



Construction of Evaluation Indexes for the Integrated Development of Leisure Agriculture Management: The Application of Delphi Technology

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Abstract

Leisure agriculture is a new industry that applies agricultural resources to leisure and recreational activities to meet the needs of tourists, increase farmers' income, and then increase the value of agriculture. The purpose of this research is to develop structured evaluation indicators to analyze the comprehensive development of leisure agricultural management, and becomes a business model that can be quantitatively replicated. The study after screening by the Delphi Method, the five evaluation aspects of "corporate organization operation", "leisure agricultural resources", "maintenance of the operating environment", "maintenance of surrounding facilities" and "operating performance" and 21 evaluation criteria are established. The research results show that leisure agriculture enterprises can be used as the evaluation aspect and evaluation criteria for leisure agricultural operations. Besides, according to the technical analysis of Delphi method, leisure agricultural operations should pay attention to the smoothness of internal operations and key processes of the enterprise organization, and strive to integrate resources inside and outside the enterprise. Only with the concept of integrated development can we create sustainable management of leisure business.

Subject Areas

Business & Economics

Keywords

Leisure Agriculture Management, Integrated Development, Evaluation

1. Introduction

Taiwan's "leisure agriculture" has established this term as early as 1989. The precise leisure agriculture is: "Using rural equipment, rural space, agricultural production sites, products, agricultural business activities, ecology, agricultural, natural environment, and rural areas". Human resources have been planned and designed to give play to agricultural and rural recreational functions. Enhance Chinese people's experience in agriculture and rural areas, improve recreational quality and increase farmers' income, and promote rural development [1] and agriculture in Taiwan Business offers another way of development.

Leisure agriculture is a new industry that applies agricultural resources to leisure and recreation activities to meet the needs of tourists, increase farmers' income, and then increase the value of agriculture. It is a creative industry that responds to the needs of the times [2]. In terms of management, the central axis is the localization of agriculture, taking into account the compatibility of agricultural production with the natural ecological environment, covering the "three agriculture, three lives, and agriculture" of agricultural production, peasant life, and rural ecology industry, secondary processing industry, and tertiary service industry.

There are complexity and diversity in the use of resources in the management of leisure agriculture. It is necessary to use the concept of integration for the development of management, and the concept of management cannot be described in simple words. Evaluation indicators can analyze the integrated development of leisure agricultural operations and become a business model that can be quantitatively copied.

2. Literature Review

2.1. Management Aspects of Leisure Agriculture

The influence of leisure managers on organizational performance is particularly important. Due to the proper use of resources, the competitive advantages of leisure agricultural operations will be enhanced, and the organization's operating capacity will be improved. The operating capacity refers to the organization's production, marketing, human resources, research and development, the overall operation of finance. The description of the leisure agriculture management structure is roughly based on the resource base [1], key processes [3], and business performance [4] as the main descriptions. It can be seen that the improvement of leisure agriculture business performance, the source result of the impact of leisure agricultural resource grasp, and the organizational operation process. The management facet is based on the resources at the time of the operation. It is considered from the externally available resources and the conditions of its

ownership, including the four main items of the business entity, land attributes, resource characteristics, and professional functions [5].

2.2. Integrated Development Mode of Operation

“Integration” is often regarded as a positive way to eliminate conflicts [3]. It can be described as the concept of “adjustment and cooperation” between organizations or departments, which form an entirety in an orderly manner. Subjectivity and cultural differences remain [6]. To emphasize the interdependence of constituents, it is often integrated into the concept description of “system” [7] to achieve a certain degree of unity and harmony to maintain the survival of the organization [8]. As competition between industries becomes more complex, “integration” is increasingly becoming the core of management work [3]. Through resource integration, due to the lack of their resources, different organizations, networks, and groups must make up for their deficiencies through exchanges and integration [9]; the so-called integrated development model is the various resources and information inside and outside the organization. And through the integration of various goals and consistent results distribution to achieve the ultimate goal [10], to obtain different types of resources through resource integration, reduce time and operating costs, and improve operating performance [11].

2.3. Evaluation Indicators for Leisure Agriculture

Aiming at the criteria for the evaluation of leisure agriculture operations, [1] explores the aspects that should be emphasized in the development of leisure agriculture, with “organizational operation” having the most significant impact, followed by “resource sharing” and finally “environment management”. Reviewing the literature of previous scholars, this study is summarized that the evaluation indicators for the integrated development of leisure agriculture. The evaluation indicators include organizational operation, leisure agricultural resources, environmental maintenance management, public facilities maintenance management, operational performance, competitive advantage, customer value proposition, agricultural land resource restrictions, and experience quality [1] [4] [5] [8] [10]. This article reduced it to five evaluation aspects, including enterprise organization and operation, leisure agricultural resources, maintenance of the operating environment, maintenance of surrounding facilities, and operating performance.

