

Research on the Brand Image Shaping and Guarantee Mechanism of Ice and Snow Research Tourism in Jilin Province

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Abstract: Under the dual policy support of vigorously supporting the development of ice and snow economy and continuously promoting the implementation of research and practice education in primary and secondary schools, ice and snow research tourism has grown into one of the core formats of cultural and tourism industry in Northeast China to complete the transformation and upgrading and successfully transform regional cold resources into hot economy. Jilin Province is located in the world's recognized 'Golden Snow Belt' area, with scarce and unique powder snow resources, characteristic rime landscape, lake winter fishing format, as well as Korean, Manchu and other characteristic minority cultural resources. These high-quality endowment conditions can provide unique basic support for the local development of high-quality ice and snow research travel products. In recent years, Jilin Province has continued to make efforts to build a 'long day snow' ice and snow public brand, and gradually expanded the overall scale of the ice and snow tourism market in the province and enriched the format. From the perspective of the development status of the subdivision track, there are still many development shortcomings in the field of ice and snow research. On the one hand, the overall brand positioning is not clear enough. On the other hand, the problem of homogenization of market products is more prominent, and the excavation of regional characteristic culture is not deep enough. These existing problems will make Jilin Province unique. Resource advantages are difficult to completely transform into solid brand competitiveness and market development advantages. This study systematically combs the development advantages of ice and snow research tourism in Jilin Province and the overall development

status of the industry, and defines the core concepts and specific connotations of the ice and snow research tourism brand in Jilin Province. On this basis, the regional development characteristics of Jilin area are deeply analyzed, and the brand image building system of ice and snow research and learning adapted to the local characteristics of Jilin is set up. At the same time, a series of development optimization paths with landing are put forward. The research results of this paper can effectively make up for the vacancies and deficiencies of the current research on the ice and snow research tourism brand in Jilin Province, and can help the ice and snow research tourism in Jilin Province to achieve differentiated development, brand normalization operation and nationwide promotion and popularization, and then continue to promote the ice and snow tourism industry in Jilin Province to a high-quality and sustainable development path.

Keywords: Ice and Snow Educational Tourism; Brand Building; Communication Channels; Cultural-Tourism Integration

1. Introduction

In the post-Winter Olympics development period, with the continuous warming of the ice and snow economy industry and the normalization of research and practice activities in primary and secondary schools, ice and snow research has evolved into a new form of integration of culture and tourism and quality education. This format can also effectively boost the ice and snow cold resources in the northeast region and smoothly transform it into a thermal advantage of regional economic development, which is a very critical development path. Jilin Province has a relatively scarce variety of ice and snow research resources such as high-quality powder

snow, natural rime, Changbai Mountain volcanic landform and diverse ethnic customs. It has sufficient foundation and conditions to develop differentiated ice and snow research education products and services. However, current development still relies heavily on traditional winter tourism frameworks, facing challenges in converting these resources into competitive brand strengths and market advantages. As the sector shifts from resource competition to brand competition, this study systematically analyzes Jilin's current state and shortcomings in winter education development, proposes a brand-building framework tailored to local characteristics, and aims to promote standardized, branded, and high-quality growth of the industry while providing theoretical insights and practical pathways for regional ice and snow cultural tourism transformation [1].

2. Current Status of Ice and Snow Educational Tourism Development in Jilin Province

2.1 Advantages of Resource Endowments

2.1.1 Abundant ice and snow natural resources
Jilin Province is located in the world's golden ice and snow belt area at 43 degrees north latitude. The local snow period can be maintained stably for about 4 to 6 months. The overall snow quality is delicate and dry, and the powder snow resources owned are relatively scarce nationwide. Type ; five core snow resource clusters have been formed in the province, namely Changbai Mountain, Songhua Lake, Beida Lake, Chagan Lake and Jilin rime. Among these high-quality resources, Changbai Mountain has a unique volcanic geological structure, a complete alpine ecological system and special polar climate characteristics, which can carry multi-dimensional research and education value, and can be used as an ideal practice site for geography exploration, natural science popularization and ecological education. As one of the 'four natural miracles' in China, Jilin rime not only has a strong sense of natural beauty, but also has a high value of meteorological science research. On the basis of relying on the unique local ice and snow resources, it also integrates the unique ice and snow ecological environment of northern lakes and the traditional fishing and hunting culture that has been inherited for a long time, which can create a complete and rich immersive labor

learning experience for the research audience. Chagan Lake winter fishing bears the unique ice and snow ecological features of northern lakes and the traditional fishing and hunting culture, which can build a distinctive immersive labor research practice scene. The overall high-quality, scarce and rich types of various types of ice and snow natural resources in Jilin Province can also build a core resource base for the differentiated construction of local ice and snow research brands [2].

