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Research Article

Study on the Development Model of the Combination of "Third-Tier" Industrial Heritage and Rural Tourism under the Concept of Urban Image

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In order to pay attention to the protection of the third tier industrial heritage, this paper puts forward the protection measures of combining the third tier industrial heritage with tourism based on the concept of urban image. The tourism value of the tertiary industrial heritage is evaluated by using the comprehensive evaluation method. Through the analysis of the tourism value evaluation system combining the three-level industrial heritage and rural tourism in a certain city, the following conclusions are drawn. In the comprehensive evaluation layer, the value of the third tier industrial heritage accounts for the largest weight of 0.5581, indicating that the third tier industrial heritage resources occupy an important position in the third tier industrial heritage tourism value system. Tourism development conditions also account for a large proportion, which explains that while adhering to the principle of third tier industrial heritage protection, we should pay attention to the consideration of tourism development conditions. It once again emphasizes the importance of the third tier industrial heritage for the development of industrial heritage tourism and the significance of the protection of the third tier industrial heritage for tourism development. In the three-level evaluation layer of industrial heritage and rural tourism, the historical and cultural value and social and cultural value have the largest weight. They are the leading factor of the combined value of tertiary industrial heritage and rural tourism. Historical and cultural value is one of the important meanings of three-level industrial heritage protection and also the essence of the combined development of third-level industrial heritage tourism and rural tourism. Social value determines the recognition of tourists and people to participate in the development of tourism. In the evaluation layer of tourism development conditions, the development potential is particularly prominent. The development potential is the characteristic of the third tier industrial heritage tourism of a city. The development of the third tier industrial heritage tourism of a city must be combined with the local characteristics to highlight the differences.

1. Introduction

Rural planning plays a positive role in promoting China's ruralization and accelerating rural functional construction and leads the scientific development of cities through reasonable rural planning guidance. To strengthen rural planning and construction, we need to do a good job in rural image analysis and make targeted rural image analysis according to the development characteristics and economic conditions of different cities, so as to provide a solid foundation guarantee for rural planning. China has a vast territory and different regions have different landscape cultures. In recent years, the development of rural tourism has become one of the important ways to strengthen economic construction and attract foreign investment in rural planning. The main research object of rural intention is rural residents, and the main service object of rural landscape construction and environmental construction is also rural residents. With the rapid development of economy, the existing cultural life can no longer meet the needs of the masses. Strengthening the rural internal landscape and environmental design can effectively

improve the attraction of the city to foreign tourists and drive the regional economic development [1, 2]. Therefore, based on the research of rural intention, this paper uses the rural image to analyze the internal landscape and cultural characteristics of the city, create more attractive rural viewing points, show the unique cultural charm of the city in many aspects, and improve the scientificity and practicability of rural tourism planning by organizing activities, so as to create environmental atmosphere and strengthening cultural publicity. In the traditional sense, the production, production, and management of tourism products and services involve a considerable range and should consume considerable time cost and human resources in real life. There is no doubt that it increases the investment cost of rural tourism industry development to a large extent. In the process of development and operation of rural tourism industry, if information technology can be properly integrated, it can steadily increase the work efficiency of related links of rural tourism industry and improve the management level of tourism products and services [3, 4]. The utilization of electronic information system can quickly process all kinds of data and information and reduce the relevant statistical and accounting pressure of agricultural tourism products and services. Using the powerful auxiliary function of information technology can handle all kinds of information and data in a very short time and can ensure the accuracy of important information and data. It can scientifically formulate the enterprise development strategy for the rural tourism enterprises, supplemented by reliable basis, so that they can avoid various risks in the operation and development. At the same time, because a lot of tourism enterprises take a variety of information technology, on the network to promote related tourist attractions, products, and services, to a greater extent, cut the cost of the traditional rural tourism management capital, enhance the effectiveness of tourism industry service information and data, and continue to retain and expand more source market in the industry.

"Industrial heritage" refers to the remains of industrial civilization, which have historical, scientific, social, architectural, or scientific values. These relics include buildings, machinery, workshops, factories, mines, and mining areas for beneficiation and smelting, warehouses, places for energy production, transmission and utilization, transportation and infrastructure, and places for social activities related to industry, such as residential, religious, and educational facilities. In recent decades, it is common to study the relationship between industrial heritage protection and urban development, whether from theoretical research or practical case operation, but so far, there are few studies on the relationship between third tier industrial heritage protection and small city development planning. In view of this, this paper takes the third tier industrial heritage of a city as the research object and uses SWOT analysis to comprehensively evaluate it, so as to make the industrial heritage play its due role in the current small city planning and construction through research. The SWOT analysis framework is shown in Figure 1.

