



Coordinated Development among Digital Villages, Cultural Tourism, and Rural Revitalization in China: An Analysis Based on the Entropy Weight Method and the Coupling Coordination Model

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Abstract. Against the backdrop of global digitalization and rural revitalization, the synergistic development of digital rural construction, cultural tourism and rural revitalization is crucial for unleashing rural endogenous driving forces, optimizing urban-rural factor allocation and consolidating the agricultural foundation, making it imperative to explore their coordination mechanism. However, existing rural research mostly focuses on binary system coupling while ignoring their tripartite interaction; the evaluation framework for digital rural construction also lacks a governance dimension, failing to fully reflect the application effects of digital technologies in agricultural production and rural governance. The main findings are as follows: (1) From 2014 to 2024, the comprehensive development levels of the three systems showed steady growth, with distinct differences in their growth rhythms, fluctuation characteristics, and driving forces. (2) The internal coordination of each subsystem increased, with digital rural construction rising from 0.151 to 0.782, cultural tourism fluctuating from 0.169 to 0.955 (dropping to 0.463 in 2020), and rural revitalization growing from 0.158 to 0.620 at a slower pace. (3) The overall coupling coordination degree improved significantly, rising from 0.100 (extreme imbalance) in 2014 to 0.955 (high-quality coordination) in 2024, progressing through three stages: unidirectional support, bi-directional interaction, and tri-dimensional symbiosis. This study contributes to the understanding of tripartite synergy in rural development, offering empirical evidence for integrating digital rural construction and cultural tourism to empower rural revitalization and providing guidance for policy formulation and optimization.

Keywords: Rural Revitalization; Digital Rural Development; Cultural Tourism; Coupling Coordination Model; Entropy Weight Method; China

1 Introduction

Against the backdrop of global digitalization and the booming tourism industry, the integrated development of digital rural development and cultural tourism has become a

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key trend in international rural development^[1]. Driven by the rapid advancement of information technology and the continuous improvement of national and local policies, digital rural construction has become a crucial link in advancing rural development in China^[2]. In May 2019, China issued The Strategic Outline for Digital Rural Development, and multiple ministries later jointly released The Action Plan for Digital Rural Development (2022-2025)^[3]. These documents emphasize prioritizing digital rural construction in rural revitalization work and promoting the in-depth integration of agricultural modernization and rural informatization. The cultural tourism industry plays an indispensable role in boosting rural revitalization and has gradually become a key research focus for all sectors^[4]. Its synergistic development with digital rural development can drive the diversification of the rural economy: it enriches rural cultural connotations and enhances tourism attractiveness, while providing solid support for the full implementation of the rural revitalization strategy^[5]. In this context, it is necessary to take cultural revitalization as the focus, give full play to the value guidance and cohesion of rural culture, and stimulate the endogenous driving force for rural revitalization^[6]. Meanwhile, promoting digital inclusive finance, implementing the rural revitalization strategy, upgrading rural infrastructure and enhancing the impact of digital inclusive finance on rural residents' consumption are also key current tasks^[7].

The academic community has carried out numerous explorations in related fields. A. M. Sergeeva^[8] took rural tourism development in Aktobe Oblast of Kazakhstan as a case, pointing out that rural tourism development is constrained by regional resources and economic conditions, and spatial analysis can provide effective support for its advancement. T. Saintenoy^[9] further confirmed that regional resources and economic conditions exert a significant impact on rural tourism development concepts; V. Voronkova^[10] used data science and big data analysis to trace the origin of green ecotourism, providing insights for the transformation of traditional rural areas into tourism communities. These studies offer theoretical and practical references for the integration of rural tourism with resources and technologies, yet they do not involve the tripartite synergy logic of digital rural development, cultural tourism and rural revitalization^[2-4; 6]. X. Yin^[11] proposed the concept of rural innovation system based on a comparison of multiple theories, providing a new path for rural revitalization and poverty alleviation; Dai M L^[4] analyzed the government-led transformation of Wudaoliang, a traditional rural area in China, from a kinship society to a commercial tourism-oriented society. Their research aligns with rural practice in China but does not explore the synergy logic of multiple systems^[6; 12-14]. A number of studies have adopted the dynamic evolution theory, focusing on the spatio-temporal evolution of research objects based on long-time-series panel data. They emphasize the phased, continuous and transformative characteristics of development, and attach importance to the evolutionary mechanism driven by both exogenous factors such as policy intervention and technological change and the endogenous driving forces of systems.

