhangjiakou has adopted this construction method, and formed a cooperative development of ice and snow industry pattern with multiple business forms focusing on fitness and leisure.

2.3 The Organizational Forms of the Ice and Snow Industry Chain

The foothold of the construction of the ice and snow industry chain is the organizational forms of the ice and snow industry chain, that is, the choice of organizational form to form the ice and snow industry chain. It influences how the enterprises in the ice and snow industry chain work together to maximize the value of the industry chain. Currently, there are three main organizational forms of China's ice and snow industry chain: The first is to form ice and snow enterprise groups through horizontal or vertical mergers and reorganizations, and realize the vertical extension of the industrial chain under the control of property rights. For example, Toread has established Beijing Toread Ice and Snow Shareholding Development Co., Ltd., whose business scope includes project investment, sports projects management, stadium management, etc. The second is to form a strategic alliance relation based on contractual agreements. For example, Jilin Province initiated the first ski resort alliance in China, involving 14 provinces (cities, districts), and launched the "Ice and Snow Silk Road" alliance card. The third is an industrial cluster formed by geographically concentrated and interconnected companies and institutions. It is the main organizational form of industrial chain mixed construction. For example, China is vigorously promoting the construction of ice and snow equipment manufacturing product parks in Hebei, Jiangsu, Heilongjiang, Liaoning and other places [5].

3. The Operation Mechanism of the Ice and Snow Industry Chain

3.1 Trust Contract Mechanism: the Basis for the Formation of the Ice and Snow Industry Chain

In the market economy, the competition between enterprises is ultimately the competition of reputation and brand. Brand is formed by the condensed reputation, and the emphasis on reputation is the life of the enterprise [6]. Relying on the development of the industrial chain, the ice and snow industry can systematically solve related problems about the industry, and realize the improvement of the overall value of the industrial chain while self-reinforcing. Therefore, all entities in the industrial chain are required to build trust contract mechanism in the long-term common interests of the industrial chain. Mass organizations are important carriers for establishing the trust contract

mechanism among enterprises within the ice and snow industry chain. Large-scale ski resorts in China have cooperated with the American Ski Association, Canadian Professional Ski Instructors League, Austrian ski schools, Swiss Snow Sports Association and other organizations to bring in foreign ski training systems. This explains that China values the brand and reputation of well-known foreign ice and snow sports associations. Therefore, the top priority for building a trust contract mechanism for the ice and snow industry chain is to resolve the ownership problem of China's ice and snow mass organizations, promote their separation from the sports administrative department, and operate independently according to laws and regulations, so as to establish a corporate governance structure with clear powers and responsibilities, coordination of operations, and effective checks and balance, which is a bridge that connects all subjects within the industrial chain.

3.2 Communication and Coordination Mechanism: the Prerequisite for Cooperation between the Main Bodies of the Ice and Snow Industry Chain

The industrial chain composed of different stakeholders often has various conflicts, mainly due to the goals, inconsistent interests and distortions in information transmission among industrial chain partners [7]. The core stakeholders of the ice and snow industry chain are the government, operators, local residents, tourists, etc., Their goals and interest demands may be different. Coupled with information distortion caused by information asymmetry, conflicts among core stakeholders are inevitable. In order to improve the sustainable competitiveness of the ice and snow industry chain, it is necessary to establish a communication and coordination mechanism among stakeholders, which is the key to the cooperation of the ice and snow industry chain. Therefore, the overall planning role of government departments and the integrated organizational role of intermediary organizations should be brought into play, and a communication and coordination mechanism should be established. The brand radiation effect of large ice and snow companies should be used to drive the development of small and medium-sized ski resorts through mergers and acquisitions, technology or capital participation. It can, on the one hand, improve the operating economic efficiency of small and medium-sized ice and snow enterprises. On the other hand, it can expand the brand coverage of large ice and snow enterprises to achieve a win-win situation.

3.3 Benefit and Risk Sharing Mechanism: the Core of Ice and Snow Industry Chain Operation

To build the ice and snow industry chain, it is necessary to give play to the respective advantages of core enterprises and node enterprises to establish a reasonable profit distribution and risk sharing mechanism. Snowboards, ski shoes, and ski sticks with the highest profit margins in China's ice and snow equipment market have been monopolized by foreign brands for a long time. There are few well-known local brands of ice and snow equipment manufacturing products, and the competitiveness of enterprise manufacturers is insufficient. They have been at the low end for a long time. The solution lies in building the ice and snow industry chain, breaking industry boundaries, and realizing the perfect combination of manufacturing and service industries, in which technological innovation and sales channels are the key. Traditional ice and snow equipment manufacturing enterprises focus mainly on hardware manufacturing. They need to break the inherent thinking, and cooperate with software development and design company to identify the interests and risk sharing mechanism of both sides. In terms of sales channels: ice and snow equipment manufacturing enterprises can consider in-depth cooperation with ice and snow event enterprises to form an ice and snow sports industry group. Through the division of property rights, a mechanism for sharing interests and risks in the form of contracts can be established. The group's business covers all links of the upstream and downstream of the ice and snow industry chain, in order to realize closed-loop operations from online to offline, from ice and snow events to ice and snow equipment manufacturing.

