

Article

Study on the Influencing Factors and Acting Path of the Sustainable Development of Rural Tourism Based on EEAM-ISM Model

Gangmin Weng, Yue Pan *  and Jianpu Li 

School of Economics and Management, Yanshan University, Qinhuangdao 066004, China; wenggangmin@163.com (G.W.); lijianpuysu@163.com (J.L.)

* Correspondence: panyue_e@163.com; Tel.: +86-15032375210

Abstract: The sustainable development of rural tourism is a complex system that includes both objective environmental factors and subjective human factors. Based on the three dimensions of “man–machine–environment”, the element event analysis method (EEAM) is introduced to identify and determine the components of the rural tourism composite system. Then, a hierarchical digraph of the rural tourism complex system is constructed by the interpretative structural model (ISM), and the logical structural relations among factors are explored to clarify the action paths. It is found that: (1) through three rounds of soliciting opinions and revising the list of factors, a total of 26 key factors affecting the sustainable development of rural tourism were screened out; (2) the influencing factors are related to each other to form a five-level factor hierarchical structure, which clearly reveals the overall structure of the system and the support dependencies among factors; (3) on the basis of clarifying the path of influencing factors, the targeted countermeasures and suggestions for the sustainable development of rural tourism are proposed for three key paths. This not only provides a certain theoretical basis for sustainable forecasting but also helps decision-makers to take targeted countermeasures.

Keywords: rural tourism; sustainable development; EEAM; ISM; influencing factors; acting path



Citation: Weng, G.; Pan, Y.; Li, J. Study on the Influencing Factors and Acting Path of the Sustainable Development of Rural Tourism Based on EEAM-ISM Model. *Sustainability* **2021**, *13*, 5682. <https://doi.org/10.3390/su13105682>

Academic Editor: Gema Cárdenas

Received: 29 March 2021

Accepted: 8 May 2021

Published: 19 May 2021

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2021 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

For a long time, rural tourism has been considered to have unique advantages in helping rural areas get rid of poverty, absorbing surplus rural labor, inheriting the rural characteristic culture [1], optimizing the rural industrial structure [2], and promoting urban–rural coordination, and it has broad development prospects [3]. However, under the rapid development of rural tourism, the past crisis response behaviors and simple perceptual risk control thinking can no longer fundamentally solve a series of development problems that have frequently occurred in recent years, such as the deterioration of rural ecology, the loss of local culture, similarities in tourism products, and increased conflicts of interest [4]. It not only highlights the fragility of the rural tourism system but also hinders the sustainable development of rural tourism to a certain extent. However, the development of rural tourism involves a large number of factors and their relationships are complex. Whether it can achieve sustainable development is the result of the interaction and coupling of multiple factors [5]. Therefore, in order to scientifically carry out sustainable control and optimization of rural tourism, it is necessary to clarify the internal connections among factors, analyze, in depth, the path of their effects on sustainability, and put forward countermeasures and suggestions to improve and enhance the sustainability of rural tourism in a targeted manner.

In recent years, the rapid development of rural tourism has attracted scholars to pay more attention to it, and a large number of scientific research and project practice studies have been carried out from different perspectives. From the existing literature, the

research mainly focuses on the various development models of rural tourism, including macro-comparison between regions and micro-empirical research based on stakeholders such as residents [6,7], tourists [8,9], and tourism companies [10]. However, it is still rare to study rural tourism from the perspective of sustainable development, and the research is relatively weak. The existing research is also limited to the construction of sustainability indicators and effect evaluation. In terms of research perspectives, most research only conducted in-depth analysis from a single influencing factor within the composite system, such as stakeholders [11–13], institutionalization [14,15], and tourist attraction [16,17], and lacked the integration and correlation of factors, as well as discussions on the status and role of each component. This deems the mechanism and evolutionary law of sustainable development of rural tourism still in a black box state. For research models, scholars have paid more attention to the macroscopic description of influencing factors and the improvement of evaluation methods, and most of them used factor analysis [18,19], the econometric model [20,21], the fuzzy comprehensive evaluation method [22], appreciative inquiry [23], the diamond model [24], etc., to evaluate sustainable factors. It can be seen that the research is not “from cause to effect” but still stays on the measurement of the reflective index of the capacity construct of rural tourism sustainability. Moreover, in terms of research object analysis, the research results prefer to evaluate individual rural tourism destinations [25–27], which are not universal.

In view of this, on the basis of case analysis and expert consultation, this paper identifies and establishes an influencing factors system and adopts the interpretative structural model (ISM) to construct their hierarchical structure for the sustainable development of rural tourism. This is helpful to clarify the internal mechanism and logical structure of the mutual influence of rural tourism sustainable components and focus on distinguishing the influence path of specific factors, which can provide theoretical support and practical guidance for the sustainable development of rural tourism.

2. Methods

2.1. Influencing Factors Extraction

The element event analysis method (EEAM) was proposed by the Institute of Safety Science, Civil Aviation University of China in 1996 and was developed on the basis of the accident chain. The basic principle of this method is to consider that aviation accidents are not caused by a single cause and decompose unsafe incidents into the simplest “primitive events” based on the dimension of “human, machine, and environment”, that is, the single cause of the accident [28]. In this way, the essential cause of the accident can be analyzed, and targeted preventive measures can be proposed.

Since there are few existing literature works where rural tourism is included in the analysis of sustainable development factors, few studies can be used for reference. Therefore, this article attempts to introduce the aviation EEAM into the field of rural tourism. Based on typical cases, it comprehensively screens possible influencing factors from complex and changeable situations and establishes a structural relationship with the target variable of sustainable development of rural tourism. Corresponding to the “human–machine–environment” system, “human” refers to people participating in rural tourism, namely, rural tourism stakeholders, including tourists, community residents, governments, and enterprises. “Machine” means the rural tourism project, which includes both the project itself and its related resources. Additionally, “environment” is the compound environment in which the development of rural tourism is located, which specifically covers the ecological environment, social environment, economic environment, and policy environment. This lays the foundation for the systematic structure construction of the sustainable development of rural tourism.

2.1.1. Sample Source

To ensure the adequacy and effectiveness of the sample collection, the research samples used all came from second-hand data obtained from the Internet. The China Rural Tourism

Network (<http://www.crttrip.com/>) (accessed on 8 January 2021) has long been committed to providing rural tourism information, which is the most authoritative rural tourism brand promotion and public information service platform. At the same time, it is supplemented by local rural tourism websites, such as the Qilu Rural Tourism Network (<http://www.qlxcly.com/>) (accessed on 18 January 2021) and the Henan Rural Tourism Network (<http://www.hnrta.com/>) (accessed on 19 January 2021), as well as the websites of local tourism bureaus. They were used to systematically collect more than 40 national rural tourism development model cases in the past 10 years. In addition, focusing on the hot news in the development of rural tourism, Baidu (<https://www.baidu.com/>) (accessed on 4 February 2021) and Weibo (<https://weibo.com/>) (accessed on 5 February 2021) were adopted to inquire relevant reports and summarize and sort out more than 50 typical cases, among which most foreign cases obtained achieved sustainable development within a limited sample acquisition. In this process, we first focused on several well-known brands, such as Yuan Village, Snow Country, Wuzhen, and Provence. Then, we searched classic rural tourism cases directly. Next, based on the previous review of the relevant literature, purposeful searches were conducted with “rural tourism + key words” as the search terms, such as “rural tourism + employment”, “rural tourism + interest conflict”, and “rural tourism + policies support”. Moreover, considering the difference in expression, three types of leisure agriculture, characteristic town, and folklore tourism were also selected as supplementary survey objects.

