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Research on the Construction of Media Evaluation Index System of Local Cultural Landscape

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Abstract:
To comprehensively evaluate the effectiveness of the mediatization of vernacular cultural landscapes and to promote the efficient implementation of mediatization design practices across various regions, thereby meeting the protection and development requirements of vernacular cultural landscapes in the context of the new era, this study conducts an in-depth analysis of the concept of vernacular cultural landscape mediatization based on relevant research. From the dimensions of material entities, dissemination effects, economic benefits, and social impacts, a rating indicator system for vernacular cultural landscape mediatization is constructed. The specific indicators are defined, and their weights are calculated using the Analytic Hierarchy Process (AHP) and Fuzzy Comprehensive Evaluation (FCE) methods. This research aims to provide a scientific reference for evaluating the mediatization of vernacular cultural landscapes and to offer practical guidance for related design and implementation practices.

Keywords:
Vernacular Cultural Landscape, Mediatization Design, Evaluation Indicators, AHP-fuzzy evaluation method

1.Introduction

As a vital carrier of local culture, the vernacular cultural landscape represents a comprehensive integration of regionality, cultural identity, and ecological characteristics. It profoundly embodies the historical memory and cultural identity of the residents in specific regions. However, with the continuous advancement of urbanization and globalization, traditional vernacular landscapes face increasingly severe threats of degradation and decline. Against this backdrop, mediatization design has emerged as a critical bridge connecting traditional culture with modern society. Through meditation techniques, vernacular landscapes are endowed with innovative dissemination and cultural expression, enhancing their capacity for transmission and vitality within broader social contexts. This approach achieves an organic integration of cultural preservation and modern communication. [1]

Research on vernacular landscapes has yielded abundant findings, primarily focusing on their cultural connotations, landscape value, and preservation strategies. However, existing studies lack systematic and in-depth exploration of the effectiveness of mediatization design in this context. International and domestic research on mediatization evaluation has predominantly concentrated on media technologies, such as publishing integration and digital dissemination, forming established evaluation frameworks in these domains. None-

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theless, the mediatization evaluation of vernacular cultural landscapes remains in its infancy, with existing frameworks demonstrating significant shortcomings in both specificity and applicability. [2-4]

With the rapid advancement of digital technologies, the concept of mediatization has continually evolved, extending its applications from single-medium presentations to multimodal and multi-platform integrated dissemination. This increased breadth and depth of mediatization present higher technical and design requirements for the preservation and dissemination of vernacular landscapes. In this context, there is an urgent need to construct a scientific, systematic, and practically meaningful evaluation indicator system to standardize and guide the mediatization of vernacular landscapes. Such a comprehensive evaluation framework would not only enable a holistic assessment of the actual effects of mediatization design but also provide a scientific basis for its practical implementation. Ultimately, it would contribute to achieving the goals of vernacular landscape preservation, dissemination, and sustainable development.

2. Construction of a media-based evaluation system for local cultural landscapes

2.1 The Connotation of the Mediatization of Local Cultural Landscape

The mediatization of vernacular cultural landscapes refers to the systematic process of integrating the unique value of vernacular culture with modern media technologies through innovative dissemination methods and expressive forms, revitalizing traditional landscapes while achieving their preservation and dissemination. This process encompasses the in-depth excavation of cultural content, optimization of media applications, effective enhancement of social participation, and comprehensive demonstration of economic and ecological values. In terms of cultural content, it is essential to systematically analyze the historical evolution, cultural symbols, and regional characteristics of vernacular landscapes to highlight their uniqueness and profound cultural significance. Regarding the application of media technologies, digital tools such as virtual reality (VR), augmented reality (AR), multimodal presentation, and cross-platform dissemination are utilized to enhance the expressiveness and efficiency of content delivery. Furthermore, the integration of interactive experiences and educational resources helps deepen public understanding and recognition of vernacular culture. In the context of economic and ecological values, mediatization design should actively develop cultural and creative products related to vernacular landscapes, driving the growth of cultural industries. Additionally, digital exhibition technologies can enhance public awareness of the ecological protection value of vernacular landscapes.