2. Literature Review

This research problem has been verified by some scholars. Petrova and others concluded that industrial heritage, as a tourism resource, has a certain impact on urban image and development [5]. Daoud and others studied the personalized heritage of mining towns by taking the landscape of Springhill and Herbert River as an example [6]. Zhang and others studied the potential of abandoned industrial parks into social life [7]. By analyzing the protection and reuse of industrial heritage, Cheng and others studied its role in the accumulation of urban memory and cultural rejuvenation [8]. Wan and others took the industry in Yangshupu area as an example, evaluated the value of its industrial heritage buildings, put forward graded and classified protection measures, and deeply discussed the planning strategies for the overall protection and comprehensive rejuvenation of the industrial heritage area [9]. Coratza and others proposed that industrial heritage, as the witness, protection, and reuse of urban historical context, should be combined with the strategy of urban context inheritance [10]. Marcak and others put forward five typical reuse modes of industrial heritage from the relationship between urban characteristics and industrial heritage [11]. Li and others advocate that the protection and utilization of industrial heritage can only be combined with the overall development of the city to highlight its real value and achieve the purpose of coordinating protection and utilization [12]. At the nonmaterial level, Pickell and others all unanimously emphasized the participation of tourists in the protection of traditional villages, which also expressed that the trend of traditional village tourism development is the harmony between people and traditional villages. Industrial heritage is divided to broad industrial heritage and narrow industrial heritage. The broad industrial heritage includes handicraft, processing, mining, and other ancient sites before the industrial revolution, such as prehistoric scale stone sites and large-scale water conservancy projects, like Dujiangyan irrigation system; narrow industrial heritage started in the 18th century, using steel, coal, and oil as the production of new energy, after the industrial revolution. Broad industrial heritage includes industrial production and industrial-production-related construction, transportation, education, service, and other related industries. It also includes the related achievements of new energy, new technology, and new materials that have brought major changes to the society and also includes the social places engaged in industrial activities, such as employees' family areas, and religious places. In the narrow sense, industrial heritage mainly refers to the industrial remains of production, processing, storage, and transportation including steel, coal industry, and many other industrial categories and all kinds of industrial buildings and ancillary buildings. From the perspective of the research object form, the industrial heritage has two forms: material and intangible heritage. Material heritage includes construction, processing, and production machinery and products; intangible heritage mainly refers to the production, processing, enterprise culture, spirit, and technology. On the other hand, this paper expounds the
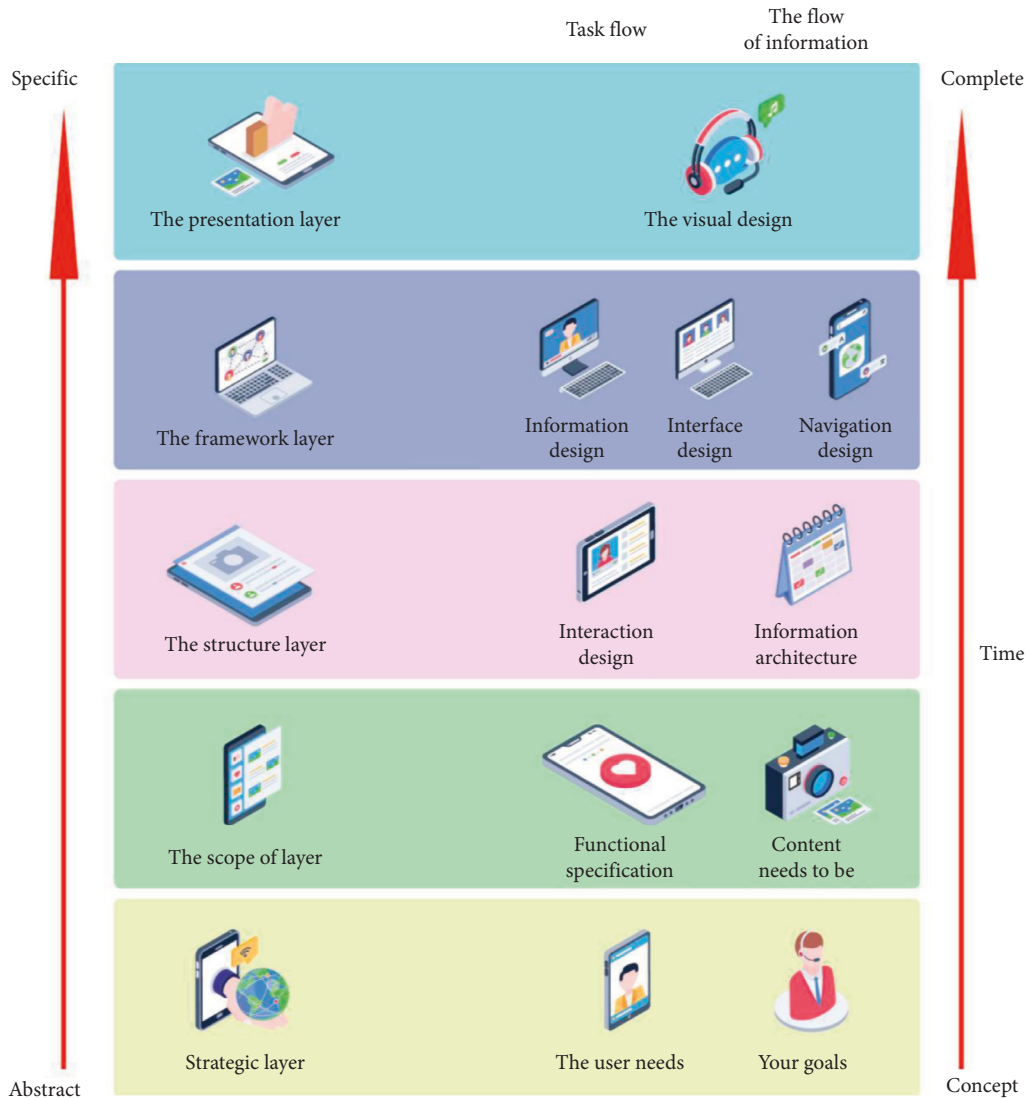
FIGURE 1: SWOT analysis.

importance of passenger experience, and the relevant theoretical research methods are emerging one after another. For example, Salim et al. introduced the concept of Yeli distance into the tourist experience research of heritage tourism and believed that low Bili distance will create a more specific and situational concept, and high Tun and Li distance will create a macro and abstract internal perception of heritage objects. Figure 2 shows the relationship between industrial heritage and industrial heritage tourism.

Based on the current research, the concept of combining the "three-line" industrial heritage and rural tourism image is proposed, and the feasibility analysis method of developing the city is comprehensively evaluated. At the same time, according to which industrial heritage is suitable for tourism development and how to develop, the evaluation standards of industrial heritage tourism and rural tourism are constructed. The value and significance of industrial heritage tourism and rural tourism are studied in detail. In the evaluation layer of tourism development conditions, the

development potential is particularly prominent. The development potential is the characteristic of the third tier industrial heritage tourism of a city. The development of the third tier industrial heritage tourism of a city must be combined with the local characteristics to highlight the differences.

3. Method

The essence of evaluation is a kind of intelligent activity of people. Generally speaking, it has the characteristics of nonlinearity. A large number of evaluation practices also prove that the uncertainty of evaluation work leads to the nonlinearity of evaluation, so the nonlinear evaluation model is more in line with the reality of evaluation. In a general sense, all the evaluation problems should be nonlinear, and the linear evaluation is only an approximation of the nonlinear evaluation in a certain range. This paper evaluates the value of first-level and multilevel fuzzy industrial heritage tourism and rural tourism.
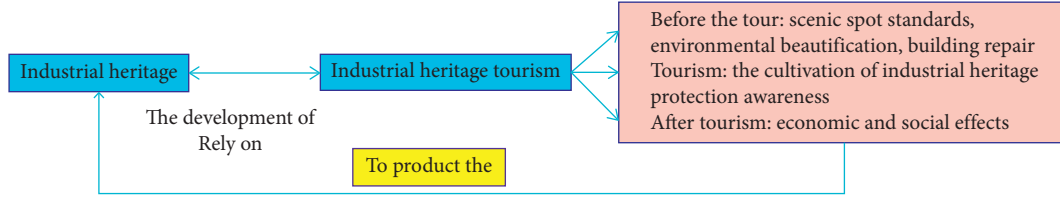
FIGURE 2: Relationship between industrial heritage and industrial heritage tourism.

