

# Asia Pacific Economic and Management Review

Editor-in-Chief:

**Prof. Lakshman Sharma**

*University of Delhi, Indian*

Associate Editor

**Dr. Zijian Wu**

*Guangzhou Medical University, China*

Copyright © 2024. ASIA PACIFIC SCIENCE PUBLICATIONS  
COMPANY LIMITED. Complimentary Copy.

## Asia Pacific Economic and Management Review

*Asia Pacific Economic and Management Review (APEMR)* is an international, peer-reviewed and open access journal which focuses on theoretical and applied studies of corporate and financial behavior. Aiming to promote the research in fields of business economics and management, it covers mainly but not limits to the following areas:

- Accounting and Financial Management
- Economics
- Political Economy
- Human Resource Management and Organizational Behavior
- Information Management
- International Business
- Strategy and Innovation
- Management Science and Operations Management
- Marketing and Retail
- Asset Evaluation
- Financial Theory and Practice
- Commercial Circulation
- International Trade
- E-commerce
- Logistics Management
- Business Administration

### About Publisher:

Asia Pacific Science Press (APSP) is a swiftly expanding publisher of peer-reviewed and open-access journals, strategically located in Hong Kong. As a reliable and esteemed corporation, APSP is dedicated to promoting and serving a wide array of subject areas, ultimately contributing to the betterment of humanity. By disseminating knowledge to a global community of scholars, practitioners, researchers, and students, we strive to establish ourselves as the world's leading independent academic and professional publisher.

Submission instructions: You can submit your manuscript through the official website ([www.apspublisher.com](http://www.apspublisher.com)) or email ([editor.apemr@apspublisher.com](mailto:editor.apemr@apspublisher.com)), All manuscripts will go through a rapid peer review and production, making the process of publishing simpler and more efficient.

### Publisher Headquarter

Room 03, 7th Floor, Block B, Tuen Mun Industrial Centre, 2 New Ping Street, Tuen Mun, Hong Kong, China  
Website: [www.apspublisher.com](http://www.apspublisher.com)  
Email: [info@apspublisher.com](mailto:info@apspublisher.com)

## Table of Contents

- 1 Research on the High-Quality Development of Agricultural Product Cross-Border E-Commerce under Rural Revitalization**  
*Xiaojing Zhang, Weiwei Zhang*
- 6 Research on the Problems and Countermeasures of the Imbalance of Students' Subjective Status in the Age of Artificial Intelligence**  
*Li Wei, Tong Ju*
- 13 Research and Analysis Report on the Sanya Yazhou Central Fishing Port**  
*Zhao Lei*
- 18 The Current Situation and Predicament of the Development of Rural E-commerce Cooperatives in Kashgar**  
*Guo Jinhan, Shao Ziyu, Yang Yuyuan*
- 26 The Historical Development and Strategic Change of Wuhan Exhibition Tourism**  
*Peiyang Zou*
- 34 Digital Technology Empowers Guxiang Hot Spring Resort: Strategies to Enhance Innovation and Competitive Advantage**  
*Limin Liang*
- 44 Research on Silver Tourism in China: Themes, Theoretical Frameworks, and Methodological Approaches**  
*Wenxuan Yao, Biao He*
- 51 Digital Technology Empowerment of the Integration of Cultural Tourism and Health Care Industries in Qingyuan City: Dilemmas and Solutions**  
*Feng Liu*



# Research on the High-Quality Development of Agricultural Product Cross-Border E-Commerce under Rural Revitalization

Xiaojing Zhang\*, Weiwei Zhang

Qingdao University of Technology, Shandong, 250014, China

*\*Corresponding author: Xiaojing Zhang*

**Copyright:** 2024 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY-NC 4.0), permitting distribution and reproduction in any medium, provided the original author and source are credited, and explicitly prohibiting its use for commercial purposes.

**Abstract:** The agricultural product industry is under significant transformation pressure, and vigorously developing cross-border e-commerce (CBEC) for agricultural products can facilitate industrial upgrading and inject new vitality into rural revitalization. Based on large-scale field surveys and interviews with 120 enterprises in Linyi (China), this study examines the operational status of agricultural product businesses and their perceptions of CBEC, identifying key challenges and strategies for high-quality development. Findings reveal that while agricultural product enterprises recognize the necessity of adopting CBEC, they face multiple barriers, including lack of support policies and regulatory systems, limited awareness of CBEC potential, insufficient adoption of new technologies, shortage of professional and interdisciplinary talent, and weak awareness of cross-brand building. To effectively promote high-quality CBEC development, policymakers and stakeholders should improve support policies and regulatory systems, strengthen awareness of CBEC applications, enhance the promotion and application of new technologies, build a CBEC talent support system, and accelerate brand development for agricultural product CBEC.

**Keywords:** Rural Revitalization; Agricultural Product; Cross-Border E-Commerce(CBEC); High-Quality Development

**Published:** Jun 15, 2024

**DOI:** <https://doi.org/10.62177/apemr.v1i3.276>

## 1.Introduction

Rural development constitutes a critical issue in China's modernization strategy. The strategic evolution from "New Rural Construction" to "Rural Revitalization" reflects not only terminological adjustment but also an emphasis on elevating rural development quality (Zhang, 2024; Fu & Yang, 2024). High-quality development is the foremost requirement of rural revitalization, underscoring its significance. The core of rural revitalization lies in leveraging local specialties (Xue, 2025). Thus, harnessing regional advantages to promote high-quality development of agricultural product industries has become a vital pathway for rural revitalization (Sun, 2024). Currently, China's agricultural product industry has reached a bottleneck, urgently requiring transformation. Cross-border e-commerce(CBEC) demonstrates unique advantages over traditional trade models, including vast market potential, relatively unsaturated competition, improved circulation efficiency, and information exchange benefits (Zhu, 2024). Moreover, the ongoing wave of technological revolution and digital transformation provides crucial momentum for integrating modern agriculture with digital trade, fostering the rise of CBEC for agricultural products (Fang et al., 2024; McKinsey & Company, 2024). Since 2021, despite challenges like global pandemics, supply chain

instability, and trade barriers, agricultural products CBEC has shown robust growth (Li, 2024) . As an innovative trade model, it exhibits strong dynamism and resilience, offering new vitality and vast potential for rural industrial revitalization.

## **2. Research Methodology**

### **2.1 Case Context**

Linyi is located in Shandong Province, China, situated within the 34 to 36 degrees north latitude golden industrial belt for high-quality agricultural products globally. It serves as a vital supply base for grain, oil, fruits, vegetables, and livestock products in China. Leveraging advantages such as commerce and logistics, Linyi focuses on optimizing agricultural products, deeply tapping into agricultural resources, and accelerating the cultivation of the entire agricultural industry chain. Agricultural products represent a niche category in Linyi's cross-border e-commerce (CBEC) offerings, facing numerous challenges yet holding vast potential for expansion (Li, 2024) .

### **2.2 Methodological Approach**

This study investigates the high-quality development issues of cross-border e-commerce (CBEC) for agricultural products in Linyi through field research, questionnaires, and symposiums. The research subjects encompass the majority of agricultural enterprises and cooperatives across all nine counties and three districts of Linyi, ensuring strong representativeness and authenticity of the samples. A total of 120 valid questionnaires were collected during the four-month research period from March to June 2024. The study covers background information of Linyi's agricultural enterprises, their current development status, and their understanding of CBEC.

## **3. Analyzing the Key Challenges in High-Quality Development of Agricultural Product Cross-Border E-Commerce (CBEC)**

### **3.1 Lack of Support Policies and Regulatory Systems**

The existing policy support system for cross-border e-commerce (CBEC) and rural e-commerce rarely focuses on agricultural products, lacking specificity (Ministry of Commerce et al., 2024) . The operational model of CBEC for agricultural products is complex and involves multiple stakeholders, yet there is a lack of smooth coordination mechanisms. Trade facilitation measures tailored to the import and export of agricultural products remain to be improved.

### **3.2 Limited Awareness of Cross-border e-commerce (CBEC) Potential**

Most agricultural product enterprises have limited understanding of cross-border e-commerce (CBEC) as a new business model. They fail to recognize the revolutionary changes it brings to international trade and lack awareness of leveraging CBEC for overseas sales, brand transformation, and digital upgrading of agricultural products (Zhu, 2024; Wang, 2023) .

### **3.3 Insufficient Adoption of New Technologies**

With technological advancements, new technologies such as artificial intelligence, big data analytics, blockchain, and cloud computing have emerged. Their application can not only enhance the operational efficiency of cross-border e-commerce (CBEC) but also improve user experience, reduce costs, and increase security. Currently, the development of CBEC for agricultural products significantly lags in utilizing these technologies (Mirabelli & Solina, 2020; Fang et al., 2024) .

### **3.4 Shortage of Professional and Interdisciplinary Talent**

The development of cross-border e-commerce (CBEC) for agricultural products requires international, interdisciplinary talent familiar with agricultural production, online marketing, and foreign trade experience. Current talent cultivation falls short of actual demand, with significant gaps in basic operational personnel and high-end management talent.

### **3.5 Weak Awareness of Cross-Brand Building**

Due to the prominent issue of product homogenization in cross-border e-commerce (CBEC) of agricultural products, the lack of uniqueness and differentiation makes it extremely challenging to establish distinctive brand characteristics. Meanwhile, most agricultural enterprises lack awareness of CBEC brand building, making it difficult to create competitive brands and effectively conduct market promotion, thereby limiting the market share and visibility of their products (European Commission, 2022; Sun, 2024) .

## **4. Ecommendations for High-Quality Development of CBEC for Agricultural Products**

## 4.1 Improve Support Policies and Regulatory Systems

First, enhance the reputation of Linyi Mall and China Grand Bazaar by integrating agricultural product cross-border e-commerce (CBEC) into these platforms, leveraging their influence to boost the overseas expansion of agricultural products. Second, streamline administrative approval processes to reduce transaction costs and administrative burdens for cross-border agricultural products. For example, Haikou Customs has established fast-track channels for exporting premium agricultural products like tropical fruits and flowers (Ministry of Commerce et al., 2024). Third, refine laws and regulations to provide clear rules and safeguards for cross-border agricultural product trade. Fourth, establish a stringent quality supervision system for agricultural products, strengthen source management, and ensure compliance with the quality standards of importing countries. For instance, following the example of Wuchang City, implementing traceability and anti-counterfeiting systems and promoting local standards can enhance the market competitiveness of agricultural products (Fang, 2015).

## 4.2 Strengthen Awareness of CBEC Applications

First, promote the importance and success stories of cross-border e-commerce (CBEC) through multiple channels such as government, industry associations, and media to increase awareness and interest among agricultural product enterprises. For example, Guangdong pioneered the slogan “Guangdong Invites the World to Taste Lychees,” which boosted the popularity of Guangdong lychees overseas through CBEC exports, achieving record-high export volumes (Zhu, 2024). Second, provide CBEC training for agricultural product enterprises, covering platform operations, marketing strategies, logistics, and other aspects to help them better understand and utilize CBEC. Third, establish collaboration and exchange platforms for agricultural product CBEC to facilitate information sharing and experience exchange among enterprises, fostering a conducive environment for mutual development. For instance, Ningxia used goji berries as a medium to collaborate with outstanding enterprises in South Chungcheong Province, South Korea, and platforms like JD Health, promoting the international development of its goji berry industry.

## 4.3 Enhance the Promotion and Application of New Technologies

First, leverage IoT technology to enable comprehensive monitoring throughout agricultural product production, transportation, and storage. Second, establish a new model of “Blockchain + Cross-border e-commerce (CBEC) for agricultural products,” recording information at every stage from production, processing, transportation to sales. For instance, drawing lessons from the Gannan Navel Orange blockchain traceability project, data from each production stage is uploaded to the blockchain, achieving full-process safety traceability (Zhou, 2023). Third, rationally apply AI and big data technologies to mine and analyze massive datasets, helping businesses precisely target markets and optimize product supply and marketing strategies (McKinsey & Company, 2024). Fourth, continuously upgrade smart logistics and warehousing systems to achieve rapid sorting, delivery, and storage management. Fifth, revolutionize CBEC for farm products with VR and AR technologies, allowing consumers to visually understand growth environments and processing procedures through virtual scenarios, enhancing purchase intent. Sixth, utilize AI to create immersive new experiences, concretizing product features in live streams and hosting virtual avatar interactions with international hosts to boost engagement.

## 4.4 Building a CBEC Talent Support System

First, for practitioners lacking professional knowledge, provide vocational training covering international trade rules, e-commerce platform operations, and global marketing for agricultural product cross-border e-commerce (CBEC). Second, actively recruit top domestic and international talent, especially those with international trade expertise. Third, establish stable university-enterprise partnerships, such as deep collaboration with Qingdao University of Technology (Linyi), to launch CBEC joint programs. Fourth, promote industry exchange events to foster interdisciplinary talent integration and advance agricultural product CBEC. For example, Foshan Lishui hosted the Guangdong Agricultural Products CBEC Forum and founded the “Guangdong Agricultural Products CBEC Alliance & Think Tank,” aiming to build a robust talent ecosystem.

## 4.5 Accelerating Brand Development for Agricultural product CBEC

First, deeply explore the agricultural product resources in the Linyi region and cultivate a group of “small but beautiful” cross-border e-commerce (CBEC) brands for agricultural products. Develop intensive processing of agricultural products to increase their added value, promote their transformation from primary products to high-value-added products, and enhance

brand value. Second, utilize various channels such as social media, e-commerce platforms, and search engines for brand promotion to increase brand awareness and exposure. For example, following the approach of Shuangxi Village, Dongbao Town, Jiange County, Guangyuan, Sichuan, release local food preparation videos on new media platforms like TikTok to promote local agricultural product brands. Third, cultivate internationally-minded live-streaming hosts to help Linyi's advantageous products explore the international market through the model of "CBEC + Agricultural products + International hosts." For instance, e-commerce influencers like Chunfeng Tianji conduct cross-border live-streaming on platforms such as Lazada and TikTok, using both Chinese and English to promote local agricultural product brands (Chen & Long, 2024).

## Funding

1. Cross-border E-commerce Comprehensive Pilot Zone Promotes Regional Coordinated Development: Theoretical Logic and Practical Pathways, Scientific Research Cultivation Project of Qingdao University of Technology (Linyi).
2. Research and Practice of Cross-border E-commerce Talent Training Model Based on the Integration of "Post-Course-Competition-Certification", Vocational Education Teaching Reform Research Project of Linyi City (2023).
3. Exploration and Practice of the "Four-in-One Integration, One Body with Two Wings" Cross-border E-commerce Applied Talent Training System (F2024-044), Teaching Reform Cultivation Project of Qingdao University of Technology.

## Conflict of Interests

The author(s) declare(s) that there is no conflict of interest regarding the publication of this paper.

## References

- [1] Chen, M., & Long, Y. (2024). Empowering rural revitalization: Unleashing the potential of e-commerce for sustainable industrial integration. *Journal of the Knowledge Economy*, 15(15), 18813–18831.
- [2] Chen, X. Y. (2022). Research on the effectiveness and countermeasures of modern enterprise staff training. *Market Modernization*, 2022(3), 86–88.
- [3] European Commission. (2022). Report from the Commission to the European Parliament and the Council: Application of EU health and environmental standards to imported agricultural and agri-food products (COM/2022/226 final). EUR-Lex.
- [4] Fang, Y. R. (2015). An analysis of the e-commerce transaction model of fresh agricultural products: A case study of Yunnan Province. *Market Modernization*, 2015(13), 67–69.
- [5] Fang, Y. R., Peng, M. Q., Bai, J., & Huang, S. H. (2024). Research on the construction of cross-border e-commerce ecosystem for Yunnan specialty agricultural products. *Sustainable Development*, 14(4), 1–9.
- [6] Fu, Y. X., & Yang, L. S. (2024). Research on the development problems and countermeasures of agricultural products e-commerce under the background of rural revitalization strategy. *E-Commerce Letters*, 13(2), 2809–2814.
- [7] Li, X. Y. (2024). Research on the development of cross-border e-commerce of agricultural products in counties of Shandong Province under the background of digital commerce and agricultural development. *E-Commerce Letters*, 13(2), 1–7.
- [8] McKinsey & Company. (2024, June 10). From bytes to bushels: How gen AI can shape the future of agriculture.
- [9] Ministry of Commerce of the People's Republic of China et al. (2024, March 5). Policy guidelines for advancing high-quality rural e-commerce development.
- [10] Mirabelli, G., & Solina, V. (2020). Blockchain and agricultural supply chains traceability: Research trends and future challenges. *Procedia Manufacturing*, 42, 414–421.
- [11] Sun, M. W. (2024). Analysis of the development path of agricultural products cross-border e-commerce under the rural revitalization strategy. *China Business Review*, 2024(5), Article 034.
- [12] Wang, Q. (2023). Research on the marketing path of cross-border e-commerce of agricultural products based on the perspective of rural revitalization. *Marketing Circle*, 2023(15), 95–97.
- [13] Xue, Y. J. (2025). Research on the development path of rural cross-border e-commerce under the background of rural revitalization—Taking Zhejiang Province as an example. *E-Commerce Letters*, 14(1), 338–343.

- [14] Zhang, Y. (2024). Research on the practical path of high-quality development of rural e-commerce under the background of rural revitalization strategy. *E-Commerce Letters*, 13(2), 3685–3689.
- [15] Zhou, W. (2023). SWOT analysis of developing China's agricultural cross-border e-commerce under the "One Belt One Road" initiative. *Agricultural Engineering Technology*, 43(14), 99–100.
- [16] Zhu, X. M. (2024). The internal value, practical dilemmas, and coping strategies of the development of cross-border e-commerce of agricultural products under the background of rural revitalization. *Liaoning Agricultural Sciences*, 2024(1), 73–76.

# Research on the Problems and Countermeasures of the Imbalance of Students' Subjective Status in the Age of Artificial Intelligence

Li Wei\*, Tong Ju

The Department of Education, Huanggang normal university, Hubei, 438000, China

*\*Corresponding author: Li Wei*

**Copyright:** 2024 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY-NC 4.0), permitting distribution and reproduction in any medium, provided the original author and source are credited, and explicitly prohibiting its use for commercial purposes.

**Abstract:** With the integration of artificial intelligence and curriculum, the direction of school curriculum development has undergone a fundamental change, and the intervention of artificial intelligence in the curriculum is a kind of respect for students' subject position. However, the immersive experience does not mean the manifestation of students' self-discipline, and the systematic nature of knowledge is challenged. Students' self-discipline and motivation should be awakened; at the same time, the systematicity of students' knowledge should be maintained, and the teacher's role should be fully utilized to show the power of AI in assisting human beings, so as to highlight the students' subject position.

**Keywords:** Artificial Intelligence; Student Body; Human-Computer Dialogue

**Published:** Jun 15, 2024

**DOI:** <https://doi.org/10.62177/apemr.v1i3.273>

With the advent of the era of artificial intelligence, the school curriculum is facing changes in the application of technology in education. In July 2017, the State Council issued the New Generation of Intelligence Development Plan, which aims to promote the application of artificial intelligence in the whole process of school teaching, management, etc., so that artificial intelligence education enters the campus<sup>[1]</sup>. In December 2020, Zheng Fuzhi, Vice Minister of the Ministry of Education, who is a member of the party group, focuses on the cultivation of the core human qualities of the intelligent era, preparing children for life and employment in the age of artificial intelligence<sup>[2]</sup>. In December 2024, the General Office of the Ministry of Education issued a circular: to comprehensively explore ways to implement artificial intelligence in education, and to comprehensively popularize and strengthen artificial intelligence education in primary and secondary schools<sup>[3]</sup>. The iteration of technology has prompted education to present a new picture, artificial intelligence has risen to the forefront, so that the penetration of information technology and school classroom teaching more and more compact, artificial intelligence has opened up a new virtual classroom, students can enter the immersive experience in this virtual classroom. ChatGPT is more than half of artificial intelligence, leading the school curriculum to run to the interactive, generative runway. With the increasing gravity of artificial intelligence and the school classroom, it is bound to trigger a great change in the curriculum.

## 1. The curriculum change is the inevitable trend of the artificial intelligence era

The deep integration of artificial intelligence and the school curriculum is an inevitable trend in the age of artificial intelligence, the traditional education model has accepted a serious challenge.

The traditional education model has accepted a serious challenge, the intelligent era of the curriculum, its charm is reflected

in what? What kind of breakthrough has it realized in the curriculum?

### 1.1 Limitations of traditional curriculum

Curriculum is a fundamental concept, including derived concepts, are subject to the provisions and constraints of the concept of curriculum, and therefore appear clear boundaries<sup>[4]</sup>. This regulation and constraints, so that student learning becomes targeted, so the birth of the class lecture system, but the defects are also reflected in the uniform lecture system, the implementation of tailored to the implementation of the limitations of individualized education can not be embodied. Because of the standardization of the curriculum, the learning progress of students in the same class is inevitably standardized, and the teacher does not have an in-depth understanding of what kind of “material” he is dealing with in a group of students, thus making personalized education a superficial symbol. In any case, it is not possible to plan individualized curricula for different students on the same track. As a result, the curriculum can only provide a runway for some students, who can only passively absorb the curriculum resources, and the school’s curriculum cannot provide the necessary support for them. In this sense, the traditional curriculum, which can only be one-size-fits-all, has been questioned in terms of tailor-made teaching.

The development of information technology empowers teachers’ professional development and students’ knowledge expansion, and provides technical support for classroom recording, analytical techniques, personalized learning, etc. However, online course development stops at moving courses from the classroom to the silver screen for a long time. E-learning has stagnated in the use of colorful videos to show how everything in the world has changed; satellite communication-related instrumentation is quite expensive, and experimental course offerings are struggling; digitized textbooks have only temporarily replaced the presentation of paper-based textbooks; and the curriculum of the primary and secondary smart education platforms hasn’t changed the routine of moving the curriculum to the classroom, and top-notch and well-known courses browsed by students without leaving their homes may not be suitable for the local. From these signs, it seems that the content of the courses stops at the level of expert-developed, pre-designed, and objectively existing courses, which are not linked to the process of classroom teaching and learning, and are not able to be synchronized with the progress of students’ learning.

The objective existence of classroom teaching, pre-determined content, often generative thinking, that is, each question is answered with an objective true or false responses, which undoubtedly denies the possibility of new things arising, classroom teaching and learning activities are limited to the understanding of closed knowledge, with a survival of the concept of thinking, survival of preformed conclusions are presented to the students, the students have become waiting to be guided by the generation of the individual, can not be the knowledge of the Seeing as constructing a generative system. The traditional network course is only generated by the technicians in advance of the predetermined course moved to the classroom, the course content presentation and teachers and students in the classroom situation between the complete division of the situation, the generation of classroom resources can not cross the chasm of the cut. Therefore, there is a gulf between the transformation of this curriculum and the development of information technology that cannot be crossed.

### 1.2 Artificial Intelligence Forces Curriculum Change

Artificial Intelligence pushes the birth of generative curriculum, and the integration of experiential and generative curriculum brings generative curriculum to the school classroom. Deng Y found through his research that immersive learning improves students’ absorption of knowledge, and improves students’ creativity and critical thinking skills.<sup>[5]</sup> The essence of experiential is to emphasize the deep immersion experience of students, which can improve the sense of realism in the virtual classroom, so as to obtain on-the-spot perception and deepen the breadth of knowledge to promote students’ understanding. It is not the traditional education full of irrigation, the abstract, no logical knowledge imposed on students, but to take full advantage of intuitive perception to deepen the understanding, comprehension of the main points of knowledge. For example: teachers talk about spacewalking these knowledge points, traditional teaching, teachers can only talk about weightlessness, because there is no attraction of the earth, the object presents floating state. But the era of artificial intelligence, teachers can let students go through virtual reality technology to simulate the experience, just like physics, chemistry and other subjects, through experimental observation to elaborate the phenomenon, easier for students to accept, absorb. Thus, the biggest difference in artificial intelligence is the course with the help of in-depth immersion experience, maximize the virtual realism of the student

experience, deepen the understanding of the knowledge module, infiltrate artificial intelligence into the course, and realize the intelligent learning ecosystem.

