

By stimulating the future ice and snow market economy to solve the problem of China's localized ice and snow sports economy and tourism

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Abstract. Skiing is becoming an important sports in all of the worlds. The trends of this sports are continuously improving, the rapid development of economics stimulates people to try ski industry. In this paper we analyze and predict the stimulating future ice and snow market economy to solve problem of China economy and tourism, thus we have to research how can ski industry develop in China, there are 3 reasons: innovation, complete industrial chain and establish relationships with other industry. There are also some reasons that China government are supporting the development of ski industry, the first one is Winter Olympics, it is a wonderful chance for China government to improve their ski industry and popularity, also we search some data for researching the increasing rate of ski industry in China, because it can show the flourishing of China ski industry. This paper also analyze also analyze the skiing population to find out the percentage of ski people in every wage stage. It can shows that China have huge potential, also researching on numbers of resorts can analyze the popularity of ski industry in China. These factors are the project that we research for. Through secondary data collection and analysis, the study aim to predict the future of ski industry in China, we compare the advantages and disadvantages between China and other countries, we discuss the reasons that why world ski industry are becoming more and more influential. furthermore, we are researching on the factors that will affect the ski industry. Finally based on these research's and cases, we analyze how can we stimulating the future ice and snow market economy to resolve some questions of China local ski economy and tourism.

Keywords: China, Skiing, resorts, Winter Olympics, economics, population of ski, future development.

1. Introduction

Skiing has a history of at least 8000 years. The earliest ski archaeology was found in Russia, dating back to 6000 BC. Although modern skiing began in Scandinavia, murals 5000 years ago show that people use skis in Xinjiang, China; However, this issue is still under debate, skiing has become a popular recreational activity and sport since the mid-19th century, practicing in snow covered areas around the world, and offering a market for the development of ski resorts and their related communities [1]. The earliest recorded organized skiing practice and competition was the military using of skis by Norwegian and Swedish infantry. For example, the details of the Danish Norwegian Army's military skiing exercise in 1767 are preserved: military competitions and exercises include downhill skiing in rugged terrain, target practice in downhill skiing, and complete military backpacks for 3km cross-country skiing. Slalom (Norwegian: slalåm) is a word originating from Norway and has now get into the international ski vocabulary [2].

In the 19th century, Telemark skiers challenged each other on the "wild slope" (village LåMIR), and the adjective "SLA" appeared on the gentler slope [3]. Some races are on the "rugged track", and sometimes include "steep jumps" to improve the difficulty. These races held in Telemark in the 19th century follow particularly difficult tracks, usually starting from steep mountains, following wooden slides, and finally turning sharply on fields cold lakes. Now we are focusing on the economics of skiing industry, through searching these 30 years data, we found out that the people who go to skiing

are increasing, through the data of Montana ski areas, the data shows that the increasing rates of people skiing, in 2018-2019 year, the increasing rate become 11 percent higher than 2017-2018. There are 58 millions of people visiting Montana ski areas, it can prove that skiing industry economy are flourishing now [4]. Also in 1988, there were 0.8 millions of visitors, however in 2018, there are 1.8 millions of visitors. There are huge capacity in skiing industry In the world, nearly 6000 resorts and 40 million of skiers. in northern Europe and the United States are very important, then the ski industry is an crucial economic part. For instance, in the Austrian state, the value created by the ski industry in winter season accounts for 9.72% of GDP and 16.7% of the local worked population. In 2019, China added 28 new ski resorts, there are 770 numbers of ski resorts in China. The population of skiers in ski resorts increased from 19.7 million in 2018 to 20.9 million in 2018-2019, an increase of 6.09%. There are 770 ski resorts in 28 provinces [5].

