RESEARCH ON THE DEVELOPMENT STATUS AND STRATEGIES OF SMART TOURISM: TAKING "ONE MOBILE PHONE FOR TOURING YUNNAN" AS AN EXAMPLE

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Abstract: This study takes the "Yunnan Tourism" platform as a typical case to delve into the current development status and strategies of smart tourism in Yunnan. As an important tourist destination in southwestern China, Yunnan has actively responded to the national smart tourism development strategy in recent years. Through implementing a series of innovative measures, it has significantly improved the quality and efficiency of tourism services. Among them, the "Yunnan Tourism" platform, as a representative of smart tourism in Yunnan, has become an important force driving the transformation and upgrading of Yunnan's tourism industry due to its convenience, comprehensiveness, and interactivity. This study first analyzes the concept, characteristics, and platform construction of smart tourism, describing the development overview and construction of the "One Phone for Yunnan Tourism" platform, and then explores its unique role in smart tourism. At the same time, this paper also points out the challenges currently faced by the development of the "Yunnan Tourism" platform and proposes corresponding countermeasures and suggestions, aiming to provide theoretical support and practical guidance for promoting comprehensive, coordinated, and sustainable development of smart tourism in Yunnan.
Keywords: Smart Tourism; Yunnan; Development Strategies; "Yunnan Tourism"

1 INTRODUCTION

During the "12th Five-Year Plan" period, the continuous construction of tourism informatization projects was initiated [1]. In 2011, the concept of "smart tourism" was proposed and gained prominence (https://www.gov.cn/jrzg/2011-07/12/content_1905019.htm). In 2015, the China National Tourism Administration issued the "Guiding Opinions on Promoting the Development of Smart Tourism," which defined the construction goals, implementation pathways, and other aspects of smart tourism. During the "13th Five-Year Plan" period, smart tourism in China encompassed various aspects including smart tourism services, tourism big data mining, and data analysis. Fundamentally, the infrastructure for smart tourism had been completed in most 4A-level and above tourist attractions across cities of all sizes in China [2]. The smart tourism policies during the "14th Five-Year Plan" period aim to comprehensively enhance the level of intelligence and development quality of the tourism industry through multiple measures such as digital transformation, strengthened supervision and protection, and promotion of industrial integration and development [3]. Smart tourism is a product of the deep integration between the contemporary tourism industry and information technology. It leverages advanced technologies such as big data and cloud computing to provide tourists with more personalized and convenient services. As a renowned tourist destination in China, Yunnan Province has actively explored the field of smart tourism in recent years. The "One Phone for Yunnan Tourism" (hereinafter referred to as "Travel Yunnan") platform, through its mobile application, aims to achieve a high level of integration of tourism resources and comprehensive optimization of service processes. This paper analyzes the current development status of smart tourism in Yunnan using the "One Phone for Yunnan Tourism" project as a starting point, and proposes corresponding countermeasures and suggestions to promote the healthy development of smart tourism in the province. At the same time, it provides new perspectives and ideas for research in related fields.

2 THE CONCEPT AND PLATFORM CONSTRUCTION OF SMART TOURISM

2.1 The Concept of Smart Tourism

2.1.1 The development of smart tourism as a new tourism paradigm: academic perspectives on definition

As a novel tourism paradigm, smart tourism has elicited diverse definitions within the academic community. Phillips was the first to propose the concept of smart tourism, defining it as the sustainable, long-term, and comprehensive approach to developing, marketing, planning tourism products, and operating tourism businesses [4]. Molz defined smart tourism as the use of mobile network technology to develop sustainable and more intelligent forms of tourism that connect tourists with cities and represent extensive civic engagement in tourism [5]. Li Yunpeng et al. interpreted the concept of smart tourism from the perspective of business centers and information services [6]. Zeng Xianghui et al., basing their definition on smart technology, viewed smart tourism as a form of tourism that efficiently utilizes tourism and information resources to satisfy tourists' personalized needs [7]. Further, Li Jingyi et al., from a rational choice

