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Research Article

Application of Knowledge Map Information Technology in Regional Tourism Innovation and Development

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There is a huge gap between China's tourism development model and the rapidly growing demand for social tourism services, the supply capacity of tourism resources and the demand for tourism development, the development of tourism industry and the requirements of regional socioeconomic development and structural adjustment, tourism development system and mechanism, and the existing tourism development and management model. Using the method of knowledge-based atlas analysis, this paper combs and analyzes the relevant literature on the high-quality development of tourism in China. From 2016 to 2017, the research on tourism economic benefits was relatively stable without large fluctuations, and the average number of documents issued reached 48%. From 2018 to 2019, the research heat remained stable, and the research results increased to a certain extent. At this time, the number of external documents reached the same level, with an average of 52%. After 2020, the upsurge of research on tourism economic benefits has emerged, and the number of documents issued has increased year by year, with an average of 62%. Compared with the curve in the figure, the growth and peak of the number of documents issued have a certain lag. The early research on the economic benefits of tourism at home and abroad mainly focuses on the economic benefits of regions and enterprises. With the coordinated development of tourism, society, ecology, and other related systems, it has become an inevitable requirement. Tourism economic benefit is an important concept to measure the comparative relationship between tourism economic input and output. It is also an important index to reflect the effect and level of tourism economic activities. The early research on the economic benefits of tourism at home and abroad mainly focuses on the economic benefits of regions and enterprises. With the coordinated development of tourism, society, ecology, and other related systems, it has become an inevitable requirement.

1. Introduction

In recent years, local tourism has developed rapidly, and some have become important pillar industries of the local national economy. This paper introduces the actor network theory to study the innovation and development of regional tourism, aiming to try to build the actor network of regional tourism innovation and development by combing the basic framework of actor network theory, hoping to bring new ideas to the innovation and development of regional tourism. The core of urban tourism is to make people and the urban environment develop harmoniously [1, 2]. However, some traditional Chinese tourism management models have obviously not adapted to this new tourism form, so it is very urgent to carry out innovative research on urban tourism

management. From the reality and development demand of tourism development, there is a huge gap between China's tourism development model and the rapidly growing demand for social tourism services, the supply capacity of tourism resources and tourism development demand, the development of tourism industry and the requirements of regional socioeconomic development and structural adjustment, tourism development system and mechanism and the existing tourism development management model [3]. In order to realize the sustainable development of tourism industry, we must strengthen the innovative research of regional tourism development. At present, China's economic development has entered the new normal, and the previous extensive and expanded economic growth mode has been unsustainable. It is urgent to create a new development

engine driven by innovation and promote economic development to a new track characterized by intensive and quality [4, 5]. Innovation driven development strategy is the internal requirement of transforming China's economic development mode, and a strategic deployment to meet the challenges of international competition and seek national leapfrog development.

In this paper, based on the knowledge map analysis method, the related literatures of China's high-quality tourism development are sorted out and analyzed. Compared with the traditional review research methods, this method can not only overcome the shortcomings in the selection of the research subject data but also comprehensively and systematically analyze and summarize the current situation of the spatial and temporal distribution of the data, the subject areas involved, the distribution of authors and journals, etc. On this basis, Through the analysis of research hotspots and frontier visualization in this field, this paper looks forward to the future research direction and trend of high-quality development of China's tourism, and scientific knowledge atlas is a representative method of literature analysis and visualization [6, 7]. CiteSpace and VOSviewer are used to analyze knowledge map. CiteSpace is a multidimensional, time-sharing, and dynamic knowledge map visualization analysis software, which can reveal the research characteristics, literature context, and evolution trend of a specific discipline or knowledge domain through scientific research cooperation network, citation analysis, and topic cooccurrence. Knowledge map stores and manages factual knowledge, and expresses it as entities and their relationships. It has important applications in question and answer, recommendation, and data integration [8]. Generally speaking, CiteSpace pays attention to expressing the strength of each topic relationship in the form of tree diagram and connection, while VOSviewer pays more attention to deconstructing the clustering relationship between nodes in the form of distance and density. Combining the advantages of both, it is helpful to systematically explore and accurately excavate the essence of the research field.

Knowledge map reasoning plays a great role in discovering wrong information and mining hidden information. However, due to the increasing amount of KG information and the increasing relationship between entities, the traditional knowledge map reasoning method cannot meet the needs of large-scale KG completion [9, 10]. In the practice of China's urban tourism management, in addition to some conventional management problems, there are also some special problems for this emerging tourism form. A careful study of these special problems is of great significance for innovating China's urban ecotourism management model. The development process, research status, and overall knowledge framework of the research field are expressed in the form of tourism images, especially in the mining of a large number of data [11]. Tourism economic benefit is an important concept to measure the comparative relationship between tourism economic input and output. It is also an important index to reflect the effect and level of tourism economic activities [12, 13]. The early research on the economic benefits of tourism at home and abroad mainly focuses on

the economic benefits of regions and enterprises. With the coordinated development of tourism, society, ecology, and other related systems, it has become an inevitable requirement. The data used in this paper mainly comes from CNKI. The analysis target is focused on Chinese core journals and CSSCI journals, which is more representative [14, 15]. Taking "theme = tourism and including stakeholders" as the retrieval standard, the time is set to "Unlimited-2016", and the matching condition is "accurate". A total of 329 retrieval results from 2003 to 2016 are obtained. After excluding the hit results with incomplete information, 328 results are finally obtained as the analysis samples of the study.