2.1.2 Unique Folk Cultural Resources

In addition to the unique natural ice and snow resources, Jilin Province also has a very prominent cultural and folk advantages; it is not only an important birthplace of Manchu culture, but also the main settlement area of Korean people. It has accumulated a large number of intangible cultural heritage and folk cultural resources for research and development. The existing Manchu Wola grass production techniques, traditional ice folk activities, snow Yangko, Guandong folk culture, Korean pickles technology, traditional song and dance art, folk residential style and other contents in the province are unique cultural resources that are different from Heilongjiang, Hebei and other ice and snow tourism provinces. These unique local cultural resources will enable Jilin Province to have sufficient core strength to create a differentiated research and education brand that integrates ice and snow experience, folk heritage and scientific science popularization.

2.2 Current State of Industrial Development

In recent years, Jilin Province has continued to promote the construction of the ice and snow Silk Road Innovation Pilot Zone, and has made every effort to build the provincial ice and snow public brand of 'snow in the day'. It has also held a number of large-scale cultural and tourism activities, such as snow expo, rime ice and snow festival, ski opening meeting and so on, which has effectively raised the overall heat and industry vitality of the ice and snow tourism market in the province. At the level of research education policy, Jilin Province has also set up a perfect research cooperation and development mechanism, continuously promoted the construction of various research bases, and actively carried out the screening and cultivation of ice and snow research courses. Successfully integrated the content of ice and

snow research into the comprehensive quality education system of primary and secondary schools.

From the perspective of the current market main body composition of ice and snow research tourism in Jilin Province, the whole can be divided into three types of formats. The first type is the ice and snow research products developed by major large ski resorts based on their own site resources. The second type is the characteristic research projects created by Yanbian and various counties relying on local folk culture. The third type is the short-distance research line products mainly promoted by local small and medium-sized research institutions. In the overall market structure of the province, the market volume of school group research has maintained a relatively stable development state; however, it can also be clearly seen that the market share of inbound tourists is generally low, and there is also a clear supply gap in parent-child research and boutique long-term research related products that can meet the market demand. On the whole, the ice and snow research tourism in Jilin Province currently presents the development characteristics of outstanding resource endowments and high overall market heat, but weak brand building, scarce quality products, and scattered market communication channels.

3. Existing Problems in the Development of Jilin Province's ice and Snow Education Tourism Brand

3.1 Ambiguous Brand Positioning

From the specific status quo of brand building, the ice and snow research industry in Jilin Province has not yet cultivated an exclusive independent brand. Most of the related products on the market are only developed and operated based on the mature ice and snow tourism brand in the province. The core attributes of the research education itself have not been fully explored and displayed. Most of the ice and snow research products launched in the current market are concentrated on basic projects such as skiing experience and ice and snow park play, and there is a high degree of homogeneity with the ice and snow research products in the surrounding provinces [3]. This kind of product neither highlights the unique ice and snow resources and folk cultural characteristics of Jilin Province, nor can it build an exclusive and

clear brand identity of Jilin ice and snow research in the consumer's cognitive system.

3.2 Superficial Cultural Mining

In addition, most of the ice and snow research products on the current market only stay in the shallow experience level of viewing folk customs and taking pictures, and do not carry out systematic curriculum transformation work on the research content; the core contents of folk culture with regional characteristics, unique geological culture and local ice and snow development history have not been deeply integrated into various research and learning experience activities. At the same time, the existing ice and snow research brand still lacks a mature and perfect cultural core, a complete brand story and an exclusive IP symbol system, which will directly cause the problem of empty brand content and weak user memory points. It is difficult to make Jilin ice and snow research industry form a stable and long-term market attraction and competitiveness.

3.3 Loose Product System

At present, the overall structure of ice and snow research products launched in Jilin Province is relatively single, and the market is full of a large number of basic products that are biased towards shallow experience, and a hierarchical and progressive complete curriculum system has not been established. The relevant development team did not combine the cognitive level and learning characteristics of students in different stages of primary school, junior high school and senior high school to design the content of graded and classified research courses, which could not meet the diversified development needs of quality education in primary and secondary schools under the new curriculum standards. It is precisely because the curriculum system lacks scientificity and pertinence that this kind of ice and snow research content is difficult to obtain high recognition at the school level in the process of campus landing, and the repeated utilization rate and normalized landing effect of the curriculum are generally low.