3.1. One-Level and Multilevel Fuzzy Comprehensive Evaluation Method.

Fuzzy comprehensive evaluation is a method to make a comprehensive decision on a thing by using fuzzy transformation for a certain purpose under the fuzzy environment and considering the influence of multiple factors. Fuzzy comprehensive evaluation can be divided into one-level evaluation and multilevel evaluation.

3.1.1. Mathematical Model of One-Level Fuzzy Multiobjective Decision-Making.

Let $U = \{x_1, x_2, \ldots, x_n\}$, $V = \{y_1, y_2, \ldots, y_m\}$ be two finite comments: U is the factor set, which represents the set composed of multiple factors of multiobjective decision-making. V is the comment set or evaluation set, which represents the set composed of multiple decision objectives. Generally speaking, the factors in the factor set have different effects on the things to be judged, so each factor has its own importance distribution, which is called weight distribution. It is a fuzzy vector on U, which we record as

$$A = \{a_1, a_2, \ldots, a_n\} \in F(U), \tag{1}$$

where a_1 represents the weight of the ith factor in U and meets the requirements $\sum_{i=1}^{n} a_i = 1$. In addition, in the fuzzy environment, m comments are not absolutely positive or negative. Therefore, the result of comprehensive decision-making can be regarded as a fuzzy set on V, which is recorded as

$$B = \{b_1, b_2, \ldots, b_m\} \in F(V), \tag{2}$$

where b_j indicates the position of the j-th comment in the overall V of the evaluation target.

If $R = (r_{ij})_{n \times m}$ is a fuzzy relation matrix from U to V, a fuzzy transformation T_R can be obtained by using R. Therefore, the mathematical model structure of fuzzy multiobjective decision-making is as follows.

Factor set:

$$U = \{x_1, x_2, \ldots, x_n\}. \tag{3}$$

Comment set:

$$V = \{y_1, y_2, \ldots, y_m\}. \tag{4}$$

Construct fuzzy transformation:

$$T_R: F(U) \longrightarrow F(V), \\ A \mapsto A \circ R, \tag{5}$$

where R is the fuzzy relation matrix $R = (r_{ij})_{n \times m}$ from U to V.

In this way, (U, V, R) ternary body constitutes a mathematical model of fuzzy multiobjective decision-making. At this time, if a weight assignment $A = \{a_1, a_2, \ldots, a_n\} \in F(U)$ is input, a comprehensive decision $B = \{b_1, b_2, \ldots, b_m\} \in F(V)$ can be obtained through fuzzy transformation T_R. That is,

$$(b_1, b_2, \ldots, b_m) = (a_1, a_2, \ldots, a_n) \circ \begin{bmatrix} r_{11} r_{12} \ldots r_{1m} \\ r_{21} r_{22} \ldots r_{2m} \\ \cdots \\ r_{n1} r_{n2} \ldots r_{nm} \end{bmatrix}. \tag{6}$$

Using Zadeh operator:

$$b_j = \bigvee_{i=1}^{n} (a_i \wedge r_{ij}), \quad j = 1, 2, \ldots m. \tag{7}$$

If $b_k = \max(b_1, b_2, \ldots, b_m)$, according to the principle of maximum subordination, the comprehensive decision on the matter is b_k [13, 14]. The fuzzy multiobjective decision-making system composed of fuzzy transformation T_R as the converter is shown in Figure 3.

The core of fuzzy comprehensive evaluation is to synthesize the results of various factors. As we all know, it is easy to make decisions on things determined by single factors. However, when things involve multiple factors, it is necessary to comprehensively consider the impact of many factors on things, so as to make a decision close to the reality and avoid the one sidedness caused by judging from only one factor, which is the characteristic of multiobjective decision-making.

It should be noted that people often synthesize things in different ways. Sometimes only the single factor is required to be the best (called the main factor). Sometimes the main factors are highlighted and other factors are taken into account. Sometimes it requires the maximum sum. These situations can be realized by different operations.

The decision result of Zadeh operator $(\wedge, \vee)$ is mainly determined by the factor with the largest value, and the change of the value of other factors in a range does not affect the evaluation result. Therefore, we call it a principal factor determinant operator [15].

Generalized operators $(\vee, \bullet)$ and $(\oplus, \wedge)$ are called principal factor prominent types. They are close to Zadeh operator, the difference is that they are a little more refined than Zadeh operator, and their decision results can reflect indicators that are not main to a certain extent [16].

The generalized operator $(\oplus, \bullet)$ is called the weighted average type, which embodies the overall characteristics in the evaluation, because it gives balanced consideration to all factors according to the weight [17].
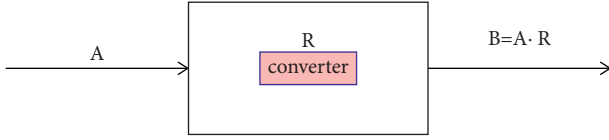
Figure 3: Fuzzy multiobjective (one level) decision system.

The decision result can be obtained by using only one fuzzy transformation, which is called one-level fuzzy multiobjective decision-making. It is generally used when the number of elements in the factor set is small.

3.1.2. Multilevel Fuzzy Multiobjective Decision-Making.

For complex systems, many factors need to be considered. At this time, there will be two problems. First, there are too many factors, and it is difficult to determine their weight distribution. Even if they are determined, the weight of each factor will be very small, so there will be a phenomenon that valuable results will not appear after calculation. Second, factors may have categories or levels, and it is difficult to determine the weight at the same level [18]. For example, in the problem of fracturing well and layer selection, the influencing factors mainly include production characteristics x_{raw} and physical properties x_{things}; that is, factor set $U = (x_{\text{raw}}, x_{\text{things}})$. The production characteristic factors include four subfactors: formation pressure, oil well production, production differential pressure, and water cut; namely, $x_{\text{raw}} = \{$formation pressure, oil well production, production differential pressure, and water cut$\}$. And $x_{\text{things}} = \{$permeability, porosity, saturation, and effective thickness$\}$ also includes four subfactors. It is obviously inappropriate to consider the eight factors of these two categories at one level. At this time, multilevel fuzzy multiobjective decision-making system can be used. The following takes the two-level fuzzy multiobjective decision-making as an example to illustrate its detailed steps.