2.1.2. Factor Extraction

Grounded theory is a qualitative research method using systematic procedures to conclude, discover, and develop a theory based on data for a certain phenomenon. Its core is to conclude and summarize from the data. Borrowing from the open coding process in grounded theory, the sample cases were decomposed to form 54 preliminary concepts ($c_1 \sim c_{54}$). In order to streamline the number of concepts, continuous comparison, merging, and clustering were carried out on the basis of the internal connections, that is, the process of categorization and combination. Ultimately, a total of 29 categories were extracted ($C_1 \sim C_{29}$), and the open coding result of some typical cases is shown in Table 1. Thus, a preliminary list of sustainable factors for rural tourism development was drawn up.

In order to further ensure the scientificity and reliability of sustainable factors, 6 scholars in the field of rural tourism research, 2 executives interested in rural tourism practice, and 2 managers of rural tourism functional departments were invited to form a 10-member expert group to participate in the selection of sustainable factors of rural tourism. The team members cover both academia and industry, and all have more than 5 years of research or work experience in rural tourism. Considering that it may be difficult to ensure the opinions of the expert group are completely unanimous, this article adopted the principle of the “one-vote veto system” and set a judgment threshold of 80%. That is, only when no less than 80% of the experts believed that the factors can be retained was it deemed valid. Through three rounds of soliciting opinions and revising the list of factors, except for the factor C_{25} , which was eliminated as an uncontrollable factor, all other factors were retained. In addition, the same types of C_3 and C_4 , C_9 , and C_{17} were merged. Thus, a total of 26 key factors affecting the sustainable development of rural tourism were screened out and further decomposed based on “human–machine–environment”. Moreover, through CNKI (<https://www.cnki.net/>) (accessed on 16 February, 2021), Google Scholar (<https://gg.xueshu5.com/>) (accessed on 17 February, 2021), and other academic journal websites, with the keywords of rural tourism, leisure agriculture, characteristic towns, folk tourism, etc., the relevant empirical papers from 2010 to 2020 were systematically reviewed to verify the representativeness of the factors.

We set the key goal as S_0 , which means the sustainable development of rural tourism, and around this goal, a set of influencing factors $S^{\oplus} = \{S_i | i = 1, 2, \dots, 26\}$ was established (shown in Table 2).

Table 1. The result of open coding.

Typical Sample	Open Coding	
	Conceptualization	Categorization
—The local government had issued special support policies for Moganshan B&B (c_1) and also established colleges to provide professional skills training for practitioners (c_2). —Yuan Village primitively developed the agritainment (c_3), then established the snack street with Guanzhong characteristics (c_4), and expanded the nighttime economy (c_5), forming a diversified industrial development model (c_6). It has absorbed over 3000 new villagers (c_7). —Bajiao Village adopted the method of jointly raising funds (c_8) by farmers, the government, banks, collectives, and enterprises to coordinate the promotion of key infrastructure upgrade projects (c_9) to create a beautiful, clean, and tidy living environment (c_{10}). —With a large-volume village (c_{11}) as its core attraction, Thousand Miao Villages made full use of original folk culture resources (c_{12}) to develop the experience activities of intangible cultural heritage (c_{13}) and provide ancient song singing, immersive performance, etc. (c_{14}). —On the basis of extensively soliciting suggestions from the community and farmers in planning areas, the government of Sansheng Town established the characteristic industry development plan (c_{15}) of “One Village, One Product”. Moreover, through further packaging drainage of marketing publicity (c_{16}), it was gradually built into the famous “five golden flowers” agricultural leisure and entertainment brand (c_{17}). —Developers placed farmers as the main beneficiary position (c_{18}), mobilized them to invest in farmland (c_{19}), and shared the profits forty–sixty (c_{20}). Local farmers were also recruited to work (c_{21}), having resettled over 65,000 idle laborers of Fengshan Village thus far (c_{22}). —Dongwennan Village adopted the mode of “Village Party Branch + Agronomy Experts + Undergraduate Entrepreneurship + New Professional Farmers” (c_{23}) to exert the <i>Homo habilis</i> effect, boosting the development of ginger industry. —The tourism company implemented unified standardized management (c_{24}), and allocated some shops and supporting facilities such as pleasure boats at low price to the aborigines (c_{25}), so as to avoid the embarrassing situation of numerous shops on one side in Wuzhen. —The squares and streets of Guanajuato are natural stages (c_{26}). Except for the regular annual Cervantes International Art Festival, various art activities are held almost every month (c_{27}), which continue to attract visitors (c_{28}). —There are six lavender-growing areas in Provence, of which Valensole has the largest (c_{29}) and is adjacent to the highway (c_{30}), so it is given priority. —McLaren Valley Wine Estate has a stable climate with even rainfall, hot, dry days and cool nights, and its soil is rich in minerals and iron macadam, providing a unique environment for wine grape growth (c_{31}). Exports of wine bring in a substantial income for the estate (c_{32}). —The artificial scenic spots in White Deer Plain Folk Culture Village competed to divide up the cultural IP of White Deer Plain with the same theme (c_{33}), which makes tourists feel esthetic and visual fatigue (c_{34}). —The strong professionalism and high investment cost of the mold made the enterprise’s investments cautious. The project of Yuyao Moooke Town was eventually forced to stop because of the broken chain of funds (c_{35}). —Tourists revealed a basketful of price frauds (c_{36}) in the Snow Country. The local tourism department cooperated with multiple departments (c_{37}) to deal with related complaints and cases seriously (c_{38}), while the effect was minimal.	c_1 supportive policy c_2 skill training c_3 agritainment c_4 snack street c_5 nighttime economy c_6 diversified industrial development c_7 participation c_8 fundraising c_9 infrastructure upgrade c_{10} living environment c_{11} traditional village c_{12} original folk culture c_{13} experiential activity c_{14} folk performances c_{15} scientific planning c_{16} marketing publicity c_{17} brand building c_{18} farmers benefit c_{19} forestland investment c_{20} revenue distribution c_{21} workers c_{22} labor absorption c_{23} talents system c_{24} standardization management c_{25} directional distribution c_{26} natural stage c_{27} regular cultural activities c_{28} many tourists c_{29} the largest area c_{30} adjacent highway c_{31} unique environment c_{32} sizable income c_{33} homogenization c_{34} esthetic fatigue c_{35} capital shortage c_{36} price fraud c_{37} joint investigation c_{38} complaint handling capability c_{39} heavily commercialized c_{40} lax supervision c_{41} emergency c_{42} illegal picking c_{43} vegetation deterioration c_{44} unfair distribution of benefits c_{45} resistance activities c_{46} single industry format c_{47} cutthroat competition c_{48} few inns c_{49} poor accommodation environment c_{50} tourist dissatisfaction c_{51} residents resent c_{52} low and peak seasons c_{53} trample c_{54} production reduction	$C_1(c_1)$ policy support $C_2(c_2, c_{23})$ human resource abundance $C_3(c_3 \sim c_5, c_{13})$ tourism formats $C_4(c_6, c_{40}, c_{46})$ diversified industrial development $C_5(c_7)$ participation $C_6(c_8, c_{35})$ diversified financing channels $C_7(c_9)$ completeness of infrastructure $C_8(c_{10})$ living environment $C_9(c_{11}, c_{12}, c_{26})$ resource authenticity $C_2(c_{14}, c_{19}, c_{21})$ participation way $C_{10}(c_{15})$ scientificity of regional planning $C_{11}(c_{16}, c_{17})$ brand awareness $C_{12}(c_{18}, c_{24})$ operation principle $C_{13}(c_{20}, c_{25}, c_{44})$ profit-sharing arrangement $C_{14}(c_{22})$ employment situation $C_{15}(c_{27}, c_{52})$ swimming period $C_{16}(c_{28})$ number of tourists $C_{17}(c_{29}, c_{33})$ resource uniqueness $C_{18}(c_{30})$ traffic convenience $C_{19}(c_{31}, c_{43})$ ecological environment $C_{20}(c_{32}, c_{54})$ income situation $C_{21}(c_{34}, c_{50})$ tourist satisfaction $C_{22}(c_{36}, c_{47})$ folk custom $C_{23}(c_{37}, c_{38}, c_{40})$ regulation ability $C_{24}(c_{39})$ resource development intensity $C_{25}(c_{41})$ emergency $C_{26}(c_{42})$ awareness of resource protection $C_{27}(c_{45}, c_{51})$ hospitality $C_{28}(c_{48}, c_{49})$ completeness of tourist infrastructure $C_{29}(c_{53})$ tourist quality

Table 1. Cont.