In China, skiing industry are also becoming flourishing, in past 20 years, skiing industry were spread out vastly in China, in 2002, there were only 130 resorts, However, in 2022, there are 804 resorts, it can shows the influence of skiing industry in China. Each year, both indoor and outdoor ski resorts across the country continue to receive record numbers of visitors in both the colder northeastern provinces and the much warmer southern provinces -- growing at a compound annual growth rate of 16 percent from 2013 to 2017, with an estimated 17.5 million ski trips in 2017." In future, China maybe have largest market in whole world, there are nearly 50 millions people who join skiing sports, and in 2030, China will open 1000 resorts. It can provide enough place for people who love skiing in China, Since China hold 2022 Winter Olympics, government are more focusing on supporting peoples' interest to skiing industry, they will publish more good place for skiing and winter sports. Until 2022 January, there are one third people who joined skiing sports. It is a huge number based on China huge population. In China social media such as Xiaohongshu, the post that about skiing has increased by 95% compare to few years ago. This shows the markets of China skiing are huge.

China's ski market is relatively young, and so are its consumers: According to the 2020 White Paper on China's Ski Industry, 36 percent of skiers and snowboarders are between the ages of 20 and 30. While Chinese skiers come from all over China, Beijing and the northern provinces of Hebei, Liaoning and Jilin are the most prevalent sources among skiers. China's ski resorts are evenly split between the sexes, with the notable exception of indoor resorts, which are more popular among women. Then the upcoming Winter Olympics and government supporting of skiing industry, in few years later, the family who have kids will become the population who ski most. China skiing industry have enormous potential: The key conclusion we can draw from the current situation of China's skiing market is that it is still very young: the vast majority of Chinese skiers are beginners, and they have just begun to become interested in skiing. Some skiers in style and share their luxury ski equipment on social media. Although the 2022 Winter Olympics has stimulated people's interest in skiing and many new ski resorts have been built throughout the country, most parts of the country are still plagued by poor snowfall conditions. Many of the largest resorts rely on artificial snow. However, although resorts with good snow quality and high vertical drop have potential, infrastructure such as transportation and accommodation is not perfect for the time being. China's skiing field has not yet fully developed, and people have high hopes for the 2022 Olympic Games. With some skiers becoming stars in China.

2. Fundamentals of nationwide snow and ice sports tied to tourism development

2.1 Predictions for the future of skiing

Northeast China is still looking for mutually beneficial paths, methods and channels. It is beneficial for it to further exploit the benefits of snow and ice resources and build a modern snow and ice economy. It is expected that within the next five years, more than 20 provinces, autonomous regions and municipalities directly under the central government in China will propose the development of

ice and snow sports, tourism and ice and snow economy. It is expected that by the 2018 snow season, the number of ice and snow tourism in China will exceed one hundred million people and the revenue from ice and snow tourism will exceed one hundred billion RMB. And it will promote rapid economic development and poverty alleviation in areas near ice and snow sports related areas.

2.2 Development of Skiing in China

Benefit from the 2022 Beijing Winter Olympics. The development of China's ice and snow tourism has entered the fast track, with tourism revenue and number of visitors increasing in the 2018-2019 snow and ice season compared to the 2017-2018 snow and ice season. Profit from the 2022 Winter Olympics in Beijing. The development of ice and snow tourism in China has accelerated, with tourism revenue and visitor numbers increasing in the 2018-2019 snow and ice season compared to the 2017-2018 snow and ice season. According to Ministry of Culture and Tourism data, China's ice and snow tourism trips were 224 million, and ice and snow tourism revenue was approximately RMB 386 billion, up 13.7% and 17.1%, respectively, from the 2017-2018 ice and snow season. In 2018, domestic tourism trips and revenue increased by 10.8% and 12.3%, respectively, over 2017. The total size of China's ice and snow industry has grown from 270 billion RMB to 600 billion RMB, with an average annual increase significantly higher than national GDP growth. In terms of snow resorts, the number of domestic ski resorts in 2015 was 568, it reached 770 in 2019, and it is expected that the number of ski resorts in China will exceed 1,000 in 2022. For example, the Altai region in Xinjiang to ice and snow tourism key scenic spots as the foundation for the creation of Altai City ice and snow poverty alleviation complex, 2 poor counties to remove the cap in March 2020, and 107 poor villages out. With the opportunity of the Winter Olympics, Hebei Chongli will vigorously develop the ice and snow tourism industry, and in May 2019 will completely remove the poverty cap, ice and snow equipment industry to achieve innovative development. Therefore, the development of the ice and snow industry greatly accelerates the pace of the sports industry to become a pillar industry of the local economy

3. Results

3.1 Modeling for future ski industry development

The national ice and snow tourism product supply continues to enrich, ice and snow tourism consumption level continues to improve. Ski vacation tourism consumption has become the focus of social attention and are positive development. Natural snowfields in the north have received greater attention, with the accompanying development of the local tourism economy. The number of indoor snow parks in the south is increasing through local government policies and will be the largest number of indoor snow parks in Asia by 2025.

