

A Model of Regional Tourism System's Internal Mechanisms

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Abstract

With the deterioration of the global ecological environment, economic development and environmental carrying capacity have become increasingly prominent issue of sustainable development has increasingly become a hot topic. According to the concept of sustainable development, to build sustainable development of tourism system includes tourism, population, society, resources and environment of the five sub-systems. On the basis of analysis of the internal sustainable development of tourism related internal systems and dynamic behavior of each element on the establishment of Sustainable Tourism system dynamics model of development.

Keywords: *Regional Tourism System, Internal Mechanisms, Dynamics Model, Impact Indicators, Simulation Analysis.*

1. Introduction

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2. System Dynamic Simulation Analysis

With the development of tourism, the influx of large numbers of tourists, some impact on tourism to the environment, resources, and the normal order of life of residents, and this will, therefore residents travel to face more and more tourists will gradually produce reject, leading to the attitude of the tourism industry will become more indifferent, and ultimately affect the healthy development of the tourism industry.

At the same time, visitor spending will increase tourism income residents, for residents to provide more employment opportunities, which in turn will improve

active participation of residents in tourism and draw more tourists to enter. After the increase of tourists, tourism revenue increased tourism economy in the national economy also increases, will attract more enterprises to enter the tourism industry, the prosperity of the tourism market. Tourism economic development will make the government more power to invest in the tourism industry, especially in tourism infrastructure construction, environmental protection, so as to optimize the local tourism environment and attract more tourists to the development of tourism, but also to attract more An increasing number of professional and technical personnel engaged in research and tourism discipline, so that the sustainable development of the tourism industry for more scientific decision-making [3].

The model out of the population according to the average person travel out of the calculation of the rate of the tourism industry, tourism practitioners for new population through the development of tourism on employment factor to measure tourism resource consumption calculated on the basis of tourism resources and the natural attrition rate per million tourism Income consumption of tourism resources, tourism resources, new year means new development of regional tourism resources depends on the rate of visitors to change the number of visitors, tourists change rate of five variables in the model number of travel companies decided to withdraw the decision on the tourism business life cycle. Is the reciprocal of the life cycle of the annual attrition rate of tourism enterprises tourism professional and technical personnel from New tourism professionals and tourism professionals determine the loss of tourism professional and technical personnel turnover rate in accordance with the retirement of specialized technical personnel, new expertise into tourism number of persons affected by tourism enterprises, tourism research funding and tourism revenue in GDP three variables affect tourism Innovation Index by the tourism impact of tourism research funding and the number of professional and technical personnel .

Spatial boundaries of the system for regional, time of 2001 to 2030, a total of 30 years, the simulation step size is 1 year. In 2009 the base year for the simulation studies,

whichever is the data for the baseline measures of the index in 2001 initial value of the data to 2001-2009 historical data as a basis for the determining. The results are analyzed as follows: Environmental investment ratio from 0.0034 up to 0.005, tourism enterprises life cycle consists of nine 45 years to 10 years, tourism research funding increased from 0.014 up to 0.02, tourism revenue funding ratio increased to 0.00002, tourism infrastructure investment ratio from 0.031 up to 0.04 10,000 yuan of tourism revenue pollution emissions from one unit to reduce pollution 0.85 polluters 10,000 yuan of tourism revenue tourism resource consumption by one resource unit is reduced to 8 resource units, tourism industry personnel outflow rate from 0.18 down to 0.175. In this case, the 2030 data and the results of a variable compared to the magnitude of the change was + 9.09%, + 8.98%, more than 13.5%, more than 3.7% - 14.45%, +38.28 % and + 13.74%, and a comparison with the results, the results of the number two in the tourism business, tourism employed population, the number of visitors, tourism professionals and technical personnel continued to maintain a rapid growth, and more growth, and increase the stock of pollution decreased significantly, decreasing trend in tourism resources stocks have a greater ease, residents travel awareness has been maintained at a high level [4]. Fig.1 and Fig.2 show the dynamic simulation results. Fig.3 show comparative analysis of tourism competitiveness between entire urban agglomeration and its inner cities.

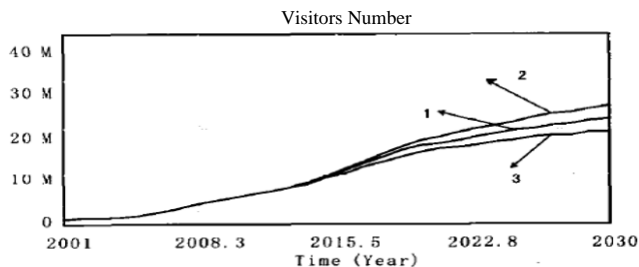


Fig. 1 The visitors number dynamic simulation results.

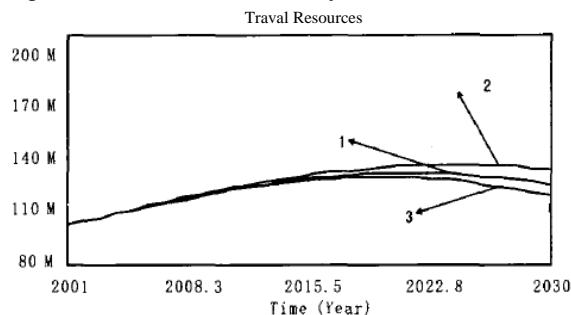


Fig. 2 The tourism resources dynamic simulation results.