Step 1. Divide the factor set $U = \{x_1, x_2, \ldots, x_n\}$ into S subfactor sets $u_1, u_2, \ldots, u_s$ according to certain attributes, where

$$u_i = \{x_{i1}, x_{i2}, \ldots, x_{im}\}, \quad (i = 1, 2, \ldots, s). \tag{8}$$

And meet

$$
\begin{aligned}
n_1 + n_2 + \ldots n_s &= n, \\
u_1 \cup u_2 \cup \ldots \cup u_s &= U, \\
u_i \cap u_j &= \varphi, \, (i \neq j).
\end{aligned}
\tag{9}
$$

Step 2. Make one-level fuzzy multiobjective decision for each subfactor set. Set the comment set $V = \{y_1, y_2, \ldots, y_m\}$, and the weight distribution of each factor in u_i to V is

$$A_i = \{a_{i1}, a_{i2}, \ldots, a_{im}\}. \tag{10}$$

R_i is set as a single factor evaluation matrix, and the one-level evaluation vector can be obtained as

$$B_i = A_i \circ R_i = (b_{i1}, b_{i2}, \ldots, b_{im}), \, (i = 1, 2, \ldots, s). \tag{11}$$

Step 3. Regard each u_i as a factor and remark as

$$K = \{u_i, u_2, \ldots, u_s\}. \tag{12}$$

In this way, K constitutes a factor set, and its single factor evaluation matrix is composed of one- level evaluation vectors:

$$R = \begin{bmatrix} B_1 \\ B_2 \\ . \\ B_s \end{bmatrix} = \begin{bmatrix} b_{11} b_{12} \ldots b_{1m} \\ b_{21} b_{22} \ldots b_{2m} \\ \ldots \\ b_{s1} b_{s2} \ldots b_{sm} \end{bmatrix}. \tag{13}$$

As a part of U, each u_i reflects a certain attribute of U, and the weight distribution can be given according to their importance:

$$A = (a_1, a_2, \ldots, a_s). \tag{14}$$

Thus, two-level fuzzy multiobjective decision-making is obtained:

$$B = A \circ R = (b_1, b_2, \ldots, b_m). \tag{15}$$

If each subfactor $u_i \, (i = 1, 2, \ldots, s)$ also contains different levels or different types of subfactors, u_i can be further divided. Similar to the three-level decision-making model obtained from the two-level decision-making process, so is the four-level and five-level models.

3.2. Analysis of Tourism Resources of the Third Tier Industrial Heritage in City A.

This paper deals with the distribution of the third tier industrial heritage in city A. In the third tier industrial heritage tourism development, we should pay full attention to the characteristics of tourism resources, respect its practical significance, and give full play to its value, so that the third tier industrial heritage tourism development can be carried out correctly.

3.2.1. Rich Types of Building Functions.

According to the field investigation, there are many kinds of industrial buildings involved in this paper (as shown in Figures 4 and 5), such as factory buildings, offices, civil buildings, warehouses, etc. Plant, office, and warehouse buildings account for 70% of the total. Most of the indoor spaces of these three types of buildings are spacious and changeable. The building volume is large and more artistic. The rich architectural space provides strong plasticity for the transformation of the third tier industrial heritage and can attract people's attention. It also saves the development cost for the early investment of tourism development.

3.2.2. Rich Tourism Types.

The third tier industrial heritage tourism enriches the types of tourism, and the traditional tourism can no longer meet the personalized needs of tourists. According to the data released by the tourism
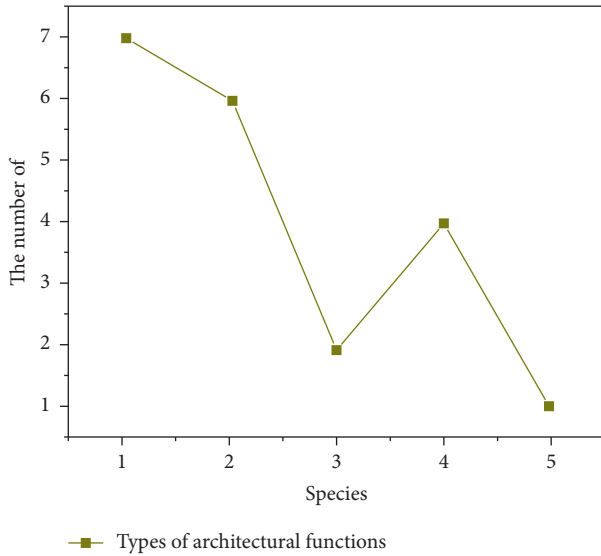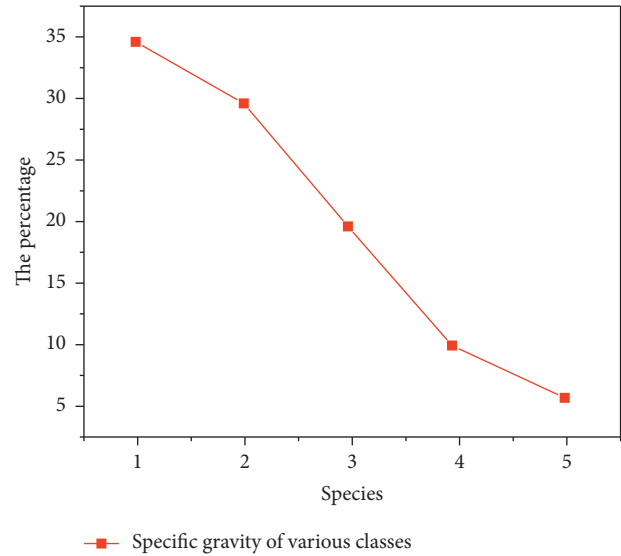
Figure 4: Types of building functions.