The integration of generative artificial intelligence allows the course to break away from the stereotypes of traditional thinking, breaking free from the confinement of moving the network to the classroom, and the presentation of knowledge is no longer established and objective. Curriculum through artificial “dialogue”, according to the student’s personality to create content, it is with a certain situation and the natural generation of knowledge. Smart software such as Janitor AI and Wisdom Spectrum can create personalized dialogues based on the individual characteristics of the students, because each student thinks differently, communicates differently, and thus generates different perspectives and conclusions. The questions are open, and the conclusions will become different from person to person because of the openness of the questions, and the human-computer interaction is well realized. The knowledge that students acquire from books and information carried by information technology becomes a body of knowledge with flexible design that can be communicated freely. Different perspectives of dialog, the knowledge structure will be completely different. For example, if the content of a course is Lu Xun’s “Blessing” design Xianglin Sister-in-law after donating the threshold, she still can’t participate in the blessing, Xianglin Sister-in-law on the threshold how to deal with? Through the AI dialog, students sort out ‘Mrs. Xianglin --- angrily cuts the threshold --- fights against the feudal forces --- meets with “me” again --- gets spiritual solace --- bravely accepts the reality’ so that the students are interested in the ending; it can also be It can also be the life course of “Mrs. Xianglin --- coincidentally meets the advanced intellectuals --- is taken in by the intellectuals --- is guided to become a revolutionary pioneer”, or even “Mrs. Xianglin --- meets her third husband --- is redeemed by love” and so on, which are completely different. The direction of curriculum development. In short, from the point of knowledge, each student can generate unlimited course directions through human-computer communication, and different students can get completely different development. In this way, the student’s subjective position is consolidated and the charm of curriculum change is proved. From this sense, the subversion of universal curriculum predetermined mode, to the tailored to the teaching-oriented, highlighting the individual characteristics of the curriculum change has become the direction and trend of the school curriculum change, artificial intelligence curriculum development will become the inevitable school curriculum change.

## **2.The emergence of artificial intelligence worries**

The integration of artificial intelligence with the curriculum is a respect for the subjective position of students, which should be taken for granted.

However, there are certain risks, and there should be a certain rational attitude, after all, it is a virtual reality, students can not live in the virtual world. That is: is AI immersion necessarily a high-quality development of education? Is the quality of teaching necessarily improved? The main purpose of AI integration into the school curriculum is to highlight the students’ subjective position, but at the same time, it is also necessary for the students’ subjective role in the curriculum to be fully and effectively utilized. In other words, are students capable enough to meet the standards set for them in the school curriculum in the age of AI?

### **2.1 Whether immersive experiences are a manifestation of students’ self-discipline**

Immersive experiences allow students to gain a live perception and are good for tailoring instruction to their needs, but does it manifest students’ self-discipline?

First of all, the integration of AI into the school curriculum inevitably requires students to be self-disciplined in their learning. After all, AI “talks” with students to develop a model that meets their interests, highlights their individuality, and gives them their own direction on a different track. But there is a risk that the teacher’s position will be threatened in the same way. After all, the knowledge that students gain through AI “conversations” may be the teacher’s blind spot, and the immersive experience that students have in a situation may take up the teacher’s time to solve the problem. From this point of view, the acquisition of knowledge in the course comes from the deep experience of the students, through the immersive experience process, to understand the knowledge, learn the knowledge, and ultimately become the master of mastering the knowledge to use the knowledge, rather than through the traditional way of teaching and solving problems. However, in this process, students must be able to fully self-discipline, maximize their own subjectivity, with the potential for self-learning, in order to

truly understand the knowledge, to become the master of the mastery of knowledge and application of knowledge. After all, the knowledge generated by AI may not be explained clearly by the teacher, so the main body of learning is the student, who should have a higher standard of learning, and put forward higher standards for their self-discipline and initiative. However, at present, Chinese students, even primary and secondary school students, they will have more or less anorexia complex, even for primary school students, they also have anorexia problems, anorexia is not a new topic in China <sup>[6]</sup>, and with the growth of age, anorexia is constantly being strengthened, the initiative of learning is constantly reduced, they are in the teacher or parents “forced” forced to learn, therefore, the main body of learning is the student, he should have a higher standard of learning, which puts a higher standard on their self-discipline and initiative. “They are forced to learn by their teachers or parents, so it seems that students’ motivation for active learning is lacking in these situations. It can be seen that the current situation of self-discipline, motivation and initiative of primary and secondary school students’ learning is worrying.

With the gradual entry of AI into the classroom, students communicate with AI in depth in the classroom, and in the immersive experience, they are able to set the course content according to their own interests, does it mean that their initiative will be enhanced with the intervention of AI, and subsequently enhance their self-discipline? The probability exists, but one should not be overly optimistic. Again, some students will carry sympathy with uneasiness, but others will carry numbness with derision. Different individuals are going to require different depths of experience. For example, when we race cars in the game room, this kind of game can bring immersive experience, simulation is very strong, but at present there is no game it can make all the people accept. After all, the player’s personality is different, the way he seeks will be completely different. For the same simulation of artificial intelligence, it is only an immersive experience, inevitably, it can not arouse the interest of all students, that is, it is also facing the same can not mobilize all students to actively participate in the active learning situation. As a result, most students cannot be expected to fully utilize their independent learning abilities and develop better, facilitating the birth of quality teaching. When students are not very interested in the experience, it is impossible to ask them to have the self-discipline of immersive learning, which proves that in such a state, it is quite difficult to extract knowledge and summarize knowledge from this classroom model.

Human-computer communication seems to promote students’ self-discipline from a superficial point of view. In this process, students can raise their concerns, and the AI replaces the teacher’s guiding position to provide timely responses, and when this response arouses the students’ interest, their initiative to learn will then be enhanced. However, students are academically tasked, and they become overwhelmed by the process as the novelty wears off over time. From these indications, students may be playing a far lesser role than expected in their quest for knowledge such as preaching and teaching. However, in terms of plagiarizing assignments, writing essays for them or writing papers for them, it may be all the rage, and the clamor for plagiarism in essays and falsification of papers is not a new issue in the educational world <sup>[7]</sup>. There are also experts who believe that ChatGPT may give teaching.

Some experts believe that ChatGPT could be a disaster for education by turning students into knowledge “stealers” <sup>[8]</sup>. It can be seen that immersive educational experiences do not fully motivate students to actively ask questions to achieve individual progress.

## **2.2 Is the systemic nature of knowledge being challenged?**

Knowledge is a multidimensional concept, Artificial intelligence integration in school classrooms requires more logical and systematic thinking from students. Human-machine interaction can certainly allow people and machines to communicate unhindered, but if the thinking is not logical and systematic, the conversation may be detached from the original direction of the conversation and become unguided. In other words, there is no core topic of human-computer interaction, the classroom will show a multi-directional extension, students may be more dispersed thinking, there is no complete knowledge structure to support, student learning may be satisfied with the surface of the problem, but can not go deeper into the logic and the system, the content of the knowledge demonstrated to be unable to meet the requirements of the top-level design, which may result in the student’s superficiality.

The reason why knowledge has value, the main root is that it is spiritual wealth, knowledge is logical and systematic. The American management scientist Russell Eckoff believes that knowledge is the understanding of data.

American management scientist Russell Eckoff believes that knowledge is a collection of abstract, logical and valuable information formed through comparison, induction and deduction in the process of understanding data and information, which has the ability to guide action <sup>[9]</sup>. In other words, if knowledge is not logical, then it will lose its ability to guide action and the understanding it deserves. According to Taylor, school curriculum knowledge should be presented in a way that follows the principles of systematicity, sequentiality, as well as integration, emphasizing the logic of knowledge organization as systematic <sup>[10]</sup>. Then the integration of AI with the school curriculum, although it provides multiple directions as well as content diversity, it fully respects students' interests and therefore formulates personalized services, but the language description of human-computer interactions is random, so how to teach is still a great challenge, after all, the knowledge provided by AI may be a solution to the students' fragmented knowledge, which is lack of systematic and logical, and compared with the generative knowledge system, it does not focus on rigor, science, and system. Even in the case of teachers, the body of knowledge provided by AI may be exactly the blind spot of the teacher, and from these indications, the purpose of teaching is difficult to implement.

The problem is that if the body of knowledge provided by the AI is generative rather than systematic, the student must have a rigorous intellectual framework, with sufficient thinking logic, as in the case of writing, must have a framework, sketches, be able to have a clearer line of thought and be able to highlight the key points, etc., to achieve the purpose of interaction with the AI. But for this in terms of students, his knowledge structure can not reach the degree of coherence, and even impossible to achieve the integrity of the knowledge system and relevance, once ignored the key knowledge points in the process, can not achieve the effect of carrying on the next. Therefore, respecting the students' interest in learning, not from the origin of absorbing knowledge, tracing the roots may erase the logic and systematic nature of knowledge, then the students' level of understanding is subsequently limited.

Generative artificial intelligence it is due to the process of active interaction between man and machine, constantly updated, students do not need rote memorization, and no longer passive instillation of knowledge.

However, from the students' own quality, the students' logic and systematic lack of interaction may be fragmented, unable to string up the chain of information, and ultimately unable to achieve the purpose, but also unable to realize the original intention of learning by rote, which is contrary to the purpose of artificial intelligence intervention courses.

### **3.How to manifest the students' subject position**

Constructing students' concept of systematic knowledge and highlighting students' subjective position require teachers to find a grip in the teaching process <sup>[11]</sup>.

Artificial Intelligence Integrated School Curriculum is mainly to promote students' in-depth learning through the "dialog" between students, but the role of teachers in the curriculum is not sufficient.

However, the role of teachers in the curriculum is not fully reflected. If AI can virtualize teachers' classes, generate personalized knowledge according to students' preferences, integrate immersive experiences with teachers' teaching, fully highlight the role of teachers, promote the improvement of teachers' professional ability and quality, give full play to teachers' emotional integration, and filter the repetitive lectures between teachers and students, then we can give full play to the achievements of science and technology, and at the same time, we can pay attention to the significance of science for human beings. Simply emphasizing the advantages of artificial intelligence in certain fields and pursuing the theory of technological supremacy will lead to a "European science crisis". Therefore, in the era of artificial intelligence, while giving full play to the deep immersion experience brought to students by artificial intelligence, it is also necessary to further strengthen the role of teachers and give full play to the leading role of teachers.

#### **3.1 Awaken students' self-discipline and enthusiasm**

The reason why knowledge presents charm, to a large extent, is inseparable from the emotional color of the teacher, the teacher's deep exploration of knowledge at the same time, through their own teaching to lead the students' thinking. Teachers exist not only to impart knowledge, but more importantly, can be transmitted through the emotional bond, according to the students' personal preferences, motivation, care for students' interests. Teachers' expectations, the Rosenthal effect can be dispersed out of the charm of education, which is closely related to the teacher's emotional delivery, eye contact, eye contact,

the transfer of confidence and appreciation. From the student's self-confidence, the laughter of education; Sukhomlinsky's "One Hundred Suggestions for Teachers" puts forward the child's willingness to learn<sup>[13]</sup> and so on, these are reflected in the highest expectations of education, but also it is the teacher to stimulate the students' inner initiative, enthusiasm. The excavation of the students' potential, the students' self-discipline and motivation are gradually awakened by the teachers in their daily life through the emotional cast between teachers and students.

Although artificial intelligence can change the way of knowledge presentation, even with the help of multimedia and other intuitive, shocking presentation, but artificial intelligence can not be integrated into human feelings, so it can not maintain its lasting appeal. Data, after all, does not have any emotional component, it is just a cold data, students can count the number of deaths of innocent people in the Nanjing Massacre through artificial intelligence, but the teacher can lead the students to experience the brutal ways of the Japanese army, stimulate the students' patriotic feelings, and realize that once the country is not strong, it will inevitably be subjected to the aggression of other countries. In "Blessing", the AI can design different endings for Xianglin's wife, but the teacher can imitate Xianglin's wife's weakness when she was on the verge of death when she saw "me" for the last time. .... Thus, the teacher can expose the man-eating system and the lack of knowledge of the underclass in the feudal society, and the lack of knowledge to arm them. system of feudal society, and the heartache of the underclass women struggling on the death line without knowledge. The German philosopher Jaspers believes that "the essence of education means that a tree shakes another tree, a cloud pushes another cloud, and a soul awakens another soul." [The role of the teacher is not to give students from the sensory stimulation, but into the depths of the students' souls, so that the knowledge becomes full, emotional, story, triggering students' curiosity, triggering emotional resonance, stimulating the imagination and creativity of students, awakening their responsibility and commitment to stimulate the students' motivation and interest in sustained learning.

### 3.2 Maintaining the systematic nature of students' knowledge

Artificial Intelligence is not at the heart of the curriculum although it has brought about a vociferous change in the curriculum. According to Ginni Rometty, AI is not a force that replaces human beings but a force that assists them<sup>[14]</sup>. Primary and secondary school students they must be led through the curriculum so that the original purpose of training people can be realized.

The content of the curriculum does not mean that it is too complex in order to develop people, in other words, the body of knowledge generated by human-computer dialogue is not better because of its complexity and the more runaway effects it produces. A curriculum for artificial intelligence, as the name implies, incorporates elements of artificial intelligence, and as such, it is first and foremost a curriculum and secondarily intelligent. Because the course, it has a definite direction, the structure and system of specific knowledge, since it is a runway, it should have an established path, and has the function of guiding the direction, and this runway should also have a hierarchy and progression, so it can not be separated from the teacher's overall planning as well as specific programs, and according to the individual characteristics of the students, to assist the students to guide, provide support, and constantly correct the students' bias and rhythm. Thus, a purposeful, systematic, planned and logical track is created. Therefore, the generation and opening of the course, does not have a natural barrier, should be under the leadership of the teacher, artificial intelligence to assist the teacher's power, so that the course in the logic, not only to allow students to realize the systematic generation of knowledge, but also give full play to artificial intelligence to the course of the "amazing" revolution.

## Conclusion

With the increasing update of AI technology, AI has triggered far-reaching changes in the field of curriculum, but the role of AI in the curriculum should be reasonably evaluated. The integration of AI into the curriculum must reflect the main role of students, but the immersive learning experience and diversified and open learning puts higher demands on students, and teachers are also challenged to teach. The role of artificial intelligence in the curriculum cannot be ignored, but the integration of artificial intelligence with the curriculum should be viewed objectively and rationally, and the only way to reflect the power of artificial intelligence to assist humanity is to recognize the irreplaceable emotional value of teachers and give full play to their role in the classroom.

## Funding

Key Project of Education Science Planning in Huanggang City, Hubei Province, China (2023JA09)

## Conflict of Interests

The author(s) declare(s) that there is no conflict of interest regarding the publication of this paper.

## References

- [1] Ministry of Education of the People's Republic of China. How Artificial Intelligence Education Can Enter Schools. [EB/OL]. [http://www.moe.gov.cn/jyb\\_xwfb/moe\\_2082/zl\\_2018n/2018\\_zl36/201805/t20180521\\_336578.html](http://www.moe.gov.cn/jyb_xwfb/moe_2082/zl_2018n/2018_zl36/201805/t20180521_336578.html)
- [2] Ministry of Education of the People's Republic of China. How Artificial Intelligence Education Cultivates Future Talents. [EB/OL]. [http://www.moe.gov.cn/jyb\\_xwfb/s5147/202012/t20201209\\_504298.html](http://www.moe.gov.cn/jyb_xwfb/s5147/202012/t20201209_504298.html)
- [3] Ministry of Education of the People's Republic of China. 《Ministry of Education Deploys to Strengthen Artificial Intelligence Education in Primary and Secondary Schools》. [EB/OL]. [EB/OL]. [http://www.moe.gov.cn/jyb\\_xwfb/gzdt\\_gzdt/s5987/202412/t20241202\\_1165500.html](http://www.moe.gov.cn/jyb_xwfb/gzdt_gzdt/s5987/202412/t20241202_1165500.html)
- [4] Song Guocai. Forty years of curriculum conceptualization research in China: review and prospect [J]. Journal of Educational Science of Hunan Normal University, 2018, 17(06): 17-23.
- [5] Deng Y, Chen Y, Liu Y. Case Study of Immersive Digital Learning in Public Space for Common Good Education [C]// Proceedings of the 2023 8th International Conference on Distance Education and Learning. Beijing, China: Association for Computing Machinery, 2023: 72-77.
- [6] Xiao Le, Zhang Nan, Jiang Fengying. The application of narrative intervention in senior nursing students with anorexia tendency [J]. Chinese Nursing Education, 2022, 19(10): 876-880.
- [7] Luo Jiahui. Rethinking "originality" in the era of generative artificial intelligence: the role and purpose of higher education [J]. Tsinghua University Education Research, 2025, 46(01): 79-85.
- [8] Jiang Suqiong, Wu Feiying, Wu Xixi, et al. Construction and Application of Academic Integrity System on Digital Platform in the Era of Artificial Intelligence [J]. Journal of Editing, 2024, 36(04): 421-424.
- [9] Ackoff R L. From data to wisdom [J]. Journal of applied systems analysis, 1989, 16(1): 3-9.
- [10] Li JC. Taylor's principle and its implications for curriculum construction in local undergraduate colleges and universities [J]. Journal of Sichuan College of Arts and Sciences, 2018, 28(06): 117-121.
- [11] Li Xiaoli. "Students+Knowledge+Evaluation" to Enhance Students' Knowledge Systematicity and Mobility--Taking 'Fundamentals of Materials Science' Course as an Example [J]. Science and education literature, 2024, (16): 83-86.
- [12] (Su) Sukhomlinsky. One hundred suggestions for teachers [M]. Tianjin: Tianjin People's Publishing House, 1981. 11.
- [13] (German) KARL JASPERS; Chen Wei, (German) KARL KRAATZ. What is Education [M]. Shanghai: Shanghai People's Publishing House, 2022. 12.
- [14] (U.S.) Luo Rui Lan (Ginni Rometty). Moving forward [M]. Beijing: China Foreign Translation and Publication Company, 2024. 01.

# Research and Analysis Report on the Sanya Yazhou Central Fishing Port

Zhao Lei<sup>1, 2\*</sup>

1.Sanya Yazhou Harbor Investment Co., Ltd, Hainan, 572025, China

2.Macao Polytechnic University, Macao, 999078, China

*\*Corresponding author: Zhao Lei*

**Copyright:** 2024 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY-NC 4.0), permitting distribution and reproduction in any medium, provided the original author and source are credited, and explicitly prohibiting its use for commercial purposes.

**Abstract:** This study examines the operational dynamics of Sanya Yazhou Harbor Investment Co., Ltd. (hereafter “Harbor Company”), the entity managing Yazhou Central Fishing Port. Through a comprehensive analysis of the port’s historical context, current operational framework, market environment, and future development prospects, this report evaluates the successes and challenges encountered under Harbor Company’s stewardship. The port has achieved notable progress in infrastructure development, marine economic growth, employment opportunities for fishermen, and environmental stewardship. However, it faces persistent challenges, including market competition, environmental pressures, and resource allocation constraints. The operational and managerial insights derived from Harbor Company’s experience offer a valuable reference for the sustainable development and management of fishing ports nationwide.

**Keywords:** Yazhou Central Fishing Port; Fishing Port Management; Revenue-Expenditure Balance

**Published:** Jun 15, 2024

**DOI:** <https://doi.org/10.62177/apemr.v1i3.277>

## 1.Introduction and Research Background

Fishing ports serve as critical interfaces between marine and terrestrial ecosystems within the fisheries industry, underpinning the socio-economic fabric of coastal communities globally (FAO, 2020). Beyond their role in facilitating seafood supply chains, they are vital for providing protein to billions and sustaining livelihoods in fishing-dependent regions.

Located in Yazhou District, Sanya City, Hainan Province, the Yazhou Central Fishing Port stands as Hainan’s first centrally designated fishing port, endorsed by the Ministry of Agriculture in 2024. Since its grand opening in 2016, the port has catalyzed significant growth in the regional fisheries sector. By 2024, annual fish unloading reached over 140,000 tons, with approximately 10,000 vessel visits recorded, reflecting a robust upward trajectory. The port is equipped with fishery necessary infrastructure, including cold storage facilities, ice-cube plants, a public trading center, integrated fisherman services, and fishmen shore-based housing, positioning it as a cornerstone of Hainan’s marine economy.

To recover the substantial investment in its development, the government granted Harbor Company a 50-year concession. However, the company incurs annual public service expenditures of approximately RMB 18 million, which are not fully subsidized by public funds. This necessitates reliance on commercial revenue streams, compelling Harbor Company to innovate its management practices to ensure financial sustainability and long-term operational viability. This study aims to assess these efforts, identifying both achievements and areas requiring enhancement, while contributing to the broader discourse on fishing port management.

## 2. Literature Review

Fishing ports worldwide are transitioning from traditional fishery hubs to complex adaptive systems, driven by global pressures such as climate change, resource depletion, and geoeconomic shifts (Holling, 2001; Folke et al., 2005). This evolution demands not only physical upgrades but also sophisticated managerial and institutional adaptations to address multifaceted challenges.

### 2.1 Accelerated Resource Depletion

The FAO reports that a significant proportion of global fish stocks are overexploited, with species like North Atlantic cod experiencing marked declines (Zeller et al., 2023). As key nodes in resource extraction, fishing ports often exhibit an “Efficiency–Sustainability Paradox,” where enhanced operational efficiency correlates with ecological degradation ( $r = 0.71$ ,  $p < 0.01$ ; Costello et al., 2016). This tension underscores the need for balanced management strategies.

### 2.2 Escalating Climate Risks

Climate vulnerability assessments reveal that nearly half of coastal fishing ports face risks from sea-level rise and extreme weather by 2050, with Southeast Asia and West Africa showing indices above 0.8 (Blasiak et al., 2017). Events like Typhoon In-Fa (2021) in China’s Zhoushan region highlight the operational and infrastructural disruptions caused by such phenomena (Tang et al., 2023), necessitating resilient port designs.

### 2.3 Geoeconomic Fragmentation

Global trade disruptions, exemplified by the Russia–Ukraine conflict, have elevated seafood prices, with EU cod import indices rising 3% annually and Arctic cod quotas projected to drop 25% by 2025 (EUMOFA, 2024). Concurrently, divergent national policies—such as the EU’s Green Deal and China’s 14th Five-Year Plan—impose conflicting demands on fishing ports, reflecting institutional path dependence (North, 1990).

### 2.4 Theoretical synthesis in Fishing Port Studies

In recent years, scholarly inquiry into the development and operation of fishing ports has expanded beyond traditional logistical and economic perspectives to incorporate integrated frameworks that address sustainability, technological advancement, and governance. The multidimensionality of modern fishing port systems reflects a growing recognition of their strategic importance in the context of global environmental and economic transitions.