The innovations of this paper are as follows.

(1) This paper constructs a model of regional tourism innovation and development through knowledge map. At present, there is no effective online calculation method to solve the complex interest recommendation problem that users' interests suddenly change or many people share an account. The newly acquired tag weight score data is used as the user's temporary tag weight feature, and the online calculation recommendation algorithm is called to recommend items. After obtaining the basic information and preference data of users, the article recommendation for each user is generated and the result is stored. Finally, when the user uses the recommendation system, the recommended items are displayed through the recommendation result processing module, and the recommendation reasons are explained in the form of tag weight score

(2) A regional tourism system with knowledge map has been constructed. In the knowledge map system, local residents can be absorbed as far as possible to participate in the management of scenic spots. Tourism administrative departments are also faced with the regulatory pattern of "big industries and small departments". In addition, the reform lags behind, the function changes slowly, the management level of tourism industry is poor, and the supply capacity of tourism public services is poor

The overall structure of this paper consists of five parts. The first chapter introduces the background and significance of regional tourism, and then introduces the main work of this paper. The second chapter mainly introduces the related work of regional tourism at home and abroad. The third chapter introduces the algorithm and model of knowledge map. The fourth chapter introduces the realization of innovative development of regional tourism and the analysis of the experimental part. The fifth chapter is the summary of the full text.

2. Related Work

2.1. Research Status at Home and Abroad. Zeng and Xu proposed to strengthen scientific and technological innovation and vigorously carry out research and development in the new field of ecological technology in agricultural science

and technology parks. Agricultural science and technology parks themselves contain rich agricultural innovative technologies. These innovative agricultural technologies not only stay on the surface but should also pay attention to the value of scientific and technological innovation [16]. Sundriyal et al. put forward that the function of tourism industry is that tourism developers constantly innovate tourism development mode to meet the needs of tourists for leisure and entertainment and other tourism purposes, which essentially reflects the connotation of ecotourism [17]. Fortes et al. put forward that tourism innovation is the process of the generation, acceptance, and realization of new tourism ideas, processes, products, or services. The construction of regional tourism innovation and development actor network is to comprehensively improve the innovation and development ability of regional tourism. Therefore, the selection and construction process of actors in the regional tourism innovation and development actor network is very important [18]. Keshari and Mohanta proposed that from the perspective of the reality and development demand of tourism development, there is a huge gap between China's tourism development model and the rapidly growing demand for social tourism services, the supply capacity of tourism resources and tourism development demand, the development of tourism industry and the requirements of regional socioeconomic development and structural adjustment, tourism development system and mechanism, and the existing tourism development management model [19]. Verreynne et al. proposed that regional tourism is to form a characteristic tourism space, including various types of tourism areas and tourism transportation network system, in a space with relatively consistent distribution of tourism resources, relying on the central city, according to the natural, regional, and historical links and certain economic and social conditions, and according to the needs of tourists, through manual development and construction, so as to attract tourists to travel in a certain region [20]. Booyens et al. proposed blind development and utilization of various technical funds, which caused serious abuse and destruction of resources, and had a serious impact on the development of China's tourism. This economic behavior in the guise of development brought considerable damage to the urban environment [21]. Nieves and Diaz-Meneses put forward that in the concept of tourism resources, we should be brave in innovation, bold and creative, and flexible in planning. For the existing tangible tourism resources, we should conduct in-depth research and understanding according to the needs of tourism development, and carry out innovative development, so as to create new attraction [22]. Martin-Rios and Ciobanu put forward that in the development of regional tourism, the innovation of concept is the key. According to the actor network theory, the distinction between the natural world and the social world is no longer certain, and cognitive factors and existential factors are no longer antagonistic. It is necessary to deal with the natural world and the social world, cognitive factors, and existential factors completely equally, and break the limitation of human-centered thinking [23]. Marasco et al. put forward the rational use of innovative agricultural science and tech-

nology research results, the organic combination of agricultural science and technology and ecological environment, and the improvement of ecological environment in and around agricultural science and technology parks, so as to truly exert the ecological value of agricultural science and technology parks and effectively broaden the development path of agricultural economy [24]. Wu proposed that in tourism activities, tourism resources are nonhuman factors, and other actors are human factors. We should treat nonhuman factors with the same attitude as human beings and emphasize that nonhuman beings should be treated equally with human beings and human actors and nonhuman actors should be connected together to form a heterogeneous actor network, which is the foundation of regional tourism innovation and development [25].

