

Implications of Tourism Seasonal Intensity for the Development of Ice and Snow Tourism in the South

Hao Guan, Wanhong Li*, Jiaxin Zhao, Yongmin Fan

Shenzhen Tourism College, Shenzhen Campus, Jinan University, Shenzhen, China

* Corresponding author

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Abstract: Seasonality is an important factor affecting the development of tourist places. It is of great significance to explore the spatial and temporal distribution of seasonality and influencing factors of southern ice and snow tourism for seasonal regulation and operation optimization of tourist attractions. This paper takes the seasonal intensity index as a reference, takes Xiling Snow Mountain and Guangzhou Sunac Snow Park as typical representatives of outdoor and indoor for statistics and analysis, and puts forward relevant development suggestions to narrow the seasonal difference of passenger flow and promote the development of southern ice and snow tourism industry for the better.

1. Introduction

1.1 Research Significance

2022 Beijing Winter Olympic Games has been successfully concluded with its perfect closing ceremony. During the game, China has vigorously advocated ice and snow sports. It launched the “develop the south, expand the west and advance the east”, “300 million people on the ice and snow”, related tourism infrastructure, scenic spots are fast construction, such as Beijing-Zhangjiakou High-speed Railway, “ice ribbon” National Speed Skating Oval, so that the domestic ice and snow tourism, winter tourism market ushered in rapid development. Secondly, the post-epidemic era, China's economic development is stable and positive, the national living standards, income levels will continue to improve. There are many southern cities already have preliminary ice and snow tourism venues, coupled with excellent conditions for capital investment in the south, the demand for ice and snow tourism will continue to increase. Furthermore, China's existing ice and snow tourism facilities and markets are yet to be developed and perfected, especially in the south, where relevant research is still relatively small and to be supplemented.

1.2 The Current Situation of the Development of Ice and Snow Tourism in the South

In recent years, with the continuous improvement of people's income level, the promotion and influence of the Beijing Winter Olympics, people's demand for ice and snow tourism gradually increased, while the southern season in the hot weather is the majority of the year. People living in the south for ice and snow tourism is a certain curiosity and exploration psychology, resulting in ice

and snow tourism demand in the south is particularly strong performance. Due to the constraints of natural conditions, the South has few natural excellent ski fields and less snow, resulting in ice and snow tourism in the South started late and has limited scale. However, because of this the Southern market is now spreading rapidly at a faster pace, the model that sees “bring in” and “going out” as the two pillars was introduced, where the “bring in” refers to the use of artificial snow and ice technology, the construction of indoor skiing and skating rinks in the South.

In the early years, southerners mainly chose to go to the north or the edge of the Tibetan Plateau for ice and snow tourism. In recent years, one of the main forms of development of southern ice and snow tourism is the construction of indoor ice and snow tourism complexes, indoor ski resorts and so on. Take the Sunac Snow Park as an example, according to official data, from June to December 2019, the Snow Park received more than 600,000 people, filling up every weekend and holiday, and going down to four cities in a row in Wuxi, Kunming, Chengdu and Chongqing in the next two years. So far, together with the projects previously laid out in Harbin, the number of indoor snow world projects in operation under Sunac Cultural Tourism has increased to six, five of which are in the southern region. Since this year, Sunac has also signed new contracts or started construction of Shenzhen Sunac Ice and Snow City, Xi'an Sunac Snow Park and Sunac Yangtze Future City, continuing to increase the layout of ice and snow projects across the country. It includes 5 projects that have started construction and 7 that have completed agreement signed, with a total of over 30 snow parks being gradually laid out.