Figure 5: Proportion of building functions (from high to low, plant, office and for civil use, warehouse, commerce and others).

administration, tourists are getting rid of the traditional way of entering the scenic spot with tour groups. By 2015, the proportion of self-driving tour continues to rise, and the proportion of tourists entering the scenic spot through travel agencies has decreased from 60%–70% to 20%–30%. Free travel has become the main way for tourists to reach the scenic spot, accounting for 75% of the total number of tourists received in the scenic spot. Self-driving tour is one of the concrete manifestations of personalized tourism. The third tier industrial heritage tourism is a new form of tourism integrating leisure, entertainment, knowledge, and novelty. The timely emergence of this personalized tourism is intertwined with the strong demand of today's tourists, which will certainly attract people's attention and longing.

3.2.3. Publicize Corporate Culture. Corporate culture not only has the functions of guidance, cohesion, and restraint but also affects customers' consumption behavior. After customers recognize the corporate culture, they will increase their loyalty to their products. The existing third tier industrial heritage of a city is still in normal production. For example, the first automobile factory has experienced many years of baptism, and these enterprises have formed their own special products and corporate culture. Without affecting the normal production of the enterprise, tourists can participate in more experiential tourism contents such as product design, process flow, and production line visit, learning the enterprise culture in a relaxed and pleasant process. And the company has also captured more tourists to become potential consumers. Tourists understand the product and its culture with their most real experience and feelings; it will attract more attention from relatives and friends around and form a virtuous circle over time. Mercedes Benz carries out industrial tourism projects. Tourists enter the company's historical exhibition hall to understand

the functions of automobile components, and even screw in a few screws, have lunch with employees, and participate in automobile design and other links, which not only brings happiness to tourists, but also enhances the recognition of the company's products and virtually plays a role in publicizing the company's image.

3.2.4. Improve the Economic Structure of Enterprises. In addition to the impact of emerging industries, another important factor is the unreasonable economic structure of traditional industries, which leads to the excessive dependence on a single product. Once there is any error in the product, it will bring irreparable losses to the company. Nowadays, the transformation and upgrading of enterprise products is to do a good job in products. At the same time, cross domain investment has become a new growth point of enterprise profits. The development of third tier industrial heritage tourism is a strategic idea to improve the economic structure of enterprises [19].

3.2.5. Tracing the Memory of the Industrial Age. In the current rapid change of science and technology and information, many things are changing all the time; the only constant is history, history cannot be duplicated, and industrial heritage tourism is just the confidence display of industrial history and culture. For Changchun, a heavy industry city, the industrial heritage is a continuation of history and also the representative of the industry in the early stage of New China. They made important contributions to changing the "poor" appearance of China at that time and leading the country on the road of industrialization. In the special period of Industrial heritage for the "five" "25" period after vicissitudes of life, the industrial heritage reflects Changchun people struggle days and passion burning years; the roar of the machine is the most true

portrayal of the society, so far in the normal production of the factory is the witness of history. It can be seen that industrial heritage has long gone beyond its own scope and carries the historical burden. Reviewing these industrial memories is an important part of industrial heritage tourism. Through industrial heritage tourism, the real and vivid display of history is exactly what tourists need, and it is also the responsibility and obligation of industrial heritage tourism.

3.2.6. Publicize Corporate Culture. In addition to the role of guidance, cohesion and restraint, corporate culture also affects the consumption behavior of customers. After customers recognize the corporate culture, they will increase their loyalty to their products. The existing industrial heritage is still in normal production, such as the first automobile factory. After years of baptism, these enterprises have formed their own special products and corporate culture. Without disturbing the normal production, tourists can participate in product design, process, and production line visit experience to get strong tourism content. In the process of tourists' understanding of corporate culture, the company can also make more tourists become potential consumers. Tourists use their most authentic experience and feelings to understand the products and the culture behind them, which will further affect the attention of their surrounding relatives and friends and further increase the number of potential consumers. Foreign companies like Mercedes carry out industrial tourism projects, get the visitors into the company history exhibition hall, give them the opportunity to understand the function of car components and even personally twist a few screws, offer them lunch with staff, and let them participate in car design link, which not only brings happiness to visitors but also enhances the recognition of the company's products, virtually for the image of the company to play a propaganda role.

4. Results and Analysis

4.1. Development of Third Tier Industrial Heritage Tourism. If the comprehensive evaluation score is more than 6.000, it is a class I development object. From the perspective of tourism development, this kind of third tier industrial heritage has little difficulty in development and high social recognition. It is a stepping stone to open the third tier industrial heritage tourism market of a city and should be considered to be developed in 1–3 years. This kind of third tier industrial heritage has a certain tourism foundation and pleasant environment at this stage, with high experience and appreciation, such as FAW (First Automobile Works).

From the perspective of third tier industrial heritage protection, such third tier industrial heritage has high comprehensive value and has made important contributions to urban development, but the current operation situation is divided into two extremes. First, the enterprise is in good operation and is highly recognized by citizens and society, such as Changying studio. Second, the project has been in the state of no operation for a long time, has been idle for a

long time, and faces the risk of demolition. The plant road planning and industrial buildings are well preserved and occupy a good geographical location, such as a tractor factory in a city. The specific application of the evaluation method takes FAW as an example, as shown in Table 1.

Through the table, we can draw the following development conclusions for FAW, and the items with high scores should be fully redivided and utilized to play its characteristics in the process of tourism development. The items with low scores should be paid attention to and developed in a balanced way.

(1) 9 points are for important tasks and events, which should be protected as one of the tourism selling points during tourism development. 10 points are for representativeness and social recognition. In tourism development, social organizations should be fully used to publicize the recognition degree and mobilize people's enthusiasm to participate in the development of third tier industrial heritage tourism. Due to the highest representative score, "FAW" should be developed as a city tourism card. As 10 points for combination and traffic convenience, FAW should cooperate with other tourism projects in the city to develop by using convenient traffic.

(2) The product progressiveness is 5 points. So we should pay attention to the product development and research and arouse the interest of tourists by using the sense of technology and mystery of the products. As experiential tourism has got 4 points, FAW tourism development should focus on strengthening the close interaction between the project and tourists.