#### Port–Regional Economic Linkages

Ports function as critical infrastructure nodes that facilitate regional economic growth. The “port regionalization” framework proposed by Notteboom and Rodrigue (2005) emphasizes how enhanced logistics efficiency and hinterland connectivity promote industrial clustering and trade facilitation. In fishing port contexts, this translates to increased employment, value-added processing, and integration with broader supply networks, ultimately reinforcing local and regional development trajectories.

#### Sustainable Fisheries and Resource Management

The sustainability of marine resources is a cornerstone of fishing port viability. Charles (2001) introduced a triadic model that calls for equilibrium among infrastructure development, ecological conservation, and resource stewardship. The application of innovations such as selective fishing gear exemplifies the integration of technological solutions to reduce ecological impacts and safeguard long-term fish stock productivity.

#### Supply Chain Optimization and Risk Mitigation

Logistics efficiency remains fundamental to fisheries value chains. Research by Gustavsson et al. (2011) illustrates how cold chain systems reduce post-harvest losses and ensure product quality throughout distribution. Meanwhile, Sodhi and Tang (2012) advocate for a proactive approach to supply chain resilience through comprehensive risk management—identifying and mitigating operational disruptions such as environmental volatility and market fluctuations—thus reinforcing the stability and adaptability of fishing port operations.

#### Smart Port Technologies

Digital transformation is reshaping the operational logic of fishing ports. As highlighted by Crainic, Perboli, and Rosano (2018), emergent technologies including the Internet of Things (IoT), big data analytics, and artificial intelligence are

enabling ports to optimize workflows, monitor logistics in real time, and allocate resources more efficiently. These technological integrations are pivotal in ensuring competitiveness amid rapid changes in global trade and environmental conditions.

### **Policy and Institutional Support**

Public policy continues to play a pivotal role in the structural and functional evolution of fishing ports. Drawing from the Porter Hypothesis (Porter & van der Linde, 1995), effective regulatory frameworks and fiscal incentives can catalyze both infrastructural investment and innovation. For fishing ports, well-articulated policies create an enabling environment that enhances governance, fosters long-term stakeholder commitment, and aligns local development goals with broader sustainability agendas.

### **Conclusion**

The literature collectively underscores that fishing port development transcends logistical concerns, engaging complex dimensions of environmental governance, technological modernization, and socio-economic strategy. Under the compounded pressures of natural resource depletion, climate change, and economic volatility, future-oriented management of fishing ports necessitates localized, adaptable strategies. These strategies must be responsive to unique regional conditions and aligned with medium- and long-term development objectives. Ultimately, by harmonizing ecological integrity, operational efficiency, and institutional coherence, fishing ports can evolve into sustainable hubs that contribute to both coastal resilience and global food security.

## **3. Research Methodology**

This study employs a mixed-methods approach, integrating quantitative and qualitative techniques to ensure robust data collection and analysis:

**Literature Review:** Analysis of industry reports, policy documents, and scholarly articles to delineate trends, market positioning, and growth potential.

**Field Investigation:** On-site observations at Yazhou Central Fishing Port to assess operations, infrastructure, and workflows, yielding primary data.

**Interviews:** In-depth discussions with Harbor Company's management, frontline staff, and port stakeholders to capture operational and market insights.

**Data Analysis:** Quantitative evaluation of collected data, synthesized with management theories, to derive evidence-based conclusions and recommendations.

This methodology ensures a comprehensive examination of the port's performance and challenges, grounded in empirical and theoretical perspectives.

## **4. Results**

As a non-listed entity, Harbor Company lacks public financial statements, necessitating data collection via media, field studies, and interviews. The findings highlight three areas of exceptional performance alongside notable challenges.

### **4.1 Achievements**

**Effective Port Management:** Designed for 800 vessels, the port now routinely handles over 1,000, peaking at 1,582 during typhoon periods in 2024. Despite spatial constraints, operations remain orderly, bolstered by Hainan's most comprehensive port facilities, attracting vessels to designate Yazhou as their home port.

**Proactive Management Team:** Since December 2022, the new team has shifted from traditional models to a market-driven approach, boosting revenue from RMB 30 million (pre-2022, negative EBITDA) to RMB 46 million (2023, EBITDA RMB 17 million) and RMB 53 million (2024, EBITDA RMB 8 million). Fish landings rose from 111,000 tons (2023) to 140,500 tons (2024), enabling self-sufficiency in public service funding—a rarity among Chinese fishing ports.

**Policy and Funding Success:** Key milestones include the 2023 approval of Hainan's first National-Level Coastal Fishing Port Economic Zone pilot, 2024 recognition as a provincial industrial park, the launch of Hainan's inaugural Fishing Port Charter, and designation as a National Central Fishing Port by the Ministry of Agriculture.

## 4.2 Challenges

**Infrastructure Lag:** The harbor basin, planned in 2011 for 800 vessels, is overcrowded with over 1,000 daily and 1,500 during typhoons, straining environmental capacity. An incomplete industrial chain further hampers growth potential.

**Low Digitalization:** Limited resources restrict smart technology adoption to basic systems (e.g., surveillance, OA approval), lacking advanced tools like vessel dispatch or pollution monitoring, trailing domestic commercial ports.

**Talent Shortages:** With over 15% of staff lacking higher education by 2024, the niche industry and Sanya's location impede talent recruitment, limiting scalability and model export.

## 5. Recommendations

**Expand Harbor Capacity:** Secure funding and leverage Hainan Free Trade Port policies to enlarge the basin, enhance anchorage, and improve safety, while targeting fisheries-related investments to bolster the industrial ecosystem and revenue.

**Advance Digitalization:** Adopt cutting-edge terminal management systems, integrating smart hardware and algorithms to optimize vessel operations and compliance monitoring, aligning with national port standards.

**Enhance Talent Pipeline:** Recruit skilled professionals and develop a succession framework to support expansion and disseminate the port's management model regionally.

## 6. Conclusion

This investigation reveals a typical Fishing port management situation, the Harbor Company's pivotal role in driving local economic growth and elevating fishing port management standards. Despite significant achievements, sustained progress hinges on addressing infrastructure deficits, talent gaps, and technological lags. Standardizing Yazhou Central Fishing Port's practices could inform national strategies, enabling ports to achieve self-sustainability and alleviate governmental fiscal pressures. Moreover, its "leading effect" promises to uplift surrounding fishing communities, fostering employment and tax revenue through industrial expansion. Future research might explore scalable digital solutions and cross-regional management transfers to amplify these impacts.

## Funding

no

## Conflict of Interests

The author(s) declare(s) that there is no conflict of interest regarding the publication of this paper.

## References

- [1] Blasiak, R., Spijkers, J., Tokunaga, K., Pittman, J., Yagi, N., and Österblom, H. (2017). Climate change and marine fisheries: Least developed countries top global index of vulnerability. *PLOS ONE*, 12(6), e0179632.
- [2] Charles, A. T. (2001). Sustainable fishery systems. *Fish and Aquatic Resources Series*, 5, 1-384.
- [3] Crainic, T. G., Gendreau, M., and Potvin, J.-Y. (2009). Intelligent freight-transportation systems: Assessment and the contribution of operations research. *Transportation Research Part C: Emerging Technologies*, 17(6), 541–557.
- [4] Costello, C., Ovando, D., Clavelle, T., Strauss, C. K., Hilborn, R., Melnychuk, M. C., Branch, T. A., Gaines, S. D., Szuwalski, C. S., Cabral, R. B., Rader, D. N., and Leland, A. (2016). Global fishery prospects under contrasting management regimes. *Proceedings of the National Academy of Sciences*, 113(18), 5125–5129.
- [5] European Market Observatory for Fisheries and Aquaculture Products (EUMOFA). (2024). The EU fish market – 2024 edition. European Commission.
- [6] FAO. (2020). The state of world fisheries and aquaculture 2020. United Nations Food and Agriculture Organization. <https://doi.org/10.4060/ca9229en>
- [7] Folke, C., Hahn, T., Olsson, P., and Norberg, J. (2005). Adaptive governance of social-ecological systems. *Annual Review of Environment and Resources*, 30(1), 441–473.
- [8] Gustavsson, J., Cederberg, C., Sonesson, U., van Otterdijk, R., and Meybeck, A. (2011). Global food losses and food waste: Extent, causes and prevention. Rome: Food and Agriculture Organization of the United Nations (FAO).

- [9] Holling, C. S. (2001). Understanding the complexity of economic, ecological, and social systems. *Ecosystems*, 4(5), 390–405.
- [10] North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge University Press.
- [11] Notteboom, T. E., and Rodrigue, J.-P. (2005). Port regionalization: Towards a new phase in port development. *Maritime Policy & Management*, 32(3), 297–313.
- [12] Porter, M. E., and van der Linde, C. (1995). Toward a new conception of the environment-competitiveness relationship. *Journal of Economic Perspectives*, 9(4), 97–118.
- [13] Sodhi, M. S., and Tang, C. S. (2014). Managing supply chain risk. *International Journal of Production Economics*, 152, 1–3.
- [14] Tang, R., Cai, L., Yan, X., Ye, X., Xu, Y., and Yin, J. (2023). Study of the Response of Environmental Factors of the Coastal Area in Zhoushan Fishery to Typhoon In-fa Based on Remote Sensing. *Remote Sensing*, 15(13), 3349.
- [15] Zeller, D., Palomares, M. L. D., Pauly, D., and Sumaila, U. R. (2023). Global Fisheries Science Documents Human Impacts on Oceans: The Sea Around Us Serves Civil Society in the Twenty-First Century. *Annual Review of Marine Science*, 15, 147–165.

# The Current Situation and Predicament of the Development of Rural E-commerce Cooperatives in Kashgar

Guo Jinhan\*, Shao Ziyu, Yang Yuyuan

Belarusian State University, Nezavisimosti., 4, 220083, Minsk, Belarus

\*Corresponding author: Guo Jinhan, xiaohanjiejie@gmail.com

**Copyright:** 2024 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY-NC 4.0), permitting distribution and reproduction in any medium, provided the original author and source are credited, and explicitly prohibiting its use for commercial purposes.

**Abstract:** With the large-scale development of China's e-commerce industry, rural e-commerce cooperatives have become an important carrier for promoting the transformation of the rural economy. This article takes Kashgar Prefecture as an example, combined with field research and theoretical analysis, to explore the current development status, predicaments and optimization paths of rural e-commerce cooperatives. Research shows that Kashgar rural e-commerce cooperatives have played a significant role in promoting rural economic growth, improving farmers' living standards and facilitating urbanization. However, they still face challenges such as insufficient infrastructure, shortage of talents and low integration of the industrial chain. Based on the analysis, this paper proposes countermeasures such as improving policy support, strengthening technological empowerment, and optimizing supply chain management, with the aim of providing theoretical references and practical guidance for the sustainable development of rural e-commerce cooperatives in Kashgar and similar areas.

**Keywords:** E-commerce industry, rural e-commerce, rural economic transformation, Kashgar Prefecture, rural e-commerce cooperatives

**Published:** Jun 15, 2024

**DOI:** <https://doi.org/10.62177/apemr.v1i3.272>

## 1. Research Background

Under the background of the rural revitalization strategy, rural e-commerce cooperatives have become an important way to solve the problem of agricultural product circulation. Kashgar Prefecture in Xinjiang, as a major production area of characteristic agricultural products, although it has high-quality products such as jujubes and almonds, is facing sales difficulties due to problems such as its remote geographical location and imperfect circulation system. In recent years, Kashgar Prefecture has been actively exploring the "cooperative + e-commerce" model<sup>[1]</sup>. By integrating farmers' resources, establishing unified standards, and expanding online channels, it has effectively enhanced the efficiency of agricultural product circulation. However, the development of local e-commerce cooperatives still faces practical challenges such as high logistics costs, a shortage of professional talents, and weak brand building. This study aims to systematically analyze the current development status and constraints of rural e-commerce cooperatives in Kashgar, providing theoretical references and practical guidance for exploring practical e-commerce development paths in border areas. It is of great significance for increasing farmers' income and promoting rural revitalization.

## 2. The current development status of rural E-commerce Cooperatives in Kashgar Prefecture

In recent years, rural e-commerce cooperatives in Kashgar Prefecture have achieved remarkable development under the guidance of policies and driven by the market. As an important link between small-scale farmers and the large market, local e-commerce cooperatives have gradually built new channels for the upward movement of agricultural products by integrating resources and innovating models<sup>[2]</sup>. However, limited by regional characteristics and basic conditions, its development presents obvious regional features. This section will systematically analyze the current development status of rural e-commerce cooperatives in Kashgar from six dimensions: infrastructure, industrial operation, organizational development, policy support, effectiveness evaluation, and existing challenges<sup>[3]</sup>. Through multi-angle investigation, not only can the achievements already made be objectively presented, but also the key factors restricting development can be clearly identified, laying the foundation for the subsequent exploration of the optimization path.

#### Infrastructure situation

The infrastructure construction of rural e-commerce cooperatives in Kashgar Prefecture shows a steady development trend, but there are still obvious deficiencies in some key areas. From the perspective of cold chain logistics facilities, a significant increase was achieved between 2020 and 2023, with the coverage rate rising from 17% to 38%, an increase of 21 percentage points. This data directly reflects the substantive progress made in the construction of cold chain infrastructure in this region. However, compared with the average level of 45% across Xinjiang, there is still a 7-percentage-point gap. This gap highlights that the construction of cold chain facilities still needs to be continuously strengthened to better ensure the quality of agricultural products and expand the sales radius. In terms of service network construction, data shows that there are 63 village-level service stations for every 100 villages, and the coverage density in key towns is as high as 89. This layout has effectively enhanced the accessibility of e-commerce services. It is particularly worth noting that the three newly-built origin distribution centers in Jiashi County have reduced storage costs by 27%. This achievement fully demonstrates the significant role of infrastructure improvement in lowering operating costs and enhancing circulation efficiency.

*Table 1 Hardware Facilities of Rural E-commerce Cooperatives in Kashgar Prefecture*

Indicator	2020	2023	Change	The average level of the entire Xinjiang
Cold chain coverage rate (%)	17	38	+21	45
Density of village-level service stations (units per 100 villages)	35	63	+28	70
Density of key township service stations (units per 100 villages)	50	89	+39	95

In terms of digital infrastructure, rural e-commerce cooperatives in Kashgar Prefecture have made remarkable progress. The broadband access rate has doubled from 36% in 2019 to 72% in 2023, providing a solid network foundation for the popularization of rural e-commerce. The penetration rate of mobile payment has reached 58%, and it is as high as 83% in urban areas, demonstrating the wide acceptance of digital payment in rural areas. The cooperative in Shufu County has adopted the Beidou Navigation System to achieve digital management of its orchards, which is a successful application case of digital technology in agricultural production, enhancing production efficiency and management level. However, compared with developed regions, Kashgar Prefecture still has a gap in digital infrastructure. It needs to further increase investment and enhance the popularization and application level of digital technology to promote the rapid development of rural e-commerce.

*Table 2 Digital Infrastructure Situation of Rural E-commerce Cooperatives in Kashgar Prefecture*

Indicator	2019	2023	Change
Broadband household access rate (%)	36	72	+36
Mobile payment penetration rate (%)	25	58	+33
Penetration rate of mobile payment in urban areas (%)	60	83	+23

Analysis of the current Situation in the industrial operation dimension

The current industry is dominated by primary agricultural products, accounting for as high as 81%, while deep-processed products only make up 19%, with relatively low added value of the products. The main marketable products on e-commerce platforms include new plums (62%), jujubes (23%), and walnuts (9%). The product categories are relatively concentrated, and there is a risk of market uniformity. Furthermore, the standardization rate of product packaging is only 54%, resulting in a transportation loss rate of 15%, which increases logistics costs and affects the consumer experience. In the future, it is necessary to optimize supply chain management, improve the standardization level of packaging, and expand the deep processing product line to enhance market competitiveness.

*Table 3 Structure of Agricultural Products and Distribution of Marketable Products on E-commerce*

Category	Proportion (%)
Primary agricultural products	81
Deep-processed products	19
E-commerce marketable products	
Xinmei	62
Red dates	23
Walnut	9

The online sales channels are mainly Taobao (35%), Douyin (28%) and Pinduoduo (22%). Live-streaming sales have performed outstandingly, with GMV exceeding 320 million yuan in 2023. Meanwhile, cross-border e-commerce has developed rapidly. Exports to Tajikistan through the Karasu Port have increased by 140%, demonstrating the potential of the international market. However, the reliance on leading platforms for channels and the insufficient construction of independent e-commerce platforms may affect the long-term bargaining power. In the future, multi-channel layout can be strengthened and further expansion of cross-border e-commerce can be explored.

Analysis of the current situation of organizational development dimensions

The number of registered cooperatives has grown rapidly, increasing by 173% compared to 2020, reaching 287. On average, each cooperative is connected to 136 households, which is higher than the average level of the entire Xinjiang region (89 households). For instance, the Xingzi Cooperative in Yingjisha County has created 2,300 jobs, demonstrating a strong ability to support farmers. However, while the scale of the cooperative expands, attention should be paid to the operational quality to avoid the problem of “emphasizing quantity over quality”. In the future, the operation and management level of cooperatives can be further enhanced through training and policy support.

*Table 4 Cooperative Scale and Agricultural Support Capacity*

Indicator	Numerical value
Number of registered cooperatives (units)	287
Average connected farmers (households/families)	136
The average connected farmers (households) throughout Xinjiang	89

The implementation rate of democratic management in cooperatives is 67%. There is a phenomenon of “dominated by capable people”, and the decision-making power in some cooperatives is centralized. The proportion of surplus return is 42%, which is lower than the 60% required by the Cooperative Law. Moreover, only 38% of cooperatives have established a financial disclosure system, and the transparency of governance needs to be improved. In the future, policy guidance needs to be strengthened to promote the standardized operation of cooperatives and ensure the rights and interests of members.

Analysis of the Current Situation of Policy support Dimensions

Over the past three years, Guangdong’s aid funds to Xinjiang have cumulatively invested 170 million yuan in e-commerce projects. The average e-commerce special funds per county in the region have reached 4.8 million yuan (in 2023), effectively

promoting the development of the industry. For instance, Shache County has increased the number of new farmers by 210% through training subsidies, demonstrating the positive effect of policy support. However, some cooperatives have reflected that the policy implementation cycle is too long, which affects the efficiency of fund utilization. It is necessary to optimize the approval process and increase the speed of policy implementation.

*Table 5 Policy Fund Input and Effectiveness*

Project	Amount/data
Guangdong's aid funds for Xinjiang (100 million yuan)	1.7
County-level e-commerce special fund (in ten thousand yuan)	480
Growth rate of new farmers (%)	210

The pilot program of mortgage loans for land management rights covered 12 cooperatives, with a total credit line of 56 million yuan. The "Green channel" policy has increased the logistics efficiency of agricultural products by 40%. However, 32% of the cooperatives reflected that the policy implementation cycle was long, which restricted the release of policy dividends. In the future, it is necessary to simplify the process, strengthen policy promotion and ensure the efficient implementation of policies benefiting farmers.

Current situation analysis of the effectiveness evaluation dimension

In 2023, the transaction volume of e-commerce reached 1.98 billion yuan, increasing by 63% year-on-year, showing a significant growth. The per capita income of farmers participating in the cooperative increased by 2,876 yuan, which was much higher than that of non-participating farmers (832 yuan), indicating the positive impact of the cooperative on farmers' income. In the future, the coverage of cooperatives can be further expanded to benefit more farmers.

*Table 6 Comparison of Economic Indicators*

Indicator	Numerical value
E-commerce transaction volume (in billions of yuan)	19.8
Increased income of farmers participating in cooperatives (yuan)	2876
Not participating in the increase of farmers' income (yuan)	832

Women account for 69% of positions related to e-commerce, promoting women's employment. In 2023, the number of college students returning to their hometowns increased by 254, a fivefold increase compared to 2019. In addition, the cooperative in Magaiti County has provided employment for 137 disabled people, demonstrating the inclusiveness of industrial development. In the future, we can continue to enhance social benefits and promote the coordinated development of rural revitalization and improvement of people's livelihood.

*Table 7 Comparison of Key Development Indicators (2023)*

Indicator	Kashgar Prefecture	Average throughout Xinjiang	Gap analysis
The penetration rate of cooperative e-commerce	58%	71%	High logistics costs restrict development
Premium rate of agricultural product e-commerce	35%	28%	Geographical indication brands have obvious advantages
Member training coverage rate	43%	61%	Bilingual training resources are insufficient
Cold chain circulation loss rate	15%	9%	The problem of outdated equipment is prominent

Analysis of the current situation of existing challenge dimensions

At present, there are obvious shortcomings in technical equipment in the industrial chain. 67% of cooperatives still rely on manual sorting of agricultural products, and there is a serious shortage of mechanical sorting equipment. This not only

reduces production efficiency but also affects the degree of product standardization. In the packaging stage, only 12% of the cooperatives have professional design teams, resulting in product packaging lacking market appeal and making it difficult to meet the visual presentation requirements of e-commerce channels. These shortcomings directly restrict the increase of product added value and market competitiveness. In the future, it is necessary to make up for the shortcomings of the industrial chain through equipment upgrading and professional talent cultivation, and promote the development of the industry towards modernization.

*Table 8 Current Situation of Technical Equipment in the Industrial Chain*

Project	Proportion (%)
Cooperatives that rely on manual sorting	67
A cooperative with a professional packaging design team	12

There are significant generational differences in the application of digital technology. Among the members over 45 years old, 73% have difficulties in operating e-commerce platforms, which seriously affects the expansion of online business. In terms of content creation, 82% of the cooperatives are still at the primary stage of “taking pictures casually”, lacking professional capabilities in short video planning and production, and thus find it difficult to effectively promote their products through new media. This digital divide puts cooperatives at a disadvantage in e-commerce competition. It is suggested to enhance digital skills training and introduce professional operation teams for support at the same time to help cooperatives bridge the digital divide.

*Table 9 Current Situation of Digital Technology Application*

Project	Proportion (%)
The rate of e-commerce operation difficulties for members over 45 years old	73
Cooperatives that remain at the stage of “taking casual photos”	82

The agricultural product market is facing severe price fluctuation risks. In 2023, the maximum fluctuation range of the purchase price of new plums reached 42%, bringing great uncertainty to the operation of cooperatives. Meanwhile, 78% of the cooperatives have highly overlapping main products and severe homogeneous competition, resulting in weak market bargaining power. These risk factors directly affect the profitability and sustainable development of the cooperative. It is suggested to deal with market risks and enhance the ability to resist risks through measures such as differentiated product development and the establishment of a price early warning mechanism.

*Table 10 Current Situation of Market Risks*

Project	Data
The maximum fluctuation range of the purchase price of new plums	42%
Cooperatives with overlapping main products	78%

The development predicament of rural e-commerce cooperatives in Kashgar Prefecture

Although rural e-commerce cooperatives in Kashgar Prefecture have achieved certain development results, they still face many structural challenges in the process of rapid advancement. These predicaments not only stem from the special natural geographical conditions and socio-economic foundation of border areas, but also reflect the common problems in the current development of rural e-commerce. This section will focus on analyzing key constraints such as incomplete infrastructure, imperfect logistics system, shortage of e-commerce talents and weak brand awareness, and deeply analyze their influence mechanisms on the sustainable development of cooperatives. By systematically sorting out these development bottlenecks, it is helpful to accurately grasp the essence of the problems and provide a scientific basis for subsequently proposing targeted optimization countermeasures.