Typical Sample	Open Coding	
	Conceptualization	Categorization
—Many ancient buildings in Xitang Town were occupied by bars, inns, and shops (<i>c</i>₃₉), leading to various criticisms such as fire hazards and noise pollution. Local governments were also weak in supervision and control (<i>c</i>₄₀). In 2017, a fire (<i>c</i>₄₁) broke out, which burned down more than 100 buildings, causing immeasurable cultural and economic losses. —Every August, there will be some herdsmen illegally picking wild <i>Lycium ruthenicum</i> barbarously (<i>c</i>₄₂) in Hnormuhong Township, leading to large-scale plant destruction (<i>c</i>₄₃). —The unequal distribution of ticket revenue of Dragon Moutains (<i>c</i>₄₄) aroused the villagers' anger towards the developers, triggering resistance activities such as blocking roads (<i>c</i>₄₅). —Xiaogou Village is dominated by small-scale decentralized operation of agritainment (<i>c</i>₄₆), and vicious competition, such as soliciting customers on the street and competing for customers at low prices, is frequent (<i>c</i>₄₇). —Aokigawa ancient town has only few inns (<i>c</i>₄₈), whose environments are rudimentary (<i>c</i>₄₉), causing low willingness to stay in tourists (<i>c</i>₅₀). —Residents of Listvyanka were dissatisfied (<i>c</i>₅₁) that the large influx of tourists had damaged the local ecological environment and even affected daily life, suggesting that the authorities limit the number of tourists. —As the flowering period of rapeseed flowers is shorter, Houjia Village has a clear line between off-season and peak season in tourism revenue (<i>c</i>₅₂). Moreover, the rapeseed fields were trampled (<i>c</i>₅₃) due to the influx of tourists to take photos, resulting in nearly one tenth of the loss of rapeseed oil production (<i>c</i>₅₄).		

Table 2. List of sustainable factors for rural tourism development.

Dimension	Specific Factors	Researchers
Human	<i>S</i> _{1T} Number	[3,6,8,9,12]
	<i>S</i> _{2T} Quality	[29]
	<i>S</i> _{3T} Satisfaction	[3]
	<i>S</i> _{4R} Hospitality	[1,3,6,7,19]
	<i>S</i> _{5R} Participation	[1,6,19,23]
	<i>S</i> _{6R} Participation way	[19]
	<i>S</i> _{7R} Resource protection awareness	[3,6,7]
	<i>S</i> _{8G} Regulation ability	[13]
	<i>S</i> _{9G} Scientificity of regional planning	[7,12,13]
	<i>S</i> _{10E} Operation and management concept	[15,19]
Machine	<i>S</i> _{11E} Profit distribution method	[3,6,7]
	<i>S</i> ₁₂ Brand awareness	[1,9]
	<i>S</i> ₁₃ Traffic convenience	[1,20]
	<i>S</i> ₁₄ Resource authenticity and uniqueness	[1,2,12]
	<i>S</i> ₁₅ Degree of industry diversification	[2,9]
	<i>S</i> ₁₆ Resource development intensity	[27]
	<i>S</i> ₁₇ Abundance of human resources	[1,12,27]
	<i>S</i> ₁₈ Completeness of tourist facilities	[7]
	<i>S</i> ₁₉ Swimming period	[30]
	<i>S</i> ₂₀ Natural ecological quality	[1,7,8]
Environment	<i>S</i> ₂₁ Living environment	[6]
	<i>S</i> ₂₂ Folk customs	[3,7]
	<i>S</i> ₂₃ Completeness of infrastructure	[1,6,7]
	<i>S</i> ₂₄ Employment and income growth	[2,6,7,19,23]
	<i>S</i> ₂₅ Diversified financing channels	[13,27]
	<i>S</i> ₂₆ Policy support	[2,6,13,27]

T—tourist, R—resident, G—government, E—enterprises.

2.2. System Structure Construction

In the element system $S^{\oplus}$ of the sustainable development of rural tourism, the factors are interdependent, interacting, and intercoupling. Sustainable realization requires not only the good performance of a single factor but also adaptation among the factors. Additionally, the disturbance of any single factor may lead to the weakening or exhaustion of the entire rural tourism system. Only by clearly presenting the logical relationship and hierarchical context among the factors can we grasp the operation mechanism of the rural tourism system and have a deeper understanding of the various problems encountered in the development. As a result, the coordination and coupling relationship among factors can be targeted and adjusted to achieve the goal of sustainable development of rural tourism. Therefore, on the basis of fully screening the sustainable development factors of rural tourism, this paper introduces the ISM to deeply deconstruct their logical hierarchical structure and explore the internal mechanism of system operation.

The interpretative structural model (ISM) is a static structural analysis method created by Professor John N. Warfield of the United States in 1973. It is mainly used to qualitatively express the multiple feedback relationships existing among multiple elements in a complex system [31]. It has been widely used in factor analysis [32–34], fault detection [35], risk assessment [36], and other fields. The basic principle of this model is to decompose a complex system into several subsystems (or elements) and then use the incidence matrix principle in graph theory to quantify the complex association relationship among numerous elements on the basis of the wisdom and experience of experts. In other words, the original vague idea is transformed into a clear multi-level hierarchical structure model by the method of mathematical logic derivation [37]. Obviously, the advantage of the model is that it does not require clear data support. It adopts mathematical models to quantify the experience of experts and transforms the fragmentation and ambiguity of the relationship among the elements into integrity and clarity. In this way, it discovers the essential connection among the key factors and reveals the internal laws of the system structure. It effectively solves the problem that most of the factors in the sustainable development element system of rural tourism are difficult to quantitatively analyze through clear data.

2.2.1. Construct the Logical Relation

The expert group was consulted again, and based on the 26 specific factors in the sustainable development system of rural tourism listed above, the logical relationship among the factors was judged pairwise by using the LIKERT 5 subscale method. It stipulates that if the expert k ($k = 1, 2, \dots, 10$) believes that s_i has a significant influence on s_j , r_{ij} is assigned a value of 5. Similarly, more significant is 4; uncertain is 3; insignificant is 2; and very insignificant is 1. Then, the assignment is summarized:

$$R_{ij} = \sum_{k=1}^n r_{ij}^k \quad (1)$$

If $R_{ij} > 30$, it is considered that s_i has a direct influence on s_j ; otherwise, it is considered that s_i has no influence on s_j , and the feedback relationship of the elements is ignored. In this way, the influence of the prejudice of the expert group members on the results is eliminated, and then a directed relationship diagram of sustainable development factors of rural tourism can be constructed by NetDraw (shown in Figure 1).