3.4 Fragmented Dissemination

In terms of brand promotion and market communication, the current promotion methods of ice and snow research in Jilin Province also have obvious limitations. At this stage, most of

the publicity work relies on traditional models such as government official publicity, offline promotion and bundled sales of travel agencies. There is a lack of refined and normalized new media operation methods, and there is no hierarchical and accurate differentiated communication content for different audience groups such as schools, students' parents, and cooperation channels outside the province [4]. Not only that, the existing communication system also has obvious seasonal and fragmented problems; in winter, the market propaganda heat of ice and snow tourism season is high, while in summer, it is basically in a state of silent propaganda. This leads to the failure of ice and snow research brand to achieve continuous exposure throughout the year, and it is difficult to accumulate long-term brand influence. At the same time, it also makes the overseas market penetration of ice and snow research industry in Jilin Province always at a low level.

3.5 The Brand Protection System is Inadequate

From the perspective of the main body of market operation, a large number of small and medium-sized research and training institutions on the market still have the problem of chaotic operation and management. The service implementation standards of various institutions are not uniform, and the professional teaching level of teachers is also uneven. There are also great differences in the overall safety management system and implementation. The industry has not yet set up a unified and standardized curriculum standard, standardized service process, professional teacher training system and normalized long-term supervision and management mechanism. These existing industry chaos will continue to restrict the upgrading and high-quality development of the overall brand quality of ice and snow research in Jilin Province.

4. Pathways for Building the Brand Image of Jilin Province's Ice and Snow Educational Tourism

4.1 Differentiated Brand Positioning

Combined with the existing ice and snow resources endowment and the actual demand of the market in Jilin Province, this paper clarifies the overall development goal of ice and snow

research tourism in Jilin Province; the local ice and snow research industry can rely on high-quality powder snow resources as the core experience content, and match the polar natural science popularization as the auxiliary research section. At the same time, it fully highlights the unique multi-ethnic folk customs in the Guandong area, and gradually builds Jilin into a distinctive and high-quality professional ice and snow research tourism destination.

The first category is quality research products for primary and secondary school students. These products will take adapting to the teaching requirements of the new curriculum standard, implementing popular science empowerment and promoting cultural education as the core development goals, and can form standardized research activities with complete systems and standardized processes. The second category is a leisure research product that focuses on the audience of parent-child families. It mainly focuses on the immersive experience of folk customs, natural aesthetic education, and the comprehensive quality growth of winter camps to create characteristic boutique research projects. This study takes the differentiated brand positioning of popular science exploration, folk custom experience and ice and snow sports as the core entry point, which can effectively break through the homogeneous competition dilemma of single skiing research in the current industry, and can help Jilin Province to build a unique local ice and snow research brand core advantage.

4.2 Deepen the Cultural Essence and Strengthen the Brand's Foundation

It can integrate and reshape the local characteristic cultural resources of Jilin, and organically integrate the diversified contents of Changbai Mountain volcanic culture, rime meteorological culture, Chagan Lake fishing and hunting culture, Manchu Guandong folk culture and Korean characteristic folk culture, so as to build a set of complete and three-dimensional Jilin ice and snow research exclusive brand story system. At the same time, various scattered folk skills, natural ecological knowledge, local ice and snow development history and other resource contents can be disassembled and reconstructed, and combed into a standardized research content system that can be taught, experienced personally, and exported to the outside world. It can effectively

promote the development and transformation of Jilin ice and snow research brand, and gradually upgrade the industry development model from the traditional simple 'viewing ice and snow landscape' to the in-depth and systematic 'learning ice and snow knowledge' and 'reading ice and snow culture', and truly realize the connotation upgrading and value upgrading of the research brand [5].

4.3 Building a Systematic Visual Framework for Brand IP

Develop a unified provincial IP for winter sports education programs, featuring a standardized visual system that includes a dedicated logo, cartoon character, brand color scheme, promotional slogans, educational manuals, and cultural merchandise [6]. Standardize the external image of all provincial study bases to address the current issues of inconsistent visual consistency and fragmented branding, enhance user recognition, and improve brand professionalism and coherence.

4.4 Establish a Hierarchical, Standardized Matrix of Educational Research Products

4.4.1 Ice and Snow Science Popularization Study Tour Series

Leveraging the Changbai Mountain Geological Museum, meteorological observation stations, and forest ecological reserves, we have developed courses covering volcanic landforms, polar climate, ice-and-snow flora and fauna, and rime formation experiments, tailored to meet the teaching requirements of geography, biology, and science curricula in junior and senior high schools.