The infrastructure is not perfect

Due to its remote geographical location and the considerable distance between towns and townships as well as between townships and villages, the distribution of logistics outlets in Kashgar Prefecture is relatively sparse. Especially in some remote rural areas, logistics distribution services are difficult to cover effectively. The insufficiency of such logistics facility networks has led to significant difficulties for rural e-commerce in the “last mile” delivery, and both the upward movement of agricultural products and the downward movement of industrial products have been somewhat hindered. Specifically, after being picked, sorted and packaged, agricultural products are difficult to be delivered to consumers in a timely and efficient manner through logistics channels, resulting in increased loss of agricultural products and a decline in freshness, which affects consumers’ purchasing experience and the market competitiveness of agricultural products. Meanwhile, during the downward flow of industrial products, due to the inconvenience of logistics and distribution, farmers often encounter problems such as long delivery cycles and high freight charges when shopping online. This also restricts the expansion of the rural e-commerce market and the release of farmers’ consumption demands.

*Table 11 Current Situation of Infrastructure of Rural E-commerce Cooperatives in Kashgar Prefecture*

Indicator category	Specific problem manifestations	Degree of influence (1-5 points)	Coverage rate (%)
Network coverage	The 4G/5G signal is unstable and the broadband access is insufficient	4.2	65
Logistics system	The lack of cold chain logistics and the limited distribution range	4.8	28.6
Payment system	The penetration rate of mobile payment is low	3.9	45
E-commerce platform	Lack of localization platforms	4.1	32
Storage facilities	Modern warehouse management is insufficient	4.5	38
Talent support	There is a shortage of professional e-commerce talents	4.7	20.3

Data source: Kashgar Prefecture Bureau of Statistics

As shown in Table 11, most rural areas in Kashgar Prefecture have obvious shortcomings in e-commerce infrastructure, including insufficient network coverage, imperfect logistics systems, and backward payment systems. These problems seriously restrict the development of e-commerce in the local area. To promote the healthy development of rural e-commerce, it is necessary for the government and enterprises to make joint efforts, increase investment in infrastructure, improve the network and logistics system, and at the same time strengthen the e-commerce skills training for farmers to enhance their ability and enthusiasm to participate in e-commerce.

The logistics system is not sound

Xinjiang is located in the border area and its transportation network is relatively unsmooth. Although many third-party logistics enterprises have expanded to numerous cities in the autonomous region, many rural areas are still in service blind spots. Due to the high cost of express delivery and the time-consuming and laborious transportation process, many express delivery enterprises have not yet reached remote rural areas. In addition, the restrictions on transportation conditions have made it impossible to ensure the cold chain transportation of fruits in Xinjiang, seriously affecting the quality of horticultural products. The inconvenience and high cost of logistics have significantly restricted the growth of rural e-commerce cooperatives. In Xinjiang, it is not that farmers are reluctant to embrace e-commerce, but rather that various factors make it difficult for e-commerce to enter rural areas. As the saying goes, “To get rich, build roads first.” The congestion of highways has also affected the development of the logistics industry and prolonged the transportation cycle. From a logistics perspective, e-commerce platforms themselves find it difficult to bear logistics risks, and relying on third-party logistics is

an inevitable choice. “Flowers in a greenhouse cannot thrive.” The logistics industry needs to integrate into society and take a professional path. However, in the face of fierce market competition and numerous barriers, achieving the goal of “going global” is actually even more difficult. Meanwhile, logistics enterprises should enhance their service levels and increase customer satisfaction. High-quality logistics services will significantly boost the profitability of e-commerce enterprises.

First of all, numerous large-scale logistics and transportation companies have built a stable database due to their large customer base, which provides a rule to follow for the distribution of resources. Whether the number of customers increases or decreases, such large logistics companies can respond flexibly. However, at present, some e-commerce platforms are tending to establish their own delivery networks. However, agricultural and livestock products have obvious seasonality, and trade activities often reach peak periods due to the change of seasons. Relying on their own distribution systems and human resources, these enterprises often find it difficult to cope with the sharp increase in orders during peak demand periods. If third-party logistics services are not introduced, the service quality of the enterprise’s self-operated logistics chain may be compromised.

Secondly, the fundamental to building a society ruled by law lies in the existence of laws. However, in the field of e-commerce, it is confronted with the predicament of “lack of legal norms”. Logistics and distribution, as a crucial part of e-commerce operation, once problems arise, will not only harm the rights and interests of both parties in the transaction, but also weaken the trust in logistics services. However, at present, the field of logistics and distribution still lacks corresponding legal norms. It is urgent to ensure that logistics and distribution can be carried out “in accordance with the law”. Without rules, there can be no square or circle. The development of all things must follow certain rules. For China’s logistics industry, it is also necessary to establish a sound legal and regulatory system. Only in this way can the diversification of logistics standards move towards unification, and thereby promote the overall optimization of the logistics system.

*Table 12 Data on the Current Situation of Logistics and E-commerce Development in Xinjiang Autonomous Region*

Coverage rate of third-party logistics (urban areas)	85%
Coverage rate of third-party logistics (Rural areas)	35%
Cold chain transportation coverage rate (Horticultural products)	40%
The number of rural e-commerce cooperatives	1,200 households
Average time of logistics transportation (from city to village)	Five days
Logistics and transportation costs (in rural areas)	It is 30%-50% higher than that in cities
The capacity of e-commerce self-built logistics systems to handle peak orders	60%
The completeness of regulations in the logistics field	40%

There is a shortage of e-commerce talents in rural areas

Xinjiang region is insufficient in both ideological understanding and financial investment. The intensity of policy promotion and financial support needs to be further enhanced. In terms of the construction of the talent team, there is a lack of professional talents proficient in network technology, which directly affects the efficiency of data collection, database construction and update in agricultural informatization. Meanwhile, due to the lack of professional personnel for after-sales service, the response and resolution of customer problems are not timely enough.

The degree of organization among farmers is not high, and there are a large number of non-standard cooperative organizations, which makes the main body of agricultural product production relatively scattered. The cultural level of rural residents is generally not high, and their ability to accept and understand new things is relatively weak. Migrant workers and college students returning to their hometowns lack professional training in innovation and e-commerce. Although some places have launched the Rural Taobao Partner Program to help farmers connect with e-commerce platforms through shared

services, the demand for partners is high and there is a serious shortage of professional talents in the e-commerce field.

*Table 13 Current Situation and Development Trends of Talents in Rural E-commerce Cooperatives in Kashgar Prefecture (2022-2024)*

Year	Number of e-commerce practitioners (persons)	Proportion of e-commerce practitioners (%)	E-commerce training coverage rate (%)	Talent turnover rate (%)
2022	1,250	2.3%	12.5%	38.7%
2023	1,480	2.7%	18.3%	36.2%
2024	1,820	3.4%	25.6%	33.8%

Data source: Kashgar Prefecture Bureau of Statistics

From 2022 to 2024, the number of e-commerce practitioners in rural areas of Kashgar Prefecture increased from 1,250 to 2,150, with an average annual growth rate of approximately 19.8%. The proportion of e-commerce practitioners also rose from 2.3% to 4.1%, indicating an increase in the number of e-commerce talents. However, the overall proportion is still far lower than the national average (8.5%). Meanwhile, the coverage rate of e-commerce training has increased from 12.5% to 32.4%, indicating that the training efforts are gradually intensifying. However, the coverage rate is still insufficient, resulting in a large number of farmers lacking e-commerce operation skills. Furthermore, although the talent turnover rate has dropped from 38.7% to 31.5%, it remains at a relatively high level, indicating that the development of local e-commerce is facing the challenge of talent outflow. Overall, there are obvious deficiencies in the number of e-commerce talents, the coverage rate of training and the retention rate of talents in rural areas of Kashgar Prefecture. It is urgent to promote the sustainable development of rural e-commerce by increasing policy support, improving the training system and optimizing the talent introduction mechanism.

#### Lack of brand awareness

With the steady growth of rural e-commerce, the trend of commodity homogenization has become increasingly prominent, and the intensification of market competition has led to a reduction in profit margins. Some farmers failed to follow scientific planting standards. Instead, they cut costs at the expense of quality in pursuit of higher profits. Such practices have damaged the reputation of their products and reduced the export volume. Although the unique agricultural products in Xinjiang region have achieved branding, brand building is still insufficient and lacks standardized processes, which greatly hinders the market promotion of agricultural products.

Many Xinjiang specialties, such as tourist souvenirs, handicrafts, livestock products and characteristic small-scale agricultural products, have lagged behind in the development of e-commerce, with a relatively low proportion of online sales. The development models of these products overly rely on imitating rural e-commerce in other regions, failing to fully leverage the advantages and value of local resources. Furthermore, the lack of industry leaders to lead the way has led to poor information dissemination and slow information updates, seriously affecting the further development of rural e-commerce.

## Funding

no

## Conflict of Interests

The author(s) declare(s) that there is no conflict of interest regarding the publication of this paper.

## References

- [1] Cao A, Su M, Li H. Digitizing the green revolution: E-commerce as a catalyst for clean energy transition in rural China [J]. Energy Economics, 2024, 137 107778-107778.
- [2] Tang J. Rural e-commerce data analysis based on data mining and its enlightenment to rural digital economy management [J]. International Journal of Data Mining and Bioinformatics, 2024, 28 (2): 168-180.
- [3] Xu R, Yu H, Li B, et al. Research on the Development Path of E-commerce for Rural Tourism in the Context of Information Technology [J]. Applied Mathematics and Nonlinear Sciences, 2024, 9 (1):

# The Historical Development and Strategic Change of Wuhan Exhibition Tourism

Peiyang Zou\*

University of Chinese Academy of Social Sciences, Beijing, 100000, China

\*Corresponding author: Peiyang Zou, 2037381448@qq.com

**Copyright:** 2024 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY-NC 4.0), permitting distribution and reproduction in any medium, provided the original author and source are credited, and explicitly prohibiting its use for commercial purposes.

**Abstract:** As a new form of tourism product that emerged in the 1980s, exhibition and conference tourism has seen rapid development in China since the 1990s. The promotion of exhibition and conference tourism can enhance the reputation and popularity of a region or city, improve urban facilities, and facilitate exchanges and cooperation between regions, significantly boosting economic and social development. In this context, this paper takes Wuhan as a case study to preliminarily explore the basic connotations of exhibition and conference tourism, as well as the advantages and disadvantages, opportunities and challenges of developing such tourism in Wuhan. Based on these findings, some policy recommendations are proposed to support the vigorous development of exhibition and conference tourism in Wuhan.

**Keywords:** Exhibition Tourism; Wuhan; Historical Development; Strategy Change

**Published:** Jun 15, 2024

**DOI:** <https://doi.org/10.62177/apemr.v1i3.279>

## 1.Introduction

Since the introduction of exhibition tourism to China in the 1980s, it has developed rapidly, with an annual growth rate exceeding 30%. Exhibition tourism has generated significant economic benefits for regions and enhanced their reputation. It also drives the development of related industries, playing an irreplaceable role. As more regions and cities join the increasingly competitive exhibition tourism market, exhibition tourism is receiving increasing attention and importance from the tourism industry. In light of this rapid development trend in exhibition tourism, what advantages and shortcomings does Wuhan have? What strategies should be adopted in the future to avoid falling behind and to catch up with the coastal leading cities? This article analyzes these issues and proposes some feasible strategies based on the analysis.

## 2.Literature review

Scholars both domestically and internationally have conducted extensive research on the relationship between rural financial innovation and rural economic growth. Abroad, scholar James Marconi proposed that technology has shown potential in streamlining travel processes, allowing government travelers to focus better on their work rather than the details of the travel process itself, such as booking and submitting expense reports. Scholar <sup>[1]</sup> elaborated on the importance of MICE tourism, its requirements, and the prominent position of MICE tourism in India, arguing that MICE tourism has reached a new level in the development of India's tourism industry. Scholars Mohammad Rahim Esfidani; Mansoureh Vahabzadeh; Maryam Tajalli explored the role of MICE tourism in the sustainable development of the tourism industry. <sup>[3]</sup>

Scholars in China have also conducted in-depth research on this field. Scholar Xu Ying points out that exhibition tourism is a

relatively popular form in the current development of the tourism industry, with good industrial integration and driving effects on industrial development. Due to its ability to generate significant economic and social benefits, it is hailed as the “jewel on the crown of tourism.”<sup>[4]</sup> Scholar Deng Xueli believes that developing exhibition tourism can enhance urban functions, promote and drive economic development, improve the city’s image, increase its fame, strengthen overall competitiveness, and facilitate the alignment of urban economic development with international standards, thus becoming a booster for urban development.<sup>[5]</sup>

In summary, the rapid rise of the exhibition tourism industry will bring enormous economic and social benefits to the exhibition venue, a point that has been unanimously recognized by both domestic and international academic circles. The aforementioned research provides valuable insights for the study of Wuhan’s exhibition tourism, but specific concepts still need further clarification, and the development status of Wuhan’s exhibition tourism requires further research and analysis.

### **3.Characteristics and functions of exhibition tourism**

Exhibition tourism is a form of modern tourism that integrates various activities such as conferences, exhibitions, retail, advertising, and travel. It boasts advantages like large group sizes, high-quality guests, long stays, and strong consumption power. Exhibition tourism, also known as “MICE,” stands for Meetings (Meeting), Conferences (Exhibition), Incentive Travel (Incentive), Trade Fairs (Convention), and Events (Event).<sup>[6]</sup> As the influence of exhibition tourism grows, its scope continues to expand. Chinese scholars and experts generally define exhibition tourism as: attracting a large number of tourists through various types of large-scale exhibitions, expos, trade fairs, sports events, investment promotion meetings, etc., to engage in trade negotiations, sightseeing, technical cooperation, information exchange, mutual visits, and cultural exchanges, thereby promoting the development of related industries. This is a comprehensive form of tourism service, which can be broadly or narrowly defined. Broadly: Exhibition tourism is tourism aimed at meetings and exhibitions, including conference tourism, exhibition tourism, and other forms of tourism and incentive travel for work purposes. Narrowly: Exhibition tourism involves providing services related to the tourism industry beyond the exhibition venues, in addition to hosting meetings and exhibitions, and generating certain economic benefits. The development of exhibition tourism can enhance the reputation and popularity of a region or city, promote improvements in urban facilities, facilitate inter-regional exchanges and cooperation, and significantly boost the economic and social development of the region.<sup>[7]</sup>

#### **3.1 Characteristics of exhibition tourism**

##### **3.1.1 Green and pollution-free**

The exhibition and tourism industry is a green sector that neither consumes energy nor resources nor generates pollution, yet it makes significant contributions to the economy. Compared to traditional industries with high pollution, high energy consumption, and low output, the exhibition and tourism industry, as an emerging tertiary sector, has enormous advantages and should be vigorously developed. Human society has achieved unparalleled brilliant accomplishments but at the cost of immense suffering. With the severity of pollution and the depletion of natural resources, people have begun to recognize the need for harmony with nature. Therefore, the green development model represented by the exhibition and tourism industry in the tertiary sector is increasingly becoming the mainstream of global economic development.

##### **3.1.2 High comprehensive benefits**

The exhibition and tourism industry is characterized by low consumption, high profitability, and high added value, with profit margins typically exceeding 30%. Hosting exhibitions generates significant economic benefits, primarily through direct economic gains from exhibitors and visitors. Additionally, developing the exhibition and tourism sector brings substantial additional revenue. During the event, a large number of participants and tourists gather, leading to extensive consumption in areas such as clothing, food, accommodation, and transportation, which creates substantial profits for the host city.

##### **3.1.3 Great influence**

Large-scale international conferences, exhibitions, expos and trade fairs are the focus of the news media lens, attracting the attention of all aspects of society, especially the upper class elites from home and abroad, greatly enhancing the visibility of the city and expanding the influence of the city.<sup>[8]</sup>

### 3.1.4 Long duration of the event

Generally, the time of a large exhibition is longer, so the duration of the exhibition tourists will be longer than the general tourists, so the pull on the local economy will be stronger than the general tourism industry.

## 3.2 The role of exhibition tourism

Exhibition tourism is a comprehensive and strongly driving emerging industry. Exhibition activities can gather huge flows of information, technology, goods, talent, and capital. As an important direction for the development of the exhibition industry, exhibition tourism has comprehensive and all-round functions and roles, which can be summarized in the following aspects.

### 3.2.1 Provide a face-to-face knowledge information communication platform

With the continuous development of information technology, the platform provided by the exhibition has the advantages of convenience, concentration, intuitiveness and speed. It is a continuation of traditional face-to-face communication and negotiation, as well as an emerging way to obtain information, which plays an irreplaceable role.

### 3.2.2 Promoting economic and trade cooperation

The exhibition and tourism economy is a driving force for the national economy. Business negotiations and transactions are one of the key components and functions of the exhibition economy. Developing the exhibition and tourism industry promotes exchanges and cooperation among various sectors and enterprises in terms of economy, technology, and trade through the establishment of exhibition platforms. At every exhibition, substantial purchase and sales contracts or letters of intent for investment, transfer, and joint ventures are signed concerning products, technologies, and achievements. These contracts or letters of intent facilitate economic and trade cooperation.

### 3.2.3 Promoting the development of related industries

Developing the exhibition and tourism industry involves hosting conferences, exhibitions, and festivals. By leveraging the interaction and diffusion of passenger flow, logistics, information flow, and capital flow, it triggers associated effects. This not only boosts the construction of urban infrastructure and other related hardware facilities but also drives the growing prosperity of industries such as catering, hotels, tourism, transportation, communication, retail, advertising, printing, and logistics. In particular, in cities with superior geographical conditions, the exhibition and tourism industry thrives due to its strong industrial linkages, significant radiation effects, and unique industrial functions. For example, Changchun's exhibition and tourism industry generated direct revenue of 1.17 billion yuan in 2008, driving related industries to generate 10.8 billion yuan in revenue, representing increases of 17.2% and 16.8% respectively over the previous year, exceeding the growth rate of the national economy.<sup>[9]</sup>

### 3.2.4 Increase the number of jobs

The economic model of exhibition tourism can absorb urban unemployed individuals, increase employment opportunities, alleviate urban employment pressure, and promote the city's employment function. The power to absorb employment comes from a tiered team of exhibition enterprises, with core companies at the forefront, supported by some exhibition management departments, industry associations, educational institutions, and related support industries. According to estimates, the 1996 Hannover World Expo in Germany created 100,000 job opportunities, generated profits of 14.5 billion marks, and collected 4.5 billion marks in taxes; in Hong Kong, one year's worth of exhibition activities can provide over 9,000 job opportunities for residents. At the same time, related enterprises along the exhibition industry chain also offer more job opportunities.<sup>[10]</sup>

### 3.2.5 Improve the visibility of the city

The connotation of exhibition tourism is rich and its scope broad, with diverse forms of organization. Developing the exhibition tourism industry can further enhance a city's international reputation and appeal through the successful operation of various exhibitions, especially large-scale renowned ones. This is one of the most effective ways and channels to showcase the city's charm and image, expand its influence, and attract external investment. It also facilitates the coordinated development of other industries.

Due to the inherent nature and characteristics of exhibition tourism, it generates significant economic benefits. By hosting various forms and scales of exhibitions, expos, trade fairs, and business negotiations, it drives the development of other related industries in the city, such as accommodation, catering, and social services, thereby promoting urban economic growth

and increasing employment. Exhibition tourism not only brings about positive economic effects but also plays a role in advancing other aspects of urban development.

## **4. Analysis of the development of exhibition and tourism in Wuhan**

### **4.1 Advantages of Wuhan exhibition and tourism**

#### **4.1.1 Wuhan's unique geographical advantages**

Wuhan is located in the heart of China and has been known as the “Thoroughfare of Nine Provinces” since ancient times, boasting an extremely prominent geographical advantage. Wuhan sits in the middle and lower reaches of the Yangtze River, on the eastern part of the Jiangnan Plain. Its shape resembles a colorful butterfly flying from west to east. The Yangtze River converges with its largest tributary, the Han River, here, dividing Wuhan into three parts: Hankou, Hanshui, and Wuchang, commonly known as the Three Towns of Wuhan. The terrain of Wuhan is mainly flat, with hills as a supplement, and there are numerous lakes and ponds within the city, earning it the nickname of “City of a Hundred Lakes.” In the economic geography of China, Wuhan holds a superior central position, akin to the celestial point on a Go board, and is hailed as the “heart” of China's economic geography, which facilitates the convergence of people and the development of exhibition and tourism industries.<sup>[11]</sup>

#### **4.1.2 Convenient transportation conditions in Wuhan**

Transportation is a critical factor influencing the development of a city or region. Wuhan boasts a railway network that can reach across the country, with distances to major cities such as Beijing, Shanghai, Nanjing, Guangzhou, Chengdu, and Xi'an all within 1,000 kilometers. After the high-speed rail connection, these cities can be reached daily. Wuhan serves as the central hub for shipping in the middle reaches of the Yangtze River and is a designated national water-rail intermodal transport main hub port. It is also the only comprehensive airport in Central China, making it the largest and most advanced aviation port in the region. As the regional economy develops and evolves, Wuhan's advantageous geographical position is becoming increasingly prominent, which will provide significant support for its development as an advanced city for exhibitions and tourism.

#### **4.1.3 Abundant tourism resources**

Wuhan, as an ancient city with a history of thousands of years, boasts abundant natural and cultural tourism resources. With a history spanning 3,500 years, Wuhan is a historic and cultural city in China and one of the birthplaces of Chu culture. Known as an “Excellent Tourist City of China,” Wuhan hosts the Wuhan International Tourism Festival. The city is home to 408 scenic spots and historical sites, including 123 revolutionary memorial sites. Wuhan's natural scenery is unique, with distinct seasons and a rare number of 166 lakes and numerous mountains in a metropolis. The cultural landscape of Wuhan is rich in Chu culture. Rivers crisscross the city, interwoven with lakes and ports, featuring over a hundred hills and 186 lakes, which cover one-fifth of the city's total area, forming a distinctive riverside and lakeside ecological environment. Li Bai once wrote the poem “Blowing the jade flute at Yellow Crane Tower, plum blossoms fall in May in the river city,” hence Wuhan has been known as the River City since ancient times. Wuhan is the site of the Wuchang Uprising during the Xinhai Revolution and is also a renowned educational and scientific city in China, ranking third in the number of universities nationwide. Wuhan's high-tech industry, automotive industry, and trade and commerce play significant roles domestically. It is a key node city in the “Belt and Road” development strategy and the gateway to the Yangtze River Three Gorges Tourism Route. The city is home to three national 5A-level scenic areas: Yellow Crane Tower, East Lake Ecological Tourism Area, and Mulan Cultural Ecological Tourism Area. Wuhan is renowned for its plum blossoms, cherry blossoms, lotus flowers, and azaleas. Events such as the WTA Wuhan Open Tennis Tournament, Wuhan Garden Expo, Han Show, Wanda World Movie Park, Wuhan Happy Valley, and Polar Ocean World are all must-see urban tourism and cultural highlights in Wuhan, making it highly attractive for hosting various exhibitions and events. Therefore, a large number of tourism resources in Wuhan have laid the foundation for the development of exhibition tourism.<sup>[12]</sup>

#### **4.1.4 Rapid economic development**

Wuhan is the largest city in central China, economically prosperous and commercially thriving, ranking eighth in GDP nationwide, surpassing many coastal economically developed cities. Since the central government proposed the “Rise of

Central China” strategy, the six provinces in central China have integrated their resources and developed collaboratively, with Wuhan becoming the “Central Hub,” leading the rise of the region. In 2010, the State Council clarified that Wuhan’s city status had been changed from “an important central city in China” to “a central city in China.” Whether in industry, commerce, finance, or foreign investment, Wuhan has achieved remarkable development results. Wuhan is a significant industrial base in China, with a complete industrial system including steel, automobiles, optoelectronics, chemicals, metallurgy, textiles, shipbuilding, manufacturing, and pharmaceuticals. Wuhan has four pure commercial listed companies: WuShang Group, ZhongShang Group, and ZhongBai Group (the first three forming WuShang Union), as well as HanShang Group. WuShang Group, which went public in 1992, was one of the earliest commercial enterprises to list on the stock market. Wuhan is one of the first cities in China to open up along the Yangtze River and is the preferred city for foreign investment in central and western China. Wuhan is a city that possesses all three elements of financial markets, financial institutions, and financial products. In 2014, Wuhan’s regional GDP (GDP) reached 1,006.948 billion yuan, entering the “trillion-yuan GDP club” of Chinese cities, ranking first in Central China and third among 15 sub-provincial cities. Given that the exhibition industry requires a high level of comprehensive urban strength, it can be said that a thriving economic foundation and superior geographical conditions are favorable conditions for Wuhan’s development of exhibition tourism.