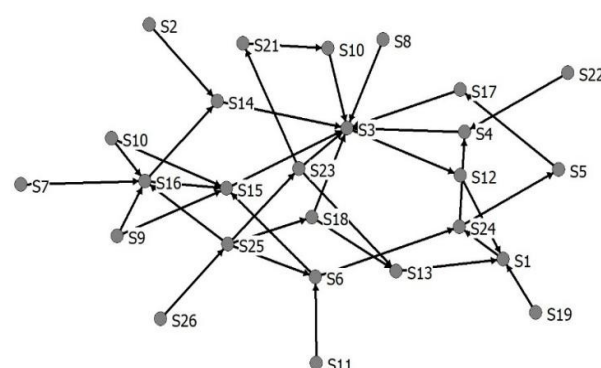


Figure 1. Directed diagram of ISM model.

2.2.2. Define the Adjacency Matrix

An adjacency matrix represents the basic binary relationship between the elements in the element system $S^{\oplus}$ and describes the accessibility of the elements after passing through a path of length 1. According to the relationship between the factors of the sustainable rural tourism system shown in Figure 1, a 26×26 adjacent matrix indicates the logical relationship between factors in binary form. For example, the element a_{ij} in the adjacency matrix A stands for the element in i row and j column, and it is also defined as follows: if element s_i has a directed influence on s_j , it is recorded as $s_iRs_j = 1$, and in the corresponding adjacency matrix A as $a_{ij} = 1$; otherwise it is $a_{ij} = 0$. Thereout, the adjacency matrix A is obtained, as follows:

[illegible]

2.2.3. Solve the Reachability Matrix

From the adjacent matrix, we can focus on the direct relation between factors, while there are also indirect relations, which can be expressed with a reachable matrix. A reachability matrix represents the arbitrary transitive binary relationship among the elements

in the element system $S^\oplus$ and describes the degree to which it can be reached after a certain length of the path. It has the characteristics of transitivity. Each element m_{ij} in the reachability matrix indicates whether factor s_i can reach s_j (no matter how long the path is), and whether s_i can influence or result in s_j . That is:

$$m_{ij} = \begin{cases} 1, & s_i \text{ can influence } s_j \\ 0, & s_i \text{ cannot influence } s_j \end{cases} \quad (3)$$

According to Boolean calculation rules, the reachability matrix M of the adjacent matrix A is present, if the adjacency matrix A satisfies:

$$M = (A + I)^{k+1} = (A + I)^k \neq (A + I)^{k-1} \quad (2 \leq k \leq 25, k \in N^+) \quad (4)$$

where I is the identity matrix of A with the same order. The calculation method is shown in Figure 2.

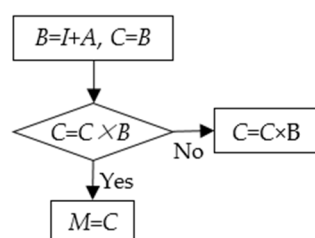


Figure 2. Calculation method of reachability matrix.

Ultimately, $k = 8$ is obtained by using Matlab. That is, after 8 operations, the initial reachable matrix $M = (A + I)^8$ is generated. Meanwhile, it is found that the system has a strong connection path, which is regarded as the node $S_r = \{S_1, S_3, S_4, S_5, S_{12}, S_{17}, S_{24}\}$ to obtain the reduced matrix M' (subject to space limitations, M and M' are not presented).

2.2.4. Divide the Factor Hierarchy

Define the set of elements reachable from S_k in the reduced matrix M' as the reachability set $P(S_k) = \{S_j | S_j \in S, m_{ji} = 1\}$ of S_k . The reachability set for each element represents a set of elements upon which the current element has an impact, identified from the horizontal row of the matrix M' corresponding to the current element. Additionally, the set of elements that can reach S_k in the reduction matrix M' is defined as the antecedent set $Q(S_k) = \{S_j | S_j \in S, m_{ji} = 1\}$ of S_k . The antecedent set represents the set of elements which have an impact on the current element. This can be seen from the column corresponding to element in the matrix M' . In this way, the reachability set and antecedent set for all elements are determined and are given in Table 3.

Based on the derivation of the reachability set and antecedent set, the ISM hierarchy is obtained by dividing the factor level. Firstly, according to principle $L_1 = \{S_k | P(S_k) \cap Q(S_k) = P(S_k)\}$, extract the highest element set of the sustainable multi-level hierarchical structure of rural tourism. That is, for any element, if the reachability set is a complete subset of the antecedent set, that element is taken out and assigned a particular level. For example, after the first iteration, the reachability set of S_r is found to be a complete subset of the antecedent set. Hence, S_r is taken out from the reachability matrix and kept at Level 1, which is $L_1 = \{S_r\} = \{S_1, S_3, S_4, S_5, S_{12}, S_{17}, S_{24}\}$. Then, delete the rows and columns corresponding to the elements in L_1 from the reduced matrix M' to obtain the matrix M'' and extract the second highest element set $L_2 = \{S_8, S_{13}, S_{14}, S_{15}, S_{19}, S_{20}, S_{22}\}$ again. Additionally, the iterative process is continued with the remaining elements, until all the elements are exhausted and their respective levels are obtained. Finally, we can get $L_3 = \{S_2, S_6, S_{16}, S_{18}, S_{21}, S_{23}\}$, $L_4 = \{S_7, S_9, S_{10}, S_{11}, S_{25}\}$, $L_5 = \{S_{26}\}$.

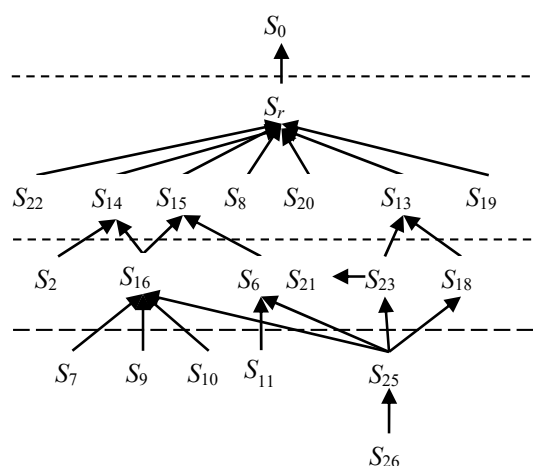
Table 3. Reachable set and antecedent set at Level 1.

S_i	$P(S_k)$	$Q(S_k)$	L_1
S_r	S_r	$S_1 \sim S_{26}$	✓
S_2	S_r, S_2, S_{14}	S_2	—
S_6	S_r, S_6, S_{15}	$S_6, S_{11}, S_{25}, S_{26}$	—
S_7	$S_r, S_7, S_{14}, S_{15}, S_{16}$	S_7	—
S_8	S_r, S_8	S_8	—
S_9	$S_r, S_9, S_{14}, S_{15}, S_{16}$	S_9	—
S_{10}	$S_r, S_{10}, S_{14}, S_{15}, S_{16}$	S_{10}	—
S_{11}	S_r, S_6, S_{11}, S_{15}	S_{11}	—
S_{13}	S_r, S_{13}	$S_{13}, S_{18}, S_{23}, S_{25}, S_{26}$	—
S_{14}	S_r, S_{14}	$S_2, S_7, S_9, S_{10}, S_{14}, S_{16}, S_{25}, S_{26}$	—
S_{15}	S_r, S_{15}	$S_6, S_7, S_9, S_{10}, S_{11}, S_{15}, S_{16}, S_{25}, S_{26}$	—
S_{16}	$S_r, S_{14}, S_{15}, S_{16}$	$S_7, S_9, S_{10}, S_{16}, S_{25}, S_{26}$	—
S_{18}	S_r, S_{13}, S_{18}	S_{18}, S_{25}, S_{26}	—
S_{19}	S_r, S_{19}	S_{19}	—
S_{20}	S_r, S_{20}	S_{20}, S_{21}	—
S_{21}	S_r, S_{20}, S_{21}	S_{21}	—
S_{22}	S_r, S_{22}	S_{22}	—
S_{23}	S_r, S_{13}, S_{23}	S_{23}, S_{25}, S_{26}	—
S_{25}	$S_r, S_6, S_{13}, S_{14}, S_{15}, S_{16}, S_{18}, S_{23}, S_{25}$	S_{25}, S_{26}	—
S_{26}	$S_r, S_6, S_{13}, S_{14}, S_{15}, S_{16}, S_{18}, S_{23}, S_{25}, S_{26}$	S_{26}	—

Note: “✓” indicates that the factor belongs to this level, while “—”, on the contrary, means that it does not belong to this level.