3. Research Methods

Index construction methods can be roughly divided into two types: qualitative methods and quantitative methods. Qualitative methods such as literature analysis, expert discussion, interview methods, focus group methods, and brainstorming methods, etc. And quantitative methods include questionnaire survey methods, such as factor analysis, Delphi method, and the analytic hierarchy

process (AHP) analysis method [12]. In the early stage of construction, it is appropriate to use the literature method and the Delphi method to gather consensus. Therefore, this article attempts to use the literature method and Delphi technology as the research method to conduct this research.

3.1. Delphi Method

This paper uses the characteristics of the Delphi method to provide collective consensus for this research, propose contributions, and then achieve the purpose. The Delphi method is a method of providing information on unknown things through group wisdom. However, according to each expert's definition of the Delphi method, the Delphi method adopts anonymity, the characteristics of repeatedly collecting data to make the opinions of experts more consistent, the feedback of repeated loop questionnaires as a communication method, and the experts' answers to their own experience. Annotate, organize the recovered data, and provide statistical data in the prepared questionnaire for reference by experts [13].

Regarding the sample number of experts and scholars in the Delphi method, [13] believed that the number of experts and scholars participating in the study was better than five. Therefore, this study will select 5 experts and scholars from the industry, government, and academic circles for interviews. As for the Delphi Expert Questionnaire, this article assigns the importance of each index factor to "very unimportant", "unimportant", "normal", "important", and "very important", with weights 1, 2, respectively. 3, 4, 5 represent their importance, and finally, integrate the importance of all interview experts on the attributes of individual.

3.2. AHP Method

The AHP method was abbreviated in the 1970s by the American operations researcher T.L. Saaty [14]. It is a systematic, hierarchical analysis method that combines qualitative and quantitative analysis. Because of its practicability and effectiveness in dealing with complex decision-making problems, it has quickly gained worldwide attention [15]. Its applications have spread across areas such as economic planning and management, energy policy and distribution, behavioral science, military command, transportation, agriculture, education, talent, healthcare, and the environment [14] [15] [16] [17]. There are many advantages to using AHP method, the most important of which is simplicity and clarity. AHP method is not only suitable for situations where there are uncertainty and subjective information, but also allows the logical use of experience, insight and intuition [17]. Perhaps the greatest advantage of the AHP method is the level itself, which enables buyers to seriously consider and measure the relative importance of indicators.

3.3. Research Framework

This article synthesizes relevant literature indicators to construct the evaluation

indicators of leisure agricultural operations, which are five evaluation aspects, namely, “organizational operation of enterprises”, “recreational agricultural resources”, “maintenance of operating environment”, “maintenance of surrounding facilities”, and “operating performance”. And its 21 sub-projects, each facet and the criteria of the sub-projects are described in **Table 1**: criteria to obtain the most appropriate answer.

4. Empirical Analysis

4.1. Basic Data Analysis

The research objects are experts, scholars, and scholars in the field of leisure agriculture. A total of 5 questionnaires were distributed, and 5 questionnaires were recovered. The questionnaire recovery rate was 100%. The average working experience of experts was 23.2 years.

According to the information collected by the Delphi survey, the selection index is selected. The selection criteria for this study were selected using the default value of Power Choice 2.5 that mean > 3 and coefficient of variation ≤ 0.5 .

Table 1. Aspects and criteria for evaluating the integrated development of leisure agricultural operation.

Indicator facet	Sub-Indicator facet	Description
Business organization operation	Enterprise architecture and division of labor	Refers to the organizational structure and projects that an enterprise must have when operating
	Business growth	
	Business goals	
	Self-improvement and function improvement	
	Self-sufficiency	
Leisure agricultural resources	Inventory of real estate resources	The degree of cooperation between various resources and industries outside leisure agricultural enterprises
	Use of local industry resources	
	Leisure agriculture-related fields	
	Linkage and cross-industry cooperation	
Maintenance of operating environment	Overall environment creation	Refers to the environmental maintenance during leisure agricultural operations
	Use of the environment	
	Maintenance of business environment	
Maintenance of surrounding facilities	Use of public facilities	The establishment and maintenance of various facilities around leisure agricultural operations
	Maintenance of public facilities	
	Friendly facilities	
Operation Performance	Number of visitors	Operational performance refers to the basis for the performance of leisure agriculture in operation
	Economic output value	
	Drive the population to stay and return	
	Promote employment	
	The situation of using agricultural accessible travel network	
	Special performance	

Coefficient of Variation = Standard deviation/Average. The average and coefficient of variation analysis results are shown in **Table 2** below.