4.4.2 Folk Custom Intangible Cultural Heritage Study Series

Develop hands-on courses featuring Korean ethnic folk traditions, Manchu Ula intangible cultural heritage crafts, Northeastern Chinese New Year customs, and winter fishing culture, integrating immersive cultural learning with labor education.

4.4.3 Series of Practical Training and Educational Programs for Ice and Snow Sports

Leveraging the high-quality powder snow resources of Beida Lake and Songhua Lake, we offer tiered skiing instruction programs, winter sports practical training courses, and ice/snow safety and self-rescue courses, tailored to meet the requirements of physical education quality education in primary and secondary schools [7].

Meanwhile, tailored study tour packages with one-day, three-day, and five-day durations are designed according to different educational stages, establishing a standardized, replicable, and scalable premium curriculum system that provides core product support for brand implementation [8].

5. The Support Mechanism for the Development of Jilin Province's Ice and Snow Education Brand

5.1 Policy and Institutional Guarantee

5.1.1 Issuance of specialized standardization policy documents

The Jilin Provincial Department of Education, Department of Culture and Tourism, and Market Supervision Administration jointly issued three specialized documents: the 'Implementation Rules for the Development of Ice and Snow Study Travel Industry in Jilin Province,' the 'Evaluation Standards for Provincial Ice and Snow Study Demonstration Bases,' and the 'Standards for Course Development and Review of Ice and Snow Study Programs.' These documents specify requirements for admission qualifications of study bases, curriculum development standards, fee regulations, service procedures, and promotional guidelines, thereby unifying industry standards across the province. They aim to address prevalent issues such as unlicensed small-scale operators, low-cost substandard programs, false advertising, and product homogenization, eliminate non-compliant operators, and improve the industry's development environment.

5.1.2 Establishing Brand Support and Incentive Policies

A special support fund has been established at the provincial level for ice and snow educational tourism brands, providing financial subsidies, tax incentives, and venue support to institutions recognized as provincial model study bases, those offering exemplary study programs, and outstanding study operation enterprises. Enterprises that actively engage in school-enterprise collaboration, develop distinctive folk culture-based science education courses, create branded intellectual properties, or promote their initiatives outside Jilin Province will receive targeted rewards. Additionally, ice and snow educational tourism has been incorporated into Jilin Province's key

cultural and tourism support industries and major quality education projects for primary and secondary schools, ensuring policy endorsement for long-term brand development [9].

5.1.3 Establishing an industry supervision and evaluation mechanism

In order to effectively regulate the development order of the industry, unify the market service standards, and effectively solve the current problems of small and medium-sized research institutions, Jilin Province can lead the formation of an exclusive ice and snow research industry association ; the association can fully assume a number of core functions such as industry self-discipline, daily supervision, professional training, and industry evaluation, and provide special protection for the standardized development of the industry. Relevant departments can rely on industry associations to establish a sound integrity file for all ice and snow research and travel enterprises in the province, and at the same time implement the industry 's ' blacklist ' management system ; for research institutions with substandard service quality, hidden safety hazards in the operation process, and false publicity and other violations, they can publicly notify their problems and urge the institutions to complete the rectification within a limited period of time. For market entities with serious violations and repeated violations, their relevant business qualifications can be revoked according to law, and the industry chaos can be rectified from the root. At the same time, the provincial ice and snow research industry evaluation activities can be carried out regularly every year, and ten high-quality ice and snow research boutique lines, ten benchmark research bases and a group of excellent research tutors with excellent comprehensive quality can be selected regularly. Through the way of promoting construction by evaluation and improving quality by evaluation, it can positively drive the service level of the whole ice and snow research industry, and continuously raise the overall brand quality and industry development level of Jilin ice and snow research.

5.2 Collaborative Industrial Support among Government Agencies, Enterprises, and Educational Institutions

From the perspective of government

governance and industrial coordination, relevant departments need to give full play to their overall planning and positive guidance, and can build a platform for ice and snow research and exchange sharing covering the whole province. The platform can organize industry exchange forums regularly, effectively break the information barriers between the education system and the cultural tourism industry for a long time, and enable the resources and information in the two fields to be shared. On this basis, the government can carry out systematic integration and overall planning of the scattered distribution of ice and snow research resources in the whole province, and implement the operation mode of unified packaging, unified publicity and unified promotion, so as to help the ice and snow research industry in Jilin Province steadily open up the market outside the province ; this measure can effectively avoid the industry chaos of each city 's main body fighting and disorderly competition, and avoid the problems of internal malicious competition and idle waste of high-quality resources, so that the ice and snow research industry in the province can form a joint force and achieve coordinated development [10].

