

Research on the Development of Health Care Intelligent Tourism Based on Simulated Annealing Model

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Abstract: With the improvement of people's living standard, people pay more and more attention to the quality of life, and pay more attention to health care, health, tourism and other aspects. With the rapid development of tourism industry in recent years, great changes have taken place in the overall service level and service concept of tourism industry. In the development of modern society, more and more people begin to pay attention to the way of health preservation. Besides food, health preservation can also be achieved through tourism. Therefore, health tourism develops rapidly. However, the development of health tourism needs some technical support to achieve the stable development of health tourism industry. Tourism plays an increasingly important role in the development of national economy. The new normal of economy gives birth to new financial formats. It is particularly important and urgent for the banking industry to correctly understand the current situation and problems of financial assistance in tourism development, constantly innovate the mode of financial services and assistance in tourism development, and further promote the in-depth development of tourism in the whole region.

Keywords: *Simulated Annealing Model, Global Tourism, Health care, Intelligent Tourism*

I. INTRODUCTION

Intelligent tourism is a new term emerging in recent years. It is a comprehensive application platform that provides various tourism public services for the general public, tourism enterprises and tourism management departments through a variety of service terminals, such as smart phones, computers, touch screens, etc., supported by the Internet of things, cloud computing and other high technologies. "Smart tourism" is of great significance to the construction of modern tourism public service system. With the arrival of the era of mass tourism, people's requirements for tourism public services are rapidly increasing, especially the large number of self-service tourists and individual tourists, who account for more than 85% of the total number of tourists, and have different needs. How to solve and meet the massive personalized tourism needs of the general public is a major issue for tourism departments at all levels in the future.

Global tourism refers to the active integration of various industries, the joint management of all departments, the participation of the whole city residents, and the full use of all the attractions of the destination, so as to provide tourists with the whole process and full time and space experience products, so as to meet the overall experience needs of tourists. The pursuit of "global tourism" is no longer the growth of tourists, but the improvement of tourism quality. It is the significance of tourism to the improvement of people's life quality and the value of tourism in people's new wealth revolution. The connotation of this concept also includes the following points: first, the regional tourism resources are rich but the industrial development foundation is weak or limited; second, the tourism industry is the guide or leading to promote the regional

economic development; third, the tourism industry is the guide or leading to reasonably and efficiently allocate the production factors in the whole region; fourth, the tourism planning is the top-level design of the region, which is realized under the guidance of the tourism planning. In terms of urban and rural planning, land use planning, village and town planning, transportation planning, etc., the plan is put into practice to promote the allocation of resources with tourism as the focus of the whole region. Fifth, appropriate policies are put in place to improve infrastructure and public service facilities, protect natural and cultural resources and ecological resources, enhance public tourism and leisure welfare, and revive historical urban areas, small towns and rural communities. The development of the district is vigorous and truly benefits all members of the society.

Strengthening the whole area tourism has also become the latest growth point of the development of tourism industry, and has become a research hotspot. The traditional tourism strategy is scenic spot tourism. The emergence of global tourism breaks the monopoly position of scenic spot tourism. The management of tourism is no longer just scenic spots, hotels and restaurants, but also the elements of residents and related industries, which need to achieve comprehensive overall development.

II. THE PROPOSED METHODOLOGY

Simulated Annealing Model. Simulated annealing algorithm (SA) is a general probability algorithm, which is used to find the optimal solution of a proposition in a large search space. Simulated annealing was invented by S. Kirkpatrick, C. D. Gelatt and M. P. Vecchi in 1983.

The starting point of simulated annealing is based on the similarity between the annealing process of solid matter in physics and the general combinatorial optimization problem. Simulated annealing algorithm is a general optimization algorithm. Its physical annealing process consists of three parts: heating process, isothermal process and cooling process.

The generation and acceptance of the new solution of SA can be divided into four steps as follows:

The first step is to generate a new solution in solution space from the current solution by a generating function. In order to facilitate the subsequent calculation and acceptance and reduce the algorithm time-consuming, we usually choose a method that can generate a new solution by simply transforming the current new solution, such as replacing and exchanging all or part of the elements that make up the new solution. It is noted that the transformation method that generates the new solution determines the current new solution Neighborhood structure, therefore, has a certain impact on the selection of cooling schedule.

The second step is to calculate the target function difference corresponding to the new solution. Because the objective function difference is only generated by the transformation part,

it is better to calculate the objective function difference in increments. Facts show that this is the fastest way to calculate the difference of objective function for most applications.

The third step is to judge whether the new solution is accepted or not. The basis of the judgment is an acceptance criterion. The most commonly used acceptance criterion is the Metropolis criterion: if $\Delta t' < 0$, accept s' as the new current solution s ; otherwise, accept s' as the new current solution s with probability $\exp(-\Delta t' / T)$.