#### **4.1.5 Wuhan exhibition industry has a good momentum of development**

Since the 1980s, the exhibition industry has rapidly developed in Wuhan, showing strong momentum. Currently, Wuhan’s exhibition tourism has reached a certain scale and level of development. The role of exhibition tourism in the city’s national economy is continuously increasing. Wuhan’s exhibition tourism has gained growing recognition and influence both domestically and internationally. It has successfully hosted various types of exhibition tourism activities multiple times, making it a “star city” for exhibition tourism in central China.

### **4.2 Disadvantages of Wuhan exhibition and tourism**

#### **4.2.1 Late start**

Wuhan’s exhibition and tourism industry started late, lagging far behind developed countries and regions in this field. Even compared to coastal cities like Beijing and Shanghai, there is a significant gap. Compared to these areas, Wuhan’s exhibition and tourism industry exhibits prominent issues such as small scale, low quality, poor efficiency, and chaotic management. In Wuhan, various exhibitions of different sizes and types abound. These events vary greatly in scale but generally remain scattered and weak. The inconsistency in the size of these activities, coupled with a lack of effective management and coordination, has led to their decreasing scale and influence. This is extremely detrimental to Wuhan’s future efforts to vigorously develop its exhibition and tourism industry and establish an independent brand for exhibition tourism.

#### **4.2.2 Lack of high-quality exhibition employees**

Currently, in developed countries and regions as well as coastal cities in China, there are already relatively professional exhibition and tourism industry practitioners who provide specialized services for large domestic and international conferences. As a result, the development of the exhibition and tourism industry in these areas is stable and rapid. However, although Wuhan has many universities and a strong talent pool, very few institutions specifically offer programs in exhibitions and tourism. While there are numerous professionals, those with specialized and systematic education in this field are few and far between. Therefore, it is difficult to meet the needs of large-scale high-end exhibition organizations and receptions, gradually losing this market segment and thereby affecting the rapid development of Wuhan’s exhibition and tourism industry and the improvement of organizational service levels. If this continues, it will inevitably impact the entire industry’s development.

### **4.3 Historical opportunities for the development of exhibition and tourism in Wuhan**

#### **4.3.1 Wuhan Municipal Government attaches great importance to the development of exhibition tourism**

In recent years, the Wuhan municipal government has increasingly emphasized the development of the exhibition and tourism industry. This is because developing this sector can significantly improve the urban environment, enhance city infrastructure, promote green urban economies, and boost Wuhan’s overall image. The government’s emphasis means more policy support and resource allocation, which will inject a strong boost into Wuhan’s developing exhibition and tourism economy. This is

sure to increase investors' confidence in investing in the exhibition and tourism industry, presenting a significant positive development for Wuhan's exhibition and tourism sector.

### **4.3.2 The implementation of the western development and central rise strategies has provided a market for the exhibition tourism industry in Wuhan.**

Wuhan, as the leading city in the rise of Central China and a transit hub for the large-scale development of western China, is increasingly prominent. The market for exhibition and tourism it generates is also growing. Various large and medium-sized academic conferences, trade fairs, research visits, and government work meetings, both domestically and internationally, provide excellent markets and conditions for Wuhan to further develop its exhibition and tourism industry.<sup>[13]</sup>

## **4.4 Challenges of Wuhan exhibition and tourism**

### **4.4.1 Competition from surrounding areas and cities**

As a "sunshine-type" industry, the competition for market share in the exhibition and tourism sector is exceptionally fierce. In Wuhan, the capital city of central China, its biggest rival is Changsha. Changsha, also a provincial capital in central China, boasts a rich cultural heritage and renowned tourist attractions. Although the current level of development in Changsha's exhibition economy is not high, various policies and activities aimed at its growth are continuously being implemented. Moreover, despite the proximity of the two cities, Changsha's housing and land prices are much lower than those in Wuhan, giving Changsha a significant advantage in venue leasing and supporting facilities, making it more attractive to investors. Additionally, Changsha has a powerful promotional machine represented by Hunan TV, whose programs have a large following among young people, further enhancing its promotional edge. Therefore, competition from neighboring cities will pose a significant challenge to Wuhan.

### **4.4.2 Low level of urban construction**

Wuhan City has long pursued extensive development in its urbanization process, lacking scientific and effective overall planning. The utilization rate of composite urban construction is low, which hinders the concentrated use of urban resources and affects the city's overall landscape. During the urbanization process, there has been a long-term emphasis on surface projects over underground ones, and primary facilities over supporting ones, leading to a series of urban problems. Various engineering facilities have been repeatedly demolished and rebuilt, causing large-scale urban flooding every year when rainfall is excessive, triggering Wuhan's "sea-viewing" mode. All these issues not only make the city operate at high social costs but also damage the city's overall image and weaken Wuhan's competitiveness.

## **5.Improvement of development strategies for exhibition tourism in Wuhan**

### **5.1 Increase publicity efforts and improve publicity efficiency**

The twenty-first century has entered the age of visual economy, where the old adage "good wine needs no bush" is no longer applicable. The key now lies in how to quickly and effectively capture people's attention. Advertising methods must be diversified and modernized, not only through traditional media such as print, television, and radio, but also through the emerging internet. Most attendees at trade shows are high-end individuals and young people, who have a strong ability to embrace new things. In this "Internet+" era, they primarily obtain information from the internet, making it an increasingly competitive battleground. As the wise man once said, "If you don't occupy the territory of propaganda, your enemies will." Therefore, propaganda is extremely important.

### **5.2 Improve the level of urban construction in Wuhan**

The tourism and travel industry is a high-end service sector; only by building a first-class city can it have top-notch appeal. Wuhan City, with its confluence of two rivers and well-developed water systems, numerous lakes within the city, advanced transportation, and gentle terrain, possesses the conditions for becoming a first-class city. In future urban development plans, the principle of "planning before construction, underground before above-ground, supporting facilities before main structures" should be followed. For already developed urban areas, special funds should be allocated to specifically address "urban ills," focusing on improving drainage systems to rejuvenate the city.<sup>[14]</sup>

### **5.3 Pay attention to personnel training**

Large-scale exhibition organization activities, especially international-level ones, have high requirements for the staff

involved, so it is essential to focus on cultivating highly qualified and professional exhibition talents. Wuhan has numerous universities with abundant educational resources, and this advantage should be leveraged to strengthen cooperation between schools and enterprises, particularly close and friendly collaboration with universities that offer exhibition-related majors. This collaboration can provide internship and part-time job opportunities for students, promoting the integration of theoretical knowledge with practical experience, and enhancing students' comprehensive abilities. The goal is to nurture more outstanding talents for Wuhan's exhibition and tourism industry.

#### **5.4 Strengthen the position of exhibition tourism in Wuhan's national economy**

The exhibition and tourism industry is a vital component of modern service sectors, with significant industrial linkages and evident spillover effects. It plays a substantial role in driving and promoting the overall national economic development, often referred to as the "barometer" and "booster" of the national economy. Therefore, it is essential to strengthen the position of the exhibition and tourism industry in Wuhan's national economy in the new era. This can be seen from the increasing support and efforts provided by both the central government and local governments at all levels.

In 2005, the Ministry of Commerce actively promoted legislation for the exhibition economy, soliciting opinions from experts on China's first "Guidelines for the Development of the Exhibition Industry" and taking measures to support key exhibition enterprises and foster well-known exhibition brands. In December 2011, the Ministry of Commerce issued the "Guidelines for Promoting the Development of Exhibition Tourism during the 12th Five-Year Plan Period," which was the first medium-to-long-term guiding document in China's exhibition industry development process. Additionally, at the local level, governments across the country also placed great emphasis on the role of exhibition tourism in the national economy. For example, in 2010, Fujian Province formulated a development plan for exhibition tourism, and in 2011, Beijing released the "Beijing Exhibition Tourism Development Plan for the 12th Five-Year Plan Period."<sup>[15]</sup>

Relatively speaking, the development of exhibition tourism in Wuhan is not satisfactory, so we must constantly strengthen the position of exhibition tourism in Wuhan's national economy. Only in this way can we accelerate the development and realize "overtaking on the curve".

#### **5.5 Lower market access barriers and simplify the government approval system**

Wuhan should formulate relevant policies to lower the entry barriers for private exhibition companies, allowing them to label themselves as organizers in domestically planned exhibitions without relying on state-owned exhibition enterprises. This would significantly boost the enthusiasm of private exhibition companies. Data shows that in Shanghai, private exhibition companies account for as high as 70% to 80%, with their operations spanning the entire exhibition industry chain. In Guangdong, nearly 90% of companies with exhibition qualifications are private enterprises, and in Wuhan, the proportion of private exhibition companies has also exceeded half. Therefore, easing restrictions on private exhibition companies will greatly promote the development of Wuhan's exhibition industry.

The Wuhan municipal government should streamline administrative approval procedures for the exhibition industry, which will greatly promote the development of Wuhan's exhibition sector. For example, on November 21, 2012, the General Office of the State Council issued a reply regarding matters concerning the approval procedures for hosting international economic and trade exhibitions and economic and technical exhibitions within China, reducing the relevant procedures for hosting international exhibitions within the country. The implementation of this measure has yielded excellent results.

### **6. Conclusions**

Throughout the development of the world economy, it is an inevitable trend to develop the service industry represented by the exhibition tourism industry. From abroad to China, from the central government to all levels of local governments, they are accelerating industrial transformation and increasing the proportion of the tertiary industry in the national economy.

Wuhan should seize this opportunity to accelerate the development of its exhibition and tourism industry. Wuhan has significant advantages in location, economy, and hardware and software, including convenient transportation and abundant tourism resources. However, it also faces disadvantages such as a late start and a lack of specialized talent. The Wuhan municipal government's emphasis on the development of the exhibition industry and tourism, along with the implementation of the Western Development and Central Rise strategies, provide market opportunities for Wuhan's exhibition and tourism

sector. At the same time, there are challenges from competition in surrounding areas and the level of urban development. Wuhan needs to make efforts in multiple areas, integrating the development of exhibition tourism with the improvement of urban structure and functions, aiming to establish Wuhan as an excellent national exhibition and tourism city.

## Funding

no

## Conflict of Interests

The author(s) declare(s) that there is no conflict of interest regarding the publication of this paper.

## References

- [1] Marconi J .GovTravels Symposium presents government, industry vision for travel's future[J].Defense Transportation Journal,2016,72(2):9-10.
- [2] Sharma A .MICE Tourism - A New Feather in Indian Tourism Industry[J].International Journal of Management Prudence,2012,4(1):56-57.
- [3] Esfidani R M ,Vahabzadeh M ,Tajalli M .Examining the Role of Tourism Exhibition in Sustainable Development of Tourism Industry[J].International Journal of Business and Management Studies,2012,4(1):
- [4] Xu Ying. Research on the Development of Exhibition and Tourism in Harbin [D]. Northeast Forestry University, 2015.
- [5] Deng Xuele. SWOT analysis and strategic choice of urban development exhibition tourism —— Taking Wuhan city as an example [C]. Chinese Geographical Society 2004 Abstracts of papers from the Annual Conference of Geography and the Cross-Straits Geography Academic Seminar, 2004:537.
- [6] Xu Feng. Conceptual connotation and Market Development of Convention and Exhibition Tourism [J]. Tourism Journal, 2002,6(4):9-10
- [7] Hu Xiao. Exhibition Economy and Urban Development [J]. Economic Issues, 2002,9(6):69-71
- [8] Tang Liuxiong. Modern Tourism Industry Economics [M]. Guangzhou: Guangdong Tourism Press, 2014,24-26
- [9] Zeng Wujia. Modern Exhibition and Regional Economic Development [D]. Chengdu: Sichuan University Press, 2006,41-13
- [10] Lu Min. Evaluation Model of Sustainable Development of Tourism Destinations [D]. Wuhan: Central China Normal University, 2001,31-32
- [11] Wuhan Tourism Bureau. Wuhan Tourism 15th Five-Year Plan [Z]. Wuhan: Wuhan University Press, 2012,78-79
- [12] Yang Yong. Analysis of some basic problems about the economic effect of exhibition [J]. Tourism Journal, 2009,6(10):19-20
- [13] Lou Shidi. Analysis of the Development of Exhibition and Tourism —— Taking Zhengzhou as an example [J]. Economic Weaving, 2004,5(5):14-15
- [14] Mao Xiaogang. Research on the Development of Exhibition and Tourism in Wuhan [J]. Wuhan University Press, 2004,6(9):8-9
- [15] Wu Xinshi. Research on the Development of Wuhan Convention and Tourism Market [J]. Journal of Wuhan Vocational And Technical College, 2006,4(3):6

# Digital Technology Empowers Guxiang Hot Spring Resort: Strategies to Enhance Innovation and Competitive Advantage

Limin Liang\*

Guangxi University of Science and Technology, Liuzhou, Guangxi, 545006, China

\*Corresponding author: Limin Liang

**Copyright:** 2024 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY-NC 4.0), permitting distribution and reproduction in any medium, provided the original author and source are credited, and explicitly prohibiting its use for commercial purposes.

**Abstract:** Facing the digitalization trend of the industry, Guxiang Hot Spring Resort, relying on its unique resource advantages, urgently needs to break through bottlenecks such as weak digital marketing, insufficient intelligent services, and lagging data applications. The study proposes to upgrade the efficiency of tourist routes and the depth of experience through technologies such as smart scenic spot construction (smart guide/ticketing system), big data accurate recommendation, and VR immersive experience; combine social media matrix, live broadcast marketing, and private domain traffic operations to build a full-domain digital marketing system to achieve traffic conversion and brand value-added. With “technology-enabled experience and data-driven decision-making” as the core, this framework provides a lightweight digital transformation path for traditional hot spring tourism companies, helping them optimize operational efficiency, enhance customer stickiness, and expand differentiated competitive advantages, which has practical reference value for industry upgrades.

**Keywords:** Guxiang Hot Spring Resort; Digital Technology; Competitive Advantage; Digital Transformation; Tourism Marketing

**Published:** Jun 15, 2024

**DOI:** <https://doi.org/10.62177/apemr.v1i3.274>

## 1.Introduction

In the digital age, information technology has changed the way of life and brought opportunities and challenges to the tourism industry. As an important part of the tourism industry, hot spring resorts are facing problems such as fierce competition and difficulties in traditional models. Digital technology provides an opportunity for the transformation of hot spring resorts. Guxiang Hot Spring Resort actively applies digital technology and strives to achieve sustainable development through digital transformation. This article analyzes the application status, challenges and strategies of digital technology in Guxiang Hot Spring Resort, provides theoretical and practical support for its reshaping of competitive advantages, and also provides reference for the transformation of other related enterprises.

## 2.Analysis of the current situation of Guxiang Hot Spring Resort

### 2.1 Resource advantages and competitive challenges

#### 2.1.1 Unique hot spring resources

Guxiang Hot Spring Resort is located in Laibin City, Guangxi Zhuang Autonomous Region, and is a national AAAA-level tourist attraction. Guxiang Hot Spring has rich and unique hot spring resources. Guxiang Hot Spring Resort provides 19 hot spring pools with various characteristics, including hot spring swimming pools, children’s paddling pools, independent VIP hot spring pools, fitness centers, lounges, open-air water bars and other different types of hot spring bathing services, which can accommodate more than 1,500 people bathing at the same time. The resort has 3 luxury hotels, 76 hot spring villas, 256

guest rooms (suites), 6 conference rooms, Chinese and Western restaurants, music water bars, and tea houses. The functional facilities are fully equipped to meet the needs of different tourists.

### **2.1.2 Challenges Brought by Market Competition**

With the development of tourism, Guxiang Hot Spring is also facing increasingly fierce competition. Many large-scale and high-end hot spring resorts have emerged around the hot springs. Improving the hot spring facilities and management level will gradually attract more tourists. Although some resorts have not been developed for a long time, the scale of investment and other novel projects will have more market promotion power, which has also brought a certain impact on Guxiang Hot Spring. We can try to strengthen the marketing methods, introduce some high-tech spa equipment, hot spring theme areas, etc., to provide a trial travel experience for tourists who are looking for excitement and novelty; at the same time, we can do a good job in various services, continuously strengthen personalized services, provide different personalized services for different tourist groups, and meet the different inherent needs of tourists. In terms of marketing, if competitors increase the promotion of Guxiang Hot Spring through advertising on social media and online travel platforms, it will pose a certain threat to Guxiang Hot Spring and may also affect the market advantage of Guxiang Hot Spring. On the other hand, after other attractions are built, they will attract attention, and Guxiang Hot Spring will lose the opportunity to be discovered by tourists.

## **2.2 Existing digital applications**

### **2.2.1 Some digital facilities and services**

Guxiang Hot Spring Resort has already applied some digital technologies. For example, the resort has an online reservation system, and tourists can book rooms and hot spring services in advance through computers or mobile phones, which is convenient and fast. At the same time, some areas in the resort are covered by wireless networks, so tourists can stay connected with the outside world while on vacation and share their vacation experiences. In addition, the resort has also set up electronic display screens in some public areas to display the resort's activity information, hot spring knowledge and other content, providing tourists with more information channels.

### **2.2.2 Insufficient digital development**

Guxiang Hot Spring Resort has launched basic digital services such as online reservation system, regional wireless network and information electronic screen, but the overall digital level needs to be improved. Existing problems include: first, the coverage of digital marketing channels is insufficient, and the number of social media fans is far lower than that of competitors; second, the lack of intelligent services, lack of intelligent guide system and water quality monitoring equipment, and the guide relies on manual work; third, the data application ability is weak, and the tourist behavior analysis system has not been established, making it difficult to carry out precision marketing and personalized services. Compared with industry benchmarks, it needs to focus on breakthroughs in smart services and data-driven operations.

## **3. Opportunities that digital technology brings to Guxiang Hot Spring Resort**

### **3.1 Improving internal operation management efficiency**

The digital application of Guxiang Hot Spring Resort can maximize the operation and management of the enterprise itself. It is mainly reflected in that after the users of the reservation center use the central reservation system, they can avoid repeated reservations and waste resources; the customer relationship management system used in the customer service department can record the customer information, consumption records, hobbies, etc. collected by various departments in real time, help understand customer needs, and provide more accurate judgment of the services required by guests. In addition, Guxiang Hot Spring Resort can also manage the enterprise's materials intelligently through digital management, that is, intelligent supervision and management and automatic ordering functions of hot spring consumables, catering raw materials, etc. It fully improves the management efficiency of Guxiang Hot Spring Resort in managing storage materials.

### **3.2 Improving consumer experience**

Digital technology enables personalized services. Online resorts analyze customer characteristics through customer

information and recommend restaurants, activities, and experience attractions to customers. For example, through the customer's consumption records, it can be known that the customer may prefer health-preserving restaurants, and relevant products can be recommended to the customer during his stay. At the same time, personalized discounts and incentives can be provided to customers through digital systems. For example, different members can be provided with different additional discount incentives based on their points value and dining consumption amount, which can better induce different customer needs, thereby better promoting and satisfying the personalized services between each other, thereby increasing customer satisfaction and loyalty.

### **3.3 Expanding market share**

Digital technology has helped the resort develop new sources of income. Online booking platforms allow customers to book resort services anytime and anywhere, improving the convenience and efficiency of booking. E-commerce platforms can sell the resort's specialty products, such as hot spring skin care products, local specialties, etc., adding additional income channels. The membership marketing system can attract customers to become members, encourage customers to repeat consumption through points redemption, exclusive discounts, etc., and increase customers' consumption frequency and amount. Diversified sources of income reduce operating risks and improve the profitability of the resort.

### **3.4 Enhance brand image**

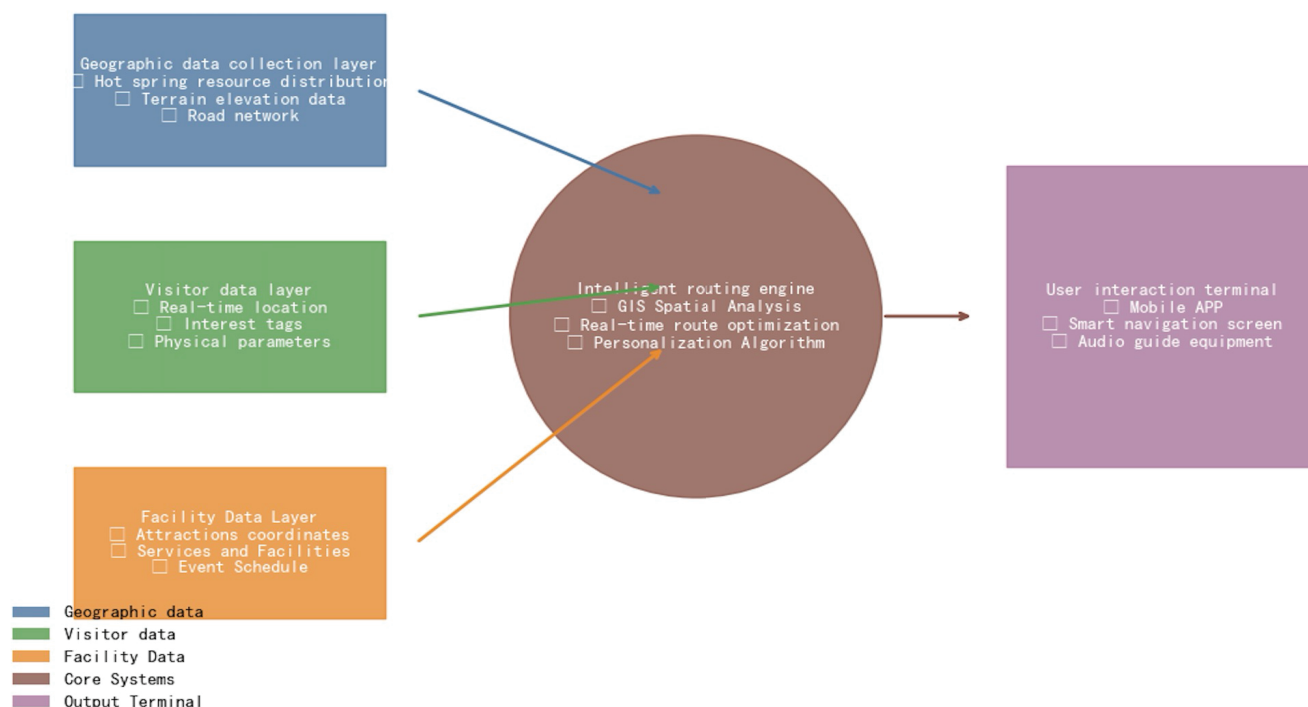
Digital technology can help resorts to interact with consumers flexibly and boldly. Resorts can attract tourists by publishing a large number of beautiful pictures, videos and tourists' testimonials on social networks. In addition, some positive reviews and good reviews on some online travel websites can also help resorts attract some consumers. The official website can introduce resort service facilities, scenic spot tour guides, online reservations, tourist interactions, etc. to help consumers understand the resort situation and related services in advance, save travel time and costs, and increase tourists' participation and dependence on resort consumption. The reasonable use of digital technology through different channels can enable Guxiang Hot Spring Resort to attract more consumers and use its own brand image.

