

## THE ROLE OF MULTIMEDIA INNOVATION IN ADVANCING ICE AND SNOW SPORTS TOURISM

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**Abstract:** The burgeoning interest in ice and snow sports in China has drawn the attention of both state authorities and relevant management departments. This newfound focus has led to the formulation of rules and regulations, along with the promulgation of documents that lay the foundation for the expansion of ice and snow leisure sports. Notably, China's approach to ice and snow sports places a strong emphasis on sports and leisure activities, necessitating a synergy between the development of ice and snow leisure sports and the broader national ice and snow sports agenda. This paper explores the evolving landscape of ice and snow leisure sports in China, aiming to address the growing demand for such activities.

As ice and snow sports continue to gain popularity, the public's appetite for ice and snow leisure experiences is steadily on the rise. Ice and snow leisure sports tourism, rooted in China's abundant ice and snow resources, profound cultural heritage, and diverse range of ice and snow sporting activities, has emerged as a significant niche within the broader landscape of winter sports. This paper underscores the pivotal role of multimedia technology and the integration of the sports and tourism industries in facilitating the growth of China's ice and snow leisure sports sector. These advancements hold the promise of unlocking new opportunities and creating an expansive developmental horizon for ice and snow sports tourism in China.

**Keywords:** Ice and Snow Leisure Sports, Sports Tourism, Multimedia Technology, Winter Sports Development, Cultural Heritage Integration.

### 1. Introduction

In recent years, the state and relevant management departments have paid attention to the formulation of rules and regulations related to ice and snow sports, and the promulgation of relevant documents has provided a broader development platform for the development of ice and snow leisure sports in China. China's ice and snow sports take sports and leisure activities as the main focus, so the development of ice and snow leisure sports should also meet the needs of the development of national ice and snow sports. On the basis of the wide range of ice and snow sports, people's demand for ice and snow leisure is also gradually increasing. Ice and snow leisure sports tourism activities are based on rich ice and snow resources, deeper cultural heritage and more diversified ice and snow

sports activities. With the support of multimedia technology and the integration of sports and tourism industry, China's ice and snow leisure sports can be better developed, providing greater development space for the development of China's ice and snow sports tourism<sup>[1]</sup>.

## **2. Development of ice and snow sports tourism in China**

Ice and snow sports tourism first appeared in Europe, and developed and expanded in European and American countries. Based on rich ice and snow resources, it attracts more ice and snow sports fans to actively participate in ice and snow sports and leisure projects, and ultimately achieve the goal of physical fitness and happy mood. Ice and snow sports tourism is to develop ice and snow sports projects according to the existing ice and snow resources, guide tourists to participate in them, so that athletes can release their emotions. Ice and snow sports tourists are connected with ice and snow resources tourism sites and society in the process of participating in ice and snow sports exercises and competitions.

Since China has won the chance to host the 2022 Winter Olympic Games, the enthusiasm of the ice and snow sports tourism market has risen unprecedentedly, which has made the construction and layout of ice and snow sports tourism constantly improved. Under this background, the relevant national departments have issued relevant measures to ensure the gradual improvement of the ice and snow sports industry as far as possible, fully create a better external development environment for the development of ice and snow sports tourism, and enable the government to play its guiding role. After being valued by all aspects of society, ice and snow sports also attract more forces to participate in the ice and snow sports industry. China attaches great importance to the development of the ice and snow sports industry. Ice and snow sports tourism is an important component of the ice and snow sports industry and a major way to attract people to participate in ice and snow sports. It is necessary to provide a better development environment for the development of ice and snow sports tourism. Ice and snow field resources are an important basis for the development of ice and snow sports tourism. On the basis of the accelerated development process of ice and snow sports, the number of ice and snow fields in China has also been increased. The strength of all aspects of society has improved the quantity and quality of ice and snow fields. With the specific presentation of the economic benefits of ice and snow sports tourism, ice and snow sports tourism has also expanded to more areas. The number of provinces and cities implementing ice and snow sports tourism activities in China has increased, and gradually become a new economic industry. The ice and snow sports tourism industry can help optimize the development of China's economic structure, and the national and social capital theory has also increased the construction of ice and snow venues and resources.

With the development of information technology in China, multimedia technology has been widely used in many fields, and the popularity of multimedia technology in China has also been generally improved. In the process of social development, the emergence of multimedia technology has also led to new forms of life in society. Combined with the data information of China's Internet Information Center, the size of Internet users in China has reached six hundred million, the Internet penetration rate is high, and the equipment of Internet users in China

is more diversified. Mobile Internet has also become an important reason for the increase in the number of Internet users. The good development trend of multimedia technology makes ice and snow sports tourism face more development opportunities. The ice and snow sports tourism industry will also be able to build a better ice and snow sports tourism mobile platform based on multimedia technology for better development. With its advantages, it will carry out a variety of innovative models such as personalized and professional services, promote the deep integration of multimedia technology and ice and snow sports tourism, and thus cultivate a modern ice and snow sports tourism model<sup>[2]</sup>.