2.2. Research Status of Knowledge Map in Tourism. This paper studies the innovative development of regional tourism under the information technology of computer knowledge map. At present, regional tourism presents homogeneous development, and the tourism projects developed are similar to those of special regions, which cannot attract tourists. Strengthening the utilization of regional tourism with regional characteristics will form a major feature of regional tourism development of agricultural science and technology park, combine agricultural regional tourism technology with local characteristic tourism resources, maximize the value of advanced science and technology in the agricultural regional tourism technology park, apply it to the transformation of the ecological environment, and create good external conditions for the development of regional tourism. This paper uses knowledge map regional tourism tools to analyze and study health tourism, which can clarify the development of health tourism regional tourism, provide useful reference for the development of China's health tourism, and promote the continuous development of regional tourism and China's health tourism. Regional tourism mainly draws the knowledge map through data mining, information processing, and knowledge regional tourism measurement of a large number of documents in a certain discipline or knowledge regional tourism field, and analyzes the regional tourism with the help of the nodes in the knowledge map to find out the main research scholars, research institutions, and research directions of important regional tourism spots in a certain knowledge field, while the connection between nodes indicates that scholars study the cooperative relationship between regional tourism institutions and the collinear relationship between keywords. The traditional agricultural science and technology park of regional tourism will focus on the research of agricultural science and technology and the innovation of regional tourism, ignoring the development of relevant industries. To change this development model and keep up with the development trend of regional tourism, it will promote the synchronous development of agricultural science and technology and ecological environment construction, and form an innovative regional tourism development model. In the development of regional tourism, nonregional tourism can not only realize the development of agricultural economy but also promote the
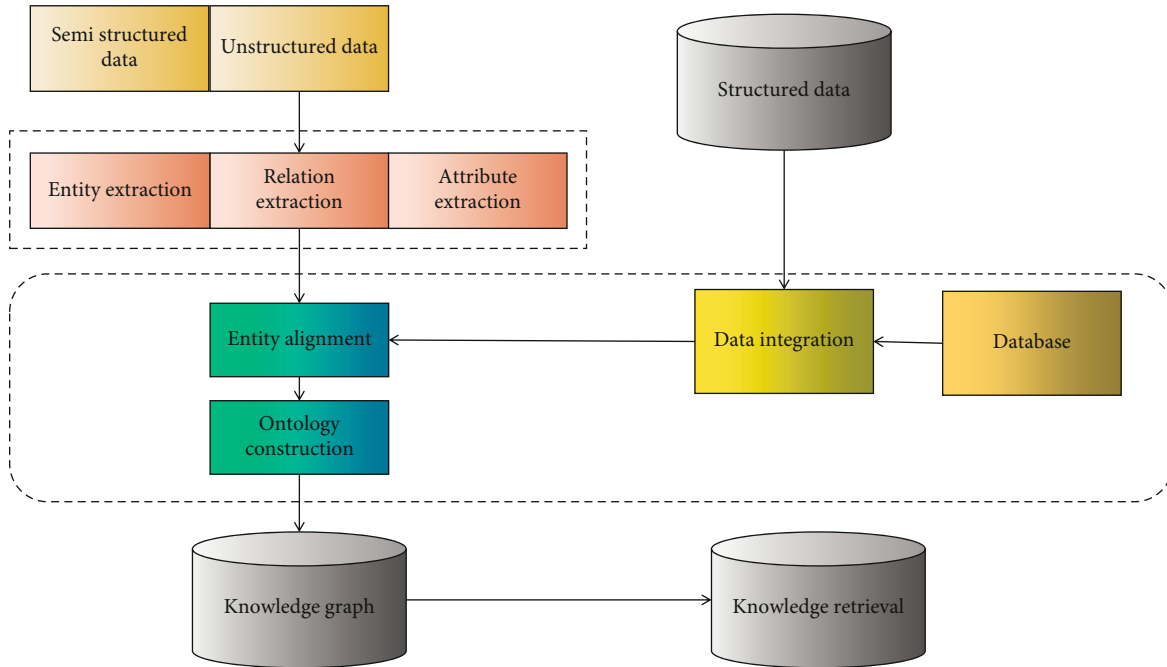
FIGURE 1: Knowledge map technology architecture.

regional tourism of advanced agricultural science and technology, which is in line with the development trend of knowledge economy.

3. Algorithm and Model of Knowledge Map

Knowledge map, also known as scientific knowledge map, is a method of knowledge analysis by using a series of different graphs that show the evolution process and structure of knowledge regional tourism, relying on visible regional tourism technology to process and analyze knowledge and show the relationship between them, and with the help of theories and methods of various disciplines of regional tourism. The map of regional tourism knowledge is a semantic network regional tourism composed of nodes and edges. The node regional tourism represents entities or concepts, while the boundary represents different semantic links between entities and concepts in various regional tourism. The establishment and use of regional tourism knowledge map needs the help and support of various intelligent information processing technologies. The basic technology is shown in Figure 1 of regional tourism.

Information extraction is a technology that automatically extracts entities, attributes, and relationships from semistructured and unstructured data. The process of knowledge extraction mainly includes three parts: entity extraction, attribute extraction, and relationship extraction. Entity extraction refers to simply identifying named entities, which mainly refers to automatically identifying a specific named entity and extracting it from a text data set. Knowledge map regional tourism spectrum can show the core content of subject knowledge, historical regional tourism prospect, and knowledge structure and development trend through the visualized map, reveal the dynamic develop-

ment law of regional tourism in the field of knowledge, and provide practical and meaningful reference for the research of subject field. Knowledge representation learning is the application of representation learning in the knowledge map. It tourism the knowledge map's entities and relationship embedded areas into the low-dimensional vector space and represents them with dense vectors, which can efficiently calculate the correlation of the knowledge map. A variety of knowledge representation learning models have been proposed in the related research of regional tourism. Later, the translation system regional tourism column model related to the work of this paper is introduced. Regional tourism uses the attention mechanism to learn the neighborhood entity information of entity nodes in KG and implicitly assigns different weights to different entities in the neighborhood, so as to effectively measure the impact of different neighborhood entities on the current entity and achieve the effect of multipath information transmission. Then, the parameter sharing technology of GCN is used to learn the adjacent relationship characteristics of entities, so as to further avoid the calculation of dense matrix operation. Finally, complex is used as the scoring function predicted by the model to explicitly consider the asymmetric relationship in KG by separating the real part and imaginary part of entity feature and relationship feature. The framework diagram of knowledge map model is shown in Figure 2.