4.2. SWOT Analysis of Third Tier Industrial Heritage Tourism: Advantages. SWOT analysis method is an analysis tool to determine the best feasible strategic combination through the analysis of the internal conditions and external environment of the research object, also known as situation analysis method. Through SWOT analysis, this paper analyzes the advantages, disadvantages, opportunities, and threats of developing the third tier industrial heritage tourism in a city, so as to provide theoretical support for the next development of the third tier industrial heritage tourism.

4.2.1. Great Potential of Tourist Market. Figure 6 shows the percentage of tourists in 2015. It can be seen that most tourists are between 20 and 30 years old, and this age group is mainly composed of students. At present, nearly 40 universities estimate that the number of students is about 600000, and the influx of college students provides a strong backing for the tourism market.

From 2011 to 2016, the total number of tourists received (as shown in Figures 7 and 8) has an average growth rate of 21% in the recent five years. The continuous growth of tourists also depicts a bright prospect for the third tier industrial heritage tourism. By the end of 2016, a city had a

TABLE 1: Evaluation scores of FAW third tier industrial heritage tourism development.

|		Evaluation				score
		10	7-9	4-6	3-0	
Historical and cultural value	Age and integrity		8			0.6896
	Important people and events		9			0.3978
	Representativeness	10				0.741
Social value	Social recognition	10				0.751
	Resource scarcity		7			0.462
Artistic value	Integrity	10				0.0729
	Uniqueness			5		0.2875
Scientific value	Enterprise advanced nature		8			0.38
	Product advanced nature			5		0.2725
Entertainment value	Experiential			4		0.2296
	Ornamental		7			0.1827
Economic value	Development cycle			6		0.204
	Economic input			4		0.1464
Environment condition	Environmental capacity			5		0.114
	Traffic convenience	10				0.602
	Supporting services	10				0.131
	Supporting setting	10				0.305
Tap potential	Associativity	10				0.721
	Complementarity		8			0.3288
	Sustainability		7			0.336
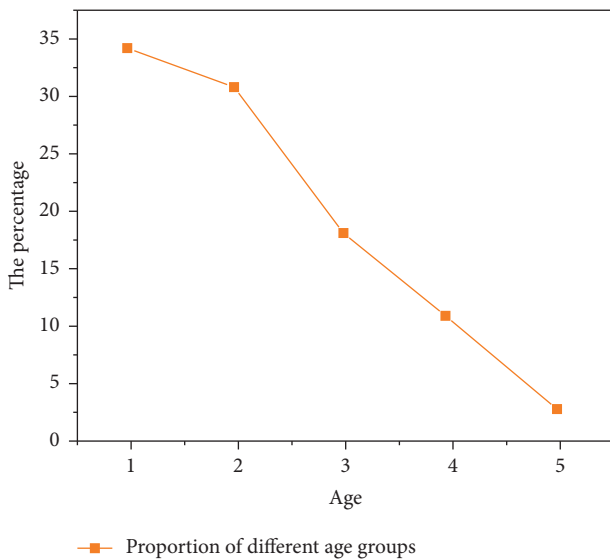
FIGURE 6: Percentage of tourist source age group (from high to low, 20–30 years old, 30–40 years old, 40–50 years old, over 50 years old, and under 20 years old, respectively).

total population of 7.729 million. Its large population base is also a huge advantage of the local tourist market. In particular, short-distance urban tourism will be the best choice for citizens.

To sum up, whether it is the high proportion of college students, the large base of local citizens, or the high growth rate of foreign tourists, all kinds of signs show the great potential of the tourist source market.

4.2.2. A City and Its Surrounding Third Tier Industrial Heritage Base Is Numerous. The third tier industrial heritage tourism takes industrial heritage as tourism resource. The
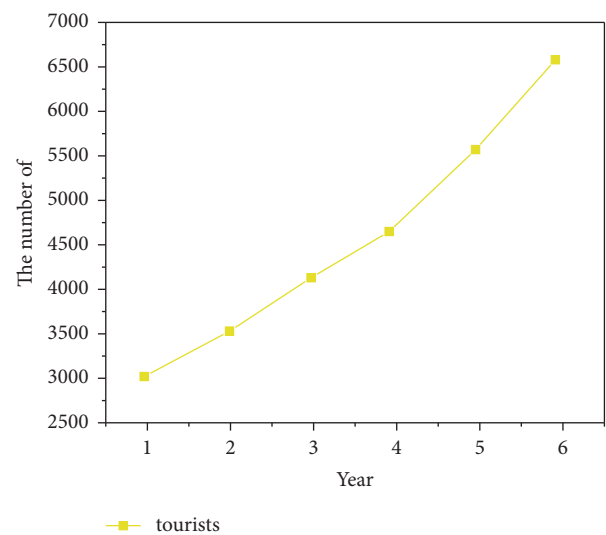

FIGURE 7: Total number of tourists received from 2011 to 2016.

quantity and quality of industrial heritage are the necessary factors for the success of the third tier industrial heritage tourism. After years of construction and development, an industrial system focusing on transportation and machining has been formed. The large base of the third tier industrial heritage in the province is a unique advantage for developing industrial heritage tourism. Moreover, these third tier industrial heritages involve manufacturing, transportation, machinery processing, and other fields, providing more choices for the tourism collocation of third tier industrial heritages. Moreover, some enterprises are still operating and producing, being at the top level in the industry in their field and more persuasive for tourists. For example, FAW has become one of the largest automobile enterprise groups in China. The passenger car factory is the largest R&D,
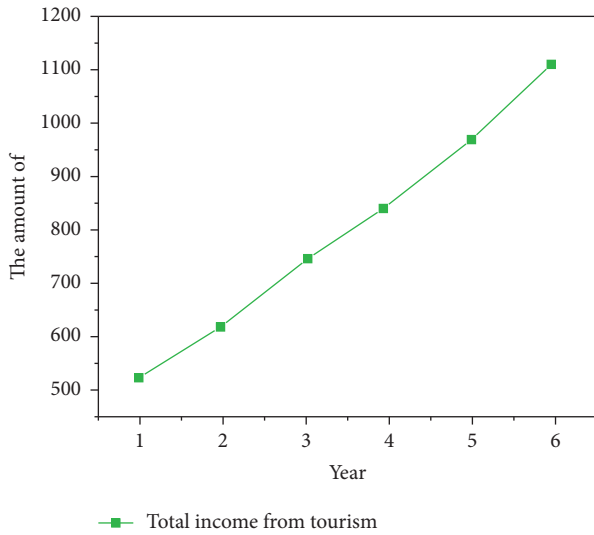
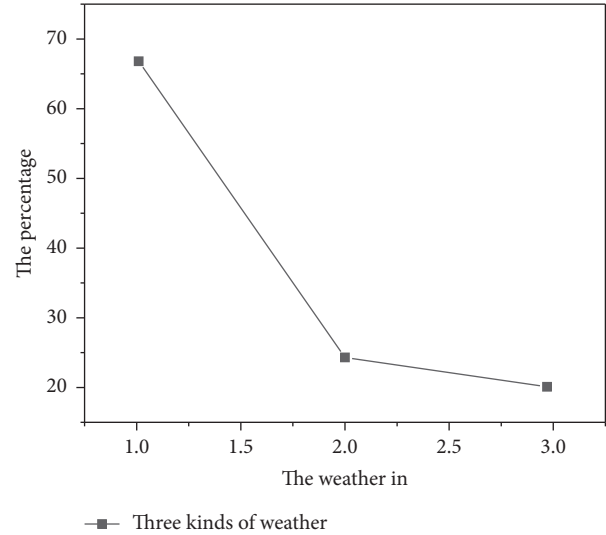Figure 8: Total tourism revenue from 2011 to 2016.

