

Construction and Empirical Study on the Value Assessment System of Traditional Cultural Resources: Taking Shandong Province in China as an Example

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Abstract

Accurate value assessment is the cornerstone and key to ensuring the effective protection, inheritance, and utilization of traditional cultural resources. Based on existing study and relevant literature on cultural resource assessment, combined with the characteristics of traditional cultural resources themselves, this study has constructed a general index system for evaluating traditional cultural resources from four dimensions: resource quality, development conditions, resource value and resource utility. The analytic hierarchy process(AHP) was used to determine the weight of each factor of the criteria layer and each evaluating index of the index layer, and a traditional cultural resource value assessment model was constructed by combining the scoring method of the ultimate indicator. Subsequently, based on the empirical evaluation of traditional cultural resources in Shandong Province, this study puts forward relevant suggestions for effective protection, inheritance and utilization of traditional cultural resources from the perspectives of government, enterprises and society.

Keywords

Traditional Cultural Resources; Value Assessment System; AHP; Shandong Province.

1. Introduction

Traditional cultural resources are an important part of the historical and cultural heritage of a country or region. They contain rich knowledge, wisdom and experiences, embodying historical memories, ethnic traditions and social values. In a unique way, they reflect the cultural expressions and creativity of different communities, groups and ethnicities. It is generally recognized that in modern society, traditional cultural resources not only possess unique cognitive value, spiritual endowment and moral power but also encompass abundant economic, social and cultural values.

Therefore, accurately recognizing and evaluating the value of traditional cultural resources not only helps people gain a clearer understanding and appreciation of their inherent historical, artistic, social and economic values, but also promotes their protection and inheritance. Additionally, it enables traditional cultural resources to play a more significant role, thereby advancing local economic and social sustainability as well as the diversity of culture.

Since the 1980s, with the recognition of the role and significance of culture in comprehensive national competitiveness, scholars at home and abroad have conducted extensive study on the evaluation of cultural resource value. Although UNESCO has developed an evaluation framework and methods for World Cultural Heritage, the study of how to rationally evaluate

the value of cultural resources from a developmental perspective has always been a hot topic in the academic community. Many studies (such as Walter & Giovanni, 2000; Noonan, 2003; An Yuxin, 2008; Su Hui, 2011; Yang Hua, 2015) have constructed relevant evaluation index systems based on different perspectives and utilized methods such as analytic hierarchy process, fuzzy comprehensive evaluation, multi-level grey evaluation and contingent valuation method to quantitatively assess cultural resources in different regions. Of course, there have also been studies (such as Whitehead & Finney, 2003; Zhang Zuqun, 2006; Yao Jianyun, 2011) that have explored the value of cultural resources through qualitative analysis. While qualitative analysis can provide a comprehensive and detailed reflection of the overall picture of cultural resources, helping to grasp their characteristics and core values, relatively speaking, it is more suitable for evaluating the value of individual cultural resources and lacks universality and representativeness.

Overall, although the academic community has made significant achievements in the research of cultural resource valuation, a universally applicable system for the evaluation of traditional cultural resource values has yet to be developed. Furthermore, existing studies mostly focus on analyzing and demonstrating cultural resources at the national or specific regional levels, leaving a significant research gap in the quantitative assessment of the value of traditional cultural resources in Shandong Province. This gap has led to an incomplete understanding of the true value and potential of traditional cultural resources in Shandong Province. These issues not only provide ample research opportunities and scope for exploration but also form the core objectives of this study.

Based on this, the study attempts to construct a general index system for evaluating traditional cultural resources and apply it to empirically assess the value of traditional cultural resources in Shandong Province. This not only enriches and extends the academic achievements in the field of traditional culture and cultural value evaluation but also provides a clearer understanding of the contemporary value of traditional culture in Shandong Province. It also holds strong practical significance in facilitating the effective development and capitalization of traditional cultural resources in Shandong Province and serves as a valuable reference for their operational practices.

2. Construction of the Traditional Cultural Resource Value Assessment System

2.1. Principles of Assessment System Design and Establishment of Evaluation Indicators

Generally speaking, there are many factors to consider when evaluating the value of traditional cultural resources, and some traditional cultural resources can be measured while others cannot. For instance, buildings, artifacts and handicrafts that exist in a material form can be quantified, whereas certain folk customs, traditions, religions and beliefs that do not exist directly in a material form cannot be measured. Therefore, traditional cultural resources possess a dual nature of both material and spiritual cultural resources, and their value composition exhibits a characteristic of diversity.