This study proposes constructing an evaluation indicator system for the mediatization of vernacular cultural landscapes based on four dimensions: material entities, dissemination effects, economic benefits, and social impacts. The material entities dimension primarily assesses the preservation of vernacular landscapes and the quality of their mediatized representation. The dissemination effects dimension focuses on the scope, influence, and audience feedback of mediatized content. The economic benefits dimension emphasizes the market performance of cultural and creative products and their role in driving industry growth. The social impacts dimension evaluates the enhancement of public cultural identity and ecological awareness.

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2.2 Principles for selecting evaluation indicators

The selection of evaluation indicators must strictly adhere to the three principles of comprehensiveness, representativeness, and practicability to ensure the scientific rigor, systematic coherence, and operational feasibility of the evaluation system. Regarding comprehensiveness, the indicators should be grounded in clear definitions and a solid theoretical foundation, encompassing the core requirements of the construction of vernacular cultural landscapes while expanding the functions of their mediatized integrated development. The evaluation system should include multi-dimensional content and establish a well-structured and logically consistent framework to fully reflect the comprehensive characteristics of the mediatization of vernacular landscapes. In terms of representativeness, the selected indicators must accurately capture the essential connotation of the mediatization of vernacular cultural landscapes, exhibit a high degree of generalizability and typicality, and align with the general public's cognition and cultural understanding. For practicability, the design of indicators should prioritize measurability and operability, ensuring that accurate evaluation data can be obtained through quantitative or qualitative methods. This approach guarantees convenience and efficiency in practical applications, thereby providing reliable support for real-world implementation. [5-7]

2.3 Evaluation index system design

This study adopts a combined approach of the Analytic Hierarchy Process (AHP) and Fuzzy Comprehensive Evaluation (FCE) methods. By extensively reviewing relevant literature on vernacular cultural landscapes, vernacular landscape transformation, vernacular landscape evaluation, and mediatization evaluation, the research systematically organizes the influencing indicators. Based on an in-depth analysis of the connotations of vernacular cultural landscape mediatization, this study aims to evaluate the mediatization process to determine the effectiveness of its design.

The evaluation indicator system is structured into two levels. The target level includes four dimensions: material entities, dissemination effects, economic benefits, and social impacts. The criteria level comprises 12 specific items (Table 1).

Table 1. Evaluation Index Table of Local Cultural Landscape Media

Target layer （A）	Criteria Layer（B）
Material Entities（A1）	Natural Landscape（B1）、Cultural Landscape（B2）、Mediatized Landscape（B3）
Dissemination Effects（A2）	Cultural Symbols（B4）、Dissemination Channels（B5）、Dissemination Content（B6）
Economic Benefits（A3）	population flow（B7）、Revenue Growth（B8）、Peripheral Industries（B9）
Social Impacts（A4）	Residents' Livelihood（B10）、Community Participation（B11）、Cultural Identity（B12）

The Material Entities target level evaluation indicators primarily assess whether the mediatization of vernacular cultural landscapes meets fundamental representational requirements. These indicators are constructed across three criterion levels: Natural Landscape, Cultural Landscape, and Mediatized Landscape, compris-

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ing a total of nine indicator levels (Table 2).

Table 2. Evaluation indicators of the "material entity" target layer

Criteria Layer（B）	Indicator layer (C)	Explanation
Natural Landscape（B1）	Ecological Integrity（C1）	Whether the natural landscape retains its original ecological structure and functional conditions
	Environmental Compatibility（C2）	The degree to which the mediatization design integrates harmoniously with the natural environment.
	Sustainable Design（C3）	Whether sustainable design concepts are incorporated into the mediatization process.
Cultural Landscape（B2）	Cultural Authenticity（C4）	Whether the cultural symbols and characteristics of the original cultural landscape are effectively preserved and presented.
	Cultural Narrativity（C5）	Whether the mediatization design showcases the historical and cultural connotations of the cultural landscape.
	Cultural Aesthetics（C6）	The extent to which the mediatization design enhances the artistic aesthetic appeal of the cultural landscape.
Mediatized Landscape（B3）	Technological Compatibility（C7）	Whether the chosen media technologies align with the characteristics of the landscape.
	Coverage of Facilities（C8）	The reach and coverage of the mediatized landscape in engaging its audience.
	Media Interactivity（C9）	Whether the mediatized landscape enables public participation and interaction.