## **4. Specific strategies of Guxiang Hot Spring Resort to enhance its competitive advantage by using digital technology**

### **4.1 Construction of smart scenic spots**

By introducing a series of intelligent systems, the management efficiency of scenic spots and the tourists' tour experience can be improved in all aspects. The first is the intelligent tour guide system. The system can provide personalized tour route planning for tourists with the help of mobile applications or intelligent terminal devices in the scenic area. Based on the resort's geographic information system (GIS) data, it can intelligently recommend the best tour route according to tourists' points of interest, time constraints and physical conditions, such as customizing routes for health enthusiasts that include special health hot spring pools and health lecture venues, or planning itineraries for parent-child families to children's recreational hot spring areas and parent-child interactive facilities. For example, a GIS-based intelligent route planning system (Figure 1) can be designed (Buhalis, D. and Amaranggana, A., 2013). During the tour, the system can also provide real-time voice explanations, which not only cover the history and culture of hot springs, the formation principles and other knowledge, but also introduce the characteristics and usage methods of various attractions and facilities in the resort, so that tourists seem to have an exclusive tour guide and can deeply understand the charm of the resort anytime and anywhere. The intelligent ticket system provides great convenience for tourists. Tourists can book tickets in advance through online travel platforms, the resort's official website or mobile applications, and choose the form of electronic tickets. When arriving at the scenic spot, you only need to scan the QR code at the gate or use facial recognition technology to quickly enter the park without queuing for tickets, which greatly saves time. At the same time, the smart ticket system can also share data with other systems of the resort, which is convenient for counting tourist flow, analyzing information such as the source of tourists, and providing data support for precision marketing. The smart parking management system can effectively solve the problem of difficult parking in the scenic area.

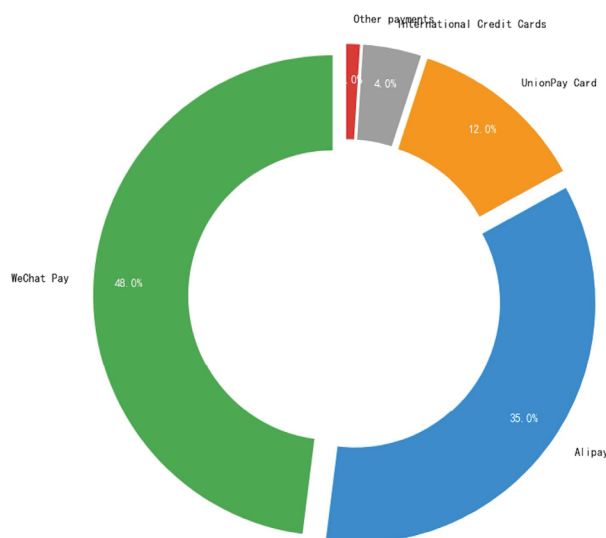
Figure 1 : GIS-based intelligent path planning system architecture diagram



## 4.2 Online Booking and Payment System

In today's digital age, convenient online booking and payment systems are essential for the successful operation of tourism enterprises, and Guxiang Hot Spring Resort is no exception. Building a fully functional online booking platform is the top priority. The platform should integrate various resources within the resort, including different types of guest rooms, various hot spring packages, catering services, entertainment projects, etc., to provide tourists with a one-stop booking service. Tourists only need to enter their travel date, number of people and required services on the platform, and the system will quickly filter out qualified products and display detailed information, such as room type pictures, facilities, price details, hot spring package inclusions, usage time limits, catering menus and prices, etc. At the same time, the platform should also provide real-time booking status updates, so that tourists can clearly understand whether the products they have booked are successful, avoiding booking conflicts or information errors. In the payment process, support for multiple payment methods is essential. In addition to common bank card payments, WeChat payments, and Alipay payments, the needs of international tourists should also be considered, and international credit card payments and some cross-border payment platforms should be supported, as shown in Figure 2.

Figure2: Proportion of online payment channels used

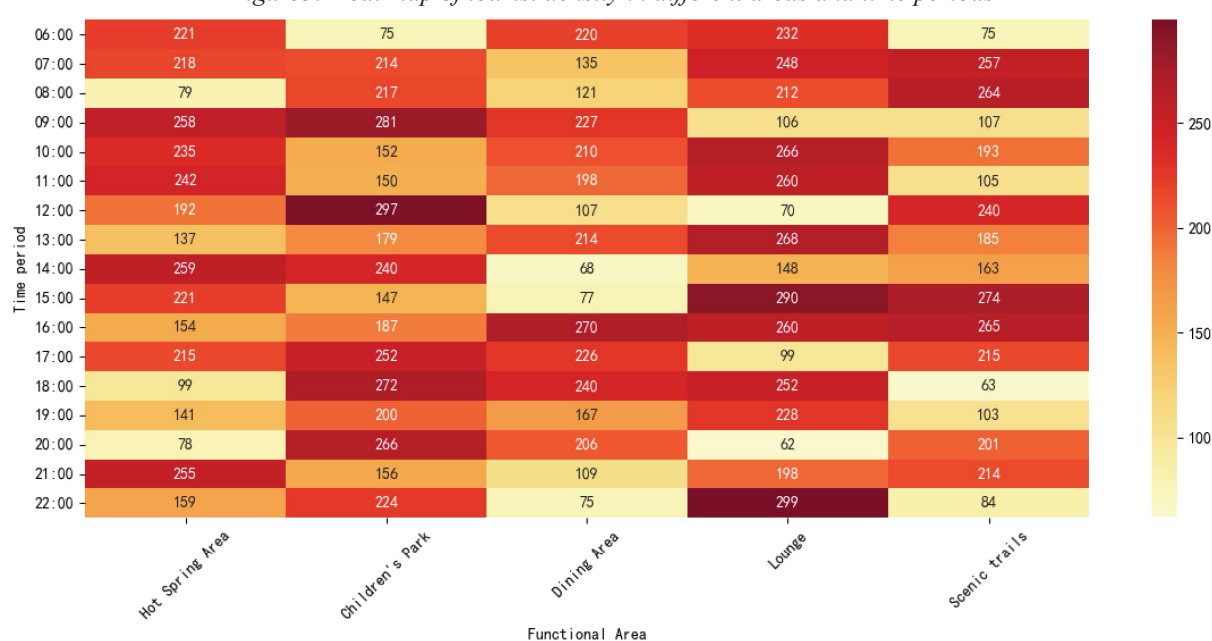


The payment system should ensure safety and reliability, and use advanced encryption technology to protect tourists' payment information to prevent information leakage and fraudulent risks. After the payment is completed, the system should generate electronic orders and payment vouchers in a timely manner to facilitate tourists to query and retain. In order to improve tourists' satisfaction and retention rate, the online booking and payment system can also set some personalized functions. For example, based on the tourists' historical booking records, similar products or preferential packages can be recommended to them; after the tourists successfully book, warm reminders are sent to inform tourists of the preparations before the trip, the resort's contact information and local weather conditions; after the tourists leave the store, they are invited to evaluate the holiday experience, and corresponding points or coupons are given according to the evaluation to encourage tourists to visit again. Through such a convenient, efficient and personalized online booking and payment system, Guxiang Hot Spring Resort can better meet the needs of tourists, improve the booking conversion rate, enhance tourists' trust and loyalty to the brand, and thus stand out in the fierce competition in the tourism market.

### 4.3 Big Data Analysis

Big data analysis provides strong support for the refined operation and precision marketing of Guxiang Hot Spring Resort. In terms of tourist behavior analysis, a comprehensive tourist portrait can be constructed by collecting data left by tourists on booking platforms, various consumption links in the resort, and on social media (Fuchs, M. et al., 2014). For example, the tourists' place of origin, age, gender, occupation, consumption habits, hobbies and other information can be analyzed to understand the needs and preferences of different types of tourists. For tourists from first-tier cities, young and fashionable tourists who pay attention to health and wellness, they may prefer high-end private hot spring suites, personalized health hot spring services and special healthy dining; while for family tourists, parent-child interactive hot spring facilities, children's entertainment projects, and family package dining and accommodation are more attractive. These analysis results can help the resort to be targeted in product design, service optimization and marketing promotion. In terms of scenic spot operation analysis, as shown in Figures 3 and 4, big data can be used to monitor the real-time changes in tourist flow. Through the flow monitoring equipment set up at various entrances, major attractions and facilities in the scenic area, data such as tourists' entry and exit time, length of stay, and tour routes are collected to analyze the distribution of tourist density in different time periods and different areas.

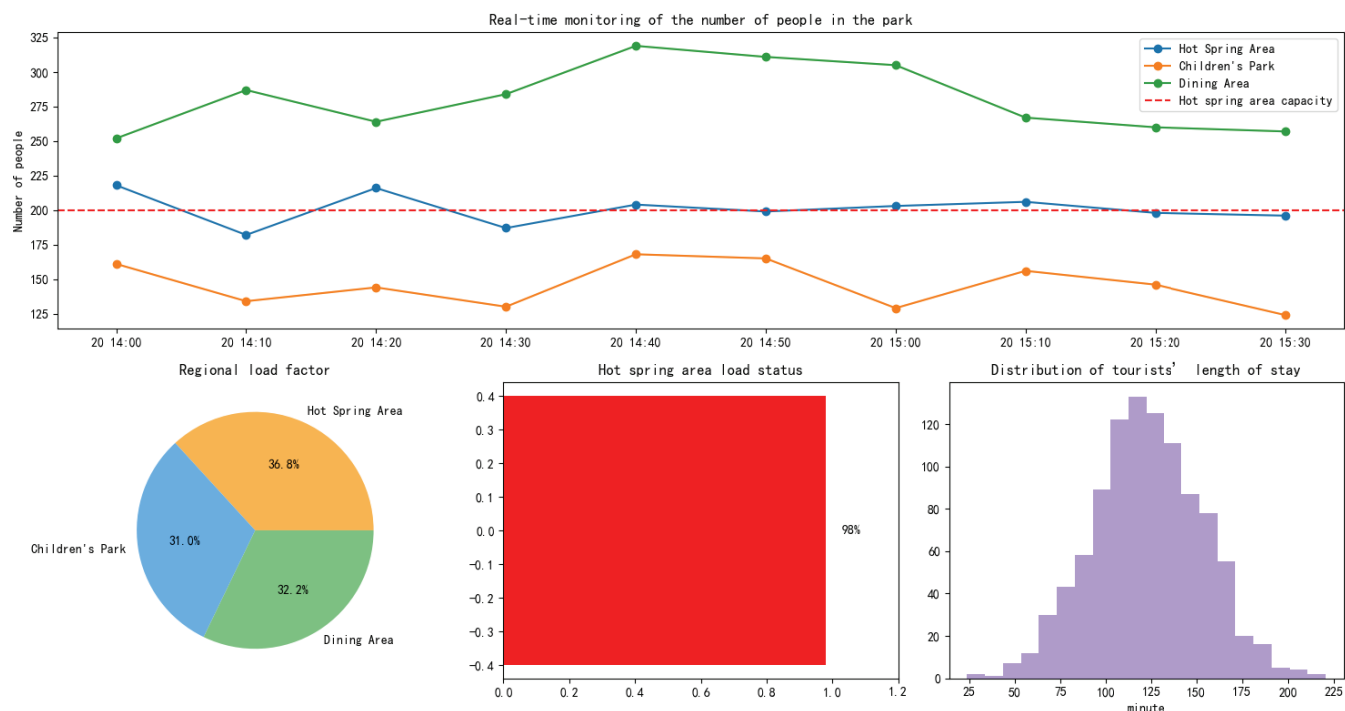
Figure3: Heat map of tourist density in different areas and time periods



During the peak tourist season, when some popular hot spring areas or entertainment facilities are crowded with tourists, the resort can promptly deploy staff to guide them, or adjust the operation strategy, such as extending the opening hours, adding temporary facilities, etc., to improve the tourists' experience. At the same time, big data can also analyze the frequency of use and failure rate of various facilities in the scenic area, arrange maintenance and upkeep in advance, ensure the normal

operation of the facilities, and reduce operating costs. Based on the results of big data analysis, Guxiang Hot Spring Resort can carry out precision marketing activities. Personalized marketing plans can be formulated for different tourist groups, such as pushing exclusive membership discounts and customized service packages to old customers to attract them to visit again; targeted advertising can be placed for potential customers based on their interests and geographical locations to improve marketing effectiveness. In addition, big data can also help the resort evaluate the effectiveness of marketing activities. By comparing the data of tourists' bookings, visits, and consumption amounts before and after the activities, it can analyze which marketing channels and strategies are most effective, providing a basis for future marketing decisions.

Figure4: Real-time crowd monitoring dashboard



#### 4.4 Virtual Reality Technology

Virtual reality technology (VR) has brought an innovative immersive experience mode to the Ancient Elephant Hot Spring Resort, which can greatly enrich the tourists' tour and leisure content. Before tourists visit, VR technology can be used to create a virtual tour platform. By wearing VR equipment, tourists can preview the overall view of the resort in an immersive way, including the landscape of various hot spring pools, the internal layout of the guest rooms, the environment of the dining area, and the characteristics of the entertainment facilities. This can not only help tourists better understand the facilities and services of the resort and plan their itinerary in advance, but also stimulate tourists' interest and increase the booking conversion rate. For example, for some potential tourists who are far away and difficult to visit on the spot, the virtual tour platform can allow them to feel the charm of the Ancient Elephant Hot Spring Resort at home, thereby increasing their willingness to come for vacation. In the resort, VR technology can be applied to multiple scenes to enhance the tourists' experience. In the hot spring area, a VR experience room can be set up. Tourists can enter the experience room during the intervals of hot spring bathing and choose different VR scenes, such as being in a hot spring in a tropical rainforest, soaking in a hot spring at the foot of a snow-capped mountain, or enjoying a leisure time in an ancient palace-style hot spring bath. These virtual scenes, through realistic sound effects, pictures and interactive elements, make tourists feel as if they have traveled through time and space and gained a unique hot spring experience (P, TI and D, W., 2018). In terms of cultural display, VR technology can present the historical culture and folk customs of the resort's location in the form of virtual reality. Visitors can participate in virtual traditional sacrificial ceremonies, folk dance performances or historical story interpretations, and gain a deep understanding of the local cultural connotations, making the holiday trip not only a leisure and relaxation, but also a cultural exploration and inheritance journey. In addition, VR technology can also be used for event planning and promotion of the resort. For example, VR-themed parent-child activities can be held, where children can adventure with cartoon characters in

a virtual fairy tale world, while combining real parent-child interactive games and hot spring experiences to create unforgettable memories for family tourists; for young tourist groups, VR e-sports competitions combined with hot spring health care activities are carried out to attract more e-sports enthusiasts and tourists who pursue novel experiences to participate, and enhance the popularity and influence of the resort among young groups. Through the application of virtual reality technology, Guxiang Hot Spring Resort can break through the limitations of traditional tourism experience and create a more colorful and unique holiday experience for tourists, thereby establishing a unique brand image in the fiercely competitive tourism market and attracting more tourists to experience it.

#### **4.5 Social Media Marketing**

Social media has become an important battlefield for modern tourism marketing. Guxiang Hot Spring Resort can effectively enhance brand awareness and establish close interaction with customers by making full use of this platform. First of all, the resort should open official accounts on mainstream social media platforms such as WeChat, Weibo, Douyin, Xiaohongshu, etc., and carry out careful brand image design and content planning. The visual style of the account should be consistent with the overall positioning of the resort. For example, if it focuses on high-end health resorts, a simple and elegant design style can be adopted; if it is aimed at the family and parent-child market, lively and warm colors and patterns can be used. In terms of content creation, it is necessary to focus on diversity and attractiveness. Regularly publish high-quality pictures and videos to show the resort's beautiful scenery, special hot spring pools, exquisite food, wonderful entertainment activities and tourists' happy moments. At the same time, combined with text introductions, share hot spring health knowledge, local travel guides, resort discount information, etc., to provide users with valuable content. In terms of interacting with customers, social media platforms provide a wealth of ways. Respond to users' comments and private messages in a timely manner, answer their questions about the resort, handle complaints and suggestions, and let users feel the resort's attention and attention to them. For example, when tourists ask about the specific content of a hot spring package, customer service staff should quickly give detailed and accurate responses and provide personalized recommendations; for suggestions for improvement raised by tourists, such as the taste of a restaurant's dishes or service quality, sincere apologies should be made and improvement measures should be explained to let tourists see the resort's positive attitude towards improvement. In addition, interactive activities such as lucky draws, Q&A, and punch-in challenges can be carried out to encourage users to participate and share. For example, a "Most Beautiful Moments of Guxiang Hot Spring" photography competition can be held to invite tourists to share photos taken at the resort. Through user participation and sharing, the resort's brand communication range can be expanded. Social media marketing can also use the power of influencers and opinion leaders. Cooperate with well-known influencers and bloggers in the tourism field, invite them to experience the resort, and share their real feelings and experience reports on social media. These influencers and opinion leaders usually have a large number of fans and high influence, and their recommendations can attract the attention of more potential tourists. For example, a travel blogger with millions of fans shared his pleasant vacation time at Guxiang Hot Spring Resort, showed beautiful pictures and videos, and gave high praise, which may arouse the interest of his fans and prompt them to come to Guxiang Hot Spring Resort to experience it. Through effective social media marketing, Guxiang Hot Spring Resort has been able to accumulate a large number of fans and loyal users on social media platforms, increase brand exposure and reputation, and convert social media traffic into actual tourist bookings, thereby enhancing the company's competitive advantage.

#### **4.6 Live broadcast and short video marketing**

Live broadcast and short video marketing, as the most influential digital marketing tools at present, have opened up a new way for market promotion and customer interaction for Guxiang Hot Spring Resort. In terms of live broadcast marketing, the resort can regularly hold various themed live broadcast activities. For example, the live broadcast of "Hot Spring Health Tour" was launched, and the anchor led the audience to visit various special hot spring pools on site, and introduced in detail the water quality composition, health benefits and unique bathing experience of different hot springs. During the live broadcast, the audience can ask questions through the barrage, and the anchor will answer questions about the temperature control, suitable crowds, supporting facilities and other issues of the hot springs in real time, making the audience feel as if they were there. At the same time, the live broadcast can also show the guest room facilities of the resort, such as the layout of the room,

the decoration style, the quality of bedding, etc., as well as catering services, taste the special food on site and introduce its source of ingredients, cooking methods and taste characteristics. In order to increase the attractiveness and interactivity of the live broadcast, some preferential activities and lottery links can be set up, such as live broadcast exclusive hot spring package discount coupons, free room coupons lottery, etc., to stimulate the audience's desire to buy. Through the sharing function of the live broadcast platform, the audience can share the live broadcast link to their social circles, further expand the scope of the live broadcast, and attract more potential tourists. Short video marketing focuses on the creativity and simplicity of the content. Make a series of exquisite short videos to show different aspects of the resort. For example, shoot a short video of "Morning at Guxiang Hot Springs" to show the morning sun shining on the hot spring water surface and the tranquil beauty of mist, with soothing music, so that the audience can feel the cozy atmosphere of the resort; make a short video of "Happy Hour of Hot Springs" to record the wonderful moments of tourists playing in the hot spring pool and laughing on the entertainment facilities, highlighting the vitality and fun of the resort. The length of short videos is generally controlled from a few seconds to a few minutes, which is suitable for rapid dissemination on social media platforms. When posting short videos, it is necessary to reasonably use popular topic tags, such as #hot spring resort #guxiang hot spring beauty #health journey, etc., to increase the search exposure of short videos. At the same time, encourage tourists to shoot short videos in the resort themselves and share them on social media. The resort can set up some reward mechanisms, such as giving small gifts or coupons, to commend and promote excellent tourists' short videos, and expand brand influence with the help of tourists' word-of-mouth communication. Live broadcast and short video marketing work together to form a full-scale marketing matrix. Live broadcast can deeply display the resort's products and services, interact with the audience in real time, answer questions and promote sales; short videos, with their characteristics of rapid dissemination and easy sharing, can attract more potential customers' attention in fragmented time and stimulate their interest in the resort. Through this combined marketing method, Guxiang Hot Spring Resort can more effectively reach the target customer group and enhance brand awareness and market competitiveness (Xiang, Z. et al., 2015).

#### **4.7 Private Domain Traffic Operation**

Private traffic operation is of key significance for Guxiang Hot Spring Resort to establish long-term and stable customer relationships, achieve precision marketing and improve customer loyalty. First, the resort needs to build its own private traffic pool. This can be achieved in many ways, such as guiding tourists to follow the resort's official WeChat public account, mini program or join the resort's membership club during the reservation or consumption process. Set up obvious drainage entrances on the official website and social media platforms to attract users to register as members and leave contact information. After registration, members can get certain points or coupons as rewards to encourage tourists to join the private traffic pool. For users in the private traffic pool, refined operation management should be carried out. Through the membership system, users' basic information, consumption records, preferences and other data are collected and analyzed, and users are classified and stratified. For example, users are divided into different levels such as high-frequency and high-consumption high-quality customers, medium-frequency and medium-consumption potential customers, and low-frequency and low-consumption ordinary customers. Develop personalized marketing strategies for users at different levels. For high-quality customers, we can provide exclusive high-end customized services, such as private hot spring stewards, priority booking rights, free room upgrades, etc. For potential customers, we can push some targeted preferential packages and value-added services to stimulate them to increase the frequency and amount of consumption; for ordinary customers, we focus on the optimization of basic services and word-of-mouth communication guidance, and keep their attention to the resort by regularly issuing small coupons and pushing special event information. In the operation of private domain traffic, content push is an important means to maintain user stickiness. According to the interests and needs of users, personalized content is pushed regularly. For example, we push hot spring health knowledge articles, healthy recipes, and customized health hot spring package recommendations to health enthusiasts; send parent-child activity notices, children's amusement facility updates, family vacation discount packages, etc. to parent-child families. At the same time, we can also increase user participation and interactivity by holding online exclusive activities, such as member-exclusive online draws, question-and-answer competitions, photography competitions, etc. In addition, users in the private domain traffic pool are encouraged to

spread word of mouth. Set up a user recommendation reward mechanism. For example, after an old member recommends a new member to successfully book and consume, the old member can get points or cash back, and the new member can also get a certain discount. In this way, with the help of users' social networks, the resort's customer base is expanded, and the fission growth of private domain traffic is achieved. Through effective private domain traffic operations, Guxiang Hot Spring Resort can convert traffic into retention, establish a deep emotional connection with customers, and increase the customer's lifetime value, thereby consolidating its competitive position in the fierce market competition and achieving sustainable development.