In this regard, this study synthesizes the research results of existing scholars, according to the world cultural evaluation standards and cultural resources evaluation index system proposed by UNESCO, combined with the cultural resources value evaluation index framework table, the cultural resources development benefit evaluation index system and the characteristic cultural resources development value comprehensive evaluation index system, etc., follows the principle of comprehensiveness and scientificity, comprehensively and fully considers various factors and related variables affecting the value of traditional cultural resources, takes into account the general law of the characteristics of cultural resources, economic development and

the industrialization process. The evaluation indicators are screened and selected, and a comprehensive traditional cultural resources value assessment system is constructed, as shown in Table 1.

Table 1. Traditional Cultural Resource Value Assessment System and the Weight Value of Each Indicator at Each Layer

Target layer(G)		Criteria layer(F)	Weight	Index layer(S)	Weight
The comprehensive value of traditional cultural resources	1	Resource quality(F ₁)	0.22	Completeness(S ₁)	0.05
				Uniqueness(S ₂)	0.06
				Scarcity(S ₃)	0.02
				Inheritability(S ₄)	0.03
				Popularity(S ₅)	0.06
		Development condition(F ₂)	0.23	Location conditions(S ₆)	0.07
				Infrastructure(S ₇)	0.04
				Human resources(S ₈)	0.03
				The level of regional economic development(S ₉)	0.05
				Policy support and social engagement(S ₁₀)	0.04
		Resource value(F ₃)	0.28	Historical value(S ₁₁)	0.07
				Cultural value(S ₁₂)	0.09
				Educational value(S ₁₃)	0.06
				Aesthetic value(S ₁₄)	0.04
				Scientific value(S ₁₅)	0.02
		Resource utility(F ₄)	0.27	Market expectations(S ₁₆)	0.04
				Transformative capacity(S ₁₇)	0.03
				Innovation-driven(S ₁₈)	0.06
				Economic utility(S ₁₉)	0.07
				Social utility(S ₂₀)	0.07

2.2. Determination of the Weight Value of Each Indicator at Each Layer in the Assessment System

Due to the varying importance of each evaluation indicator in assessing the value of traditional cultural resources within the assessment system, and the difficulty in quantifying some indicators, this study aims to use Analytic Hierarchy Process(AHP) to determine the the weight value of each indicator at each layer in the traditional cultural resource value assessment system. The following steps will be taken:

2.2.1. Determination of Evaluation Indicators Set

If $F=\{F_1, F_2, \dots, F_m\}$ is a factor set composed of factors from the criterion layer(F) and $S_i=\{S_{i1}, S_{i2}, \dots, S_{im}\}$ is the set of indexes belonging to the index layer(S) corresponding to $F_i(i=1, 2, \dots, m)$.

2.2.2. Constructing the Judgment Matrix

$$P(F_{ij}) = \begin{bmatrix} F_{11} & F_{12} & \dots & F_{1m} \\ F_{21} & F_{22} & \dots & F_{2m} \\ \dots & \dots & \dots & \dots \\ F_{m1} & F_{m1} & \dots & F_{mm} \end{bmatrix} \text{ among them, } F_{ij} \text{ represents the importance of indicator } F_i \text{ relative to } F_j$$

for the Target layer(G). The assignment of values was carried out using a scale ranging from 1 to 9, as described in detail in Table 2. In this study, all the judgment matrices were obtained through a questionnaire survey conducted among a selected group of 20 experts, including scholars from universities engaged in traditional culture studies in Shandong Province, officials from cultural management departments and experts in intangible cultural heritage.

Table 2. Scale and Interpretation of Judgment Matrix

Scale	Interpretation
1	i and j are equally important
3	i is slightly more important than j
5	i is more important than j
7	i is much more important than j
9	i is significantly more important than j
2, 4, 6, 8	The importance is between two adjacent rank
$1/F_{ij}$	If the ratio of the importance between i and j is F_{ij} , then the ratio of the importance between j and i is $F_{ij}=1/F_{ij}$

2.2.3. Calculating Weights

First, normalize each column of the judgment matrix, denoted as $F_{ij}=F_{ij}/\sum_{k=1}^m F_{kj}$ ($i, j=1, 2, \dots, m$);

Next, the normalized judgment matrices for each column were summed row-wise, denoted as

$W_i=\sum_{j=1}^m F_{ij}$ ($i, j=1, 2, \dots, m$); Lastly, normalize vector $W_i=\{W_1, W_2, \dots, W_m\}$, denoted as $W_i=W_i/$

$\sum_{j=1}^m W_j$ ($i, j=1, 2, \dots, m$), and the weight vector was obtained through calculations.

According to the above method, combined with expert scoring data, the weight value of each indicator at each layer in the traditional cultural value assessment system are calculated and presented in Table 1.