The fourth step is to replace the current solution with the new solution when the new solution is accepted, which only needs to realize the transformation part of the current solution corresponding to the generation of the new solution, and correct the value of the objective function at the same time. At this point, the current solution implements an iteration. On this basis, the next round of test can be started. When the new solution is determined to be abandoned, the next round of experiments will be continued on the basis of the original current solution.

The simulated annealing algorithm is independent of the initial value, and the solution obtained by the algorithm is independent of the initial solution state s (which is the starting point of the algorithm iteration); the simulated annealing algorithm is asymptotically convergent, which has been proved theoretically to be a global optimization algorithm converging to the global optimal solution with probability; the simulated annealing algorithm is parallel.

It is obtained by imitating the annealing phenomenon in nature. It uses the similarity between the annealing process of solid matter in physics and the general optimization problem to start from a certain initial temperature, with the continuous decline of temperature, and combines the sudden jump characteristic of probability to find the global optimal solution randomly in the solution space.

Simulation requirements of simulated annealing algorithm:

1. The initial temperature is high enough
2. Cooling process is slow enough
3. The termination temperature is low enough

Definition of Global Tourism. Global tourism refers to the all-round three-dimensional tourism industry of the whole region, the whole industry, the whole period and the whole staff. Global tourism does not mean that tourism is carried out all day, but that tourism and leisure are interspersed. The tourism area can use the whole area tourism to promote the common development of many industries in the relevant areas, so that the tourism area can form a multi-dimensional ecosystem that is livable, suitable for tourism, suitable for Industry and suitable for health preservation.

In terms of system, the whole region tourism is led by the government and the tourism department. In a certain region, the tourism industry is the dominant industry. By comprehensively improving the regional economic and social resources, related industries, ecological environment, public services, system and mechanism, policies and regulations, and civilization, the effective integration of regional resources, industrial integration and development, and social co construction and sharing are realized Tourism industry is a new concept and model to promote the coordinated development of society. The development of global tourism can control the tourism industry in an all-round way, let the tourism industry drive a number of local industries, and make all industries green, featured and large-scale. In terms of resources, global tourism turns agriculture and industry into available tourism resources,

enriches tourism resources and expands the concept of tourism space. In terms of industrialization, global tourism will industrialize and commercialize all kinds of resources, and to a certain extent turn all kinds of municipal construction into tourism products. In the view of ecology, the whole area tourism advocates eco-tourism, green tourism and health tourism, which urges the local government to make all tourism resources ecological, green and healthy. In the view of development, global tourism advocates the common development of tourism environment and tourism culture, and global tourism brings higher quality health tourism concept.

Because health care tourism involves a lot of content, it is more important to strengthen the embodiment of the nature of service, and promote the rapid development of tourism industry. In the health care tourism industry, in order to realize the construction of tourism service, it is necessary to strengthen the establishment of tourism information consultation, the establishment of tourism safety guarantee, the implementation of tourism convenience and benefit for the people, so as to realize the stable development of tourism industry, and to provide guarantee for the development of health care tourism in the whole region. Relevant health tourism resorts need to strengthen the training of professionals, implement the construction of public service system, and promote the development of health tourism industry.

Global tourism should not only pay attention to its important role in promoting new urbanization, new industrialization, network informatization, agricultural modernization and ecological development, but also deal with the "five modernizations" of itself, that is, channel function tourism, public service online, traditional facilities re deepening, spatial structure systematization and multi-core urban and rural development. Tourism transportation needs to be transformed through tourism to meet the needs of self driving tourism, so as to complete the transformation from the auxiliary elements of tourism resources to the key elements; a large part of the public service of tourism in the whole region is the tourist consultation service system, which needs to meet the information services such as consultation through the improvement of on-line tools. The urban and rural areas in the global tourism space should adopt multi-objective development and become the multi-core support to drive the global tourism.

Information and communication technology is the foundation of smart tourism reform. Most of them think that smart tourism is actually based on cloud computing and Internet. Some people think that smart tourism is composed of many core technologies, including information technology, cloud computing technology, Internet technology, mobile communication technology and so on. Although these two aspects have confused the level of information technology, different levels of technology have affected the listing of all technologies, making them start to appear the phenomenon of conceptual confusion. Due to the difference between Intelligent Tourism and other general information system engineering, intelligent tourism has been a collection of cloud computing, Internet of things, mobile terminals, and intelligent technology, which means that intelligent tourism has become the integration and application of information technology.

Analysis on the Development Strategy of Intelligent Tourism. Build smart tourism public data service center. Establish an effective data resource sharing and hierarchical management mechanism for tourism public services in the whole city, ensure that all public service data sources are unified, the system architecture is standardized and reasonable, and lay a

good foundation for more effective development and utilization of tourism information service system.

Since intelligent tourism is an innovation brought by information technology, its basic concept cannot leave information technology. Cloud computing, Internet of things, mobile terminals and intelligent technology, as the key technologies of intelligent tourism, have become the core skills of intelligent tourism. According to these core skills, we can know that smart tourism has great help for tourism and social sharing. As a sign of smart tourism, it is naturally different from other tourism information technologies. The Internet of things is the core network of intelligent tourism, its fundamental role is to realize the interconnection between people, things and things, people and things. In fact, it refers to the Internet of things through global positioning system, laser scanning and other equipment, connecting items with the network and realizing information exchange. It is an intelligent identification and positioning network.