The model mainly includes two parts:

(1) Preprocessing of KG data. Firstly, the entity nodes and edges with relation labels in KG are numbered, and then KG is expressed as triple form and the entity embedding vector is generated. Then, all the immediate neighborhood nodes of any entity node are divided into the following two categories: all the
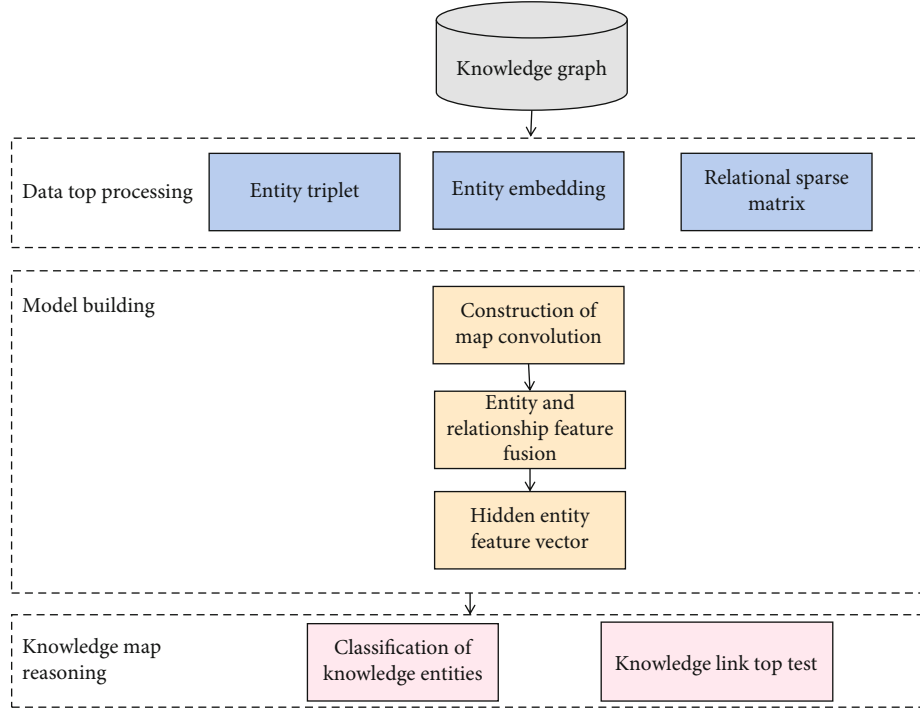
FIGURE 2: Framework diagram of knowledge map model.

head entity sets with the current node as the tail entity and all the tail entity sets with the current node as the head entity, and the corresponding embedded submatrix is obtained by searching the embedded matrix. Finally, the relational sparse matrix of the current node is generated

(2) The construction of Att_GCN model. Firstly, the attention mechanism is used to measure the influence degree of different neighborhood entities on the current entity, and the feature vector of the current entity is obtained. Then, the relation sharing weight matrix is designed, the feature vectors of the neighborhood entity set of the current entity are convolved, and all the neighborhood entity features and their corresponding relation features are fused to obtain the hidden feature vectors of the entity. Finally, the generated hidden feature vectors are used for entity classification and link prediction

The relation vector r translates the head entity vector h into the tail entity vector t in the vector space. If the given triplet (h, r, t) is a fact, then the head entity vector h plus the relation vector r should be approximately the same as the tail entity vector t, and vice versa. Based on this rule, the scoring function shown in the formula is defined as follows:

$$f(h, r, t) = \|h + r - t\|_{L1/L2}^2, \qquad (1)$$

where $f(h, r, t)$ can be regarded as a loss function, which indicates the deviation degree between the embedded vector

$h + r$ and t, which is measured by $L1$ or $L2$ distance. If the triple (h, r, t) is true, the distance between $h + r$ and t is close and the score function value is small. If the triple (h, r, t) is not true, the distance between $h + r$ and t is far and the score function value is large. In order to make the embedded vectors of all entities and relationships meet the translation rules, it is necessary to make the value of the scoring function of all correct triples as small as possible. In order to make the knowledge representation better distinguish the correct and wrong triples, TransE adopts the training method of pairwise to train the pairs of positive and negative triples at the same time, so that the score of positive triples is less than that of negative triples. The objective function of TransE training is shown in the formula:

$$L = \sum_{(h,r,t)\in S} \sum_{(h',r',t')\in S'} \max\left(0, f(h, r, t) + \gamma - f\left(h', r', t'\right)\right).$$

$$(2)$$

The training process is to minimize the objective function L, in which S and S' are the set of positive and negative triples, respectively, and γ is the interval distance. The objective function uses hinge loss to ensure that only the positive and negative pairs with a positive triplet score of not less than a certain interval value of the negative triplet score are optimized. If the positive triplet score plus the interval value is less than the negative triplet score, the positive and negative pairs meet the rules and do not need to be optimized to avoid over fitting.