### **3. Factors restricting the development of ice and snow sports tourism in China**

#### **3.1. Higher professional requirements for relevant professionals**

Skiing and skating are both dangerous. When China's ice and snow sports tourism is developing rapidly, the increase in the number of tourists shows that the management level of the scenic spot is obviously insufficient, which makes the management level of the staff in the scenic spot need to be further improved. The increase in demand for ice and snow tourism requires high professional ability of the staff. China's training of innovative talents in sports tourism is relatively insufficient. The training mode of comprehensive talents cannot meet the wide application of multimedia technology, and the service quality of ice and snow sports tourism is also obviously poor. While developing the ice and snow sports industry, it is necessary to cultivate high-quality talents with professional skills of ice and snow sports. Ice and snow coaches and snow makers are important factors for the development of the ice and snow tourism industry. Our country has relatively insufficient talent training power for ice and snow sports. The degree of integration of ice and snow sports and tourism industry is not high, and the number of composite talents is not large, so we need to pay attention to them.

#### **3.2. The penetration rate of ice and snow population is relatively low**

When measuring the national penetration rate of skiing, it is mainly to observe the ratio between the total number of skiers and the total number of skiers. There is still a certain gap between the penetration rate of skiing in China and that in developed countries. In most cases, the enterprise managers of ice and snow tourism destinations take "market share" as the standard to measure the development of enterprises, and pay less attention to the product connotation. In China, there are not many ice and snow sports venues and facilities, and the overall service level also needs to be improved. The ice and snow sports tourism industry contains only a few types of products. The existing products and brands cannot meet the needs of highquality sports tourism consumption, which is also an important factor in the low penetration rate of ice and snow population.

#### **3.3. Inadequate understanding of ice and snow sports tourism**

The development and popularization of ice and snow sports tourism need a long process. Ice and snow sports tourism is a kind of activity with high consumption, which is related to people's consumption level and consumption consciousness. However, the current public awareness of ice and snow sports tourism is not sufficient, the interest and attention of ice and snow sports tourism is not high, and a more effective concept of

ice and snow sports and tourism consumption has not been formed. The consumption of ice and snow sports tourism is limited.

#### **4. Application of multimedia technology in ice and snow sports tourism**

Multimedia technology is a technology that enables users to carry out real-time information interaction with computers through a variety of senses on the basis of computer's comprehensive processing and management of text, image, animation and other multimedia information. Multimedia technology is also known as computer multimedia technology. The application of this technology to ice and snow sports tourism has a positive impact on the development of ice and snow sports tourism.

##### **4.1. Optimize talent training mode by using multimedia technology**

In the Internet era, the integration of Internet platforms and big data technologies with various industries has gradually deepened, and multimedia technology has also become an important driving force for the development of ice and snow talent training. The large-scale related technologies of AI technology and big data driven technology are promoting the reform of education and training models. By using multimedia technology, more mathematical scenes have been expanded, making the traditional teaching model gradually transform into a model of information content sharing [3]. At the same time, we will learn from and draw on the management and training experience of advanced snow sports talents at home and abroad, fully meet the current domestic demand for snow and ice talents, and effectively improve the training level of snow and ice talents.

##### **4.2. Customizing ice and snow sports tourist services with digital technology**

With the increase of the number of ice and snow sports tourists, groups of all ages have become important participants in ice and snow sports tourism activities. The span of age levels is also larger, which brings challenges to the service level of scenic spots to a certain extent. Traditional services have no way to meet people's needs. When building the ice and snow sports tourism digital service platform, analyze the data information of users' personal needs to achieve personalized services, so that tourists can get more information about ice and snow sports tourism, and quickly carry out the positive interaction of various sectors to improve tourists' tourism satisfaction. In addition, the multimedia platform has become the direction of ice and snow tourism market development, select unqualified tourists based on intelligent devices to ensure the safety of tourist groups. When multimedia technology enables tourist services, the transformation of thinking mode should be applied to finally realize the intelligent and scientific operation of the ice and snow sports tourism industry and the high-quality and quantitative development of services, meet the needs of industrial innovation and development, improve the satisfaction of tourism groups, and attract more tourists.