At the level of enterprise development, market operators should adhere to the market demand as the core orientation, and focus on key areas such as curriculum innovation, brand communication, customer source mining and channel expansion. In order to adapt to the overall development trend of quality education in primary and secondary schools in the new era and further enhance the market adaptability and core competitiveness of products, research enterprises need to closely meet the actual development needs of primary and secondary school syllabuses and campus research, continuously iterate and optimize the existing ice and snow research product system, make up for the shortcomings of shallow experience products, and continuously improve the professionalism, pertinence and interest of research courses.

At the level of research bases, each base needs to focus on promoting the upgrading of hardware facilities, the construction of research scenes, the activation of non-legacy folk resources and the construction of popular science venues, improving the supporting hardware and real-life experience scenes of

research, and revitalizing local cultural and ecological resources, so as to provide a solid hardware support and scene guarantee for the implementation of standardized and systematic ice and snow research courses.

At the school level, primary and secondary schools should deeply participate in the development and review of ice and snow research courses, and jointly optimize the research course content and teaching system in combination with the school syllabus and the learning characteristics of students in different grades. Through the accurate matching of research activities and campus teaching needs, the organic connection and deep integration of ice and snow research practice and campus classroom teaching can be realized, and the educational value of research education can be brought into full play.

5.3 Professional Talent Security

At the level of school and teacher construction, it is necessary to establish a perfect professional qualification certification system for ice and snow research travel instructors. The "Professional Standards for Ice and Snow Research Tutors in Jilin Province" can be compiled to clarify the professional ability requirements of ice and snow research instructors, so as to ensure that they have comprehensive professional qualities such as ice and snow safety first aid, natural science popularization explanation, non-legacy cultural interpretation, youth psychological counseling and research curriculum organization and implementation. By implementing the pre-service systematic training, grading assessment and certification system, strictly standardizing the qualification management of research team, strictly prohibiting unlicensed personnel from participating in research team work, and ensuring the professionalism, safety and standardization of ice and snow research activities from the perspective of teacher resources.

At the same time, we should build a school-enterprise collaborative education mechanism, build a deep collaboration platform between schools and research enterprises, and help students develop their practical ability and comprehensive quality in an all-round way. Relying on the professional advantages of tourism management, pedagogy, folklore, physical education and other related majors in

colleges and universities in Jilin Province, we will directionally cultivate compound ice and snow research talents with both education and teaching ability, cultural and tourism service literacy and ice and snow safety management level, and continue to transport professional reserve talents for the ice and snow research industry in the province and consolidate the foundation for the development of industrial talents [11].

In addition, a normalized teacher training mechanism should be established, and special training should be carried out regularly led by industry associations [12]. The training content focuses on the core modules such as new curriculum research and development, new media brand promotion, ice and snow emergency rescue, youth quality education methods, and regional folk culture professional knowledge. It carries out systematic special training for research tutors, curriculum research and development personnel, industry operation and management personnel, and continuously improves the professional ability and comprehensive quality of industry practitioners. Build a solid talent base for the high-quality development of the ice and snow research industry.

Finally, build a professional ice and snow research think tank team. Integrate multiple expert resources in the province, absorb tourism industry experts, primary and secondary school special-grade teachers, non-genetic inheritors and geological science popularization scholars to form an exclusive research think tank, which mainly undertakes the core work of research curriculum review, brand development guidance, industry standard formulation, etc., and provides professional intellectual support and talent guarantee for the standardization and high-quality development of ice and snow research brand in Jilin Province.

5.4 Standardized Service Guarantee

With brand standardization as the core, we will unify the service processes and standards for ice and snow educational tours across the province, addressing the disparities in service quality and experience variations among local facilities.

One is to realize the standardization of curriculum services; unified teaching time, unified teaching procedure, unified teacher-student ratio, unified teaching aids, unified learning manual, unified achievement

evaluation system, to ensure the unity of research experience of each base and each batch. Secondly, standardization of supporting services. Establish unified standards for accommodation, transportation, cold protection measures, and supply provisions for educational tours. Specifically tailored to the unique requirements of youth ice and snow study tours, these standards include provision of professional cold-weather protective equipment, insulated classrooms, and emergency supplies, all designed to accommodate the severe winter conditions in Northeast China.