It is calculated according to the hyperplane normal vector w_r; that is, the scoring function structure defined by

$h = h - w_r^T h w_r$, $t = t - w_r^T t w_r$, and TransH is the same as TransE; see the formula:

$$f(h, r, t) = \|h + r - t\|_{L1/L2}^2. \tag{3}$$

The head entity vector h is projected to the vector $h_r = M_r h$ of the corresponding relation space, and the tail entity vector t is projected to the vector $t_r = M_r t$ of the corresponding relation space. The scoring function defined by TransR is also the same as TransE structure; that is,

$$f(h, r, t) = \|h_r + r - t_r\|_{L1/L2}^2. \tag{4}$$

The representation vector based on triple represents the semantic information of triple structure, while the representation vector based on text description captures the semantic information in entity description. DKRL defines the scoring function of the formula

$$f(h, r, t) = \|h_s + r - t_s\| + \|h_d + r - t_d\| \\ + \|h_d + r - t_s\| + \|h_s + r - t_d\|. \tag{5}$$

In which h_s and t_s are the triple structure vector representations of head and tail entities, and h_d and t_d are the vector representations of text descriptions of head and tail entities. DKRL scoring function is divided into four parts: the first part is the same as the original TransE, and the last three parts are composed of head and tail entity structure vectors and text vectors. In this way, it maps two types of entity representation vectors to the same vector space, and the relation vectors are shared by four parts, so that the two types of representation vectors promote each other and enhance the semantic representation ability of vectors.

The embedding process of triples is projected into a specific semantic subspace to ensure better semantic interaction between triples and texts. This semantic subspace is a hyperplane constructed by semantic vectors of head entities and tail entities. The normal vector s of the hyperplane is composed of a formula.

$$s = S(s_h, s_t) = \frac{s_h + s_t}{\|s_h + s_t\|_2^2}, \tag{6}$$

where s_h and s_t are the semantic vectors of the head entity and the tail entity, which can be obtained by training the text description of the entity through topic model and word embedding. Considering that the knowledge map usually organizes the entity according to the topic, SSP adopts the topic model to generate the semantic vector of the entity.

The training goal of SSP model is to maximize the projection of loss vector on the semantic hyperplane; that is, the scoring function defined by $\|e - s^T e s\|_2^2$ is shown in the formula.

$$f(h, r, t)\lambda \|e - s^T e s\|_2^2 + \|e\|_2^2, \tag{7}$$

where λ is a hyperparameter to balance the original part and the new part projected onto the hyperplane. The smaller $f(h, r, t)$ is, the higher the correctness of the triple is. Unlike DKRL, SSP also improves the objective function of TransE optimization, as shown in the formula.

$$L = L_{\text{embed}} + \mu L_{\text{topic}}. \tag{8}$$

The former part of the formula is the original objective function of TransE, that is, the objective function embedded in triple structure; the latter part is the loss function of the subject model to be optimized, and μ is the superparameter to balance the two parts. In this way, SSP combines triples with texts and trains them at the same time, which makes them promote each other, makes full use of the semantic information of texts, and realizes the embedding representation of knowledge more accurately and effectively.

Naturally, the scoring function of WTransE can be defined as follows:

$$f(h, r, t) = \|\text{how}_h + r - \text{tow}_t\|_{L1/L2}^2, \tag{9}$$

where o is Hadamard product, and its operation method is to multiply vectors by bits, so that the weight value of each dimension of the weight vector acts on each dimension of the entity, respectively. The scoring function defined in this way expects the correct triplet to have a smaller score and the wrong triplet to have a larger score.

This model will use the pairwise training method commonly used in the translation series model to train the correct triples and the wrong triples at the same time. Its optimization objective function is shown in the formula, which is also widely used in most translation series models.

$$L_{\text{base}} = \sum_{(h,r,t) \in S\left(h', r', t'\right) \in S'} \sum \max\left(0, f(h, r, t) + \gamma - f\left(h', r', t'\right)\right). \tag{10}$$

In the objective function, $f(h, r, t)$ is the positive triple score, $f(h', r', t')$ is the negative triple score, and the triple score is calculated according to the formula. The objective function uses the hinge loss (hinge loss) based on interval, which is the maximum interval value. Its optimization purpose is to hope that the lower the score of positive samples, the better the score of negative samples, but the difference between the two scores is up to the interval value γ.