2.2.5. Establish the Interpretative Structure Model

According to the above information, a hierarchical factor chain with a logical relationship is obtained. Next, simplify the leapfrog binary relationship among the factors, adjust the order of the factors in the matrix, and then use directed edges to connect adjacent levels of factors and the same level of factors to draw a multi-level hierarchical structure model of the sustainable development of rural tourism (shown in Figure 3).

**Figure 3.** Directed topological structure of sustainable development of rural tourism.

3. Results

It can be seen from Figure 3 that whether rural tourism can achieve sustainable development is the result of the comprehensive effect of the above 26 factors, which are progressive layer by layer, with continuous accumulation and coupling mutations. Compared with Figure 1, its directed topological structure makes the relationship among the original numerous and complex factors intuitive and clear, revealing the overall structure of the rural tourism sustainable development system and the supporting dependencies among the factors, thereby benefiting analyzing the internal mechanism of sustainable rural tourism.

3.1. Subsystem Correlation Analysis

Judging from the hierarchical division results, there are strong connected loops in $L_1 = \{S_r\} = \{S_1, S_3, S_4, S_5, S_{12}, S_{17}, S_{24}\}$, and seven factors are coupled with each other to form a complex subsystem. Obviously, any factor change may transfer and spread among the remaining six factors. This can be seen in Figure 4.

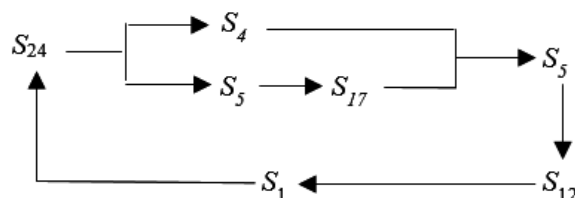


Figure 4. Correlation analysis of factors in L_1

As shown in Figure 4, the increase in employment and income in rural areas (S_{24}) directly affects the participation and hospitality of local residents ($S_4 + S_5$) in rural tourism. The social and economic benefits brought by the development of rural tourism to the local area enable residents to experience the substantial benefits and happiness. On the one hand, this encourages residents to actively participate in the development of rural tourism through a variety of ways, which will not only be conducive to absorbing the surplus rural labor force but will also help attract outstanding talents who go out to return to their hometowns to start businesses. Obviously, this is an important process that helps to ensure the abundance of human resources (S_{17}). On the other hand, this avoids and reduces the hostility of residents and spontaneously forms a warm and friendly tourist atmosphere. These findings are in accordance with results from some previous research [6,7]. Compared with traditional tourism in scenic spots, the practitioners of rural tourism are mainly aboriginal villagers, who directly contact the tourists. Therefore, the active participation and hospitality of residents will affect the in-depth and full-course experience of tourists. In turn, this has an impact on travel satisfaction (S_3) and the revisit rate. From a long-term perspective, the word-of-mouth effect brought about by a good travel experience continues to spread among consumers, and the brand awareness (S_{12}) of this rural tourism will increase accordingly, which in turn will attract more tourists and bring a continuous increase in the number of tourists (S_1). These results are similar to those that can be found in the research carried out by Ezeuduji [1] and Lewis [8]. This will further open up the rural tourism market and increase employment opportunities and residents' income, thereby forming a virtuous circle of rural tourism development.

3.2. Hierarchical Correlation Analysis

It can be seen from Figure 3 that the system of influencing factors for the sustainable development of rural tourism is a five-level hierarchical structure. According to the impact effect and period, the levels can be divided into the surface direct impact level, the middle indirect impact level, and the deep root impact level. Furthermore, different levels of factors can be selected to regulate and control in connection with different research and management goals. Next, specific analysis can be added as follows:

- The surface direct impact level includes 14 factors involving L_1 and L_2 , among which mainly two types of factors, human and machine, are the leading factors having the most direct impact on the sustainable development of rural tourism. Note that the factors at the same level in the L_1 set have close influences, while there is no direct correlation among the various influencing factors in the L_2 set. Instead, they restrict the number of tourists (S_1), tourist satisfaction (S_3), and the hospitality of community residents (S_4) and then rely on the linkage of these three factors and other factors in L_1 to influence the sustainable development of rural tourism. It can be seen that the most direct way to achieve the sustainable development of rural tourism is to properly solve the problems involved in these factors, but these factors are the final manifestation of

many other factors, and this can only achieve the effect of “treatment of the symptoms but not the root cause”. Therefore, it is still necessary to rely on improving the bottom- and middle-level factors. For example, the adjustment and improvement of related policies can broaden financing channels and provide financial support for upgrading rural infrastructure and service facilities, meaning that the problem of the accessibility of tourist destinations can be effectively solved, and the purpose of increasing the number of tourists and promoting the sustainable development of tourism can be achieved.

- The middle indirect impact level is composed of six factors, which are not only the direct cause of transmission in the sustainable development chain of rural tourism but also the product of the accumulation, transmission, coupling, and synthesis of other incentives. It is obvious that they have huge endogenous energy that promotes sustainable transmission. On the one hand, the completeness of infrastructure (S_{23}) and tourist facilities (S_{18}) directly affects the accessibility of tourist destinations, which also has an important impact on improving tourist satisfaction (S_3), expanding brand awareness (S_{12}), and attracting visitors (S_1). On the other hand, the improvement of infrastructure (S_{23}) is conducive to improving the living environment (S_{21}) of tourist destinations, solving pollution problems in a greener way, realizing efficient use of rural resources, and promoting effective unity of economic benefits and environmental benefits. Meanwhile, with the rise in the rural tourism boom, the increase in the number of tourists will inevitably put pressure on the rural ecological environment. Due to the various uncivilized phenomena in tourism activities, the influence of tourist quality (S_2) on the authenticity and uniqueness (S_{14}) of resources has become increasingly prominent. It is urgently needed to alleviate it by controlling the scale of passenger flows, strengthening general education on environmental protection, and intensifying environmental supervision.
- The deep root impact level includes the resource protection awareness of community residents (S_7), scientificity of regional planning (S_9), operation and management concept of tourism enterprises (S_{10}), profit distribution method of tourism enterprises (S_{11}), and diversified financing channels (S_{25}) in L_4 , and the relevant policy support (S_{26}) in L_5 . These factors mainly affect the rest of the factors through accumulation and transmission, which are the root factors that affect the sustainable development of rural tourism. According to the twenty-eight rule, 80% of the impact often comes from the 20% cause. Therefore, the control of the root cause will bring the greatest benefits, and the external manifestations will be easier to eliminate. The root cause of relevant policy support (S_{26}) mainly refers to various policies, systems, and rules, including relevant policies formulated by the government and various management regulations in rural tourism operations, which have the role of protection, control, and regulation to ensure the orderly progress of rural tourism construction. It can be seen that the government is both the chief engineer of rural tourism and the coordinator of all stakeholders. First, enhancing the response ability to complaints of the government will help resolve conflicts and balance the interests of multiple parties. Second, improving the scientificity and rationality of the top-level design is also related to the smooth development of the project and the sustainability of the entire rural tourism development. Hence, the relevant laws and policies formulated by the government are the basis for guiding and improving the sustainable development of rural tourism, and the enthusiasm of rural tourism development can be mobilized through policy innovation. These results are in line with previous research [13].