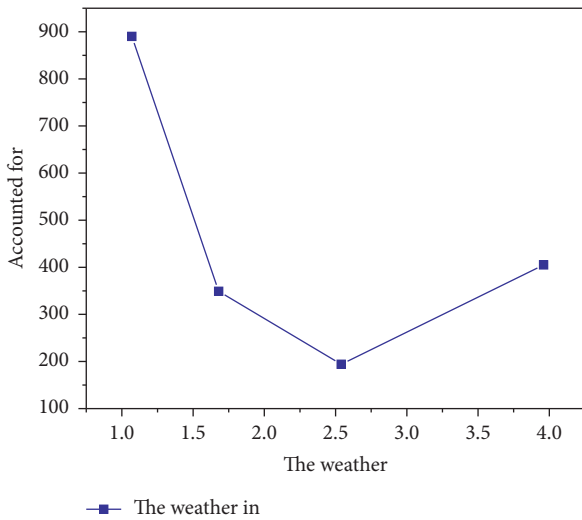Figure 10: Proportion of weather conditions in 2018–2021.
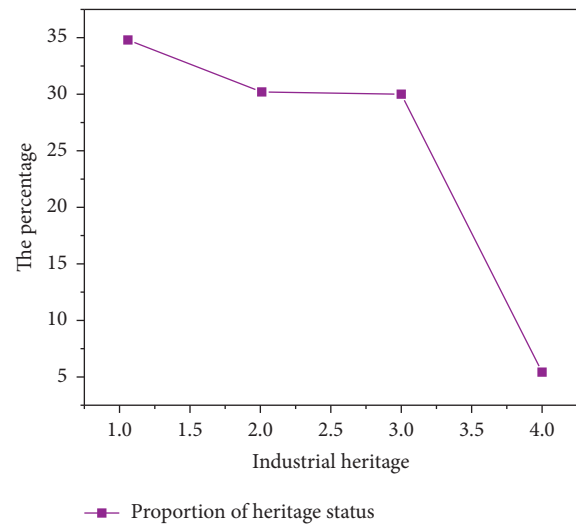

Figure 9: Weather conditions in 2018–2021.

Figure 11: Status of industrial heritage.

manufacturing, and export base of rail transit in China. In addition, there are modern enterprises such as modified pharmaceutical companies, like Yatai Group and Dacheng Group. Strong old industrial base and booming modern enterprises provide strong resource guarantee for the development of third tier industrial heritage tourism in a city.

4.3. SWOT Analysis of Third Tier Industrial Heritage Tourism: Disadvantages

4.3.1. The Weather Is Cold and Outdoor Tourism Is Limited. It is located in the north temperate continental monsoon climate zone, with long and cold winter. According to statistics, in 1828 days from January 1, 2018 to January 1, 2021 (as shown in Figures 9 and 10), there are 1242 sunny and cloudy days, but considering the most suitable travel temperature (outdoor temperature 25–28°C), it is only 324 days (fewer days if outdoor wind is considered), which

means only two months a year are suitable for travel, concentrated in August and September. Cold weather will certainly have a great impact on outdoor tourism, and rainy and snowy weather will also bring a lot of inconvenience to tourists. The simultaneous arrival of a large number of concentrated tourists is not conducive to the guidance of tourists, making the scenic spot have hidden dangers on tourism safety, but it also brings great pressure to the management of the scenic spot. More importantly, it reduces the visiting quality of tourists and thus the effect of tourism experience is poor.

4.3.2. The Third Tier Industrial Heritage Tourism Infrastructure Is Weak. It is self-evident that the infrastructure around the scenic spot plays an important role in the scenic spot, which is often an important factor determining the success or failure. Only when the relevant supporting facilities meet the basic use needs of tourists can the scenic
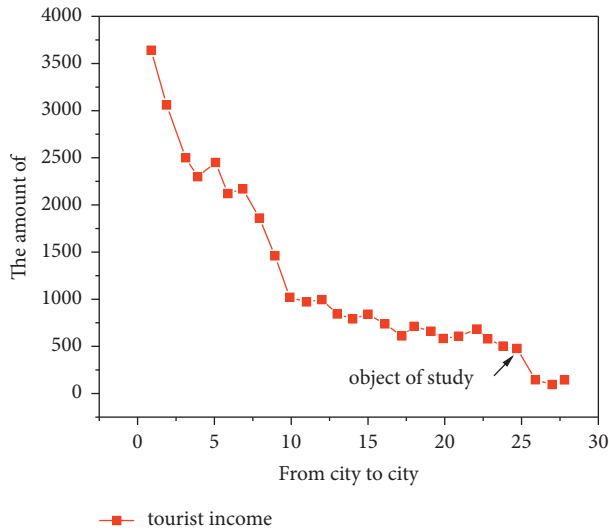
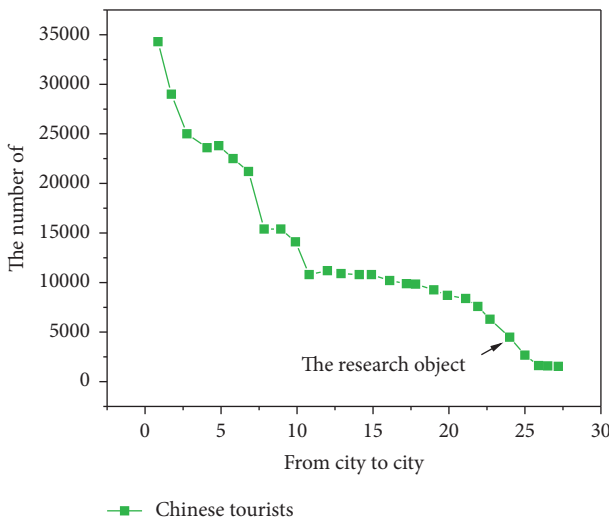Figure 12: Tourism revenue statistics of a province in 2020.