4. The Realization of Regional Tourism Innovation and Development

4.1. Systematic Design of Knowledge Map in Innovation and Development of Regional Tourism. As a semantic knowledge base based on the resource description framework, knowledge map realizes the network knowledge structure of relational connected entities in the form of entity, relationship, and tail entity triples in the representation and storage. The regional tourism innovation and development actor

network is composed of all kinds of actors participating in the innovation and development network, including human and nonhuman actors. Human actors include individual actors and organizational actors. Individual actors include government officials, entrepreneurs, tourism practitioners, and tourists. The system is constructed under the technology of knowledge map. Organizational actors include local governments, industry associations, tourism enterprises, and financial institutions. At present, the development level of cultural tourism resources and ecotourism resources is low, tourism products mostly stay at the level of sightseeing tourism and rural tourism, and there are few medium and high-end product projects such as leisure vacation and health preservation. The number of five-star hotels is small, accounting for a low proportion of the national total. The early research on the economic benefits of tourism at home and abroad mainly focuses on the economic benefits of regions and enterprises. With the coordinated development of tourism and related systems such as society and ecology, it has become an inevitable requirement. The socioeconomic and noneconomic benefits of tourism in the knowledge map have also become the focus of academic circles at home and abroad. Since the 1970s, the research contents and themes of tourism economic benefits at home and abroad have continued to deepen and change. Facing a large number of research literature with complex themes, it may be difficult to objectively analyze the hot spot changes and development trends in this field only by relying on traditional literature review methods. In foreign countries, many cities that do well in tourism allow local residents to participate in the formulation of some policies and plans of scenic spots, so that they can share the benefits brought by the development of tourism.

In the knowledge map system, local residents can be absorbed as the staff of the scenic spots as far as possible to participate in the management of the scenic spots. Tourism administrative departments are also faced with the regulatory pattern of "big industries and small departments". In addition, the reform lags behind, the function changes slowly, the management level of the tourism industry is poor, and the supply capacity of tourism public services is poor. The tourism development of knowledge map is dominated by the government, with a low degree of marketization. The system of large-scale tourism state-owned enterprises and listed tourism companies suffers from many ills, and the enterprise benefits lag far behind the central and eastern regions. Nonhuman actors include material actors and nonmaterial actors. Material actors include tourist attractions, hotels, and tourist commodities. Nonmaterial actors include local culture, folk customs, and industry norms. Specifically, the actors selected by the regional tourism innovation and development actor network include local governments, tourism enterprises, tourism attractions, tourism professionals, and tourists. This innovation of knowledge map should be based on the innovation of green management mode. The interest groups in the urban tourism industry system can be divided into ecological resources, tourists, tourism practitioners, and tourism environment. These interest groups are a kind of interest-born relation-

TABLE 1: Overview of various natural and cultural protection sites in the Yangtze River Basin.

Type	Quantity	Accounting for/% of the whole country
National nature reserve	13 places	43
National scenic spots	24 places	43
National forest park	34 places	41
National wetland park	36 places	47
National historic and cultural city	52 places	40

ship, and sustainable tourism management is to achieve the purpose that all four interest groups can benefit from. In the space with relatively consistent distribution of tourism resources in the knowledge map system, relying on the central city, according to the natural, geographical, and historical ties and certain economic and social conditions, and according to the needs of tourists, through artificial development and construction, a distinctive tourism space is formed, including various types of tourist areas and tourism transportation network systems, in order to attract tourists to travel in a certain area.

4.2. Experimental Results and Analysis. This experiment investigated that the Yangtze River International Golden Tourism Belt is located near 30° N. It is located near the "median line" of China's land space. It has the geographical advantages of connecting the east to the west, connecting the south to the north, connecting the river to the sea, and opening ports along the coast and the border. The basin spans the three geographical ladders of East, Central, and West China. It has the most abundant geomorphic landscape types in the same latitude in the world. It is also the main distribution area of the world's exquisite landscape, cultural landscape, and important natural and cultural heritage, as shown in Table 1.

Located in the complete subtropical monsoon climate zone, the region has the largest and most typical evergreen broad-leaved forest area in the world. In addition, Yangtze River International Golden Tourism Belt, with the most developed provinces in the eastern, central, and western regions, is the core supporting area for the construction of China's tourism power as shown in Table 2.

From Table 1 to Table 2, it can be seen that the development of regional tourism is returning to the characteristics of both "industry" and "cause". In 2021, China's domestic tourism received 3.7 billion people, with an annual total tourism revenue of about 3.67 trillion yuan, both of which maintained an annual growth rate of more than 30%. As a new growth point of economic development under the new normal, tourism is of great strategic significance to China's overall economic and social development. Tourism has become an important leading industry to "cultivate new advantages of all-round opening-up". The proposal of the Yangtze River International Golden Tourism Belt well conforms to the trend and requirements of the national strategy of the Yangtze River economic belt. It can be predicted that

TABLE 2: 2021 tourism income of provinces and cities in Yangtze River International Golden Tourism Belt and its national ranking.

| Number	Provinces, autonomous regions, and cities	Total tourism revenue/100 million yuan	National and regional status
1	Shanghai	5415.26	Ninth in the country and sixth in the east
2	Zhejiang	7300.32	Second in the country and second in the east
3	Jiangsu	9145.52	The first in China and the first in the east
4	Anhui	4431.14	The 8th place in China and the 3rd place in Central China
5	Hubei	6752.45	The 7th place in China and the 4th place in Central China
6	Jiangxi	3649.76	It ranks 18th in China and 10th in Central China
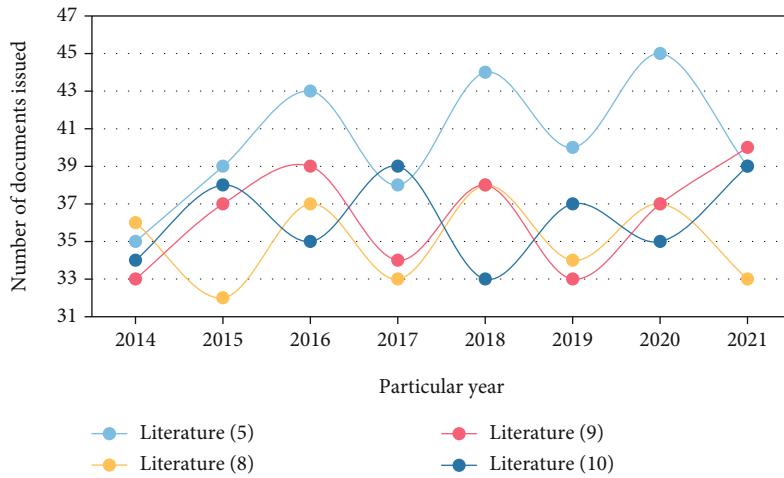
FIGURE 3: Trends of the number of papers published on tourism economic benefits research.