Another major form is to increase tourism development of natural snowfields, such as western Sichuan, Hubei Shennongjia, Yunnan and Guizhou plateau. Take Chengdu Xiling Snow Mountain as an example, in recent years, Chengdu has increased the development of Xiling Snow Mountain, and increased the related theme scenic areas and supporting equipment. Among them, the ski resort of Xiling Snow Mountain is the largest natural ski resort in southern and western China. At the same time, the scenic spot is actively building China Giant Panda Park, actively declaring the World Geopark, etc. It also built Floral Water Bay Hot Spring Town, and planned to build Dayi - Xiling Snow Mountain Expressway. Visitors can drive to Xiling Snow Mountain from Chengdu in just 2 and a half hours, which can improve the perfection of supporting facilities and the accessibility of the scenic spot.

Overall, the southern ice and snow tourism market will use abundant capital and advanced technology to make up for the lack of natural ice and snow resources. From the latest data, so far in 2019, although Harbin Ice and Snow World is still the hottest ice and snow park. But Shenzhen Window of the World Alps Snow World is a close second. The huge market demand will promote the rapid development of the southern ice and snow tourism market, which will further drive the development of ice and snow culture, ice and snow talent and other related elements in the south.

Seventeen athletes from Guangdong province participated in three events at the Beijing Winter Olympic Games. According to Nanfang Daily, Guangdong has made great efforts to develop the ice and snow industry, constantly improving and enriching the ice and snow sports products and services that meet the consumption level of guangdong people, and optimizing the structure of the ice and snow industry.

2. The Research Method and Data Source

2.1 The Research Method

As one of the most important indicators of the tourism industry, the tourism seasonal intensity index has a very important impact on the development of tourism, which is mainly reflected in the concentration of a large number of tourist flows in a short period of time, and makes the destination produce a tourist season, low season and flat season. Seasonality is a kind of transient imbalance in

the process of tourism development, which is mainly reflected in several aspects such as tourism scale, tourism spending and tourism transportation. In this paper, we calculated the seasonal intensity of tourism in two representative southern ice and snow tourism scenic spots, derived their seasonal distribution pattern of passenger flow and gave corresponding suggestions. The two scenic spots chosen for this article are the indoor artificial ice and snow scenic spot - Guangzhou Sunac Snow Park, and the outdoor natural ice and snow scenic spot - Chengdu Xiling Snow Mountain.

In this paper, the tourism seasonal intensity index is selected as a reference to reflect the seasonal fluctuations of tourism demand during the year. Due to the reason of data acquisition, it is difficult to grasp the actual monthly tourist volume data of each scenic spot, so the scenic spot network attention data is used for measurement, and the specific calculation method is as follows.

$$Sea_i = \sqrt{\sum_{t=1}^{12} (m_{it} - 8.33)^2 / 12}$$

Where: sea_i represents the seasonal intensity index of each scenic spot, the closer sea_i is to 0, the more evenly distributed the tourism demand of the scenic spot; the closer sea_i is to positive infinity, the stronger the seasonality of the release tour of the scenic spot; m_{it} represents the proportion of monthly network attention of each scenic spot to the whole year, 8.33 represents the average proportion of each month to the whole year.

2.2 Data Resource

In this paper, the tourism seasonal intensity index was derived from Baidu Index. With “core name” as the key word, the monthly Baidu search index of scenic spots from January to December 2019 was searched as the key index representing tourist demand, and the tourism seasonal intensity index was obtained by processing on this basis.

3. Conclusion and Analysis

3.1 Data Results

3.1.1 Xiling Snow Mountain

Xiling Snow Mountain	Baidu index	
January	2.881	2.4743
February	1.306	4.111381
March	1.047	4.420174
April	1.233	4.197284
May	0.966	4.519041
June	1.156	4.288856
July	1.395	4.007852
August	1.253	4.173661
September	2.52	2.813008
October	2.08	3.255208
November	1.727	3.633301
December	3.085	2.292502
Total	20.649	44.18657
Seasonal intensity index R		6.647298