perspective, proposed that smart tourism is a more rational and user-friendly technological approach that enhances tourist experiences and improves the operational efficiency of the tourism industry [8]. It refers to the utilization of modern information technologies such as cloud computing, the Internet of Things, and big data, through the internet or mobile internet, aided by portable terminal devices, to achieve intelligent perception and utilization of various tourism information. Its core characteristic lies in "smartness" [9], which entails the ability to actively perceive information about tourism resources, tourism economics, tourism activities, and tourists, and to release such information promptly, enabling people to understand it in a timely manner and arrange and adjust their work and travel plans accordingly, thereby achieving the effects of intelligent perception and convenient utilization of various tourism information.

This paper argues that the significance of developing smart tourism is mainly embodied in several aspects: first, it is centered on tourists [10], providing more personalized and humanized services; second, it is based on informatization [11], realizing the optimal allocation and efficient utilization of tourism resources [12]; third, it is driven by innovation, promoting the transformation and upgrading [13] of the tourism industry and sustainable development [14].

2.2 Smart Tourism Platform Construction

As the development carrier of smart tourism, the construction of smart tourism platforms will effectively promote the development of the tourism industry [15]. Firstly, the construction of smart tourism platforms enhances the quality and efficiency of tourism services. Through information technology means such as big data and cloud computing, tourism enterprises can more accurately understand tourists' needs and preferences, thereby providing more personalized and precise services. At the same time, smart tourism platforms can also optimize the sharing of tourism resources and social resources [16], improve resource utilization efficiency, and reduce waste and redundant construction. Secondly, the construction of smart tourism platforms drives the innovative development of the tourism industry [17, 18]. With the continuous advancement of information technology and the application of artificial intelligence, the tourism industry is undergoing unprecedented changes. The construction of smart tourism platforms not only transforms traditional tourism service methods, enhances tourist satisfaction, and improves tourism marketing methods [18], but also brings new business models and profit points to the tourism industry. For example, through big data analysis, tourism enterprises can conduct more precise market positioning and product development, enhancing market competitiveness. Finally, the construction of smart tourism also promotes the sustainable development of the tourism industry [19]. Driven by smart tourism platforms, the tourism industry places greater emphasis on ecological environmental protection and social responsibility. Through intelligent management methods and green tourism practices, it can reduce damage and pollution to the natural environment and achieve sustainable development of the tourism industry. At the same time, the construction of smart tourism platforms can also enhance tourists' awareness of environmental protection and social responsibility, promoting sustainable development across society. Currently, various provinces in China are advancing the construction of smart tourism platforms. For example, Zhejiang Province, Fujian Province, and Yunnan Province have launched "One Mobile Phone for Travel" smart tourism platforms. Among them, Yunnan Province, as a typical representative of smart tourism, provides certain reference significance for the development of smart tourism in other regions.