under the new normal, the establishment of a unified tourism market in the basin and a comprehensive and coordinated development model can improve the efficiency of resource allocation and promote the coordinated development and in-depth promotion of regional tourism.

This experiment can directly reflect the change of research heat of a discipline in a specific period of time. It is an important index to measure the development trend of the discipline and is of great significance to analyze the development trend and future trend of the research field. Through the annual statistics of the selected literature [5], literature [8], literature [9], and literature [10], it can be seen that there are some differences in the time evolution of the number of papers on tourism economic benefits at home and abroad, but on the whole, they all show the development trend of "first stable, then increasing, and then natural decline". Three experiments were carried out, respectively, and the experimental results are shown in Figures 3, 4, and 5.

As can be seen from Figures 3, 4, and 5, in 2016-2017, the research on tourism economic benefits was relatively stable, with no big fluctuations, and the average number of published articles reached 48%. In 2018-2019, the research popularity continued to be stable, while the research results showed a certain increase. At this time, the number of foreign posts basically reached the same level, with an average

of 52%. After 2020, the upsurge of tourism economic benefit research has emerged, and the number of published articles has increased year by year, with an average of 62%. Compared with the curve in the figure, the growth and peak value of published articles have a certain lag. In order to further analyze the distribution of the literature, the analysis of the literature data shows that the number of published articles accounts for about 25.4% of the total number of published articles. It ranks second with 75 articles and is the only developing country among the top 10 countries.

In this experiment, 285 research data were manually counted to get the distribution of disciplines, and two experiments were conducted to compare the disciplines of economics and management science, philosophy and humanities, and agricultural science and technology. The experimental results are shown in Figures 6 and 7.

From Figure 6 to Figure 7, it can be seen that the average proportion of economic and management sciences is 94.53%, with the largest number, followed by philosophy and humanities, accounting for 92.56%, and agricultural science and technology accounting for 87.52%. Since the three disciplines account for 274.61% of the total, far more than 100%, it can be seen that the published journal literature of tourism high-quality development research has strong interdisciplinary, and the interdisciplinary rate is as high as 66.54%, which also proves the wide integration
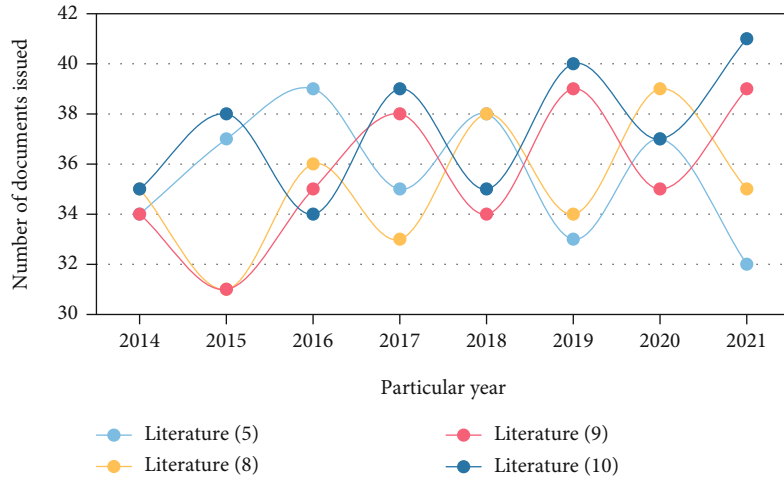
FIGURE 4: Trends of the number of articles published on tourism economic benefits research.
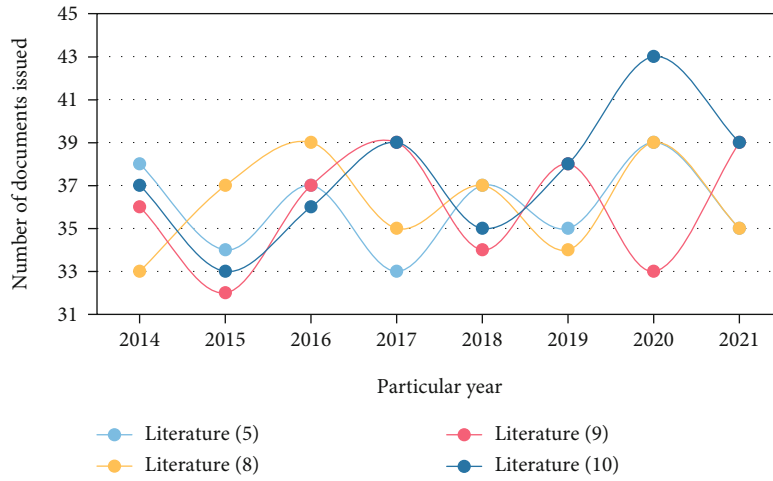