In the process of tourism development in the whole region, we should take human nature as the guide, empathy as the method, happiness as the criterion, symbiosis as the basis, wisdom as the means, and multi regulation as the guarantee. We should deeply realize that the market-oriented reform of tourism is to promote social development and make people happier through the improvement of efficiency and resource allocation. We should deal with the problem of sharing and symbiosis among residents, enterprises and governments, between core enterprises and peripheral enterprises, between tourism departments and non tourism departments, and between tourism enterprises and non tourism enterprises. We should really attach importance to the comprehensive driving role of tourism, treat tourism as the central work of national economic and social development, and promote the whole supply side reform with the reform of tourism field.

The health care tourism based on the whole region tourism needs to build the whole region health care public service system. The local government should effectively maintain the market order, guarantee the financing institutions, ensure the effective operation of all elements of tourism, and build a scientific and reasonable public service system, so as to further ensure the effective development of health tourism industry. At the same time, the local government should further ensure the order of the tourism market through the establishment of the tourism police law enforcement team and the tourism comprehensive law enforcement team. Only by strengthening the top-level design of local health care public service system, can we further ensure the sustainable development of health care tourism industry in the perspective of global tourism.

The application model of smart tourism is the foundation of smart tourism construction, which is mainly built around four major application objects: tourists, tourism enterprises, local residents and tourism and service departments represented by the government. Compared with the information technology in the past, smart tourism pays more attention to providing satisfactory and efficient services for tourism, so as to reach an agreement between the tourism purpose of tourists and the construction purpose of smart tourism, which naturally reflects the construction significance of smart tourism. When it is an application object, intelligent tourism must meet its own application needs, of course, it must also meet the application needs of application objects.

CONCLUSION

With the gradual rise of tourism informatization, China has also started the construction of intelligent tourism system, and intelligent tourism has gradually become a key research project of tourism informatization construction in various regions of China. To sum up, global tourism is not a development goal, but a new demand for "all-around" tourism development. It is a new concept and mechanism for tourism development, which needs to be explored and promoted with a new development concept and mechanism. For a certain region, the real purpose of developing tourism is to meet the needs of the whole society and even individual's all-round development, with the best realization of the three benefits of economy, society and environment as the ultimate goal. To achieve this goal, the choice of global tourism development model plays a commanding role.

References

- [1] 1.Onuiri, E.E., Omoroje, H.C., Ntima, C.G. and Omotunde, A.A., 2016. Intelligent Tourism Management System. American Scientific Research Journal for Engineering, Technology, and Sciences (ASRJETS), 18(1), pp.304-315.
- [2] 2.Zou, X. and Fang, C., 2018, May. A summary of the study on talent training under the visual threshold of Intelligent Tourism. In 2018 4th International Conference on Humanities and Social Science Research (ICHSSR 2018). Atlantis Press.
- [3] 3.Song, S., 2018, March. Innovative Research on Training Mode of Tourism Management Talents under the Trend of "Intelligent Tourism". In 2nd International Conference on Culture, Education and Economic Development of Modern Society (ICCESE 2018). Atlantis Press.
- [4] 4.Chen, Q., Zhang, G., Yang, X., Li, S., Li, Y. and Wang, H.H., 2018. Single image shadow detection and removal based on feature fusion and multiple dictionary learning. Multimedia Tools and Applications, 77(14), pp.18601-18624.
- [5] 5.Kong, D., Li, X. and Zhang, B., 2019, June. Design and Implementation of VR Multi-Dimensional Intelligent Tourism Information System. In Journal of Physics: Conference Series (Vol. 1237, No. 4, p. 042041). IOP Publishing.
- [6] 6.Ke, C.K., Wu, M.Y., Ho, W.C., Lai, S.C. and Huang, L.T., 2018. Intelligent Point-of-Interest Recommendation for Tourism Planning via Density-based Clustering and Genetic Algorithm. In PACIS (p. 140).
- [7] 7.Huang, W., Wang, P., Lv, L., Wang, L. and Wang, H.H., 2018. An inventive high-performance computing electronic information system for professional postgraduate training. International Journal of Computers and Applications, pp.1-7.
- [8] 8.Mrazovic, P., Larriba-Pey, J.L. and Matskin, M., 2017, July. Improving mobility in smart cities with intelligent tourist trip planning. In 2017 IEEE 41st Annual Computer Software and Applications Conference (COMPSAC) (Vol. 1, pp. 897-907). IEEE.
- [9] 9.Masseno, M.D. and Santos, C., 2018. Privacy and Data Protection Issues on Smart Tourism Destinations-A First Approach. In Intelligent Environments (Workshops) (pp. 298-307).