3 OVERVIEW OF THE DEVELOPMENT OF "TRAVEL YUNNAN"

3.1 Introduction to the "Travel Yunnan" Platform

"Travel Yunnan" is a comprehensive smart tourism platform jointly developed by the Yunnan Provincial Tourism Development Commission and Tencent under the strong impetus of the Yunnan Provincial Government in 2017. Tengyun Company is responsible for the construction, development, and platform operation of the "Travel Yunnan" project. Since its initiation in 2017, the project has undergone four stages: project establishment and initiation, opening and trial operation, official launch and continuous optimization, and becoming a benchmark and expansion of smart tourism (as shown in Figure 1). Currently, it has initially established "one center and two platforms," including a comprehensive management platform for the government, a comprehensive service platform for tourists, and a tourism big data center (as shown in Figure 2). The platform aims to utilize advanced technology to address the requirements of Yunnan's tourism transformation and upgrading. By employing technological means to rectify irregularities in the tourism industry, it strives to create a comprehensive ecological platform for smart, convenient, and healthy tourism across Yunnan. This platform has become a new engine for the transformation and upgrading of Yunnan's tourism industry and a significant marker of the development of smart tourism in Yunnan.
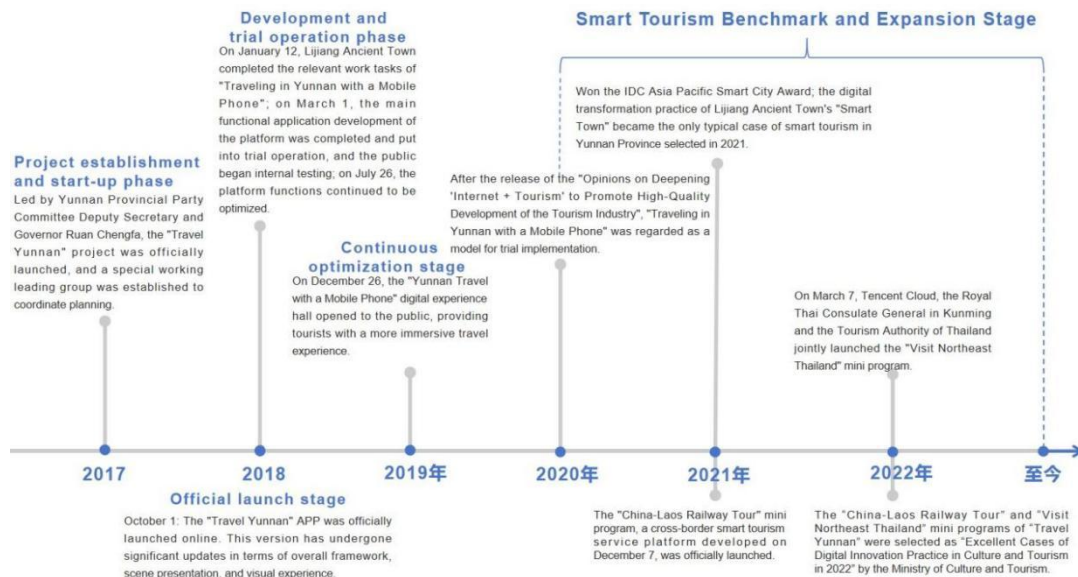
Figure 1 Development history of Yunnan's "Visit Yunnan" platform

Figure 2 "One Center and Two Platforms" in the "Travel Yunnan" platform

3.2 Construction of the "Travel Yunnan" Platform

As a typical representative of smart tourism, Yunnan's "Travel Yunnan" platform has achieved remarkable development in recent years. By deeply integrating information technology with tourism services, this platform provides tourists with a brand-new travel experience and simultaneously promotes the digital transformation and upgrading of Yunnan's tourism industry.

(1) In terms of technology application, the "Travel Yunnan" platform fully leverages advanced technologies such as cloud computing, big data, and the Internet of Things (IoT) to achieve digitalization, networking, and intelligent management of tourism resources. By establishing a tourism big data center, the project team is able to collect, analyze, and process various types of tourism data in real-time, providing tourists with more precise and personalized service recommendations. Furthermore, with the assistance of IoT technology, tourists can easily access various types of information within the scenic areas, such as parking spaces and public facilities, greatly enhancing the convenience of tourism. Additionally, the technology application of "Travel Yunnan" in the Erhai Ecological Corridor has contributed to improving the water quality of Erhai, enhancing its biodiversity and ecological stability, serving as the last line of defense for protecting Erhai.

(2) In terms of service content, the "Travel Yunnan" platform offers a wide range of tourism services. Tourists can easily book hotels, purchase tickets, and access travel guides through the mobile app. At the same time, the platform also provides innovative services such as smart navigation and virtual reality experiences, enabling tourists to gain a deeper understanding of Yunnan's culture and history. Furthermore, the implementation of the "one-click complaint,

one-day resolution" system and the establishment of a comprehensive tourism complaint acceptance and handling mechanism with a "1+16+129+X" structure (province, prefecture, county, tourism-related businesses) have enhanced the tourist experience. The province-wide promotion of "30-day no-reason return policy" and the addition of a feedback function have further improved tourist satisfaction. Lastly, "Travel Yunnan" integrates and promotes the tourism resources of Nujiang Prefecture, as well as promotes the Nujiang Lisu "Kuoshi" cultural festival, further enriching Yunnan's tourism product line.