3.3. Key Factor Association Analysis

According to the principles of graph theory and matrix theory, if multiple factors point to the same factor (in-degree node) or one factor points to multiple factors (out-degree node), the factor is often judged as a key factor. Therefore, this article selects tourist satisfaction (S_3), intensity of resource development (S_{16}), and diversified financing channels (S_{25}) as the three key factors for analysis. The specific association relationship is shown in Figure 5.

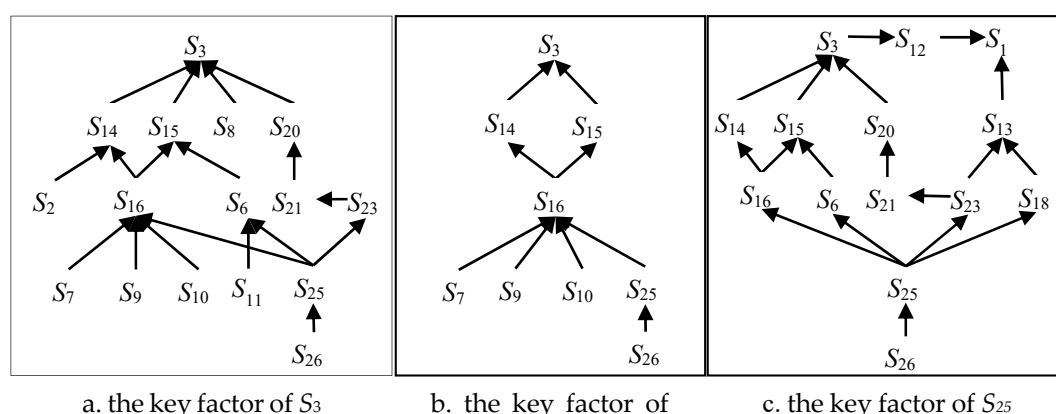


Figure 5. Correlation analysis of key factors.

As shown in Figure 5a, tourist satisfaction (S_3) has a direct impact on the sustainability of rural tourism development and is affected by many factors. Among them, resource authenticity and uniqueness (S_{14}), degree of industry diversification (S_{15}), and natural ecological quality (S_{20}) are closely related to the intuitive satisfaction of tourists. The higher the degree of matching with tourist demand, the stronger the positive pulling force on tourist satisfaction. Meanwhile, the regulation ability of the government (S_8) is a hygiene factor in tourism activities. Proper handling will prevent or eliminate the negative emotions generated by tourists in tourism activities, while improper handling can easily further intensify conflicts, cause continued dissatisfaction, damage the image of the scenic spot, and reduce government credibility. It is necessary to deal with the problems and complaints generated by tourists in the tourism experience in time. Therefore, this requires the government, developers, and community residents to form a joint force, not only to control the intensity of resource development and maintain the uniqueness and integrity of the rural landscape but also to provide tourists with a good service guarantee. Meanwhile, tourist satisfaction (S_3) is also an important node in the closed subsystem cycle of L_1 , and its influence is self-interfering. With the help of a strong connected loop S_r , the feedback results of positive and negative evolution will eventually cause it to act on itself, further deepening the effect of this factor on the entire system.

As shown in Figure 5b, the intensity of resource development (S_{16}) has four in-degree nodes and two out-degree nodes. Specifically, it is restricted by the resource protection awareness of community residents (S_7), scientificity of regional planning (S_9), operation and management concept of tourism enterprises (S_{10}), and diversified financing channels (S_{25}) and further influences the resource authenticity and uniqueness (S_{14}), and degree of industry diversification (S_{15}). In other words, its influence method is conductive and has the effect of linking up and down. With the advent of the mass tourism era, tourists have gradually transitioned from the initial sightseeing tour to the experience tour. In addition to the demand for basic natural scenery, they also have an experience demand for the primitive customs of the countryside. Therefore, in the process of rural tourism development, if the top-level design from the government is not scientifically sound, or community residents and investors neglect the resource carrying capacity and historical heritage protection in order to maximize their own interests, this will lead to an unreasonable development intensity. The authenticity of resources is permanently compromised, and, ultimately, this leads to the unsustainable development of rural tourism. Therefore, it is necessary to resolutely put an end to the mentality of impetuous progress in development, conduct a good job of top-level design, and pay attention to the excavation and inheritance of human resources while rationally developing natural resources. We should advance all aspects of the process step by step.

As shown in Figure 5c, the diversified financing channels (S_{25}) have only four out-degree nodes. Although this cannot directly affect rural tourism in the short term, it can ultimately affect rural tourism through the spillover effect produced in the long-term

transmission of multiple factors. It is the deep kinetic energy of the development of rural tourism and its influence that has a long-term nature. The status of financing channels is restricted and affected by relevant policy support (S_{26}), and the changes brought about by the expansion of financing channels will be reflected in more aspects, including the improvement of infrastructure (S_{23}) and tourist facilities (S_{18}), the participation method of community residents (S_6), and the intensity of resource development (S_{16}). Furthermore, it has an accumulated impact on the sustainability of rural tourism. The reason is that rural tourism is an industry that has the features of the initial high investment and long circle of funds. Hence, it needs strong financial support to ensure the development, maintenance, and promotion of rural tourism. Whether the financing channels are diversified plays a leading role in the sustainable development of rural tourism, and it is also an important breakthrough link for future sustainability [1].

4. Conclusions and Implications

4.1. Conclusions and Contributions

The sustainable development of rural tourism is a complex system that includes both objective environmental factors and subjective human factors. This paper introduces the EEAM, through case study and expert discussion, to determine 26 specific factors affecting the sustainable development of rural tourism, and then to analyze the logical hierarchical relationship among the various influencing factors, as well as exploring the internal mechanism of system operation by ISM.

Compared with the traditional fault tree, fishbone diagram, and other methods which completely rely on the intuitive judgment of experts to establish the system structure, the hierarchical structure division method in this paper is more scientific and rigorous. Firstly, the Delphi cycle survey method is adopted to minimize the subjective bias of experts. Secondly, the ISM is used to ensure that the hierarchical structure of the system is reasonable and intuitive, clearly revealing the acting path of sustainable factors in rural tourism. It not only provides a certain theoretical basis for sustainable forecasting but also helps decision-makers such as tourism authorities, tourism companies, and farmers to take targeted countermeasures to improve various problems in development. However, it needs to be pointed out that the method in this article is based on expert experience and inevitably has a certain degree of subjectivity. Therefore, in the future, a large statistical analysis of data to realize the objectification of the judgment of the causal relationship among factors should be the focus of the next research.

4.2. Implications

Through the decomposition and combing of the multi-level hierarchical structure of the factors of the sustainable development of rural tourism, a total of 11 factor action paths were obtained. Taking into account the intersection among the paths and the joint effect of factors, we further summarized and extracted the three key paths.