More studies have focused on the interaction of binary systems: C. Costantino^[15] and O. Gocer^[16], took “digital rural development+cultural tourism” as the research object, analyzing how digital technologies empower tourism service innovation, while Su Fei^[13], Yang Yongsheng^[14] and M. Du^[17] exploring diversified paths for rural revitali-

zation in the digital economy era. Although these studies reveal the correlations between some systems, they all ignore the tripartite interactive logic of “digital technology empowerment-cultural tourism industrial upgrading-rural revitalization breakthrough”, hindering a full understanding of the internal mechanism of rural development.

To address the above research gaps, this study takes China as the research area and focuses on the tripartite synergy logic of digital rural development, cultural tourism and rural revitalization. Its core is to reveal how the governance capacity of digital rural development reshapes the interaction between the cultural tourism industry and rural development, and its mechanism of action on the core dimensions of rural revitalization. The study explores the dynamic replacement of dominant coupling-driven subsystems in three development stages from 2014 to 2024. It analyzes how the integration depth of cultural tourism and digital rural development affects the efficiency and quality of rural revitalization, as well as the practical value of such integration for industrial structure upgrading, spatial reconstruction and cultural inheritance in tourism-dominated rural areas. Additionally, it compares the contribution differences of the governance dimension of digital rural development with traditional infrastructure and application dimensions to cultural tourism's empowerment of rural revitalization, clarifying the differentiated synergistic development paths of regions with distinct natural endowments and economic foundations.

2 Research Design

2.1 Research Area and Data Sources

This study takes China as the research area. Significant differences in natural endowments, economic foundations and industrial structures across China lead to diversified rural development characteristics. A nationwide study can fully capture the overall trend and regional differences of the three systems' synergistic development, providing a basis for formulating targeted regional development policies.

The research covers the period 2014-2024. Data are mainly sourced from the China Statistical Yearbook, China Digital Rural Development Report, Statistical Communique on the Communications Industry of the Ministry of Industry and Information Technology, and China Culture and Tourism Statistical Yearbook. Additional data come from annual reports of cultural and tourism departments at provincial and municipal levels, local statistical yearbooks, as well as the China Rural Statistical Yearbook and Development Report on the Rural Revitalization Strategy released by the National Bureau of Statistics, the Ministry of Agriculture and Rural Affairs, the National Rural Revitalization Administration and other departments.

2.2 Research Methods

This study focuses on the tripartite synergistic development of digital rural development, cultural tourism and rural revitalization, aiming to accurately measure the development level of each system and their interactive coordination characteristics. Thus,

the entropy weight method and the coupling coordination model are selected. As an objective weighting approach, the entropy weight method minimizes subjective biases, adapts to the multiple attributes of the 28 third-level indicators in this study, and accurately reflects the actual contribution of each indicator. The coupling coordination model is specially designed for the correlation and interaction of multiple systems. It quantifies the coupling tightness between systems and reflects development balance, clearly capturing the evolutionary trajectory of the three systems from imbalance to high-quality coordination from 2014 to 2024. The combined application of the two methods provides reliable methodological support for the science and accuracy of the research conclusions.

2.2.1 Entropy Weight Method.

The entropy weight method is an objective indicator weighting approach that largely eliminates subjective deviations. Its specific calculation steps are as follows:

Data standardization. Assume that n is the number of cities under the jurisdiction of a province, m is the number of indicators; X_{ij} , represents the standardized value of the j th indicator of the i -th sample ($i=1,2,\dots,m; j=1,2,\dots,n$); $maxx_{ij}$ and $minx_{ij}$, are the maximum and minimum values of the j th indicator, respectively. In addition, to avoid non-positive values, the standardized data are shifted by 0.0001.