3.1.2 Guangzhou Sunac Snow Park

Guangzhou Sunac Snow Park	Baidu index	

January	1.489	3.89994
February	1.385	4.019419
March	1.308	4.10904
April	1.477	3.913634
May	1.504	3.882856
June	1.191	4.24711
July	1.278	4.144225
August	1.298	4.120752
September	1.302	4.116065
October	1.295	4.124269
November	1.307	4.110211
December	1.332	4.081
Total	16.166	48.76852
Seasonal intensity index R		6.983446

3.2 Data Analysis

In general, the seasonal intensity indexes of both scenic spots were large, so their visitor flows had obvious seasonal differences. They both accounted for a larger proportion in winter. In comparison, the seasonal intensity index of Xiling Snow Mountain was smaller than that of Guangzhou Sunac Snow Park, which indicates that its seasonal distribution of the visitor flow was more balanced compared with that of Guangzhou Sunac Snow Park. In terms of the seasonal distribution, Xiling Snow Mountain was more concentrated in autumn and winter, while Guangzhou Sunac Snow Park was more concentrated in summer and winter.

4. Conclusion and Enlightenment

4.1 Outdoor Natural Snow and Ice Scenery

From the data of Xiling Snow Mountain can be seen in the southern outdoor natural snow scenic summer traffic is weaker compared to autumn and winter. The relationship with the amount of snow is greater. Therefore, natural snow scenic areas can first develop summer skating project with the supporting construction of archery, zip line, rock climbing, horseback riding, cross-country and other grass sports experience projects. Second, they can be connected with the year-round snow areas to build appropriate scale artificial snow skiing resorts, and improve the summer skiing prices, which can reduce certain operating costs. Finally, because this kind of scenic spot is usually higher in altitude, it is cooler in summer, so they can build summer vacation projects and improve the supporting facilities of accommodation and food to improve the overnight stay of tourists.

4.2 Indoor Artificial Snow and Ice Scenery

The data from Guangzhou Sunac Snow Park shows that indoor artificial snow and ice scenery in the south is weaker in spring and autumn, which is more related to the temperature and tickets. Most of the summer temperatures in the south are higher, so people have a stronger demand for indoor recreational snow and skiing out of the need to avoid heat and sports. Ticket prices, which generally do not have seasonal differences. However, for the summer demand and fuller load, spring and autumn demand is small, the scenic area should appropriately raise the price of summer skiing, reduce the price of recreational snow. In spring and autumn, it should appropriately reduce prices to attract tourists, and focus on the introduction of annual cards and other discount packages,

and limit the number of times or time of admission in the peak season, in order to narrow the seasonal differences in passenger flow and improve the overall flow of tourists.

4.3 Overall Conclusion and Suggestion

4.3.1 Increase Government Support

The government should increase the policy support and financial subsidies for the ice and snow tourism industry, and introduce relevant preferential measures in taxation, land, water, electricity and heat. At the same time, the introduction of mature enterprises to develop remote mountainous areas with multiple mountains above the snow line can be used as a tourism grip for poverty alleviation work, providing jobs and driving local employment.

4.3.2 Extend the Ice and Snow Industry Chain

Compared with the north, the development of the ice and snow industry in south China needs more investment and costs more. Therefore, it is necessary to enrich the upstream and downstream industry chain, strengthen the linkage and integration of the main industry of ice and snow with leisure and health care, sports tourism, research and travel, and increase the development of snow entertainment projects to narrow the difference in seasonal passenger flow.

4.3.3 Blend into Southern Regional Culture

The South has many regional cultures and ethnic minorities. The South's rich and colorful regional culture and ethnic characteristics can be fully integrated into the ice art, ice lantern exhibition, ice and snow performances and other activities. The unique southern characteristics of the ice and snow landscape, ice and snow performances, entertainment snow projects and other tourism products should be developed, in order to achieve the organic unity of economic benefits, social benefits, and cultural benefits.

4.3.4 Develop a New Trend of Ice and Snow Tourism in South China

According to the demand of tourists and market, they can launch more interesting, high participation, good experience and full appreciation of ice and snow sports industry in the south, and vigorously develop the new trend of “ice and snow tourism + sports”.

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