The Dissemination Effects target level evaluation indicators primarily assess the practical effectiveness of the mediatization of vernacular cultural landscapes. These indicators are constructed across three criterion levels: Cultural Symbols, Dissemination Channels, and Dissemination Content, comprising a total of nine indicator levels (Table 3).

Table 3. Evaluation indicators of the "communication effect" target layer

Criteria Layer（B）	Indicator layer (C)	Explanation
Cultural Symbols（B4）	Uniqueness of Cultural Symbols（C10）	Refinement and transformation of representative cultural elements.
	Dissemination of Cultural Symbols（C11）	Frequency and significance of cultural symbols in the dissemination process
	Visual Representation of Cultural Symbols（C12）	Whether the visual representation is striking and easy to comprehend.

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Dissemination Channels（B5）	Diversity of Dissemination Channels（C13）	Whether a variety of dissemination channels are utilized to effectively preserve and present cultural symbols and characteristics of vernacular landscapes
	Scope of Dissemination Channels（C14）	Whether the mediatization design sufficiently showcases the historical and cultural connotations of the vernacular landscape.
	Technological Compatibility of Channels（C15）	Whether the technologies employed in the dissemination process align with the cultural characteristics of vernacular landscapes.
Dissemination Content（B6）	Content Diversity（C16）	Whether the dissemination content incorporates multimodal presentation forms to cater to varying audience preferences.
	Content Innovation（C17）	The level of innovation in the dissemination content, including the integration of modern media techniques to create novel presentations that attract target audiences.
	Content Depth（C18）	Whether the dissemination content thoroughly explores the historical, cultural, and ecological connotations of vernacular landscapes, presenting rich layers of information.

The Economic Benefits target level evaluation indicators primarily assess the contribution of the mediatization of vernacular cultural landscapes to regional economic development. These indicators are constructed across three criterion levels: Population Flow, Revenue Growth, and Peripheral Industries, comprising a total of nine indicator levels (Table 4).

Table 4. Evaluation indicators of the "Economic effect" target layer

Criteria Layer（B）	Indicator layer (C)	Explanation
Population Flow（B7）	Tourist Growth Rate（C19）	The annual percentage increase in tourist numbers following the implementation of vernacular landscape mediatization.
	Tourist Stay Duration（C20）	The average length of time visitors spends at the scenic area or mediatized sites
	Tourist Satisfaction（C21）	The overall evaluation of mediatization design and vernacular landscape experiences by tourists.

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Revenue Growth（B8）	Ticket Revenue Growth Rate（C22）	The annual growth rate in ticket revenues for vernacular landscapes after mediatization.
	Sales of Cultural and Creative Products（C23）	The growth in sales of cultural and creative products associated with vernacular landscapes.
	Activity Revenue Contribution（C24）	The proportion of overall economic revenue generated by cultural activities (e.g., festivals, exhibitions) facilitated by mediatization design.
Peripheral Industries（B9）	Number of New Related Industries（C25）	The number of new related industries (e.g., catering, accommodation, transportation) introduced following mediatization.
	Prosperity of Surrounding Businesses（C26）	The improvement in the activity levels of surrounding businesses (e.g., local markets, shops) driven by mediatization.
	Employment Growth Rate（C27）	The percentage increase in new employment opportunities created by the mediatization design

The Social Impacts target level evaluation indicators primarily assess the positive effects of the mediatization of vernacular cultural landscapes on communities, residents' livelihoods, and cultural identity. These indicators are constructed across three criterion levels: Residents' Livelihood, Community Participation, and Cultural Identity, comprising a total of nine indicator levels (Table 5).