## 5.Future Prospects of Digital Technology Application in Guxiang Hot Spring Resort

With the continuous development and innovation of digital technology, Guxiang Hot Spring Resort has broad development prospects in the future. In terms of internal operation management, digital technology will continue to be optimized. For example, artificial intelligence technology can be further applied to customer service. Through the intelligent customer service system, tourists' questions can be answered in real time, improving service response speed. At the same time, big data analysis will more accurately predict tourist needs and market trends, providing a scientific basis for the resort's decision-making. Through in-depth analysis of tourists' consumption behavior, preferences and other data, the resort can prepare corresponding services and products in advance to improve tourist satisfaction (Gretzel, U. et al., 2015). In terms of consumer experience, virtual reality (VR) and augmented reality (AR) technologies are expected to bring a new experience to tourists. Tourists can use VR technology to virtually tour the resort before booking, understand the hot spring facilities, hotel rooms, etc., and make better decisions. In the resort, AR technology can provide tourists with guided services, display historical and cultural information of the attractions, and increase the fun and knowledge of the tour. In addition, the application of smart wearable devices will also enhance the experience of tourists. For example, tourists can wear smart bracelets to realize keyless door opening, consumption payment and other functions, and can also monitor health data in real time to provide reference for hot spring health. In terms of market expansion, digital technology will help Guxiang Hot Spring Resort further expand domestic and overseas markets. Through cooperation with international online travel platforms, the resort can attract more international tourists. At the same time, by taking advantage of the global communication characteristics of social media, the resort can actively promote the characteristics and advantages of the resort and increase the international visibility of the brand. In the domestic market, with the popularization of digital technology, the resort can more accurately locate the target customer group and carry out personalized marketing activities. For example, for tourists from different regions and different age groups, differentiated marketing strategies can be formulated to improve marketing effectiveness. In terms of brand building, digital technology will continue to play an important role. Resorts can enhance the brand's sense of fashion and technology by creating a digital brand image. For example, designing interactive official websites and mobile applications so that tourists can feel the brand's vitality and innovation during browsing. At the same time, actively participate in digital tourism exhibitions and activities to showcase the resort's digital technology application results, exchange experiences with other companies in the industry, and jointly promote the digital development of the hot spring tourism industry. In short, with the help of digital technology, Guxiang Hot Spring Resort will continue to innovate and develop, enhance its competitiveness, provide tourists with better service experience, and become a leader in the hot spring tourism industry.

## Conclusion

Digital technology plays a vital role in today's tourism industry, and Guxiang Hot Spring Resort has also actively participated in the wave of digital transformation. Relying on its unique hot spring resources and complete supporting facilities, Guxiang Hot Spring Resort faces the dual challenges of competition from peers and insufficient depth of digital application in its digital transformation. Although basic digital facilities such as online reservations and electronic guides have been built, there is still room for improvement in intelligent service upgrades, data value mining and new media marketing. Through strategies such as smart scenic spot construction (smart guide/ticketing system optimization), big data precision marketing, VR immersive experience development, and social media matrix operations, operational efficiency and experience upgrades can be achieved simultaneously. In the future, the continued deepening of the application of digital technology in management

optimization, experience innovation, and brand communication will help it consolidate its benchmark position in the hot spring tourism industry and provide peers with a replicable digital transformation path.

## Funding

no

## Conflict of Interests

The author(s) declare(s) that there is no conflict of interest regarding the publication of this paper.

## References

- [1] Buhalis, D., & Amaranggana, A. (2013). Smart Tourism Destinations. Information and Communication Technologies in Tourism 2014, Cham.
- [2] Fuchs, M., Höpken, W., & Lexhagen, M. (2014). Big data analytics for knowledge generation in tourism destinations – A case from Sweden. Journal of Destination Marketing & Management, 3(4), 198-209. <https://doi.org/10.1016/j.jdmm.2014.08.002>
- [3] Gretzel, U., Sigala, M., Xiang, Z., & Koo, C. (2015). Smart tourism: foundations and developments. Electronic Markets, 25(3), 179-188. <https://doi.org/10.1007/s12525-015-0196-8>
- [4] P, TI, & D, W. (2018). Tourist Experience in the Age of the Internet of Things. Current Issues in Tourism , 21 (11), 1196-1216.
- [5] Xiang, Z., Magnini, VP, & Fesenmaier, DR (2015). Information technology and consumer behavior in travel and tourism: Insights from travel planning using the internet. Journal of Retailing and Consumer Services , 22 , 244-249. <https://doi.org/10.1016/j.jretconser.2014.08.005>

# Research on Silver Tourism in China: Themes, Theoretical Frameworks, and Methodological Approaches

Wenxuan Yao<sup>1\*</sup>, Biao He<sup>2</sup>

1.Macao Polytechnic University, Macao, 999078, China; 2.Hainan University, Hainan, 570228 ,China

*\*Corresponding author: Wenxuan Yao*

**Copyright:** 2024 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY-NC 4.0), permitting distribution and reproduction in any medium, provided the original author and source are credited, and explicitly prohibiting its use for commercial purposes.

**Abstract:** The silver economy, driven by the rapid aging of China's population, has emerged as a significant frontier for both academic research and market development. With over a thousand scholarly works dedicated to elderly tourism, this review consolidates the core knowledge base of “silver tourism,” integrating studies from the fields of senior and elderly travel. It systematically examines three primary dimensions: the preferences and behavioural characteristics of senior tourists; the development and differentiation of tourism products tailored to this demographic; and the segmentation of regional and subgroup markets. Moreover, it outlines the dominant theoretical frameworks and interdisciplinary methodologies adopted by scholars, drawing upon over three decades of literature (1993–2025). In light of recent policy initiatives and technological transformations, this paper aims to provide a comprehensive and critical foundation for future academic exploration and practical innovation.

**Keywords:** Silver Tourism; Elderly Consumers; Travel Insurance; Literature Review; Aging Economy

**Published:** Jun 15, 2024

**DOI:** <https://doi.org/10.62177/apemr.v1i3.275>

## 1.Introduction

China is experiencing an unprecedented demographic transition, with the proportion of elderly citizens rising rapidly. According to data from the National Bureau of Statistics, by the end of 2023, the number of people aged 60 and above reached 290 million, accounting for 21.1% of the national population. By early 2025, this figure had grown to 310 million, or 22.0%. As population ageing accelerates, the elderly demographic has become not only a core target for social policy but also a burgeoning market force—giving rise to the concept of the “silver economy.” Among its sectors, silver tourism—defined as travel activities designed to meet the physical, emotional, and social needs of senior citizens—has garnered growing attention. Optimistic projections suggest that this market will become a new engine of domestic tourism growth, supported by national policies such as the “two new” initiative and reforms in senior mobility infrastructure (e.g., the adaptation of trains and public services).

In parallel with policy development, academic research on silver tourism has grown significantly. However, despite the expanding volume of literature, theoretical integration, empirical consistency, and interdisciplinary dialogue remain limited. Against this backdrop, this review aims to comprehensively assess the current landscape of silver tourism research in China, identify dominant themes and methods, and provide a forward-looking perspective on its academic and practical evolution.

## 2.Research Content

## 2.1 Preferences and Behavioural Characteristics of Elderly Tourists

The segmentation of the silver tourism market is typically structured around multiple dimensions, including age cohorts, disposable income, educational background, health conditions, travel motivations, and modes of participation. Compared to other demographic groups, elderly tourists display unique behavioural patterns that are closely tied to their life stage, psychological needs, and physical capabilities.

A predominant feature of elderly tourists is their preference for relaxed, low-density, and off-peak travel schedules. With abundant leisure time and greater schedule flexibility, many opt for destinations that offer tranquillity, health benefits, and opportunities for social interaction. Rather than pursuing novelty or high-adrenaline activities, senior tourists are more likely to seek wellness-oriented experiences—such as hot spring retreats, cultural immersion, nostalgic landscapes, or faith-based tours. Cao Furong (2008) characterised these global preferences as reflective of a “therapeutic and reflective mode” of travel consumption.

Empirical studies in China reinforce these observations. <sup>1</sup>Chen Ying et al. (2018), in a survey conducted in Chengdu, found that among the six major travel dimensions—food, accommodation, transportation, sightseeing, entertainment, and shopping—the top concerns for elderly tourists were dining hygiene and suitability, accommodation comfort, and convenient transportation. Entertainment and shopping accounted for only 13.1% and 6.5% of their priorities, respectively. These figures suggest that elderly travellers are not only health-conscious but also pragmatic and functionally driven in their consumption.

Despite having substantial cumulative wealth and pension-backed consumption power, elderly tourists tend to adopt rational and value-sensitive consumption strategies. Many exhibit nostalgic consumption behaviours, influenced by past experiences and a desire to “make up for” missed opportunities earlier in life. This “compensatory consumption” is often expressed through curated, memory-driven travel itineraries. Moreover, due to risk aversion and declining adaptability to digital tools, older adults exhibit lower receptivity to aggressive online marketing or unfamiliar technology-based booking systems. They typically prefer recommendations through trusted interpersonal channels or familiar institutions.

Another underexplored segment is inbound elderly tourism. Research by Luo Dong (2015) identified that elderly international visitors to China tend to have higher per capita expenditures, longer average stay durations, and stronger brand loyalty. Their decision-making is more closely linked to the perceived quality of tourism services, destination image, and the availability of senior-specific facilities.

In addition, <sup>4</sup>Liu Bin (2023) argued that elderly travel behaviour is deeply intertwined with broader lifestyle dimensions such as physical comfort, social bonding, and spatial accessibility. He posited that tourism consumption among the elderly should be viewed not only as an economic activity but as a process of identity reconstruction and emotional compensation in later life. These findings suggest that elderly tourism behaviour is multi-layered, combining physiological needs, emotional aspirations, and sociocultural memory. Therefore, tourism design for this demographic must go beyond basic accessibility and safety, embedding empathy, cultural relevance, and psychological resonance into every stage of the experience.

## 2.2 Tourism Product Design and Market Development

Despite the rapid growth in demand, the current landscape of silver tourism products in China remains underdeveloped, fragmented, and marked by severe homogenization. Most tourism offerings fail to respond effectively to the specific needs of elderly travellers, particularly in terms of physical comfort, health assurance, cultural engagement, and emotional value. The lack of targeted innovation has led to mismatches between product supply and consumer expectations, ultimately constraining the expansion of the elderly travel market.

Lin Zixiao (2024) points out that the silver tourism product ecosystem in many regions is plagued by a narrow focus on sightseeing packages, often with little differentiation from general group tours. He advocates for the expansion of product categories to include nostalgic journeys, cultural immersion, slow-paced rural retreats, and integrated wellness tourism. These approaches not only meet physiological needs such as rest and rehabilitation but also address the psychological desire for self-expression, emotional resonance, and intergenerational bonding.

Infrastructure adaptation is another major bottleneck. Elderly travellers require enhanced accessibility across both physical and digital environments. Tourist destinations often lack barrier-free facilities, such as ramps, elevators, stair-lift systems,

or wheelchair-accessible routes. In the digital domain, mobile apps and online booking platforms tend to neglect interface simplicity, readability, and voice assistance functions tailored for older adults. The Ministry of Commerce and China Railway Group have responded to these challenges by promoting senior-friendly transportation infrastructure, including customized “silver tourism trains,” which aim to improve comfort, safety, and convenience<sup>15</sup> (Zhang Huaishui, 2025).

At the level of service provision, a critical shortage of elderly-aware professionals further restricts quality improvement. Many front-line tourism practitioners lack training in elderly care, age-specific communication, or emergency response. Lu Hengqin (2024)<sup>6</sup> emphasizes the importance of building professional capacity and establishing an elderly complaint feedback mechanism. She also highlights the emerging value of “silver study tours,” which combine leisure and education to stimulate cognitive engagement. Such programs often include cultural classes, red tourism, calligraphy, music, or health-related themes, and have been positively received in pilot cities.

Moreover, the integration of safety measures into tourism product design has become a key focus. Elderly travellers generally prefer to travel in the company of spouses, relatives, or close acquaintances, and often expect familiarity and psychological security during group tours. Tang Yinghui’s (2021)<sup>10</sup> doctoral dissertation interprets this behavioural pattern using adult attachment theory and group travel motivation, arguing for the emotional as well as logistical structuring of senior-oriented group tours.

One area with significant development potential is tourism insurance. While safety is a paramount concern for elderly travellers, there is a notable scarcity of customised insurance products. Most available offerings lack flexible coverage, are poorly marketed, or are bundled in ways that do not align with elderly consumption logic. Since the 2024 State Council policy explicitly included “elderly tourism insurance” in national planning, scholars such as Wang Dongni (2024)<sup>12</sup> and Sun Rong (2024)<sup>9</sup> have called for the creation of modular insurance packages, including accident protection, short-term medical coverage, and loss-of-luggage guarantees (Shi, 2018). These measures are not only essential for risk mitigation but also for enhancing elderly tourists’ willingness to participate in longer and more diverse travel experiences.

In sum, the sustainable development of silver tourism requires a shift from standardized tourism models to deeply personalized, accessible, and emotionally enriching product strategies. Policy support, professional training, and market-driven insurance innovation must be integrated to build a truly elderly-centric tourism ecosystem.

## 2.3 Regional and Subgroup Studies

As silver tourism gains national strategic importance, the regionalization and stratification of its development have become increasingly pronounced. Given China’s vast territory, significant disparities exist in terms of resource endowment, infrastructure readiness, population aging levels, and local policy support. Consequently, the spatial distribution of silver tourism research and practice reflects highly localized patterns, often tailored to specific demographic compositions and regional socio-economic conditions.

From a macro-regional perspective, developed eastern provinces such as Zhejiang, Jiangsu, and Guangdong tend to focus on health-and-leisure integrated products, leveraging their advanced healthcare systems, scenic urban infrastructure, and strong consumer bases. In contrast, central and western regions—such as Sichuan, Anhui, and Yunnan—often emphasize cultural nostalgia, red tourism, and wellness retreats, taking advantage of natural landscapes and lower travel costs. For example, Zhai Daqing (2014) examined wellness tourism in Tai’an, Shandong, and proposed integrating pre-tour health check-ups and customized physical regimens into elderly-oriented travel packages to address individual health needs more precisely.

At the city level, case studies are frequently based on provincial capitals or tourism-rich prefectures. Studies in Kunming, Chengdu, and Xiangtan have shown that municipal governments play a vital role in shaping local silver tourism ecosystems through targeted policy subsidies, infrastructure renewal, and support for elderly-specific products. Moreover, demographic segmentation research has deepened our understanding of tourist heterogeneity within the elderly population. Factors such as educational attainment, former occupation, travel experience, and health literacy significantly influence tourism preferences, risk perception, and participation modes.

A notable example is Zheng Wenting’s (2014)<sup>16</sup> research on retired university faculty in Fujian. Her findings suggest that this subgroup displays strong travel motivation, a high degree of planning awareness, and a marked preference for knowledge-

intensive and cost-effective travel products. These individuals are more likely to engage in off-season travel and prioritize safety, cultural depth, and social engagement over material comfort. Such subgroup-specific insights are essential for designing differentiated marketing strategies and thematic products.

In addition to urban elderly travellers, rural elderly tourism has begun to attract scholarly attention. Yu Tian (2014) coined the term “light elderly rural tourism,” focusing on rural-dwelling seniors’ nostalgic and memory-driven motivations for travel, often tied to family visits, ancestral culture, or traditional festivals. Meanwhile, Liu Fang (2017) introduced the concept of “migratory tourism,” whereby elderly individuals temporarily relocate to destinations with favourable climates and medical facilities during certain seasons. This form of long-stay tourism raises new questions about tourism-healthcare integration, long-term rental infrastructure, and community inclusion mechanisms.

Despite the growing number of localised studies, cross-regional comparative analysis remains scarce. With the national push toward constructing a unified large tourism market and the expansion of inbound visa-free policies, greater attention must be given to interregional tourism mobility, service standard harmonisation, and shared resource utilisation. Future research should also explore the role of interprovincial coordination mechanisms, tourism alliance models, and demographic migration trends in shaping the long-term sustainability of silver tourism across diverse regional contexts.

### 3.Theoretical and Methodological Approaches

As silver tourism matures as a research domain, its analytical depth has expanded beyond descriptive case studies into more structured theoretical explorations and empirical testing. Scholars have progressively drawn on interdisciplinary theories and methodological frameworks from fields such as tourism studies, marketing, consumer psychology, gerontology, and public policy. This section reviews the most frequently applied theoretical models and methodological approaches in Chinese silver tourism research, highlighting both academic patterns and opportunities for further refinement.

#### 3.1 Dominant Theoretical Frameworks

The theoretical foundation of silver tourism research is primarily built on classical consumption and behavioural models, with Maslow’s hierarchy of needs theory occupying a central position. It provides a psychological interpretation of elderly tourists’ motivations, linking physical safety, social belonging, esteem, and self-actualisation with different layers of tourism demand—from basic travel security to spiritual enrichment.

Consumer behaviour and satisfaction theories have also been widely applied. For instance, Yu Hui (2021)<sup>14</sup> employed the Analytic Hierarchy Process (AHP) combined with Importance-Performance Analysis (IPA) to construct a multi-dimensional satisfaction index system for evaluating elderly travelers’ perceptions of tourism products in Tianjin. This model considered factors such as itinerary design, guide professionalism, and insurance arrangements. Meanwhile, Zhou Aiping (2019)<sup>17</sup> used customer satisfaction theory to optimise tourism product portfolios from the supplier’s perspective.

Kotler’s five-level product theory has emerged as another influential framework, particularly in discussions about how to design and upgrade tourism services for senior users. Wang Xujie (2020)<sup>13</sup>, for example, dissected tourism offerings in Kunming into core, expected, augmented, and potential product layers, providing actionable insights for aligning tourism attributes with elderly consumers’ latent needs.

Additionally, sustainable development theory and the tourism product life cycle theory have been used to emphasize long-term strategy and market viability. Hu Juan<sup>3</sup>(2017) integrated these models in her study of Xiangtan’s elderly tourism development, advocating for a balanced consideration of economic, social, and environmental returns. In recent years, theories from gerontology—such as active aging, life-course theory, and socio-emotional selectivity theory—have been gradually incorporated, expanding the interpretive depth of silver tourism beyond consumption logic toward emotional well-being, cognitive function, and intergenerational connection.

#### 3.2 Common Research Methods

The most commonly adopted research methods in silver tourism studies include case study analysis, structured questionnaires, and statistical modeling using tools such as SPSS and AMOS. These methods support the identification of travel motivations, preference clusters, and satisfaction levels among senior tourists.

SWOT analysis, due to its simplicity and strategic applicability, remains popular in regional studies. For instance, Tian

Hongfang (2012)<sup>11</sup> applied it to assess the strengths, weaknesses, opportunities, and threats of Hebei's elderly sports tourism industry, helping to clarify its developmental positioning.

Marketing science methodologies—such as the STP (Segmentation, Targeting, Positioning) model and 4Ps (Product, Price, Place, Promotion)—have been adopted to evaluate the fit between elderly consumer segments and tourism product structures. Liu Guangming (2023)<sup>5</sup> combined survey results with these models to critique the inadequacies of Kunming's aviation marketing for the elderly, including lack of price flexibility and poor channel accessibility.

More sophisticated statistical techniques are being gradually introduced. Wang Bo (2015) used cluster analysis and descriptive statistics to analyze elderly tourists' destination choice criteria in Ningbo, generating a weighted ranking of influencing factors including safety, climate, natural scenery, and travel costs.

Additionally, grounded theory has been employed in qualitative studies aiming to develop conceptual frameworks from interview data, particularly in urban elderly tourism. Hou Pingping (2021)<sup>2</sup> constructed a multi-level factor system limiting urban senior tourism participation, encompassing dimensions such as emotional support, infrastructural barriers, and digital exclusion.

An emerging trend is the integration of interdisciplinary and physiological methods. Lv Ting et al. (2025)<sup>7</sup> combined semi-structured interviews with galvanic skin response (GSR) sensors to explore real-time happiness levels among elderly volunteer guides in Taizhou. This mixed-method approach provides novel insights into emotional experience, social meaning, and behavioral sustainability in silver tourism.

## 4. Review and Future Directions

A comprehensive review of Chinese silver tourism research reveals a field that has rapidly expanded in scope and sophistication over the past three decades. While important theoretical advances and methodological diversification have been achieved, the literature also exposes structural gaps, regional imbalances, and evolving challenges amid demographic, technological, and policy transformations. This section synthesizes the key research trends and outlines future directions to guide subsequent inquiry and policy innovation.

### 4.1 Accelerated Growth in Response to Policy and Demographic Shifts

Since China formally entered an aging society in 1999, and particularly following the large-scale policy emphasis on the “silver economy” in the 2020s, academic interest in elderly tourism has grown substantially. The annual number of publications increased from single digits in the 1990s to nearly 100 in 2024 alone, reflecting strong alignment between national strategic agendas and scholarly response.

This alignment is particularly evident in the wake of policy documents such as the 2024 “Opinions on Developing the Silver Economy,” which explicitly identified elderly tourism as a supported industry. Researchers have responded by exploring new domains, including tourism insurance, mobility infrastructure, digital accessibility, and cross-generational consumption behavior. However, the rapid expansion of literature has sometimes resulted in fragmented findings and inconsistent terminology, suggesting a need for field-wide theoretical integration and conceptual clarification.

### 4.2 Expanding Depth, Yet Uneven Coverage

While the silver tourism literature has grown in quantity and disciplinary scope, its coverage remains uneven across regions, methods, and themes. Core academic output—defined as journal articles in key databases and graduate theses—accounts for only about 24% of total publications, and much of the empirical work is concentrated in economically developed regions or tourism hubs such as Chengdu, Kunming, and Hangzhou.

By contrast, rural regions and lower-tier cities—where aging is often more severe—are underrepresented. In addition, most studies rely on questionnaire surveys or single-case analysis, while experimental methods, cross-temporal data tracking, and longitudinal designs remain rare. Theoretical innovation also lags behind application, with limited development of indigenous concepts or frameworks tailored to the Chinese aging context. Interdisciplinary integration has emerged as a strength in recent years, with increasing incorporation of gerontology, behavioral economics, environmental psychology, and digital health. However, truly cross-sectoral collaboration between academia, industry, and government remains in its infancy. Future research must move beyond academic silos to address the systemic nature of aging-related tourism phenomena.

### 4.3 Future Research Directions

As silver tourism continues to evolve within the broader framework of China's aging society and digital transformation, future research must pursue both theoretical refinement and empirical expansion. One pressing need lies in conducting more cross-regional and international comparative studies. Current literature is heavily localized, with most case studies concentrated in eastern or southern provinces. As tourism market integration deepens—through measures like expanded visa-free entry policies, interprovincial tourism alliances, and infrastructure standardization—researchers should explore how silver tourism varies across cultural, economic, and policy contexts. Comparative perspectives can help uncover transferable models, identify barriers to regional collaboration, and contribute to theory-building beyond the national scale.

Equally important is the integration of aging and digitalization studies. The growing prevalence of AI-powered travel platforms, mobile health tools, and smart tourism environments necessitates a deeper investigation into how elderly travelers interact with technology. While some scholars have addressed digital exclusion, more work is needed to understand the psychological barriers, cognitive thresholds, and design features that shape elderly users' willingness and capacity to engage with digital tourism services. Research on digital literacy training, interface optimization, and the ethical deployment of data in elderly tourism contexts will be crucial in ensuring inclusivity in the next phase of tourism innovation. In addition, new methodologies—such as physiological tracking, real-time emotional analysis, and sensor-based behavioral data collection—can offer unprecedented insight into the elderly travel experience beyond what traditional surveys reveal.

Furthermore, future studies should move toward a more nuanced and dynamic understanding of elderly tourism behavior. Rather than treating older adults as a monolithic group, scholars should differentiate among the “young-old,” “middle-old,” and “oldest-old” cohorts, incorporating life-course theory and post-retirement consumption models. Each age segment presents distinct health conditions, cognitive profiles, and social expectations, which in turn shape their tourism demands and risk tolerances. Moreover, silver tourism should not be approached merely as a commercial domain—it should be studied in its broader societal context, including its potential to foster intergenerational engagement, promote active aging, and contribute to public health outcomes. Longitudinal designs and interdisciplinary frameworks that combine behavioral science, gerontology, and tourism management will be indispensable in advancing a more holistic and sustainable vision for silver tourism research in the decades to come.

