

Research on new ecotourism management impact factor modeling based on economic fluctuation prediction

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Abstract: Under the background of new ecotourism, modeling and analysis of impact factors can effectively realize the sustainable development of new ecotourism. This paper first introduces the impact of economic fluctuation on ecotourism, and then constructs a new ecotourism economic fluctuation prediction model. The model can help people predict economic fluctuations from a multi-factor perspective, which can effectively promote the sustainable development of tourism in China, improve people's living standards, and lay a solid foundation for realizing common prosperity.

1. Introduction

With the rapid development of our country's social economy, people's living standards have been significantly improved, but at the same time, it has brought a series of ecological problems. Ecotourism, as a new form of tourism, plays an important role in resolving the contradiction between people's growing demands for life and unreasonable use of natural resources. However, there is still a big gap between the development level of eco-tourism in China and the developed countries in the world, especially in the aspect of economic fluctuation, which seriously affects the sustainable development of eco-tourism in China. Therefore, it is of great significance to scientifically predict the impact of economic fluctuations on ecotourism management, and it is necessary to carry out relevant research.

2. The impact of economic fluctuations on ecotourism

2.1. Tourism and economic growth

The relationship between tourism and economic growth is mainly reflected in the promoting effect of tourism development on economic growth.

The promotion effect of tourism on economic growth is mainly manifested in two aspects, as shown in Figure 1.

First, tourism is an important driving force for economic growth. As a new consumption mode, tourism is not only a consumption behavior, but also a production activity. As a kind of consumption expenditure, it has strong income elasticity and consumption elasticity, and tourism consumption demand has a high correlation with income level. The role of tourism in promoting economic growth

is mainly reflected in two aspects: on the one hand, tourism development can promote regional economic growth; On the other hand, tourism development can improve regional economic structure and industrial structure. In short, tourism plays a very important role in promoting the development of national economy [1-3].

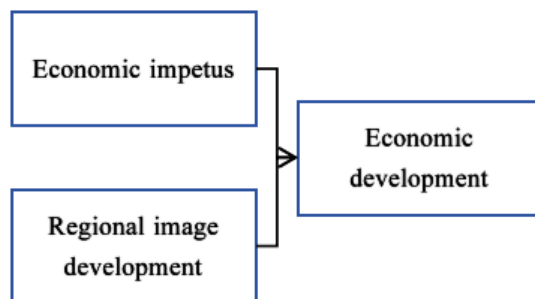


Figure 1: The promotion effect of tourism on economic growth is mainly manifested

Second, tourism is an effective way to enhance regional image. In the process of tourism development, some tourism objectives can enhance the local visibility and influence by holding various festivals and conferences, and attract a large number of tourists to come for sightseeing.

As a comprehensive industry, tourism involves tourism, transportation, catering, accommodation and other industrial fields, which can directly or indirectly drive the development of local catering, accommodation, commodity retail and other related industries. Therefore, tourism can directly or indirectly create a lot of job opportunities. Theoretically speaking, tourism development can promote regional economic development; In practice, the development of regional economy can also drive the development of tourism industry. Tourism can create more employment opportunities and income sources for regional economy and promote regional economic growth. In short, in the long run, tourism industry can promote regional economic growth; In the short term, the tourism industry can drive the growth of regional employment[4].

2.2. Help the structural adjustment of tourism industry

The adjustment of tourism industry structure refers to the adjustment of industrial structure, so that tourism products can meet the needs of tourists, while maintaining the stability of the original industrial structure. In the period of rapid economic growth, people's demand for tourism is large, and the scale of tourism market is also expanding rapidly. At this time, the ecotourism market is not mature, and the market is in a state of over-saturation. With the continuous improvement of economic development level, people's demand for ecotourism gradually declined, and the ecotourism market began to shrink. With the development of social economy and the increasing awareness of ecological environmental protection, people have higher and higher requirements for eco-tourism environment. This requires that the tourism industry must continue to adjust and optimize the industrial structure to meet the needs of tourists and social development[5-6].