##### **4.3. Use multimedia technology to enrich the participation mode of ice and snow sports tourism**

Multimedia technology enriches the participation mode of ice and snow sports tourism, builds an ice and snow simulation system supported by multimedia technology, realizes the virtual implementation of ice and snow tourism, effectively promotes the digitalization of ice and snow resorts under the support of a simulation system

composed of a control system, a multimedia system and other multi-function systems, and fully meets the needs of ice and snow sports tourists while improving their ski technology, In addition, it can effectively realize the real reproduction of the scene, provide snow simulation and other related resources for regions with insufficient snow and ice resources, and provide intelligent support for the overall process of skiers. At the same time, we should enrich the types of ice and snow tourism activities. In the form of participation in various types of ice and snow sports tourism, we should combine digital technology to meet the market's personalized demand for ice and snow sports tourism, so that ice and snow sports tourism will not be limited by ice and snow resources, and provide tourists with the necessary fun of ice and snow sports tourism activities through scientific and technological means.

#### ***4.4. Using multimedia technology to improve the operation and management intensity of ice and snow sports tourism***

In the context of the extensive application of multimedia technology, the development of ice and snow sports tourism activities needs to improve the coordination ability, and the coordination ability needs not only to focus on the improvement of the internal coordination ability of ice and snow sports tourism management, but also to clearly connect external factors. By building a multimedia digital platform for ice and snow sports tourism, the comprehensive management of ice and snow sports tourist attractions will be carried out to a greater extent from all aspects.

During the safety management of ice and snow sports tourist attractions, humidity modules, temperature modules and LCD modules are installed inside the scenic spots to better understand the activity routes of passengers. The multimedia platform can shorten the safety warning time to a greater extent and fully improve the management efficiency of ice and snow sports tourist attractions. At the same time, based on the customized 5G+AR immersive intelligent crowd guidance service system and 360 degree panoramic image acquisition technology, tourists can solve the problems existing in the process of sightseeing, so that tourist groups can understand the actual situation of the site and the passenger flow, and tourists can choose the appropriate site according to their own level. In the process of supporting service management, the integration of infrastructure and services, independent software developers and other aspects should be combined to better create an offline data integration approach, promote the combination of online platforms and offline tourism, and further expand the function of ice and snow sports tourism. In the multimedia platform, tourism groups can get the dynamic information content of ice and snow sports tourism destinations, such as navigation, shopping guide, catering and accommodation, Under the support of multimedia technology, we will carry out activities such as buying tickets and entering the park, solve the problem of insufficient human resource allocation in each scenic spot, and improve the overall management level of the scenic spot.

#### 4.5. *Insist on market demand orientation and deeply develop new products*

In general, the development of ice and snow sports tourism products is from the whole process of product marketing and consumption. Ice and snow sports tourism scenic spots should also pay full attention to the added value of ice and snow sports tourism products, build a well-known ice and snow brand, make full use of short videos, WeChat platform and other multimedia boxes to promote ice and snow sports tourism products, and realize the publicity of ice and snow sports tourism products in multiple directions. Under the background of market demand, develop ice and snow sports tourism products such as chemistry and ice and snow fishing, fully meet the spiritual needs of tourists, enhance product supply, and to a greater extent enhance the added value of the ice and snow sports tourism industry, making the ice and snow tourism industry chain more rich.

#### 5. **Conclusion**

The maturity of multimedia technology can also provide the basic conditions for the construction of the ice and snow sports tourism industry Internet, while changing the development mode of the ice and snow sports tourism industry. The highly developed information technology-based ice and snow sports tourism industry provides a perfect network chain. This network relationship is not an economic entity in the legal sense, it does not have the legal personality, but needs to break through the boundaries between traditional enterprises, Form an Internet model of integrated development. The Internet transformation of the ice and snow sports tourism industry not only needs to adopt the multimedia management platform, but also needs to innovate and further improve the quality of the original products and resources, and needs to adjust the management structure between the ice and snow sports tourism projects and the various industrial units of the multimedia platform. Under the support of multimedia technology, the advantages of the project are combined to fully meet the economic and social benefits of the ice and snow sports tourism project. In the era of multimedia, the speed of information transmission has been unable to be expected. Under the new development background, sustainable development thinking is required. The combination of ice and snow leisure sports and tourism industry in China enables multimedia technology to promote the integrated development of ice and snow leisure sports and tourism industry. During the application of multimedia technology in ice and snow sports tourism projects, supported by the multimedia platform, the diversified and multi-dimensional publicity of the continuous output of ice and snow leisure sports culture enables the public to better receive information about ice and snow leisure sports culture through the all media platform, which enables multimedia technology to promote the construction of high-level composite talents with Chinese characteristics and knowledge of ice and snow leisure sports and tourism industry, Under the support of the multimedia platform, a multi-party information communication platform will be built in combination with Internet technology to integrate ice and snow sports resources and tourism resources according to the characteristics of the region, strengthen infrastructure construction, and clearly expand the venues with ice and snow leisure sports functions that can be experienced by more consumers, so that the ice and snow sports tourism projects will be improved accordingly to better meet people's tourism needs.

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