Table 5. Evaluation indicators of the "Economic effect" target layer

Criteria Layer（B）	Indicator layer (C)	Explanation
Residents' Livelihood（B10）	Resident Employment Growth Rate（C26）	The growth in employment opportunities directly or indirectly created for residents
	Resident Income Growth Rate（C27）	The degree of improvement in the income levels of community residents.
	Improvement in Convenience of Daily Life（C28）	The enhancement of infrastructure or public services (e.g., transportation, communication) and their impact on convenience.
Community Participation（B11）	Community Activity Participation Rate（C29）	The proportion of community residents participating in mediatization-related cultural activities (e.g., exhibitions, handicraft workshops).
	Community Decision-Making Involvement（C30）	The extent of resident participation in the planning, design, and implementation of mediatization projects, including consultation and decision-making authority.
	Volunteer Service Contribution Rate（C31）	The proportion of community members contributing volunteer service hours and participation in mediatization design activities.

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	Cultural Identity Enhancement Rate C32）	The degree of growth in residents' sense of cultural identity with vernacular culture.
Cultural Identity （B12）	External Visitors' Feedback on Cultural Identity（C33）	The percentage of positive feedback from external visitors regarding the cultural value of the local area.
	Cultural Protection Awareness Enhancement Rate（C34）	Whether the awareness and actions of community residents and external visitors toward the protection of vernacular culture have improved.

Based on the division of different target levels and criterion levels, and in alignment with the connotation of vernacular cultural landscape mediatization and the principles of evaluation indicator design, 34 specific indicator levels have been initially proposed. Through the optimization and integration of existing indicators, a relatively practical and application-oriented evaluation indicator system has been established (Table 6).

Table 6. Evaluation Index System of Local Cultural Landscape Media

Target Level（A）	Criterion Level（B）	Indicator Level（C）	Explanation
Material Entities （A1）	Natural Landscape （B1）	Ecological Integrity （C1）	Whether the natural landscape retains its original ecological structure and functional conditions.
	Cultural Landscape （B2）	Cultural Authenticity（C2）	Whether the cultural symbols and characteristics of the original cultural landscape are effectively preserved and presented.
	Mediatized Landscape（B3）	Environmental Compatibility（C3）	The degree to which mediatization design integrates harmoniously with the surrounding environment.
Dissemination Effects（A2）	Cultural Symbols （B4）	Uniqueness of Cultural Symbols （C4）	Refinement and transformation of representative cultural elements.
	Dissemination Channels（B5）	Diversity of Dissemination Channels（C5）	Whether a variety of dissemination channels are utilized to cover the audience.
		Scope of Dissemination Channels（C6）	Whether the dissemination covers the target regions or groups.
	Dissemination Content（B6）	Content Depth（C7）	Whether the dissemination content comprehensively explores the historical, cultural, and ecological connotations of vernacular landscapes

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	Population Flow（B7）	Tourist Growth Rate（C8）	The annual percentage increase in tourist numbers following the implementation of vernacular landscape mediatization.
Economic Benefits（A3）	Revenue Growth（B8）	Regional Economic Revenue Growth Rate（C9）	The increase in regional economic revenue directly generated by mediatization design.
	Peripheral Industries（B9）	Number of New Related Industries（C10）	The number of new related industries or services introduced following mediatization
	Residents' Livelihood（B10）	Resident Satisfaction Improvement Rate（C11）	The level of community residents' satisfaction with the improvement of their quality of life
Social Impacts（A4）	Community Participation（B11）	Community Activity Participation Rate（C12）	The proportion of community residents participating in mediatization-related cultural activities (e.g., exhibitions, handicraft workshops).
	Cultural Identity（B12）	Cultural Identity Enhancement Rate（C13）	The degree of growth in residents' sense of cultural identity with vernacular culture.

3. Evaluation index weight based on AHP

Using the 1–9 scale method of the Analytic Hierarchy Process (AHP), experts in vernacular cultural landscapes, communication studies, and related fields were invited to score the indicators. After calculation, the feature vector for the target level (A1–A4) is ω = (0.302,0.303,0.116,0.278) with a consistency ratio *CR*=0.0904. For the criterion level (B1–B12), the feature vector is ω = (0.3,0.2,0.5,0.34,0.5,0.16,0.345,0.352,0.303,0.41), with *CR*=0.0969.Since all CR values are less than 0.1, the results are valid. Based on the comprehensive scoring, the final weight assignments were determined (Table 7). The higher the value, the more significant the corresponding indicator.