FIGURE 5: Trends of the number of papers published on tourism economic benefits research.
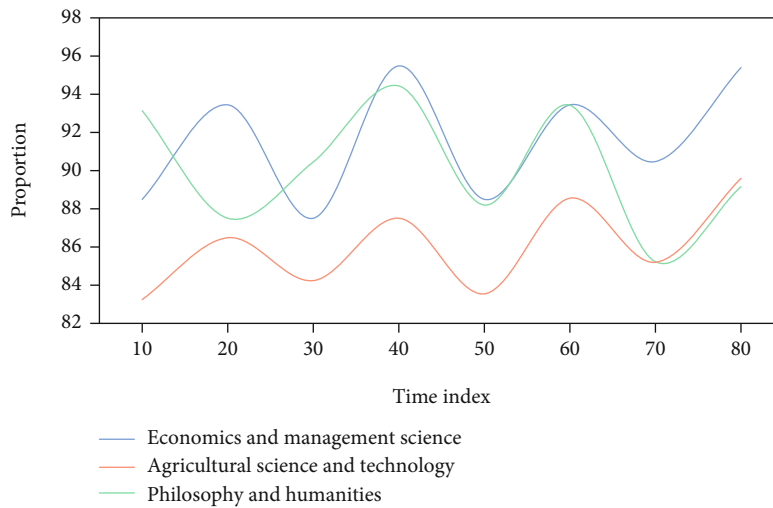

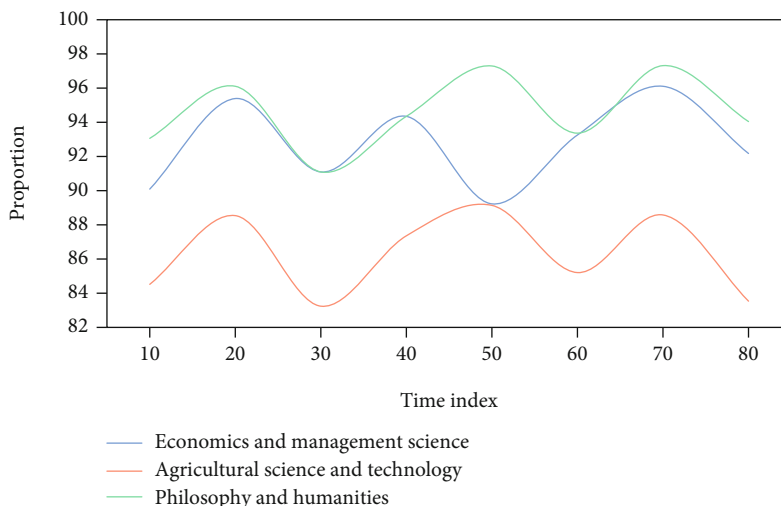FIGURE 6: Discipline category information of high-quality tourism development research in China.

Figure 7: Discipline category information of high-quality tourism development research in China.

between tourism and other industries. Under this circumstance, tourists should pay more attention to the development and application of tourism information and experience, so as to change the corresponding operation mode and application mode of tourism information. Tourism embeds the network application into the basic elements of tourism, opens up a new way for tourists to travel, and promotes the structural adjustment and development of tourism-related industries.

5. Conclusions

From the reality and development demand of tourism development, there is a huge gap between China's tourism development model and the rapidly growing demand for social tourism services, the supply capacity of tourism resources and tourism development demand, the development of tourism industry and the requirements of regional socioeconomic development and structural adjustment, tourism development system and mechanism, and the existing tourism development management model. Under the knowledge map, by effectively encoding the neighborhood entity information of each entity, we can extract richer entity features, realize multipath entity and relationship feature learning, and improve the accuracy of knowledge map reasoning. Using the method of knowledge-based atlas analysis, this paper combs and analyzes the relevant literature on the high-quality development of tourism in China. From 2016 to 2017, the research on tourism economic benefits was relatively stable without large fluctuations, and the average number of documents issued reached 48%. From 2018 to 2019, the research heat remained stable, and the research results increased to a certain extent. At this time, the number of external documents reached the same level, with an average of 52%. After 2020, the upsurge of research on tourism economic benefits has emerged, and the number of documents issued has increased year by year, with an average of 62%. Compared with the curve in the figure, the growth and peak of the number of documents issued have a certain

lag. Therefore, the resource protection mode of ecotourism scenic spots should be effectively innovated. It should be carried out mainly from the following aspects: first, the original management system should be reformed, and the central finance is limited, so we can refer to the management mode of Japanese parks to carry out the classified management of scenic spots. Second, adhere to scientific and reasonable planning and development. The innovation of knowledge map should be based on the innovation of green management mode. The stakeholders in the urban tourism industry system can be divided into ecological resources, tourists, tourism practitioners, and tourism environment. These stakeholders are a relationship of interests. Sustainable tourism management is to realize the purpose that these four stakeholders can benefit.

Data Availability

The labeled datasets used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The author declares no competing interests.

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