2.3. Establishment of Assessment Criteria and Construction of Evaluation Models

After determining the weight value of each indicator at each layer in the system, it is necessary to assign grading criteria to each factor and sub-factor. Specifically, for a specific traditional cultural resource, the value for each indicator is derived by taking the average value from all experts, which is then converted into a percentage scale to obtain the score of the resource on that ultimate indicator. Ultimately, the value of traditional cultural resources is determined by the weight value of each indicator at each layer and the scores of each ultimate indicator. The evaluation model can be represented by the following formula:

$$G = \sum_i F_i \sum_j S_j G_j$$

Among them, G represents the overall value of a specific traditional cultural resource, while F_i and S_i represent the weights assigned to indicators at all layers, and G_j represents the scores of the ultimate indicators.

3. Analysis of the Value Assessment Results of Traditional Cultural Resources in Shandong Province

As the birthplace of Confucian culture in China and an important origin of Chinese civilization, Shandong Province possesses a rich and diverse range of traditional cultural resources. These resources bear profound historical origins and cultural heritage. They are not only a unique treasure of Shandong Province, reflecting its historical evolution and cultural inheritance, but also have had a significant influence on the history, culture and artistic development of both China and the world. Accurately assessing the value of traditional cultural resources in Shandong Province is of great importance in guiding the protection and inheritance of this unique cultural heritage, as well as promoting related industry development and fostering cultural confidence in contemporary society.

Regarding the value assessment of traditional cultural resources in Shandong Province, as shown in Table 3, this study applies the assessment system, weight design and assessment model mentioned above. The scoring criteria are determined using a fuzzy mathematical four-point grading method.

Table 3. Fuzzy Value for Evaluation Indexes of Traditional Cultural Resource Value Assessment System

Criteria layer(F)		Index layer(S)								
Factor	Value	Index	4	Fuzzy Value	3	Fuzzy Value	2	Fuzzy Value	1	Fuzzy Value
F_1	22	S_1	Good	5	Relatively good	3.75	Average	2.5	Poor	1.25
		S_2	High	6	Relatively high	4.5	Average	3	Low	1.5
		S_3	Scarcity	2	Relatively scarce	1.5	Average	1	Widespread	0.5
		S_4	Strong	3	Relatively strong	2.25	Average	1.5	Weak	0.75
		S_5	High	6	Relatively high	4.5	Average	3	Low	1.5
F_2	23	S_6	Advantageous	7	Relatively advantageous	5.25	Average	3.5	Poor	1.75
		S_7	Good	4	Relatively good	3	Average	2	Poor	1
		S_8	Rich	3	Relatively rich	2.25	Average	1.5	Insufficient	0.75
		S_9	Good	5	Relatively good	3.75	Average	2.5	Poor	1.25
		S_{10}	High	4	Relatively high	3	Average	2	Low	1
F_3	28	S_{11}	High	7	Relatively high	5.25	Average	3.5	Low	1.75
		S_{12}	High	9	Relatively high	6.75	Average	4.5	Low	2.25
		S_{13}	High	6	Relatively high	4.5	Average	3	Low	1.5
		S_{14}	High	4	Relatively high	3	Average	2	Low	1
		S_{15}	High	2	Relatively high	1.5	Average	1	Low	0.5
F_4	27	S_{16}	Good	4	Relatively good	3	Average	2	Poor	1
		S_{17}	Strong	3	Relatively strong	2.25	Average	1.5	Weak	0.75
		S_{18}	High	6	Relatively high	4.5	Average	3	Low	1.5
		S_{19}	Good	7	Relatively good	5.25	Average	3.5	Poor	1.75
		S_{20}	Good	7	Relatively good	5.25	Average	3.5	Poor	1.75

Then representative categories including ancient architecture, sites and relics(ASR), traditional crafts and skills(TCS), traditional literature and drama(TLD), traditional music and dance(TMD), traditional customs(TCUS), traditional cuisine(TCUI), traditional sports and acrobatics(TSA), and traditional religion and beliefs(TRB) were selected for separate evaluation and scoring. The results are calculated and presented in Table 4.