Third, standardization of after-sales services. A closed-loop mechanism has been established for archiving study tour outcomes, collecting student evaluations, conducting parent follow-ups, and addressing identified issues. Upon completion of the study tour, students are awarded a certificate and their practical credits are recorded in the archives. Regular user feedback is collected to continuously refine service details and enhance brand reputation.

5.5 Full-Process Security Assurance

Ice and snow educational programs operate in unique outdoor environments where low temperatures, snow conditions, and practical field training pose certain safety risks; therefore, safety assurance forms the cornerstone of brand trust building.

Conduct thorough safety inspections of study sites in advance, monitor weather conditions and snow/ice road conditions in real time, and suspend outdoor study activities during severe weather; purchase accident insurance and specialized study trip insurance for all teachers and students in advance, and develop safety travel plans. During the activity, implement full-time supervision by instructors and a zoning management system; for snowfield training sessions, assign professional safety officers, first aid personnel, and emergency equipment to provide continuous real-time monitoring. Post-activity, establish emergency response mechanisms and medical coordination systems, and maintain close communication with nearby hospitals to promptly address any emergencies.

Simultaneously, comprehensive pre-trip safety training is conducted to educate students on ice and snow travel safety, cold protection, slip prevention, and emergency self-rescue measures, thereby comprehensively mitigating

safety risks and establishing a safe, reliable, and professional brand image for ice and snow educational tours.

5.6 Funding and Digital Support

In order to fully guarantee the high-quality development of the ice and snow research industry, Jilin Province can strengthen policy fund support and market-oriented operation empowerment [13]. By increasing the special financial allocation, we will focus on the core areas of brand IP construction, new media global promotion, hardware update of research base, research and development of excellent courses, and training of compound research talents, so as to make up for the shortcomings of industrial development and lay a solid foundation for industrial development. On the basis of financial support, actively expand investment and financing channels, and actively guide social capital to participate in the construction and operation of ice and snow research industry projects. At the same time, we actively introduce professional tourism management enterprises into the local market, rely on mature market-oriented operation mode, professional brand promotion experience and perfect market channels, comprehensively improve the market-oriented operation level and core competitiveness of Jilin ice and snow research brand, and promote the industry to achieve standardized, high-quality and long-term development of industrialization.

At the level of digital empowerment and intelligent operation, we can rely on modern digital technology to build an official comprehensive digital platform for ice and snow research in Jilin Province, and build an integrated and whole-process digital brand operation system. The platform integrates multiple functions such as research base reservation, research course inquiry, online registration and payment, live broadcast of research process, research achievement display and user evaluation and evaluation, so as to realize the online, integrated and intelligent research service and management of ice and snow. At the same time, relying on big data technology to accurately analyze core data such as customer source structure, user preference, market demand, and popular courses, it provides data support for research product iteration, curriculum optimization, brand communication, and market promotion strategy

adjustment, and achieves precise operation and dynamic upgrading. Continue to promote the steady development of Jilin ice and snow research brand in the direction of standardization, digitization, branding, and nationalization [14].

6. Conclusion

Jilin Province has scarce world-class ice and snow ecology, unique geological landscape and multi-ethnic folk cultural resources, with outstanding resource endowment advantages, which has laid a solid foundation for building a national high-quality ice and snow research system, and has a unique competitive advantage in developing characteristic ice and snow research industry. However, at the present stage, there are still many shortcomings in the development of the ice and snow research industry in Jilin Province, and the overall development quality of the industry is limited. The specific performance is the fuzzy brand positioning, the shallow mining of regional characteristic culture, the significant homogenization of research products, the lag of brand communication mode and the lack of unified standards in the industry. The pain points of various industries restrict the standardization and quality upgrading of the industry. Based on the characteristics of resource endowment and the reality of market development in Jilin Province, this paper proposes that the ice and snow research in Jilin Province should build a three-in-one characteristic development model of ' folk custom + science popularization + powder snow movement ', and break through the limitations of traditional single ice and snow experience. By constructing a systematic brand system, deepening local cultural connotation, and innovating modern communication and promotion methods, we will promote the transformation of high-quality ice and snow resources in Jilin Province into exclusive brand advantages and industrial economic advantages, and help the regional ice and snow research industry to achieve specialization, branding, and high-quality sustainable development.

Acknowledgments

This paper is supported by 2025 Annual Changchun University Tourism College Innovation and Entrepreneurship Development Fund - Scientific Research Special Fund Project

(No. JS2025026).

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