3.4 Diversified Governance Mechanisms: the Key to the Structure of the Ice and Snow Industry Chain

The competitive advantage of enterprises comes from the diversity of industrial chain governance mechanisms, protection and control of transactions involving multiple entities [8]. Unlike traditional industrial organizations driven by production technology, the ice and snow industry involves multiple industries such as sports, tourism, culture, entertainment, and manufacturing. Changes in policies, resources, and technologies in any industry will bring huge changes to the entire industrial chain. The ice and snow industry chain is always in a dynamic competitive situation. Therefore, it is vital to choose an appropriate industrial chain structure, adopt a diversified governance mechanism, and reduce transaction costs for the improvement of the overall competitiveness of the ice and snow industry chain. It is not only related to the profit of each enterprise in the industry chain, but also related to the implementation of the regional economic and social development strategy. Although the vertical integration of the industrial chain has become a strategic choice for companies to gain competitive advantage. Vertical integration is difficult and uncertain for the dynamic developing ice and snow industry, which involves a large number of industries and focuses on service supply. The ice and snow industry chain is also suitable for horizontal integration, that is, the joint development of multiple enterprises in the ice and snow industry chain under the guidance of national and local industrial policies.

3.5 The Dynamic Mechanism of Industrial Integration: the Value-Added Path of the Ice and Snow Industry Chain

Industrial integration has become an important part of the modernization of regional industrial chains. Industrial integration is to break the boundaries of knowledge, technology, business, market, and operation of traditional industries [9]. The integration of the sports industry and related industries is to use technology, business and market integration as the main means to achieve the penetration, extension and reorganization of the value chain, and finally form new products and new formats [10]. In recent years, the integration of the ice and snow industry with related industries has become obvious. In addition to the formation of new business forms by inter-industry integration, the integration of the ice and snow industry also includes intra-industry integration and intra-regional integration. Under the combined effect of various resource elements, the ice and snow industry chain is continuously extending to form a network chain structure to realize the overall increase of the value of the ice and snow industry chain. For example, paying attention to user experience and needs, using high-tech means to develop new products, and promoting the service-oriented transformation of the ice and snow equipment manufacturing industry; O2O mode, that is, the combination of offline business opportunities and the Internet. It has completely changed the ice and snow industry business model and broadened the operating space; Internet-based public sports supply services have improved the operational efficiency and management level of ice and snow venues; Big data and advanced video recording technology enable users to obtain a better game viewing experience while obtaining rich data, which helps explore potential consumers of ice and snow sports.

3.6 Institutionalized Incentive and Supervision Mechanism: the Guarantee for the Operation of the Ice and Snow Industry Chain

Enterprises in the industrial chain aim to pursue economic profit and realize their own value. All enterprises hope to obtain the public interest of the industrial chain with the least effort. It is inevitable that there will be “lazy” and “free-riding” phenomena. There are even enterprises that do harm to the overall benefits of the industry chain for their own profit. Therefore, it is necessary to introduce an incentive and supervision mechanism to ensure the smooth operation of the ice and snow industry chain. In the Internet age, any node company in the ice and snow industry chain is vital to the operation of the entire industry chain because the evaluation of any consumer cannot be ignored. The restaurants, hotels, and entertainment venues around the core scenic spots should also be included in the industry chain to clarify the regulators and regulatory responsibilities, so as to create a good investment environment, business environment and market environment for the ice and snow industry. The establishment of an institutionalized incentive and supervision mechanism is not only to standardize the operation and management of enterprises and straighten out the

cooperative relationship of enterprises, but also to establish rules and regulations to clarify the relationship between government departments and enterprises in the industrial chain, and to protect the interests of private entrepreneurs. Government monopoly operation is not conducive to the development of the private economy. It is necessary to create a legal environment and form an institutionalized incentive and supervision mechanism. Only by doing it can the business environment be optimized and the ice and snow economy be healthily developed.

4. Conclusion

With the strong support of policy planning, social capital, market competition, digital technology and other influencing factors, the ice and snow industry chain has become an important starting point for the development of China's ice and snow economy. More and more companies are participating in the construction and operation of the ice and snow industry chain. The competition among enterprises has been deduced as the competition between the ice and snow industry chains that enterprises have joined. As a new service industry, the competition in China's ice and snow industry chain in the future will mainly lie in: First, the formulation of relevant ice and snow industry standards, including standards for ice and snow equipment manufacturing products, and ice and snow training services. The one that can take the lead in establishing standards and gain a large enough market will be able to have the competitive advantage in the ice and snow industry. The second is the application of new technologies with the Internet of Things, blockchain, and artificial intelligence as the core. The one that masters the new technology can quickly add value to its products and services and stand out from many competitors. The third is the establishment of a development platform for the ice and snow industry. Internet platforms such as social networking, fitness, and e-commerce have narrowed the distance between consumers and producers and become the central node of the network structure of the ice and snow industry chain. The fourth is the innovation system of the ice and snow industry chain. The stimulation of innovation awareness and ability requires institutional guarantees. Creating a business environment in which the market plays a decisive role is the key to the high-quality development of the ice and snow industry.

5. Acknowledgment

The key project of the Social Science Planning Foundation of Liaoning Province "Research on the Construction and Operation of Liaoning Ice and Snow Industry Chain Based on the Conversion of New and Old Kinetic Energy" (L20ATY004).

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