3.2 Analysis of experimental results

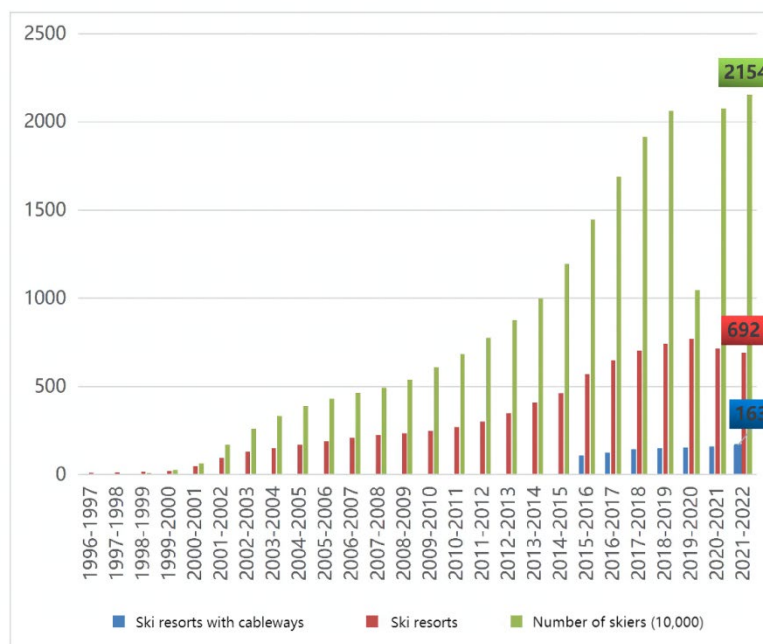


Figure 1: The ski resorts and number of skiers

Evident from previous empirical study on the economy and tourism of the Chinese ski industry, domestic snow resorts have adopted an aggressive policy and are developing in full force. And ski resorts are getting a full-blown explosion in China, which is the most noteworthy phenomenon in the ski industry in recent years. As of April 30, 2022, 42 indoor ski resorts have opened, accounting for 6.07% of the 692 ski resorts, generating a cumulative total of 3.43 million ski trips between May 1, 2021, and April 30, 2022, accounting for 15.92% of the 2.54 million trips. And through the research of the increase in the number of snow resorts, according to the core target clientele. Domestic ski resorts are divided into tourism experience type, suburban learning type and destination resort type, which account for 77.6%, 18.79% and 3.61% of all snow resorts respectively in terms of quantity, contributing 40.84%, 44.79% and 14.37% of ski trips respectively. In terms of the trend of new snow resorts, destination ski resorts show a certain upward trend, while touring experience ski resorts show a downward trend.

The number of ski resorts with more than 100,000 as well as 150,000 annual ski trips in the fiscal year of 2021-22, as derived from the above findings, are 46 and 30 respectively, an increase of 8 and 5 respectively compared to 38 and 25 in the previous year, and an increase of 15 and 14 respectively compared to 31 and 16 in 2019-20. With no significant increase in overall ski attendance, the number of ski resorts with more than 100,000 and 150,000 skiers has increased significantly, indicating that market concentration is rapidly increasing.