4.2. Results Analysis

Among the five significant aspects of the integrated development assessment indicators for leisure agriculture management, the most critical aspects of the aggregated results are “corporate operation” (5), “leisure agricultural resources” (5), and “maintenance of the operating environment” (4.8), “Maintenance of

Table 2. Summary of the selection results of the factors of the Delphi method.

Facet	Evaluation Criteria Name	Mean	Coefficient of Variation	Selection Result	Ranking
Business organization operation	Enterprise architecture and division of labor	5.0	0.0000	O	1
	Business growth	3.6	0.2833	O	18
	Business goals	4.6	0.1065	O	6
	Self-improvement and function improvement	4.6	0.1065	O	6
	Self-sufficiency	4.4	0.1113	O	12
Leisure agricultural resources	Inventory of real estate resources	4.8	0.0833	O	3
	Use of local industry resources	4.8	0.0833	O	3
	Leisure agriculture-related fields	4.4	0.1113	O	12
	Linkage and cross-industry cooperation	4.6	0.1065	O	6
Maintenance of operating environment	Overall environment creation	5.0	0.0000	O	1
	Use of the environment	4.4	0.1113	O	12
	Maintenance of business environment	4.6	0.1065	O	6
Maintenance of surrounding facilities	Use of public facilities	4.4	0.1113	O	12
	Maintenance of public facilities	4.4	0.1113	O	12
	Friendly facilities	4.6	0.1065	O	6
Operation Performance	Number of visitors	3.4	0.1441	O	20
	Economic output value	4.2	0.1782	O	17
	Drive the population to stay and return	4.6	0.1065	O	6
	Promote employment	4.8	0.0833	O	3
	The situation of using agricultural accessible travel network	3.6	0.2222	O	18
	Special performance	3.2	0.1250	O	21
	Overall assessment	Business organization operation	5.0	0.0000	O
	Leisure agricultural resources	5.0	0.0000	O	1
	Maintenance of operating environment	4.8	0.0833	O	3
	Maintenance of surrounding facilities	4.6	0.1065	O	4
	Operational performance	4.2	0.1782	O	5

Remark: “O” means that the evaluation result of this indicator is qualified.

surrounding facilities” (4.6), “Operating performance” (4.2). It shows that “enterprise organization operation” and “leisure agricultural resources” are the most critical evaluation aspects.

Among the 21 factors for the evaluation index for the integrated development of leisure agricultural areas, the top five ranking evaluation criteria that experts and scholars value most are “enterprise structure and implementation of division of labor” (5) and “environmental maintenance Overall Environment Construction” (5), followed by “Inventory of Local Industry Resources” (4.8), “Use of Local Industry Resources” (4.8), and “Promote Employment” (4.8).

As shown in **Table 2** above, in the “corporate organization operation” aspect, “enterprise structure and division of labor” (5) is the first place. In the “leisure agricultural resources” aspect, the “local industrial resource inventory” and “The use of resources in the real estate industry” (4.8) are tied in the first place. In the “operation environment maintenance” aspect, “the overall environment creation” (5) is the first place. In the “operation surrounding facilities maintenance” aspect, the “friendly facilities” “Setting” (4.6) is the most valued. In the “operational performance” aspect, “promoting employment” (4.8) is the most valued by experts and scholars.

5. Conclusions and Suggestions

5.1. Conclusions

After screening by the Delphi method, the five significant evaluation facets and 21 evaluation criteria have passed the test. Therefore, all evaluation facets and evaluation criteria are retained. The hierarchy structure diagram is unchanged. The conclusion analysis is as follows:

The integrated development measurement aspects of leisure agriculture management are first and foremost “enterprise organization operation” and “agricultural recreation resources”. According to the analysis of the aspects of the Delphi technology, enterprise organization operations and leisure agricultural resources should pay attention to the internal operation and the integrity and fluency of critical processes, and attention to the resource base of leisure agriculture and the efficiency of resource use.

The organization and operation of leisure and agricultural enterprises should pay attention to the implementation of corporate structure and division of labor. In the maintenance of the operating environment, attention should be paid to the overall environmental creation. This has a great relationship with the establishment of the competitive advantages of corporate operations.

5.2. Suggestions

The organizational structure of leisure agricultural operation is the essential requirement for business operation. Enterprises should establish a sound organizational structure to implement the division of labor and the implementation of critical processes to integrate the resources of leisure business, the operating en-

vironment, and the overall development of the enterprise. The integrated development measurement model is the most significant competitive advantage of the company.

Adhering to the resource base, leisure agriculture must strive to integrate resources inside and outside the enterprise. Only with the concept of integrated development can sustainable development of leisure business be created.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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