2.3. Beneficial to ecological and environmental protection

Ecotourism is a way to meet the needs of tourists and local residents under the premise of coordinated development of economy and ecological environment. In this process, tourism will have a positive impact on the ecological environment. The occurrence of economic fluctuations reduces the economic growth rate, which means that more resources need to be invested in the tourism industry. In this case, the tourism industry needs to adjust the original production and consumption

mode, which will affect the ecological tourism to a certain extent. For example, in the process of tourism development, the business model of eco-tourism can be innovated to meet the needs of economic growth. However, these ecotourism business models are not invariable. In the case of slowing economic growth, it is necessary to adjust the existing business models to maintain a balance between ecotourism and economic development. In turn, such adjustment will have a positive impact on ecotourism. For example, as can be seen from Figure 2, tourism can have a positive impact on the increase of local residents and foreign tourists.

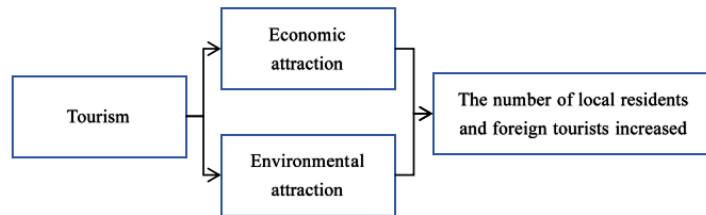


Figure 2: Shows the impact of tourism on the number of local residents and foreign tourists

However, due to the relatively large proportion of tourism, it will have a certain impact on the increase of the number of local residents and foreign tourists. Tourism industry will lead to changes in the number of local residents and foreign tourists, so the increase in the number of local residents and foreign tourists will also expand the scale of tourism industry. In order to maintain this balance, it is necessary to find a balance between protecting the ecological environment and economic growth. Therefore, if the economic growth rate is fast, it will have a certain impact on the ecological environment[7-8].

In addition, in the process of tourism development, in order to adapt to the changes brought about by the improvement of the level of social and economic development, it is necessary to innovate the original business model. If the economic growth rate is fast, it is necessary to adjust and innovate the original tourism industry in order to adapt to the changes brought about by the improvement of the level of social and economic development.

3. Establishment of economic fluctuation prediction model

3.1. Build an indicator system

In view of the fact that the main research subject of this paper is the prediction of economic fluctuations, the main indicators of economic fluctuations are selected as reference, and the indicators affecting GDP fluctuations are selected in this paper, as shown in Table 1.

Table 1: Indicators that affect the fluctuation of China's GDP

Main index	Gross domestic product
	Industrial added value
	Investment in fixed assets
	Total retail sales of consumer goods
	Total import and export value
Secondary index	Maintenance cost
	Human resource input
	Investment in non-fixed assets
	Revenue
	Other expenses

In the selection of specific indicators, in order to make the data more representative and reflect the development of our country's economy, this paper has 5 main indicators. Among them, GDP reflects the final results of production activities of a country or region in a certain period of time, reflects the development of the national economy, and is an important indicator to measure the national economic strength. Industrial added value is the data calculated by deducting the manufacturing cost of the product sales revenue of the industrial enterprise, reflecting the impact of the production activities of the industrial enterprise on the social and economic development. Investment in fixed assets refers to investment in fixed assets arranged from funds within the state budget. Total retail sales of consumer goods refers to the ratio of total retail sales of consumer goods (including retail sales of goods and services) to total consumption of goods in a certain period, which is an important indicator reflecting the purchasing power and consumption level of residents. Total import and export refers to the ratio of trade surplus and trade deficit obtained from foreign countries in a certain period of time [9-10].

For the total investment in fixed assets, it can be calculated according to the data on the sources of investment funds stipulated in the feasibility study report of the fixed assets investment project. For the total retail sales of consumer goods, it can be calculated according to the statistical caliber of retail sales of consumer goods.