Positive indicators:

$$X_{ij} = \frac{x_{ij} - minx_{ij}}{maxx_{ij} - minx_{ij}} \tag{1}$$

Negative indicators:

$$X_{ij} = \frac{maxx_{ij} - x_{ij}}{maxx_{ij} - minx_{ij}} \tag{2}$$

i -th sample of the j -th index:

$$p_{ij} = \frac{x_{ij}}{\sum_{i=1}^m x_{ij}} \tag{3}$$

Calculate the entropy value of the j -th indicator:

$$e_j = -k \sum_{i=1}^m p_{ij} \ln(p_{ij}), k = \ln m \tag{4}$$

Calculate the coefficient of variation of the j th indicator:

$$g_j = 1 - e_j \tag{5}$$

Calculate the weight of the j th indicator:

$$w_j = \frac{g_j}{\sum_{j=1}^n g_j} \tag{6}$$

Calculation of comprehensive scores for each city:

$$s_{ij} = \sum_{j=1}^n w_{ij} \times p_{ij} \tag{7}$$

2.2.2 Coupling Coordination Model.

Coupling refers to the integration and connection of two or more systems through internal mechanisms, while coordination denotes the transmission and conversion of matter, information and energy among the three subsystems. This study adopts the coupling coordination model to measure the comprehensive development levels of digital village, cultural tourism and rural revitalization in China’s prefecture-level cities and their coupling coordination relationship, which can effectively judge the coordination of the coupling process of the three subsystems in different years, thus analyzing their coordinated development path and evolution model.

The calculation formula is:

$$G = \left[\frac{C_1 \times C_2 \times C_3}{(C_1 + C_2 + C_3 / 3)^2} \right]^{1/3} \tag{8}$$

$$D = \sqrt{G \times T}, T = \alpha C_1 + \beta C_2 + \gamma C_3 \tag{9}$$

Among them, $\alpha + \beta + \gamma = 1$; G represents the coupling degree of the two systems and T is a comprehensive evaluation index; C_1, C_2, C_3 are the comprehensive index values of the economic structure and digital life system, respectively, α, β, γ and are the weights of the three systems; D represents the coupling coordination degree, and its value range is $[0, 1]$. The larger the value, the better the coordination between the systems.

This paper examines the coordinated development of reeconomic structure and digital life, so the three systems are equally important $\alpha = \beta = \gamma = 1/3$. Based on existing research^[18], the coupling coordination degree is divided into 10 levels, as shown in Table 1.

Table 1. Classification of coupling coordination degree.

Coupling coordination degree D	Coordination level	Coupling coordination level
[0.0~0.1)	1	Extremely disordered
[0.1~0.2)	2	Serious disorder
[0.2~0.3)	3	Moderate Disorder
[0.3~0.4)	4	Mild disorder
[0.4~0.5)	5	On the verge of disorder
[0.5~0.6)	6	Barely coordinated
[0.6~0.7)	7	Primary Coordination
[0.7~0.8)	8	Intermediate Coordination
[0.8~0.9)	9	Good coordination
[0.9~1.0]	10	High-quality coordination

2.3 Construction of the Indicator System

The core purpose of constructing the indicator system is to accurately quantify the synergistic development level of digital village, cultural tourism and rural revitalization

(Table 2), and break the limitation of existing research that mostly focuses on binary systems and lacks a unified evaluation framework. The three systems form a closed-loop interaction featuring technological driving, industrial support and all-round improvement: digital village provides technical and governance support, cultural tourism activates the rural economy, and rural revitalization is the overall goal of urban-rural coordinated development. Only by integrating the three into the same system can their synergy logic be fully analyzed.

Centering on the tripartite synergy logic, this study constructs an indicator system by integrating multi-field research ideas, setting 3 primary indicators (digital village, cultural tourism, rural revitalization) with 28 secondary indicators under them, covering the key observation dimensions of each core aspect to ensure comprehensive and targeted evaluation. Among them, digital village includes 10 secondary indicators, covering digital construction basic conditions, application scenarios and governance observation points, in line with the practical logic of digital village development from infrastructure construction to application and then to governance. Cultural tourism has 10 secondary indicators, following the industrial evolution law from resource endowment to industrial development and then to integration effect, covering the core links of the cultural tourism industry from foundation to benefit. Rural revitalization contains 8 secondary indicators, closely adhering to the core deployment of China's rural revitalization strategy and corresponding to key dimensions such as industrial prosperity and eco-friendly living environment.