Figure 13: Statistics of Chinese tourists in a province in 2020.

Figure 14: Statistics of inbound tourists of a province in 2020.

spot be attractive. However, 35% of the existing third tier industrial heritage in a city has been idle for a long time (as shown in Figure 11). The plant has been left unattended for a long time, the hospital is overgrown with weeds, and the remaining problems of industrial pollution have yet to be solved, let alone the surrounding infrastructure. Another 30% of buildings is forced to be used for other auxiliary functions, such as warehouses. In addition, public transport, guidance signs, and other service systems also need to be strengthened. Poor infrastructure hinders the further development of third tier industrial heritage tourism.

4.4. SWOT Analysis of Third Tier Industrial Heritage Tourism: Opportunities

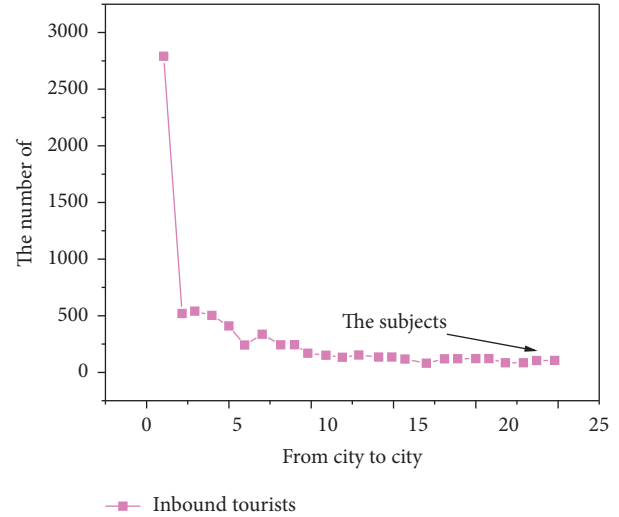*4.4.1. Third-line Industrial Heritage and Rural Tourism Potential.* In terms of the general international tourism

trend. Development and peace must be the development direction of the future world. On this basis, with rich material conditions, rural tourism has become one of the sunrise industries developing rapidly. It is predicted that by 2020, global travel trips will exceed 1.6 billion and reach $200 billion. In the near future, rural tourism capacity will continue to expand, and the annual growth rate of tourists and consumption will be higher than that of the world economy, indicating that tourism growth will continue. For the Chinese market. According to the 2020 Rural Tourism Development Report (as shown in Figures 12–14), the development of rural tourism in a province is at the bottom in the country, and tourism income, domestic tourists, and inbound tourists have not reached the average level of China, which shows the great development potential of tourism. On the other hand, the report mentioned a province maintained the good momentum of sustained and rapid development; by 2020 the province reception number is expected to reach 260 million people, and three-line industrial heritage and rural tourism revenue reached 500 billion yuan, from provincial into domestic, with ecology, ice, summer, and border tourism as the theme of leisure resort center and tourism distribution center.

4.5. SWOT Analysis of Third Tier Industrial Heritage Tourism: Threats

4.5.1. Imminent Industrial Heritage Protection in Third Tier. As the value of the third tier industrial heritage is gradually recognized by people, the protection awareness of relevant departments is gradually strengthened, but only buildings and industrial products have been protected, and there is no deeper thinking and research on how to reuse these third tier industrial heritage. On the contrary, the government has to spend a lot of extra money on maintenance every year. Take Kant's electric mill in a city as an example. Its predecessor was Yajosin electric mill, the ancestor of a city's electric mill. After local demolition in 2007, it was rated as a municipal cultural relics protection unit by a city's People's Government in 2009. However, the

protection of Kant's fire mill ends there. Construction waste is everywhere and structural reinforcement is exposed. This situation is not an example in the existing third tier industrial heritage of a city. They have experienced the baptism of years. The building structure and wall are seriously damaged. They should be in urgent need of protection or reuse transformation, but the protection of relevant departments is only that. This "listing" protection is tantamount to the destruction of the third tier industrial heritage in the dimension of time. As an important carrier of industrial heritage tourism, the third tier industrial heritage initially settled on the edge of the city. Affected by the process of urbanization, the factories were forced to move out or close down due to poor management. Some valuable sites of third tier industrial heritage have been seriously damaged without due protection. If the third tier industrial heritage does not exist, why should it be restored later. At that time, the third tier industrial heritage tourism is only empty talk.

5. Conclusion

This paper puts forward the research on the development model of the combination of "third tier" industrial heritage and rural tourism under the concept of urban image, explains and expounds the comprehensive evaluation method, and applies it to the comprehensive evaluation of the tourism value of industrial heritage. Firstly, according to the current situation and characteristics of industrial heritage in a city, this paper puts forward the evaluation standards and significance of industrial heritage tourism. Secondly, SWOT analysis is used to analyze the feasibility of carrying out industrial heritage tourism and comprehensive evaluation of industrial heritage tourism. This paper expounds the comprehensive value of industrial heritage tourism in detail and further expounds the necessity of developing industrial heritage tourism in a city. The future research on urban image can understand the people's emotional cognition and functional needs of the city through in-depth investigation and research on residents, strengthen the research on urban image, analyze the functional needs of the city from the personality level, carry out urban planning to truly realize the construction of livable city, improve the urban living environment, and establish urban civilization, so as to make the urban planning and construction more in line with the law of sustainable development.

Data Availability

No data were used to support this study.

Conflicts of Interest

The author declares that there are no conflicts of interest regarding the publication of this article.

Acknowledgments

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