Path 1. $S_7 + S_9 + S_{10} \rightarrow S_{16} \rightarrow S_{14} \rightarrow S_3$

In this path, the authenticity and uniqueness of resources (S_{14}) represent one of the direct factors affecting tourist satisfaction (S_3) and are closely related to the intensity of resource development (S_{16}). Meanwhile, as the main body of resource development, community residents, the government, and enterprises are, respectively, represented by the resource protection awareness of community residents (S_7), the scientificity of regional planning (S_9), and the operation and management concept of tourism enterprises (S_{10}) as the same level of factors that jointly affect the intensity of resource development (S_{16}).

The development of rural tourism resources is the process of transforming rural resources from primitive forms into tourism products, and its rationality and scientificity directly determine the richness and uniqueness of tourism products. If resources are predatory developments in pursuit of economic benefits, resulting in overloaded operation of the ecosystem, this will inevitably affect the sustainable production capacity of local tourism resources and reduce the consumer willingness of tourists. Among them, the government

plays a leading role in resource development [38]. It must focus on long-term interests and pursue the maximization of social public interests as a starting point, formulate scientific and reasonable tourism development plans, and avoid sacrificing long-term interests for temporary political achievements. In addition, it is also necessary to pay attention to the basic role of the tourism market in allocation. Additionally, tourism companies are the implementers of tourism development. In addition to pursuing the maximization of their own economic interests, their business management concepts should also take into account social responsibilities. In other words, they need to combine the pursuit of their own interests with cultural protection before making specific development decisions. Further, as the main participants and beneficiaries of resource development, community residents only have a strong awareness of resource protection in order to maintain the sustainability of resources and protect the resource base on which they depend.

Path 2. $S_{11} \rightarrow S_6 \rightarrow S_{15} \rightarrow S_{24}$

The income level of community residents depends on their participation in rural tourism (S_6) and the profit distribution method of tourism companies (S_{11}). Moreover, if residents participate in tourism activities in various forms, this will also help increase the overall scale of the project and the combinational degree of industry (S_{15}), thereby essentially changing the economic structure of the community, and further improving rural employment and revenue (S_{24}).

In the process of developing rural tourism, most of the foreign investors or tourism enterprises have a dominant position in the distribution of tourism benefits because of their capital advantages and become the makers of the rules, while community residents are relatively marginalized. As marginal stakeholders, the right to speak is weak. The operating system of the entirety of rural tourism is essentially a process in which all stakeholders pursue the maximization of their own interests, which is manifested in the fact that tourism companies use limited resources and minimal investment to obtain maximum economic benefits, while the community residents hope to obtain a fair social status and reasonable remuneration on the premise that the living environment is not destroyed. Therefore, it is urgent to establish an interest coordination mechanism to balance the interests of all parties, mainly starting from the following aspects: (1) The government takes the public interest as the starting point, formulates relevant laws and regulations to regulate corporate behavior, promotes the relative fairness of interest distribution, and protects the legitimate rights and interests of residents from inviolability. (2) Pay attention to the participation of residents, build a communication platform, fully listen to the opinions of the people, protect the rights of participation and speech of local residents, and realize the empowerment of residents. (3) Strengthen tourism education and training, establish a sense of win-win cooperation between tourism enterprises and local residents, and introduce advanced management concepts and service skills to improve the quality of local residents [39]. While maintaining the relative balance of the interests of all parties, this will improve the employment and revenue status of rural areas, thereby achieving the sustainable development of the rural tourism economy.

Path 3. $S_{26} \rightarrow S_{25} \rightarrow S_{23} + S_{18} \rightarrow S_{13} \rightarrow S_1$

The traffic convenience (S_{13}) of rural tourism resources is one of the important factors that affect the choice of tourist destinations. It directly affects the number of tourists visiting (S_1) and is highly dependent on road network density, parking lot capacity, network coverage, and other facilities ($S_{23} + S_{18}$). The government can increase support for rural tourism by formulating relevant policies (S_{26}) and simultaneously mobilize the enthusiasm of various market economic entities to guide the diversified development of financing channels (S_{26}). By fully encouraging these funds to invest in the construction of related facilities, the accessibility of villages will be improved.

Both the early stage of tourism development and the later stage of the upgrading of the industrial structure require a large amount of financial support, while the investment demand is large, and the payment cycle is long. However, market entities such as rural

small and medium-sized enterprises and individual farmers are relatively small in scale, poor in risk resistance, and difficult to obtain financing from. If the traditional method of capital operation based on government investment is adopted, it will be difficult to adapt to the development speed of the tourism industry, and the limited funding channels and the simplification of financing methods will easily cause insufficient motivation for the development of the rural tourism economy. Therefore, how to diversify financing channels and solve the funding bottleneck has become the primary problem that needs to be resolved in the development of rural tourism. On the one hand, various financing methods such as BOT, BTO, TOT, and PPP can be considered to absorb private capital, thereby breaking the restriction of the simplification of traditional rural tourism financing channels, alleviating the financial pressure of government departments, and invigorating social capital to inject new impetus into the development of rural tourism. On the other hand, it is possible to enrich the scope of credit collateral for rural tourism projects, lower the credit threshold, and develop differentiated micro-credit products based on credit levels, in order to effectively obtain financial support from financial institutions.

Author Contributions: Data curation, J.L.; methodology, visualization, and writing—original draft preparation, Y.P.; writing—review and editing, G.W. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by the National Social Science Fund of China, grant number 19FGLB001.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Ezeuduji, I.O. Strategic event-based rural tourism development for sub-Saharan Africa. *Curr. Issues Tour.* **2015**, *18*, 212–228. [\[CrossRef\]](#)
2. Wang, L.; Cheng, S.; Zhong, L.; Mu, S.; Dhruba, B.G.C.; Ren, G. Rural tourism development in China: Principles, models and the future. *J. Mountain Sci.* **2013**, *10*, 116–129. [\[CrossRef\]](#)
3. Ying, T.; Jiang, J.; Zhou, Y. Networks, citizenship behaviours and destination effectiveness: A comparative study of two Chinese rural tourism destinations. *J. Sustain. Tour.* **2015**, *23*, 1318–1340. [\[CrossRef\]](#)
4. Lane, B.; Kastenholz, E. Rural tourism: The evolution of practice and research approaches-towards a new generation concept? *J. Sustain. Tour.* **2015**, *23*, 1133–1156. [\[CrossRef\]](#)
5. Streimikiene, D.; Bilan, Y. Review of rural tourism development theories. *Transform. Bus. Econ.* **2015**, *14*, 21–34.
6. Demirovic Bajrami, D.; Radosavac, A.; Cimbaljevic, M.; Tretiakova, T.N.; Syromiatnikova, Y.A. Determinants of Residents' Support for Sustainable Tourism Development: Implications for Rural Communities. *Sustainability* **2020**, *12*, 9438. [\[CrossRef\]](#)
7. Chuang, S. Residents' Attitudes toward Rural Tourism in Taiwan: A Comparative Viewpoint. *Int. J. Tour. Res.* **2013**, *15*, 152–170. [\[CrossRef\]](#)
8. Lewis, C.; D'Alessandro, S. Understanding why: Push-factors that drive rural tourism amongst senior travellers. *Tour. Manag. Perspect.* **2019**, *32*, 100574. [\[CrossRef\]](#)
9. Wu, C. Foreign tourists' intentions in visiting leisure farms. *J. Bus. Res.* **2015**, *68*, 757–762. [\[CrossRef\]](#)
10. Hsu, S.; Hsieh, P.; Yuan, S. Roles of small- and medium-sized enterprises in service industry innovation: A case study on leisure agriculture service in tourism regional innovation. *Serv. Ind. J.* **2013**, *33*, 1068–1088. [\[CrossRef\]](#)
11. Pjerotic, L.; Delibasic, M.; Joksiene, I.; Griesiene, I.; Georgeta, C.P. Sustainable tourism development in the rural areas. *Transform. Bus. Econ.* **2017**, *16*, 21–30.
12. Panzer-Krause, S. The lost rural idyll? Tourists' attitudes towards sustainability and their influence on the production of rural space at a rural tourism hotspot in Northern Ireland. *J. Rural Stud.* **2020**, *80*, 235–243. [\[CrossRef\]](#)
13. Liu, C.; Dou, X.; Li, J.; Cai, L.A. Analyzing government role in rural tourism development: An empirical investigation from China. *J. Rural Stud.* **2020**, *79*, 177–188. [\[CrossRef\]](#)
14. Khartishvili, L.; Muhar, A.; Dax, T.; Khelashvili, I. Rural Tourism in Georgia in Transition: Challenges for Regional Sustainability. *Sustainability* **2019**, *11*, 410. [\[CrossRef\]](#)
15. Calza, F.; Go, F.M.; Parmentola, A.; Trunfio, M. European rural entrepreneur and tourism-based diversification: Does national culture matter? *Int. J. Tour. Res.* **2018**, *20*, 671–683. [\[CrossRef\]](#)
16. Sykes, D.; Kelly, K.G. Motorcycle drive tourism leading to rural tourism opportunities. *Tourism Econ.* **2016**, *22*, 543–557. [\[CrossRef\]](#)