(3) In terms of promoting industrial development, the implementation of the "Travel Yunnan" platform has had a profound impact on Yunnan's tourism industry. Firstly, it has facilitated the digital transformation of the tourism industry, driving tourism enterprises towards intelligent and networked development. Secondly, through big data analysis, the government and enterprises can gain a more accurate understanding of market demand and tourist behavior, enabling them to formulate more scientific tourism development plans and marketing strategies. Thirdly, the platform implements the "Double Zero Strategy" for tourism-related enterprises in Yunnan, which involves permanent 0% commission and the shortest "T+0" settlement, allowing for transactions to be made on the same day and withdrawals on the next day, achieving cost reduction and efficiency enhancement. Lastly, based on the "Travel on the China-Laos Railway" and "Travel Northeast Thailand" mini-programs of "Travel Yunnan," the platform explores industrial strategies for cross-border smart tourism and cross-border trade, promoting the development of the "Internet + Tourism" industry in South and Southeast Asia.

3.3 Problems in the Development of the "Travel Yunnan" Platform

The "Tourl Yunnan" platform, while having promoted the intelligentization process of tourism in Yunnan and improved the tourist experience to some extent, still faces some urgent issues that need to be addressed in its development process.

(1) User positioning and service group segmentation are unclear. The "Travel Yunnan" platform seems to attempt to serve all users related to tourism, including tourists, local residents, and tourism professionals, in its positioning. However, this broad positioning has led to a certain degree of mixed content and services on the platform. For example, the platform includes both tourist-oriented travel guides and information services, as well as some local resident-oriented lifestyle service content. This lack of clarity in user positioning may affect user experience and reduce the professionalism and specificity of the platform.

(2) The promotional channels are relatively limited. Currently, the promotion of the "Travel Yunnan" platform mainly relies on offline government administrative efforts, and the promotional methods are also unsatisfactory. Firstly, poster promotion is only arranged in scenarios where there is a concentration of passenger flow, such as airports, high-speed trains, hotels, and scenic spots within Yunnan Province, to display promotional posters for the "Travel Yunnan" APP and guide users to download and use it. However, there is no detailed promotional material available. Secondly, SMS promotion involves sending messages about the "Travel Yunnan" APP to tourists when they enter Yunnan or various prefectures and cities, but the promotional content is not reasonable as it only emphasizes the "30-day no-reason return policy," which can easily mislead tourists into thinking that the software has limited applicability. Thirdly, social media marketing involves creating a dedicated social media account to update articles about the beautiful scenery, delicious food, travelogues, etc., of various places in Yunnan every day, along with a QR code for the APP. This type of promotional post lacks innovation and is prone to causing aesthetic fatigue. However, in terms of online promotion, especially on search engines and major tourism platforms, the exposure of this project is relatively low. This may result in potential users being unable to learn about and use the platform in a timely manner when planning their travel itineraries, thereby limiting the expansion of its user base.

(3) User-friendliness needs to be improved. Although the "Travel Yunnan" platform aims to provide tourists with comprehensive tourism services through a single mobile phone, in practice, some users have reported that the interface design is not intuitive, there are numerous functional areas, and the operation process is relatively complex. Users find it difficult to quickly locate the functions they need, resulting in a poor user experience. Additionally, due to the distinct regional and functional attributes of "Travel Yunnan," it does not possess nationwide service capabilities. The scope of use is limited, leading to a decrease in usage frequency and difficulty in retaining users.