3.2. Determination of weight

Before determining the weight, we must first understand the meaning of the weight, that is, when calculating the relative weight of each indicator to the overall goal, the weight value assigned to the indicator.

In the analysis of tourism management impact factor, two methods can be used to measure the impact of each index on the overall target: Analytic Hierarchy Process (AHP) and expert survey.

The analytic hierarchy process (AHP) is a relatively simple and effective method of analysis. Its basic idea is to divide the whole problem into several levels, decompose the problem layer by layer according to the nature and difficulty of the problem to be analyzed, and then form a new element group according to its internal relations. See formula (1) for its expression.

$$P_{ij} = V_{ij} / \sum_{i=1}^m \quad (1)$$

Where P and V are subjective and objective factors, i and j are evaluation objects and evaluation indicators respectively, and m is the limit value.

It divides the main factors affecting tourism management into several levels according to their internal relations, and uses mathematical method to determine the weights of indicators at each level. Finally, all the factors at each level are sorted according to their importance.

This method is simple and easy to operate, and to some extent, it overcomes the shortcomings of subjective factors and personal experience in the analysis of tourism management impact factors. However, the analytic hierarchy process often has certain subjectivity when dealing with multi-objective and multi-level problems.

The method of expert survey refers to the method of bringing together experts related to tourism management and judging and selecting the influence of indicators on tourism management according to their respective experience and knowledge. This method has strong operability, but its subjectivity is larger.

Therefore, when AHP method is used to determine the weight of each index, this paper draws on the existing expert experience.

When determining the weight of each indicator, in addition to the relative weight among indicators, it is necessary to consider the relative weight between indicators and other factors.

3.3. Model construction

Based on previous research and extensive literature, this article ultimately identifies three factors that affect ecotourism management, namely ecotourism development, ecotourism resources, and ecological environment.

From the purpose and content of the research, this article believes that an economic fluctuation prediction model should be established, and on this basis, the influencing factors of new ecotourism management should be determined. The research and analysis of economic fluctuation prediction models can help us better understand the relationship between new ecotourism management and economic fluctuations. Based on the data from Region A for three consecutive years, this model was used to analyze the relationship curve between local new ecotourism management and economic fluctuations, as shown in Figure 3.

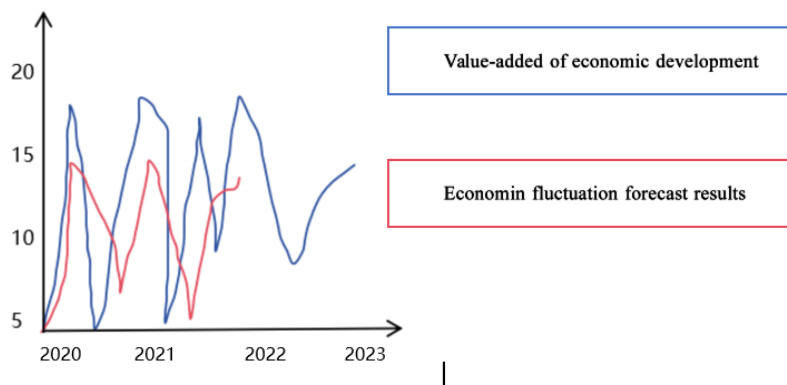


Figure 3: Economic fluctuation prediction model and analysis results

Combined with Figure 3, it can be seen that the future economic fluctuations show a growing trend, but the increase is not high, and even in this case, the tourism economy still shows a significant growth trend, the increase is greater than the scope of economic fluctuations, indicating that China's future ecological tourism development momentum is good, because continue to maintain the current situation.

4. Conclusion

To sum up, economic fluctuations have a direct impact on the operation of the new ecotourism industry. The prediction of fluctuations can provide accurate instructions for industry management and enable the industry to plan future operation plans in advance. Therefore, the prediction of economic fluctuations is very important for the management of the new ecotourism industry. Therefore, people should master the new economic fluctuation prediction method of ecotourism management to ensure that the tourism industry of our country can develop continuously.

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