17. Murray, A.; Kline, C. Rural tourism and the craft beer experience: Factors influencing brand loyalty in rural North Carolina, USA. *J. Sustain. Tour.* **2015**, *23*, 1198–1216. [\[CrossRef\]](#)
18. Fotiadis, A.; Nuryyev, G.; Achyldurdyeva, J.; Spyridou, A. The Impact of EU Sponsorship, Size, and Geographic Characteristics on Rural Tourism Development. *Sustainability* **2019**, *11*, 2375. [\[CrossRef\]](#)
19. Park, D.; Lee, K.; Choi, H.; Yoon, Y. Factors influencing social capital in rural tourism communities in South Korea. *Tour. Manag.* **2012**, *33*, 1511–1520. [\[CrossRef\]](#)
20. Andrei, D.R.; Gogonea, R.; Zaharia, M.; Andrei, J. Is Romanian Rural Tourism Sustainable? Revealing Particularities. *Sustainability* **2014**, *6*, 8876–8888. [\[CrossRef\]](#)
21. Shin, H.; Kim, H.N.; Son, J. Measuring the Economic Impact of Rural Tourism Membership on Local Economy: A Korean Case Study. *Sustainability* **2017**, *9*, 639. [\[CrossRef\]](#)
22. Puska, A.; Pamucar, D.; Stojanovic, I.; Cavallaro, F.; Kaklauskas, A.; Mardani, A. Examination of the Sustainable Rural Tourism Potential of the Brcko District of Bosnia and Herzegovina Using a Fuzzy Approach Based on Group Decision Making. *Sustainability* **2021**, *13*, 583. [\[CrossRef\]](#)
23. Koster, R.L.P.; Lemelin, R.H. Appreciative Inquiry and Rural Tourism: A Case Study from Canada. *Tour. Geogr.* **2009**, *11*, 256–269. [\[CrossRef\]](#)
24. Pejanovic, R.; Demirovic, D.; Glavas-Trbic, D.; Maksimovic, G.; Tomas-Simin, M. Clusters as a factor of competitiveness of rural tourism destinations in the Danube region of the Republic of Serbia. *Tour. Econ.* **2017**, *23*, 475–482. [\[CrossRef\]](#)
25. Chi, X.; Han, H. Emerging rural tourism in China's current tourism industry and tourist behaviors: The case of Anji County. *J. Travel Tour. Mark.* **2021**, *38*, 58–74. [\[CrossRef\]](#)
26. Xue, L.; Kerstetter, D. Rural Tourism and Livelihood Change: An Emic Perspective. *J. Hosp. Tour. Res.* **2019**, *43*, 416–437. [\[CrossRef\]](#)
27. Kausar, D.R.; Nishikawa, Y. Heritage Tourism in Rural Areas: Challenges for Improving Socio-economic Impacts. *Asia Pac. J. Tour. Res.* **2010**, *15*, 195–213. [\[CrossRef\]](#)
28. Ruishan, S.; Lei, W.; Ling, Z. Analysis of human factors integration aspects for aviation accidents and incidents. In *Lecture Notes in Artificial Intelligence*; Harris, D., Ed.; Springer: Berlin/Heidelberg, Germany, 2007; Volume 4562, p. 834.
29. Luo, W.; Tang, P.; Jiang, L.; Su, M.M. Influencing mechanism of tourist social responsibility awareness on environmentally responsible behavior. *J. Clean. Prod.* **2020**, *271*, 122565. [\[CrossRef\]](#)
30. Guzman-Parra, V.F.; Quintana-Garcia, C.; Benavides-Velasco, C.A.; Roberto Vila-Oblitas, J. Trends and seasonal variation of tourist demand in Spain: The role of rural tourism. *Tour. Manag. Perspect.* **2015**, *16*, 123–128. [\[CrossRef\]](#)
31. Han, Y.; Liu, S.; Geng, Z.; Gu, H.; Qu, Y. Energy analysis and resources optimization of complex chemical processes: Evidence based on novel DEA cross-model. *Energy* **2021**, *218*, 119508. [\[CrossRef\]](#)
32. Haleem, A.; Sushil; Qadri, M.A.; Kumar, S. Analysis of critical success factors of world-class manufacturing practices: An application of interpretative structural modelling and interpretative ranking process. *Prod. Plan. Control* **2012**, *23*, 722–734. [\[CrossRef\]](#)
33. Han, Y.; Zhou, R.; Geng, Z.; Bai, J.; Ma, B.; Fan, J. A novel data envelopment analysis cross-model integrating interpretative structural model and analytic hierarchy process for energy efficiency evaluation and optimization modeling: Application to ethylene industries. *J. Clean. Prod.* **2020**, *246*, 118965. [\[CrossRef\]](#)
34. Sinaga, R.; Prastowo; Simangunsong, B.C.H.; Liebman, A.; Tambunan, A.H. Analysis of barriers in supplying electricity using interpretative structural modeling. *Energy Strategy Rev.* **2019**, *25*, 11–17. [\[CrossRef\]](#)
35. Geng, Z.; Yang, K.; Han, Y.; Gu, X. Fault detection of large-scale process control system with higher-order statistical and interpretative structural model. *Chin. J. Chem. Eng.* **2015**, *23*, 146–153. [\[CrossRef\]](#)
36. Xu, X.; Shi, J. Research on the factors affecting safety behavior based on interpretative structural modeling. *Cluster Comput.* **2019**, *223*, S5315–S5322. [\[CrossRef\]](#)
37. Han, Q.; Zhu, Y.; Ke, G.Y.; Hipel, K.W. Public private partnership in brownfield remediation projects in China: Identification and structure analysis of risks. *Land Use Policy* **2019**, *84*, 87–104. [\[CrossRef\]](#)
38. Gao, S.; Huang, S.; Huang, Y. Rural Tourism Development in China. *Int. J. Tour. Res.* **2009**, *11*, 439–450. [\[CrossRef\]](#)
39. Nie, X.; Xiong, B.; Zhao, H. The application of total quality management in rural tourism in the context of new rural construction—the case in China. *Total Qual. Manag. Bus.* **2013**, *24*, 1188–1201.