(4) Insufficient integration of online and offline resources. For offline resources, a systematic system for the industrial chain of the six major tourism elements has not yet been formed. The supply of resource elements on the "Travel Yunnan" platform is not sufficiently diversified, such as limited options for accommodation, dining, and transportation prices, the absence of live streaming from popular scenic spots, and the inability to make reservations for some scenic spots, making it difficult to meet the varying consumption levels and experience needs of different tourists. Tourism-related businesses are unaware of the process for joining the platform, and joining the "Travel Yunnan" platform is relatively difficult, resulting in a small number of businesses overall and an inability to compete with more mature platforms in the market, such as Meituan, Ctrip, and Fliggy. For online resources, the analysis and application of tourism big data on the platform are inadequate, and the collection, integration, analysis, and other functions of data are not fully utilized, which restricts the efficiency of data utilization and leads to insufficient predictive capabilities of big data. This makes it difficult to effectively provide precise recommendations to tourists, and the value of big data is not fully leveraged.

(5) Privacy protection and data security face challenges. With the continuous accumulation of user data, the "Travel Yunnan" platform is confronted with increasing risks in privacy protection and data security. Ensuring the secure

storage and transmission of user data, preventing data leaks and misuse, are important issues that the project must address. At the same time, as relevant laws and regulations continue to improve, the platform also needs to strengthen compliance to ensure the legal use and processing of user data.

(6) The platform system functions are not sufficiently complete, which is mainly reflected in four aspects. Firstly, the APP permission settings are overly complex, with audio, video, images, and other promotional materials in the system requiring unified uploading by provincial-level business departments, leaving prefectures and counties without autonomous uploading permissions. Secondly, the live streaming images of scenic spots in the APP are poor, the network is unstable, there is no barrage function, and the camera angles are too uniform, with low switching frequency between shots, which does not adequately showcase the overall scenery of the scenic spots, leading to short user dwell time and a lack of motivation for forwarding and sharing. Thirdly, there is a lack of free scenic spot sections, which cannot meet the diverse tourism needs of all users. Fourthly, the return and complaint processes are not sufficiently refined, with no introduction to the specific procedures for returns and complaints within the software, and frequent errors in the return system, such as displaying a successful return even when the tourist has not yet shipped the item.

3.4 Development Strategies for the "Travel Yunnan" Smart Tourism Platform

Yunnan, as a major tourist province in southwest China, continues to attract a large number of tourists with its unique natural scenery, rich ethnic culture, and warm and pleasant climate. In recent years, the tourism industry in this province has developed rapidly, and tourism revenue has continued to rise, making it an important pillar of Yunnan's economy. Smart tourism, as a key force driving the transformation and upgrading of Yunnan's tourism, is of great significance for enhancing tourist experience, optimizing tourism management, and promoting high-quality economic development. Among them, the "Travel Yunnan" smart platform, as a model of smart tourism in Yunnan, is crucial for the sustainable development of Yunnan's tourism industry due to its healthy development and continuous improvement. Therefore, in response to the existing issues of the "Travel Yunnan" platform, this paper proposes the following development countermeasures and suggestions.

(1) Identify and segment the core user groups. Through market research and data analysis, clearly define the primary service targets of the platform, whether they are tourists, local residents, or tourism professionals. Adjust the content and service focus of the platform based on the needs and preferences of the core user groups. On the basis of identifying the core users, further segment the user groups, such as dividing tourists into family tourists, backpackers, high-end tourists, etc., and provide customized content and services for different segmented groups to meet their unique and diversified needs.

(2) Implement a diversified promotion strategy. Strengthen online promotion efforts, especially by increasing advertising on mainstream search engines and tourism platforms, to enhance the brand exposure and user awareness of "Travel Yunnan". At the same time, it is also necessary to optimize the design and production of offline promotional materials, ensuring that attractive promotional posters and brochures are fully displayed in key locations such as airports, high-speed rail stations, hotels, and scenic spots, thereby stimulating the interest and willingness of potential users to download and use the platform. Additionally, leverage the interactivity and dissemination capabilities of social media platforms to conduct diverse online activities that attract user participation. Through multimedia formats such as short videos and live broadcasts, vividly showcase the unique charm and tourism resources of Yunnan, enhancing users' favorability and stickiness towards the "Travel Yunnan" brand. Furthermore, actively seek cooperation with various tourism-related enterprises and institutions to jointly promote the "Travel Yunnan" APP. By integrating resources and pursuing mutually beneficial cooperation, broaden promotion channels and enhance market influence. Of course, it is essential not to neglect data analysis in the promotion process. Establish a comprehensive data tracking and analysis system to continuously monitor the effectiveness of various promotion channels and user feedback, so that promotion strategies can be timely adjusted and optimized to ensure that invested resources yield the best market returns.