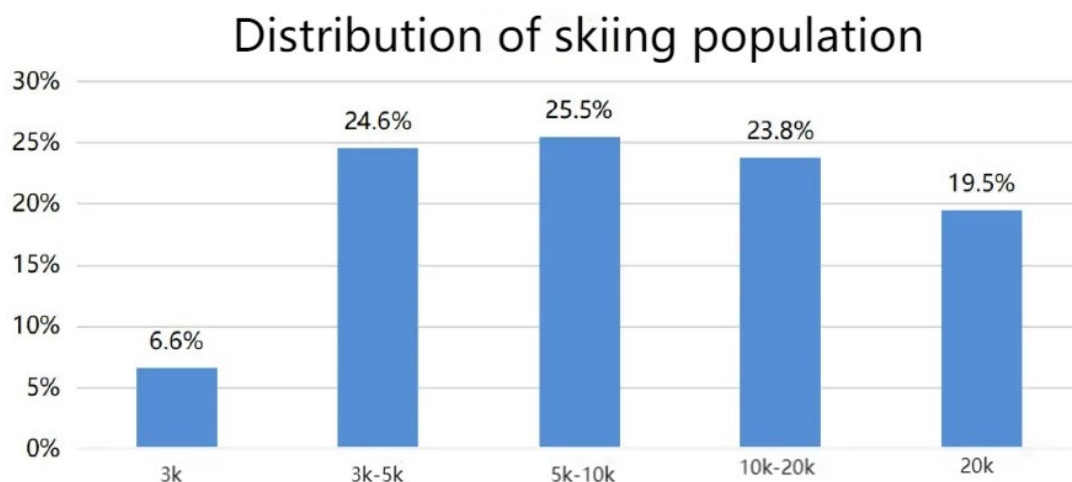


Figure 2: Distribution of skiing population.

According to the "White Paper on China's Ski Industry" released by Mobo Institute, 43.3% of skiers have a monthly income of more than 10,000 RMB, of which nearly 40% are from first-tier cities, indicating their relatively high income and strong willingness to upgrade consumption [6]. At present, a relatively high proportion of ski vacations from China is from family tourism vacations. According to the "2021 China ski vacation consumption development report" shows that among the ski vacation tourists, married tourists account for about 60%, most of the families have children under 12 years old, and the proportion of two-child families and three-child families is high. On the other hand, in terms of the composition of ski tourists, the proportion of men and women among Chinese ski vacation tourists is relatively balanced. The comprehensive "2020 China Ski Industry White Paper" and "Skiers' Behavior Characteristics Report" show that the proportion of male/female ski vacation tourists is 60%/40% respectively.

In terms of ski vacation consumption habits, the middle and high-end consumption groups account for about 58%, especially the highest proportion of high consumption groups in Jiangsu and Jilin provinces, both above 20%. Under the trend of continuous development of the market, skiing enthusiasts are no longer satisfied with skiing, and the demand for quality and diversification of hot spring leisure, special catering, high-end hotels, etc. is increasing; the demand for ice and snow recreational activities, cultural exhibitions and other experiential consumption projects is also increasing. "Ski +" is being solidified from a concept to a necessary path for the high-quality growth of skiing the resort industry is a necessary path for the high-quality growth of the resort industry

According to the two figures in the appeal, the current Chinese ski market has a lot of potential and room for development. Hypothetically speaking, Europe is roughly flat, North America is slightly down, Japan and Korea are on a more serious downward trend, and only China is in a rapid upward phase. According to the current Chinese policy on snow and ice sports, all the number of indoor ski resorts will reach the first in the world in the future. Secondly, snow and ice sports will gradually attract 400 million people and stimulate the national economy and tourism through skiing. According to the actual results, as of January 2021, China has 802 indoor and outdoor ski resorts, up 40% from 2014, and 654 standard skating rinks covering 30 provinces, up 317% from 2015. The number of people participating in ice and snow sports is growing. The number of residents participating in ice and snow sports nationwide reached 346 million, with a participation rate of 24.56%, including 12 provinces with a participation rate of more than 30%.

4. Discussion

The results of the data were consistent with the previous assumptions of this study. China is currently the world's largest primary market in terms of participation numbers, snow resort layout and ski consumption trends. However, according to the "Ice and Snow Sports Development Project (2016-

2025)" received from the government sports management, the total size of China's ice and snow industry is to reach 1 trillion RMB by 2025, which is still a challenge for the current market size of less than 100 billion. From the perspective of Europe, America and Japan and other countries where the ski industry is more mature, destination-type and resort-type snow parks are the main body and have a large market share, while the opposite is the case in China [7].