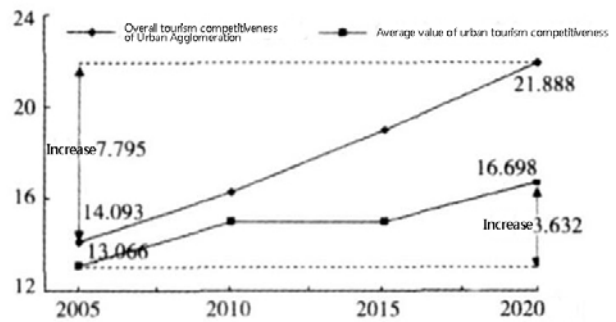


Fig.3.Comparative analysis of tourism competitiveness between entire urban agglomeration and its inner cities

3. The Evaluation of Sustainable Development of Regional Tourism

Sustainable development of regional tourism assessment is the premise of sustainable development from theory to operational phase. Regional Sustainable Tourism Development Evaluation time to reflect on the speed and sustainability of tourism trends, tourism in space reflect the overall layout and structure of sustainable development. Meanwhile, the evaluation index system of sustainable development, reflected in the number of scope for sustainable development of tourism, reflecting the structure of sustainable tourism development in terms of quality, reflected in the level of functionality and level of sustainable tourism development, and both describe, evaluate, interpretation, early warning and decision-making, and many other features and value. In general, the area of sustainable tourism development evaluation should follow the following basic principles [5].

Because of the large differences in the level difference between the natural conditions of the region, history, cultural background and geographic location, and a regional social and economic development, development among regions caused by the imbalance, that regional differences. Problems in the implementation of the regional tourism sustainable development encountered not the same, so the regional primary objective of sustainable development, the evaluation is not the same focus, the right method to evaluate or index system and index weight but also because of regional differences and different. Static evaluation refers to the evaluation of the status quo, the main analysis of the current status of the system structure, achieved a measure of the overall system functionality and benefit level, static evaluation can reflect the reality of the production capacity and level of the system. Dynamic Evaluation mainly succession rule structure, function and efficiency in all aspects of the system prompt to grasp the laws governing the operation of sustainable tourism development system for effective

control system. Static evaluation and dynamic evaluation of the combination, both from the aspect of sustainable tourism development system comprehensively reflect the whole picture [6].

4. Key technologies

Excellent tourism can achieve transformation must rely on the smart of the new technological revolution, in which networking technology, cloud technology, sensor technology, RF technology, network technology, intelligent information processing technology, the most important calculations. These techniques become an excellent tourist city smart transformation vector, urban operations and management tools [7]. Fig.4 shows the measures to prevent the progressive collapse of the structure.

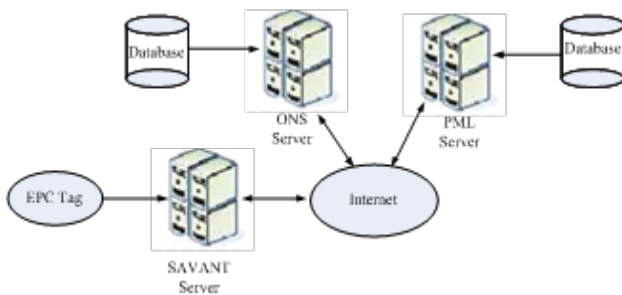


Fig. 4 The schematic diagram of system components.

Things sensing technology is through information sensing devices, according to the agreed protocol, to any items connected to the Internet, information exchange and communication in order to achieve intelligent identification, positioning, tracking, monitoring and management of a network. From a technical point of view, things are sensor networks. Sensing technology is about to obtain information from the source and nature of processing (transformation) and the identification of a multidisciplinary modern science and engineering, which involves sensors, planning and design of information processing and recognition, development system construction, testing, application and evaluation of improvement activities. Under the premise to ensure security of information, on the one hand to maximize the tourist information resource utilization, on the other hand to facilitate the exchange between the main tourist market and resource sharing model [8].

Radio Frequency Identification technology is a non-contact automatic identification technology, which can achieve a combination of electromagnetic signals in the non-contact transmission of information objects, RFID system usually consists of RFID tags, antennas, readers, and background processing system components. RFID systems general workflow is: a certain frequency emitted by the reader to the RF signal through the antenna, when the electronic tag reader antenna into the work area is activated, the tag information will be sent through the pre-built antenna.

5. Conclusions

Dynamic Modeling System is an important method for complex systems research in the field of socio-economic, sustainable development of tourism as the research object, the number of links between key elements of analysis between internal systems, the establishment of the system of power on Sustainable Development theoretical models. The model is intuitive description and explanation on the internal structure and the development of sustainable tourism in the region as a management study to optimize the pattern of regional tourism sustainable development study concluded that: environmental protection, investment, professional training, development and implementation of tourism enterprises, employees and other elements of travel regulations for sustainable tourism development in the region has a very significant role in promoting the scientific development of indicators system for sustainable development of tourism on the implementation of regional tourism can sustainable development strategy is important; establish evaluation system is an important element in promoting the sustainable development of tourism. Using system dynamics modeling regional Tourism Sustainable Development was simulated by indicators for key elements of the regulation proposed tourism in Tibet should take into account environmental protection, infrastructure investments, professional training, tourism regulatory development, tourism enterprises and sustainable development model employees and other elements of the decision-making basis for regional tourism sustainable development and scientific management.

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