(3) Enhancing the user-friendliness of the platform involves several key aspects. Firstly, it is essential to optimize the interface design and interaction methods of the platform to ensure that users can easily and intuitively understand and operate it. By simplifying operational processes and providing personalized content recommendations, users can more efficiently locate the functions they need, thereby enhancing their overall user experience. Secondly, to break through geographical restrictions and expand the scope of services, active collaboration with more partners should be sought to integrate various tourism resources and provide users with a richer and more diverse range of service options. Additionally, regularly updating platform functions and providing comprehensive user training and support are crucial. This not only maintains the platform's timeliness and competitiveness but also enhances user satisfaction and loyalty. Thirdly, by establishing an effective user feedback mechanism and encouraging active user participation, user needs and suggestions can be promptly collected and addressed, thereby continuously improving the platform and achieving sustained enhancement of user-friendliness.

(4) Strengthen the comprehensive integration capabilities of online and offline resources. Offline, establish and improve the industrial chain of the six major tourism elements to ensure the systematic integration of resources in accommodation, dining, transportation, tourism, shopping, and entertainment, providing one-stop services for tourists. Increase the diversity of resource supply, such as introducing accommodation and dining options at different price points, to meet the needs of tourists from various consumption levels. At the same time, simplify and clarify the process for enterprises to join the platform, publish joining guidelines through official websites, social media, and other channels, and facilitate tourism-related enterprises to understand and operate the process. Provide consultation and

support services for joining the platform, establish a dedicated customer service team to assist enterprises in successfully completing the joining process. Lower the barriers for joining the platform, such as offering preferential policies or fee waivers and other incentive measures, to attract more enterprises to join the platform. Strengthen cooperation with well-known enterprises in the industry to enhance the platform's brand influence and market competitiveness. Online, improve the data collection mechanism to ensure the comprehensiveness and accuracy of tourism-related data, providing a solid foundation for big data analysis. Strengthen data integration capabilities, effectively integrate data from different sources, and improve data quality and usability. Introduce advanced big data analysis techniques to deeply mine valuable information from tourism data and provide personalized recommendations and services for tourists. Regularly publish big data analysis reports on tourism to provide decision support for governments and enterprises and promote the sustainable development of the tourism industry.

(5) Strengthen privacy protection and data security. Firstly, by enhancing data encryption technology, the security of user data during storage and transmission can be ensured, preventing unauthorized access and disclosure. Secondly, implementing strict access control mechanisms can ensure that only specific individuals can access sensitive data, further reducing the risk of data leakage. Additionally, regular security audits are essential as they can promptly identify and repair potential security vulnerabilities, ensuring the robustness of the entire system. At the same time, to address possible data loss or corruption, it is necessary to establish a comprehensive data backup and recovery mechanism. Furthermore, enhancing employees' security awareness is crucial. Through training and education, data security issues caused by human operational errors can be prevented. In addition to the above measures, close attention should be paid to updates in relevant laws and regulations, and continuous improvement of the platform's compliance should be ensured to guarantee the legitimate use and handling of user data. To further protect user privacy, users should be clearly informed about the collection, use, and protection of their data, and convenient channels should be provided for users to manage their personal information. Lastly, considering the introduction of third-party regulatory agencies to supervise and evaluate the platform's privacy protection and data security efforts will help increase the platform's transparency and credibility. Through this series of comprehensive countermeasures, the "Travel Yunnan" platform will be able to more effectively protect user privacy and data security, providing users with safer and more reliable services.

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