Table 4. Assessment of Traditional Cultural Resources Value in Shandong Province

Criteria layer(F)		Calculation results of index weight at index layer(S) of different types of cultural resources							
Factor	Value	ASR	TCS	TLD	TMD	TCUS	TCUI	TSA	TRB
F ₁	22	20.5	19.75	20.25	12.5	14.5	15.25	12	14
F ₂	23	19.25	21	18	15.75	17.25	16.5	16	13.75
F ₃	28	25.25	23.75	22	16.5	20.25	14	15	19.5
F ₄	27	24.75	22.5	20	14.75	13.5	15.75	11.25	10
Total	100	89.75	87	80.25	59.5	65.5	61.5	54.25	57.25

In terms of the comprehensive value rating of various traditional cultural resources, ancient architecture, sites, and artifacts scored 89.75, traditional crafts and skills scored 87, traditional literature and drama scored 80.25, traditional customs and traditions scored 65.5, traditional cuisine scored 61.5, traditional music and dance scored 59.5, traditional religion and beliefs scored 57.25, and traditional sports and acrobatics scored 54.25. The scoring of the assessment system indicates that higher scores reflect the higher comprehensive value, significance of preservation, and development of such intangible cultural heritage resources. Among them, ancient architecture, sites, and artifacts, traditional crafts and skills, and traditional literature and drama rank among the top three in the overall assessment. Moreover, the aggregation results of the corresponding indexes at the index layer(S) indicate that ancient architecture, sites, and artifacts, traditional crafts and skills, as well as traditional literature and drama, also rank among the top three in the sub-item scores of the index layer(S) indicators.

Therefore, it can be seen that ancient architecture, sites and artifacts, traditional crafts and skills, as well as traditional literature and drama play a crucial role in the inheritance and development of traditional culture in Shandong Province. On one hand, Shandong Province possesses numerous ancient buildings and sites, such as Mount Tai and the “Three Confucian Sites” which represent the treasures of ancient Chinese architecture and cultural traditions. They serve as important windows for tracing history and understanding culture with significant economic value and market potential in attracting domestic and international tourists. Additionally, Shandong Province treasures many precious artifacts including bronzeware, ceramics, calligraphy and painting, which not only hold aesthetic value but also bear witness to the province’s rich history and culture.

On the other hand, traditional crafts and skills occupy a significant position in Shandong Province’s traditional cultural resources. Shandong has long been known as the “Land of Crafts” with traditional crafts like paper-cutting, embroidery and carving passed down through generations. These crafts and skills not only embody the wisdom and creativity of the Shandong people but also constitute an integral part of Shandong’s traditional culture. With the development of a market economy, these traditional crafts and skills have become important creative materials for the cultural industry. Handicrafts and cultural creative products developed on this basis can drive the development of related industries in the area.

Furthermore, traditional literature and drama are indispensable components of Shandong Province’s traditional cultural resources. Shandong is not only one of the birthplaces of Chinese literature, with classic literary works like the Analects of Confucius and the works of Mencius,

but also the birthplace of various traditional drama and folk art forms such as Lu Opera, Shandong Bangzi Opera, Liusi Drama, Shandong Kuaishu, Shandong Qinshu, and Shandong Dagou. These traditions subtly nurture people's aesthetic sentiment and moral values and provide abundant research materials for the academic community.

4. Summary and Policy Recommendations

Traditional cultural resources possess rich historical, cultural and artistic connotations, and they have significant significance for social development, cultural inheritance and economic growth. By constructing a rational assessment system and application for traditional cultural resources, we can gain a deeper understanding of value of the times and importance in economic and social development, as well as their contributions to cultural inheritance, social identity and sustainable development.

Based on the empirical evaluation of traditional cultural resources in Shandong Province, this study proposes the following suggestions for the protection, inheritance and effective utilization of these resources from the perspectives of government, enterprises and society.

Firstly, the government should intensify efforts to protect traditional cultural resources by continuously formulating and improving corresponding laws and regulations, establishing sound protection mechanisms, encouraging entrepreneurs and cultural practitioners to innovate using traditional cultural resources, and increasing financial support to ensure the long-term preservation and inheritance of traditional cultural resources. Additionally, enterprises can actively participate in the development and operation of cultural scenic spots, create tourism products and routes with traditional cultural resources as the core, and enhance the quality of tourism services. They can also design and develop creative and culturally significant products based on traditional cultural resources to meet market demands, thereby promoting the inheritance and development of traditional cultural resources. Lastly, at the societal level, the public should strengthen cultural awareness, participate in activities related to the protection and utilization of traditional cultural resources, and increase their understanding of the importance of protecting and valuing traditional culture. Families, schools and other social institutions should enhance education and inheritance of traditional culture, guide the younger generation's attention and research towards traditional cultural resources, and cultivate a group of professionals in traditional culture. Social organizations or individuals can organize cultural exchange activities, exhibitions, lectures, etc., to promote the exchange and sharing of traditional cultural resources from different regions and cultural backgrounds.

In summary, the protection and utilization of traditional cultural resources require collaboration and efforts from the government, businesses and society. It is necessary to consider comprehensively and focus on key points. Only through the establishment and regulation of laws and regulations by the government, investment and innovation by businesses, and participation and inheritance by society, can we achieve the protection and utilization of traditional cultural resources, allowing them to shine with new vitality in contemporary society.

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