The proposal put forward is from the current configuration and operation of the snow park, the number of high-quality snow park is small, low-grade snow park all over the city; some high-quality resources are divided by multiple operating units; malicious competition within the region. These are potential obstacles to the development of the ski industry. Today, good resources should be integrated to build high-quality snow parks and reduce the risk of monopoly in China now [8].

At the same time the problem of the limitations of the ice and snow economy is also a point that should not be ignored, still facing imperfect regulatory mechanisms for the development of ice and snow resources, ice and snow resources protection has not yet been legislated, ice and snow sports and other industrial legal protection system is not sound and other bottlenecks.

5. Conclusions

A slew of encouraging statistics indicate that the ice and snow industry is on the rise. And not only accelerates the pace of the sports industry to become a pillar industry of the economy, but also provides more and better services for the growing spiritual life of the people. 2013 to 2019, the scale of the national snow and ice industry grew from 120 billion RMB to 520 billion RMB, with an annual growth rate of 28.1% on average. And from 2015 to 2020, the total size of the national sports industry grew at an average annual rate of 14.58%. The growth rate of the ice and snow industry is much higher than the overall growth rate of the sports industry. The significant increase in the national snow and ice industry has indirectly driven people's interest in snow and ice sports, and to some extent skiing is a form of socialization among today's youth population. The reason for the difference, however, is that "we have to focus not only on winter sports, but also on the mood and atmosphere of winter, a mood that attracts consumers," said Professor Harald Pechlaner, President of the European Association for Regional Development and Management in Bolzano, Italy, at the 12th Asia Pacific Snow Industry Forum (APSC), said. ". So in the future there will be fewer and fewer ski resorts, more ski resorts that can integrate resources and open up the service chain, so that the concept of destination management will be introduced, and even less mention of the concept of ski resorts." [9].

China is currently the largest primary market in the world in terms of the number of participants, snow park layout and ski consumption trends. However, according to the Received From the government Management of Sports' "Snow and Ice Sports Development Project (2016-2025)," the total scale of China's snow and ice industry should reach one trillion RMB by 2025, which is still challenging against the current market scale of less than 100 billion. From Europe, America and Japan and other countries with more mature development of the ski industry, destination, resort-type snow field is the main body, and a large market share, while China's situation is the opposite, the primary characteristics are obvious.

The current configuration and operation of snow parks, the number of high-quality snow parks is small, low-grade snow parks around the city; some high-quality resources are divided by multiple operating units; malicious competition in the region. These are all potential obstacles to the ski industry. Nowadays, good resources should be integrated to build quality snowfields and reduce the risk of monopoly.

As of 2022, the number of indoor and outdoor snow parks is rising rapidly across China, and tourism in areas with snow parks is receiving significant assistance [10]. So it is concluded that the rapid improvement of ice and snow sports in China in recent years is due to the support of national policies and the national trend brought by the Winter Olympics. China's snow and ice tourism industry chain China's gradual localization of snow and ice equipment, the increase in snow and ice venue

facilities, coupled with the maturing influence of the Winter Olympics and mobile Internet improvement, China's snow and ice tourism industry has accelerated its development. The snow and ice tourism industry is accelerated by favorable policies, steady national economic growth, rising income and the maturity of mobile internet technology development. Ice and snow town economy occupies an important position in snow and ice tourism, and the number of snow and ice towns in China will continue to increase due to the influence of various favorable policies and the Winter Olympics. There are mainly the following aspects of performance: the market base and demand is huge. Investment continues to increase and effective supply increases.

For this study there are also shortcomings, China is developing at a rapid pace in the digital age and the tourism resort model is simpler and more applicable in comparison. This tourism model with multiple attributes can only be afforded by large capital markets due to the large scale of investment. In the future, it can be gradually shifted from large capital daily to a lower class. This research fills a gap in the economy of ice and snow sports and uniqueness travel industry in China that existed in previous years. The study will facilitate access to skiing for young people across the country and will also improve their physical fitness to a certain extent.

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