## 5. Conclusion

This review has examined the evolution, characteristics, and research frontiers of silver tourism in China, a field increasingly shaped by demographic transformation, policy intervention, and socio-technological shifts. Drawing from more than three decades of academic inquiry and over 1,500 relevant publications, the paper identified three core thematic areas: the behavioural patterns and preferences of elderly tourists, the design and differentiation of silver-targeted tourism products, and the regional as well as demographic segmentation of the market. Complemented by an analysis of the prevailing theoretical frameworks and methodological tools, this study underscores the multidimensional complexity of aging-related tourism behaviour.

While Chinese scholars have made significant progress in capturing the nuances of elderly tourism through behavioural surveys, case studies, and satisfaction models, several structural limitations persist. These include uneven geographic coverage, theoretical fragmentation, and underutilization of interdisciplinary or experimental methods. Nonetheless, the field has shown strong responsiveness to national policy trends, and recent shifts in digital inclusion and cross-border mobility present new areas for exploration.

Looking forward, the future of silver tourism research depends on its ability to deepen theoretical innovation while embracing methodological diversification. More importantly, it must reposition elderly tourism not merely as a market opportunity but as a platform for social integration, public health promotion, and inclusive growth in the context of an aging society. In doing so, silver tourism scholarship can play a pivotal role in guiding sustainable tourism development that is equitable, adaptive, and future-ready.

## Funding

This paper is one of the research achievements of the Hainan Provincial Higher Education Teaching Reform Research Project: Construction and Implementation Path of the Tourism Education Cooperation Platform among Countries along the Maritime Silk Road(Hnjg2021ZD-4).

## Conflict of Interests

The author(s)declare(s) that there is no conflict of interest regarding the publication of this paper.

## References

- [1] Chen, Y., et al. (2018, January). A study on the development of elderly tourism products based on the characteristics of the international market—A case study of Chengdu. *Tourism Overview*.
- [2] Hou, P., et al. (2021, December). The structural dimensions and mechanisms constraining urban elderly tourism—A study based on grounded theory. *Tourism Science*.
- [3] Hu, J. (2017). A study on the development of elderly tourism products based on consumer behavior characteristics—A case study of Xiangtan [Master's thesis, Xiangtan University].
- [4] Liu, B. (2023, February). Body, emotion, and space: The embodied experience of elderly leisure living. *Human Geography*.
- [5] Liu, Y. (2023, May). The formation mechanism, supporting factors, and experience for reference of Japan's elderly tourism industry. *Modern Japanese Economy*.
- [6] Lu, H. (2024, September). A study on the development of the silver-haired study tour market from the perspective of active aging. *Tourism Overview*.
- [7] Lv, T., & Li, S. (2025, April). Finding joy in the hustle? A study on the happiness of senior tourism volunteers—Based on mixed methods. *Tourism Tribune*.
- [8] Shi, Y. (2018, October). A study on the development strategies of China's "silver tourism." *Commercial Economy*.
- [9] Sun, R. (2024, January 17). Leveraging insurance support and guarantee functions to develop the silver economy. *Financial Times*, p. 002.
- [10] Tang, Y. (2021). A study on the relationship between group travel and the happiness of the elderly [Doctoral dissertation, Zhongnan University of Economics and Law].
- [11] Tian, H. (2012). SWOT analysis of the development of elderly sports tourism in Hebei Province. *Industry and Technology Forum*, 24.
- [12] Wang, D. (2024, October). An analysis of the problems and countermeasures of China's elderly tourism insurance. *China Insurance*.
- [13] Wang, X. (2024, September). The silver-haired group enjoys "poetry and the distance": Five types of bottlenecks still exist in elderly tourism—A special survey on the development status of "silver tourism" in Anhui Province. *Anhui Statistics*.
- [14] Yu, H. (2021). The current situation and product satisfaction of "silver tourism"—A case study of Tianjin [Master's thesis, Tianjin University of Finance and Economics].
- [15] Zhang, H. (2025, February 12). National Development and Reform Commission answers questions from Every Day News on the renovation of silver tourism trains: Incorporating it into the support scope of the "two new" policies. *Every Day News*, p. 001.
- [16] Zheng, W. (2014, December). Analysis and development of the silver tourism market in universities. *Straits Science*.
- [17] Zhou, A. (2019). A study on the optimization of silver tourism products of T Travel Agency based on tourist satisfaction [Master's thesis, Minzu University of China].

# Digital Technology Empowerment of the Integration of Cultural Tourism and Health Care Industries in Qingyuan City: Dilemmas and Solutions

Feng Liu\*

Guangdong Finance & Trade Vocational College, Qingyuan, Guangdong, 510440, China

\*Corresponding author: Feng Liu

**Copyright:** 2024 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY-NC 4.0), permitting distribution and reproduction in any medium, provided the original author and source are credited, and explicitly prohibiting its use for commercial purposes.

**Abstract:** This paper uses Qingyuan City as a case study to explore the challenges and solutions of digital technology - driven integration of cultural tourism and health care industries. Research reveals that Qingyuan's cultural tourism and health care industry faces several challenges in digital transformation, including poor adaptability of technology to industry scenarios, lack of data sharing mechanisms, difficult coordination of interests among stakeholders, and a shortage of versatile talents. Through theoretical and empirical analysis, the following solutions are proposed: deeply exploring cultural connotations to create unique integrated brands, strengthening talent support to build a multi - level talent system, promoting data sharing to break down information silos, and encouraging multi - party coordination to form an industrial ecosystem community. The study emphasizes that a multi - stakeholder coordination mechanism involving government leadership, enterprise cooperation, and the linkage of universities and research institutions is needed to solve problems such as the disconnection between technology and resources and inefficient data circulation, so as to achieve high - quality integrated development of the industry under digital technology empowerment. This paper provides theoretical references and practical strategies for the digital transformation of cultural tourism and health care industries in Qingyuan City and similar regions, helping to achieve the sustainable transformation of “green waters and green mountains” into “golden and silver mountains.”

**Keywords:** Digital Technology; Cultural Tourism and Health Care Industry; Industrial Integration; Data Sharing; Qingyuan City

**Published:** Jun 15, 2024

**DOI:** <https://doi.org/10.62177/apemr.v1i3.271>

## 1.Introduction

The rapid development of digital technology is reshaping production and lifestyles and bringing new opportunities and challenges to various industries. In 2023, Qingyuan City welcomed over 50 million tourists, a 62% increase from 2020, with the proportion of health tourism rising from 15% to 28%. The widespread application of digital technology is driving cultural tourism and health care services from “single - scene” to “immersive experiences.” Tourist demands are shifting toward personalized health management<sup>[1]</sup>, in - depth cultural experiences<sup>[2]</sup>, and intelligent interactive services<sup>[3]</sup>. In this context, in 2022, Qingyuan City, in line with the State Council's “Digital Integration Action Plan for Cultural Tourism and Health Care Industries,” proposed building a “digital cultural tourism + smart health care” industrial ecosystem using 5G, artificial intelligence, blockchain, and other technologies, signaling a new phase of high - quality development for the cultural tourism

and health care industry<sup>[4]</sup>.

Digital technology aligns well with the cultural tourism and health care industry in resource integration, service innovation, and value extension. Digital platforms can analyze tourists' health data and cultural preferences to provide scientific and customized health care services<sup>[5]</sup>. Virtual reality (VR) and augmented reality (AR) technologies can bring cultural heritage sites like Lianzhou Underground River and Thousand - Year Yao Village to life, creating "tourable and tangible" cultural experience scenarios. Promoting the deep integration of digital technology with cultural tourism and health care can unlock the cultural value of Qingyuan's ecological resources, upgrade traditional industries like hot spring therapy<sup>[6]</sup> and forest health care to "digital + health care" models, and cultivate new economic growth drivers<sup>[7]</sup>. Additionally, a city - wide smart tourism platform can break down data barriers between scenic spots, hotels, and medical institutions, achieve efficient resource allocation and industrial chain synergy, and enhance value - adding<sup>[8]</sup>. Therefore, analyzing the bottlenecks and solutions for the digital integration of Qingyuan's cultural tourism and health care industry is not only a theoretical issue for regional economic transformation but also a key practice for achieving the transformation of "green waters and green mountains" into "golden and silver mountains."

## **2.Dilemmas of Digital Technology Empowerment of the Integration of Cultural Tourism and Health Care Industries in Qingyuan City**

While digital technology provides new impetus for the integration of cultural tourism and health care industries, Qingyuan City still faces multiple challenges in practice, mainly in terms of technology - industry adaptability, data sharing mechanisms, and coordination of interests among stakeholders.

### **2.1 Poor Adaptability of Technology to Industry Scenarios**

Despite efforts to promote digital transformation in the cultural tourism and health care industry, the integration of technology with local resources in Qingyuan is still relatively crude. Some scenic spots blindly introduce smart devices like VR experience cabins and unmanned tour guides without considering their adaptability to ecological health care scenarios. For example, Lianzhou Underground River has an intelligent interpretation system, but it lacks in - depth exploration of Yao culture and karst geological features, resulting in superficial tourist experiences. There is an over - emphasis on hardware while neglecting software. Most health care institutions have only established basic data platforms without developing health monitoring algorithms or chronic disease management modules for the elderly, making it hard to meet personalized needs. Digital investment and output are also unbalanced. Small and medium - sized enterprises, due to funding constraints, often opt for "low - end technology grafting," such as developing mini - programs or online booking systems, which cannot support industrial chain innovation. The root causes are the lack of a digital technology evaluation system for the cultural tourism and health care industry and insufficient market research by enterprises on local consumption demands and technology applicability, leading to disconnection between technology application and industry scenarios.

### **2.2 Data Silos and Lack of Data Sharing Mechanisms**

As a core element of digital integration, data circulation efficiency directly affects industrial coordination. There are three major data barriers in Qingyuan's cultural tourism and health care industry: Non - unified data standards between the Cultural Tourism Bureau, Health Commission, scenic spots, and health care institutions prevent the interconnection of health records and tourist behavior data, restricting resource integration efficiency. Enterprises, due to competition, are reluctant to share core data, resulting in low willingness for cross - institutional cooperation. Concerns over information leakage in some health care projects lead to avoidance of data collection, creating a conflict between consumer privacy protection and data openness. The root cause lies in the lack of top - level planning, with no establishment of data ownership, sharing rules, and incentive mechanisms.

### **2.3 Weak Coordination Mechanisms among Stakeholders**

The integration of cultural tourism and health care industries involves multiple stakeholders, including government, enterprises, communities, and consumers, but an effective coordination ecosystem is yet to be formed in Qingyuan City. Policy - wise, digital projects led by the cultural tourism department and health care service systems led by the health department lack linkage. For instance, some smart scenic spot constructions and community medical resource layouts are spatially

mismatched, with no data interconnection between emergency response systems of scenic spots and surrounding medical institutions. In enterprise cooperation, traditional cultural tourism enterprises, limited by technology knowledge and funding, often stay at the surface level of digital transformation, such as electronic ticketing systems. When collaborating with tech companies to develop smart health care products, disagreements over intellectual property ownership and revenue - sharing ratios lead to a “cooperation in name only” dilemma. In terms of consumer participation, the elderly are skeptical about health monitoring devices and have low compliance with smart bands, while the young expect in - depth experiences from new technologies like VR health assessment and AI - customized nutrition. This demand gap makes it hard for technology application to meet both universal and high - value requirements. The deep - seated contradiction lies in the lack of a “value - co - creation” concept in industrial ecosystem building. Government performance assessments focus on single - department task completion<sup>[9]</sup>, leading to formalistic cross - field projects due to unclear responsibility division. Enterprises, driven by short - term operational pressures, lack strategic patience in long - term cooperation like data resource exchange and joint technology R & D. Communities and consumers are excluded from the industrial co - building system, with blocked demand feedback channels causing disconnection between supply - side innovation and actual demand.

## 2.4 Shortage of Versatile Digital Talents

Digital integration requires talents who understand both the cultural tourism and health care industries and digital technology<sup>[10]</sup>. However, Qingyuan City faces a “triple - difficulty” situation: Difficulty in attracting technology R & D talents<sup>[11]</sup> due to significant salary gaps with first - tier cities<sup>[12]</sup>, making it hard to draw in high - end talents in big data analysis and AI algorithms. Difficulty in improving digital literacy among local enterprise employees, as scenic spot managers lack knowledge of blockchain, metaverse, and other new technologies, hindering project implementation. Difficulty in deepening industry - academia - research cooperation, as research results from universities and research institutions don't match industrial demands, failing to form a talent incubation loop. The talent shortage stems from lagging vocational education systems, insufficient enterprise training investment, and weak regional talent - attracting policies.

## 3. Solutions for Digital Technology Empowerment of the Integration of Cultural Tourism and Health Care Industries in Qingyuan City

### 3.1 In - Depth Exploration of Cultural Connotations to Create Unique Integrated Brands

Culture is the soul of the cultural tourism and health care industry<sup>[13]</sup>. Qingyuan City boasts abundant local cultural resources<sup>[14]</sup>, such as Yao culture and karst geological culture, which provide a solid cultural foundation for industrial integration. Under digital technology empowerment, these cultural elements can be transformed into attractive products and services. For example, combining local legends with natural landscapes to develop immersive experience projects. Using virtual reality (VR) and augmented reality (AR) technologies, tourists can enjoy natural scenery while experiencing the unique local culture, enhancing emotional resonance between tourists and culture and adding warmth and sentiment to cultural tourism. Additionally, digital means can be used to innovatively interpret traditional culture, making it relevant to the present and attracting more young tourists.

### 3.2 Strengthening Talent Support to Build a Multi - Level Talent System

Talent is a key driver of industrial integration<sup>[15]</sup>. To address the shortage of versatile digital talents in Qingyuan City, a diversified talent cultivation and attraction system needs to be established. On the one hand, strengthen cooperation with universities and research institutions to set up intern bases and industry - academia - research projects, providing practice opportunities for students and training professionals to meet local industrial demands. On the other hand, introduce preferential policies to attract high - end technology talents and innovation teams, offering intellectual support for industrial development. Meanwhile, conduct digital skills training for local employees to enhance their digital literacy and professional skills, cultivating a group of versatile talents proficient in both cultural tourism and health care and digital technology, and providing solid talent guarantees for industrial integration.

### 3.3 Promoting Data Sharing to Break Down Information Silos

Data is a crucial asset in the digital era. To solve data sharing problems in Qingyuan's cultural tourism and health care industry, the government should strengthen top - level planning, set unified data standards and sharing rules, and establish

data sharing platforms to promote data circulation between government departments and enterprises. For instance, set up a Qingyuan Cultural Tourism and Health Care Industry Big Data Center to integrate data resources from cultural tourism, health, civil affairs, and other departments, achieving centralized data management and sharing. Data analysis can help understand tourist needs, optimize resource allocation, and improve service quality. Strengthen data security and privacy protection, and establish a comprehensive data security system to ensure legal and compliant data usage, so that tourists and enterprises can participate in data sharing with confidence and provide strong data support for industrial integration.

### 3.4 Enhancing Multi - Party Coordination to Build an Industrial Ecosystem Community

The integration of Qingyuan's cultural tourism and health care industry involves multiple stakeholders. An effective coordination mechanism needs to be established to form an industrial ecosystem community. The government should enhance policy guidance and planning, promote policy coordination between cultural tourism and health departments, and form a united working force. Encourage enterprises to cooperate and establish industry alliances for resource sharing and complementary advantages<sup>[16]</sup>. Actively involve communities in industrial integration, making them participants and beneficiaries<sup>[17]</sup>. Also, value consumer participation and feedback, and adjust product and service supply according to consumer demands. For example, create a Qingyuan Cultural Tourism and Health Care Industry Integration Pilot Zone to attract various market players through policy support and resource integration. Jointly explore new models and paths for industrial integration to achieve win - win outcomes and promote the cultural tourism and health care industry to a higher level.

In summary, the integration of cultural tourism and health care industries is crucial for Qingyuan City's economic transformation and meeting the growing diversified and personalized tourism demands. Qingyuan has achieved some success in digital technology - enabled industrial integration, such as a significant increase in tourist and the initial establishment of digital application scenarios. However, challenges remain in technology adaptability, data sharing, coordination of interests, and talent supply. To overcome these, multi - stakeholder coordination is essential. The government should take the lead in improving top - level planning, building data sharing mechanisms, and attracting and retaining talents through preferential policies. Enterprises need to strengthen cooperation, share resources, enhance technological innovation, and accurately grasp market demands. Universities and research institutions should deepen industry - academia - research cooperation, train professionals to meet local industrial needs, and promote the transformation of research results. Only through the joint efforts of government, enterprises, universities, and research institutions can a comprehensive industrial ecosystem community be formed to achieve high - quality integration of Qingyuan's cultural tourism and health care industry, fully demonstrate the value of digital technology empowerment, and promote Qingyuan's transition from a resource - rich city with "green waters and green mountains" to an economically strong city with "golden and silver mountains."

## Funding

2024 Qingyuan Philosophy and Social Sciences Planning Project: Project Title: Research on the Integrated Development Path of Qingyuan's Cultural Tourism and Wellness Industry Driven by Digitalization (QYSK2024150)

## Conflict of Interests

The author(s) declare(s) that there is no conflict of interest regarding the publication of this paper.

## References

- [1] Editorial Department of This Journal.(2024). Development of the Health Care Industry in Fujian Province and Its Path Exploration. *Development Research*,41(06),9 - 20.
- [2] Xu Da.(2023). Is It a Technological Change or an Innovative Attempt? Exploration of Digital Culture Empowerment for Urban - Rural Integration and Cultural Common Prosperity. *Journal of Zhejiang University (Humanities and Social Sciences Edition)*,53(04),101 - 112.
- [3] Zhuang Weiguang & Zou Keming.(2017). A Study on the Supply - Side Development of "Internet + Tourism" in Guangdong. *Development Reform Theory and Practice*, (05),17 - 20.
- [4] General Office of the State Council. Opinions of the Ministry of Culture and Tourism on Promoting the High - Quality Development of the Digital Cultural Industry [EB/OL].(2020 - 11 - 18)[2024 - 04 - 21].<https://www.gov.cn/zhengce/>

zhengceku/2020 - 11/27/content\_5565316.htm

- [5] Meng Haoyu.(2024). A Study on the Impact of the Digital Economy on the High - Quality Development of Ecotourism. *Tourism Review*,(23),110 - 112.
- [6] Yang Jianfei & Zhang Haoxuan.(2023). International Experiences and Path Exploration of Creative Development of Salt Industry Heritage Sites. *Salt Industry History Studies*,(04),65 - 72.
- [7] Luo Xianyu, Wu Xinqiang, & Huang Dengliang. The Coupling Mechanism, Role Mechanism and Practical Path of the New Quality of Productivity of Forestry in Realizing the Value of Forest Ecological Products. *Price Monthly*,1 - 9.
- [8] Lu Jin.(2023). A Study on the High - Quality Development of Wuxi Tourism Empowered by Smart Tourism. *Tourism and Photography*,(03),26 - 28.
- [9] Li Junyi.(2021). A Study on the Problems of Qingyuan City Government Performance Assessment (Master's Thesis, Hunan Agricultural University).Master
- [10] Zhou Mi & Qiao Yrong.(2023). Regional Differences and Internal Mechanisms of the Integrated Development of Urban Greening and Digitization. *Urban Issues*,(08),4 - 14.
- [11] Qing Organization and Propaganda Department.(2018). The "Set Sail Plan" for Talent Introduction and Cultivation in Qingyuan. *China Talent*,(06),56.
- [12] Liu Zhenping.(2022). Problems and Countermeasures of the Graded Diagnostic and Treatment System in Qingyuan City under the New Medical Reform (Master's Thesis, Northwest University).Master
- [13] Zhang Chaoshi & Zhu Minmin.(2020). Cultural Tourism Integration: Multi - Level Relationship Connotations, Challenges and Practice Paths. *Tourism Tribune*,35(03),62 - 71.
- [14] Xu Jixiang & Pi Xiaojuan.(2021). Characteristics and Development Significance of Qingyuan's Local Products. *Agricultural Product Processing*,(08),70 - 72 + 76.
- [15] Bao Fu hua, Wang Lu & Shen Li jun. A Study on the Evolution of the Spatial Structure of Digital Cultural Tourism Integration Innovation Efficiency in China. *Henan Science*,1 - 10.
- [16] Jiang Yongwen & Xia Tian Tian.(2024). What Kind of Green Development Model Promotes Common Prosperity? - Based on Case Study and Configuration Analysis. *Ecological Economy*,40(06),185 - 191 + 207.
- [17] Wu Yingli & Zhou Shengjin.(2024). A Study on Promoting the Integration of She ethnic group's Agriculture, Culture and Tourism in the New Era. *Heilongjiang Nationalities*, (02),94 - 102.

**Dear Researchers and Scholars :**

Greetings from Asia Pacific Science Press, a beacon of academic and scientific publishing, located in the vibrant city of Hong Kong.

We extend our heartfelt gratitude for your relentless pursuit of knowledge, and your significant contributions to the advancement of science and society. It is researchers and scholars like you who propel humanity forward, and we at the Asia Pacific Science Press are devoted to ensuring that your groundbreaking works receive the global recognition they rightfully deserve.

In light of our commitment to disseminating pioneering research across various disciplines, such as medicine, architecture, education, and electronics, we are reaching out with two pivotal opportunities to augment our collaboration with the global academic community:

**Call for Paper Submissions:**

We cordially invite you to submit your original research articles to our fast-growing, peer-reviewed, and open-access journals. Our platform guarantees an extensive, global reach, enabling your work to garner maximum visibility and citation in the academic sphere. Rest assured, your work will be meticulously assessed by experts in the field, ensuring it receives the acknowledgment and exposure it merits.

**Join Our Esteemed Team:**

We are fervently searching for passionate researchers and scholars interested in joining our burgeoning team at Asia Pacific Science Press. We offer numerous roles, such as peer reviewers, editors, and advisory board members, where your expertise will significantly shape the content and quality of our publications. In return, you will gain invaluable experience, network with preeminent scholars, and play a pivotal role in molding the future of global academic publishing.

**Why Choose Asia Pacific Science Press?**

**Global Reach:** Your work will be accessible to a worldwide audience, free from any access barriers.

**Collaboration with Renowned Universities:** We have established extensive publishing systems in cooperation with world-renowned universities, such as Wuhan University, Hong Kong University, and the University of Malaya.

**Diverse Disciplines:** Your research will be housed among numerous journals across a multitude of academic projects and disciplines.

As we stride forward in the academic landscape, we envision a future where our collective efforts shape a more enlightened, innovative, and interconnected global society. We sincerely hope that you consider this invitation to join us on this auspicious journey towards knowledge, discovery, and global impact.

Should you wish to submit your work or express interest in joining our team, please do not hesitate to contact us. You can submit your manuscript or personal profile to [info@apspublisher.com](mailto:info@apspublisher.com) or visit our website at [www.apspublisher.com](http://www.apspublisher.com) for more information.

Thank you for considering this opportunity, and we eagerly anticipate the possibility of welcoming you to the Asia Pacific Science Press family. Together, let's forge a future of unparalleled scientific advancement and discovery.

Warm regards  
Asia Pacific Science Press