Table 7. Weight of evaluation indexes of local cultural landscape media

Target Level（A）	Target layer weight	Criterion Level（B）	Criteria layer weight	Indicator Level（C）	Weight

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Material Entities（A1）	0.302	Natural Landscape（B1）	0.3	Ecological Integrity（C1）	0.091
		Cultural Landscape（B2）	0.2	Cultural Authenticity（C2）	0.060
		Mediatized Landscape（B3）	0.5	Environmental Compatibility（C3）	0.160
Dissemination Effects（A2）	0.303	Cultural Symbols（B4）	0.34	Uniqueness of Cultural Symbols（C4）	0.103
		Dissemination Channels（B5）	0.5	Diversity of Dissemination Channels（C5）	0.082
				Scope of Dissemination Channels（C6）	0.070
		Dissemination Content（B6）	0.16	Content Depth（C7）	0.048
Economic Benefits（A3）	0.116	Population Flow（B7）	0.345	Tourist Growth Rate（C8）	0.040
		Revenue Growth（B8）	0.352	Regional Economic Revenue Growth Rate（C9）	0.041
		Peripheral Industries（B9）	0.303	Number of New Related Industries（C10）	0.035
Social Impacts （A4）	0.278	Residents' Livelihood（B10）	0.41	Resident Satisfaction Improvement Rate（C11）	0.114
		Community Participation（B11）	0.362	Community Activity Participation Rate（C12）	0.101
		Cultural Identity（B12）	0.228	Cultural Identity Enhancement Rate（C13）	0.063

4. Evaluation methods and standards

4.1 Establishing factor set and evaluation set

This study employs the Fuzzy Comprehensive Evaluation (FCE) method to assess the mediatization of vernacular cultural landscapes. Based on the research outlined above, let the evaluation factor set be $C=\{C_1、C_2、……、C_{13}\}$, where C_n represents the 13 evaluation indicators listed in Table 7.

Let the evaluation set be $P=\{P_1、P_2、……、P_j\}$, where P_j. denotes the j evaluation outcome. For the mediatization of vernacular cultural landscapes, the evaluation set is defined as P={Excellent,Good,Average,Poor,Inferior}.

4.2 Constructing evaluation matrix and comprehensive evaluation model

For single-factor fuzzy evaluation, let the membership degree of the element in the factor set C to the j ele-

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ment in the evaluation set P be r_{nj}. Then, the single-factor evaluation result for the n element can be expressed as a fuzzy set: Rn={r_{n1}、r_{n2}、……、r_{nj}}, By evaluating all elements in C,a fuzzy comprehensive evaluation matrix is constructed.

$$R_{n\times j} = \begin{Bmatrix} r_{11} & r_{12} \cdots & r_{1j} \\ r_{21} & r_{22} \cdots & r_{1j} \\ \vdots & \vdots \quad \ddots & \vdots \\ r_{n1} & r_{n2} \cdots & r_{nj} \end{Bmatrix}$$

Thus, based on the weight vector ω and the evaluation matrix $R_{n\times j}$, the fuzzy vector is constructed as follows:

$$C = \omega \times R_{n\times j} = (C_1, C_2, \ldots, C_n)$$

This represents the comprehensive evaluation result for the mediatization of vernacular cultural landscapes.

5. Conclusion

In the practical implementation of the mediatization of vernacular cultural landscapes, evaluation results are often susceptible to the subjective biases of evaluators and are influenced by complex, difficult-to-quantify factors. To address these challenges, this study adopts a combined approach of the Analytic Hierarchy Process (AHP) and Fuzzy Comprehensive Evaluation (FCE) methods. This approach is designed to handle complexity and ambiguity while mitigating the subjectivity and overemphasis on key factors often associated with traditional percentage-based scoring methods. Through this comprehensive evaluation framework, the study aims to provide a scientific foundation for assessing the current state of mediatization in vernacular cultural landscapes and to serve as a valuable reference for future mediatization design and practical applications.

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