In terms of indicator attributes, only the proportion of illiterate population aged 15 and above and the proportion of rural residents' food consumption expenditure are negative indicators, while the other 26 are positive indicators. The innovation of this indicator system is reflected in two aspects: first, it breaks the existing binary research framework and integrates the three systems into the same evaluation system for the first time, fully presenting their tripartite interactive logic; second, it supplements governance-related observation indicators in the digital village dimension, filling the gap of previous research that ignored rural digital governance.

Compared with previous studies, this system's innovation and gap-filling are embodied in two aspects: first, it breaks the binary frameworks of "digital rural development-rural revitalization"^[19] and "cultural tourism-rural revitalization"^[20], and includes the three into the same evaluation system for the first time; second, it adds indicators related to "rural digital governance" in the digital rural development dimension^[21], making up for the neglect of rural digital governance in previous research.

Table 2. Comprehensive Evaluation Indicator System for Digital Village, Cultural Tourism and Rural Revitalization.

Primary Indicator	Code	Secondary Indicator	Unit	Attribute	Weight
Digital Village	X1	Rural electricity consumption	Billion kilowatt-hours	+	0.018
	X2	Length of fiber optic cable	Kilometer	+	0.023
	X3	Number of cell phone base stations	Ten thousand units	+	0.024
	X4	Number of Internet broadband access ports	Hundred million units	+	0.017
	X5	Scale of netizens	Ten thousand people	+	0.028

	X6	Number of Internet domain names	Ten thousand units	+	0.028
	X7	Rural Internet penetration rate	%	+	0.016
	X8	Radio and television penetration rate	%	+	0.034
	X9	Number of primary industry employees	Ten thousand people	+	0.023
	X10	Public information on agricultural and rural department websites	Piece	+	0.035
	X11	Number of 5A-level scenic spots	Unit	+	0.171
	X12	Total tourism revenue	Trillion yuan	+	0.022
	X13	Museum visitor volume	Hundred million person-times	+	0.027
	X14	Enrollment in general higher education	Ten thousand people	+	0.030
Cultural Tourism	X15	Per capita GDP	Yuan	+	0.028
	X16	Green coverage rate of built-up areas	%	+	0.035
	X17	Number of patent grants	Piece	+	0.030
	X18	Number of art performance troupes	Unit	+	0.033
	X19	Number of A-level scenic spots	Unit	+	0.027
	X20	Scenic spot operating income	Billion yuan	+	0.040
	X21	Total power of agricultural machinery	Billion kilowatts	+	0.027
	X22	Effective irrigation area	Ten thousand hectares	+	0.018
	X23	Forest coverage rate	%	+	0.105
	X24	Proportion of illiterate population aged 15 and above	%	-	0.041
Rural Revitalization	X25	Rural per capita consumption on education, culture and entertainment	Yuan	+	0.019
	X26	Rural population	Ten thousand people	+	0.025
	X27	Proportion of rural residents' food consumption expenditure	%	-	0.030
	X28	Rural employed population	Ten thousand people	+	0.045

3 Results

3.1 Comprehensive Development Level Characteristics of Each System

Figure 1 shows that the comprehensive scores of China's digital village, cultural tourism and rural revitalization systems all trended upward overall from 2014 to 2024, yet their growth rhythms and fluctuation patterns varied significantly.

The comprehensive score of the digital village system rose steadily from 2014 to 2021, peaking at 0.300 in 2021 before declining, and then gradually rebounding to 0.160 in 2024. The cultural tourism system's score grew relatively slowly, increasing from 0.053 in 2014 to 0.254 in 2024 with only a slight fluctuation in 2020.

The rural revitalization system’s comprehensive score also maintained steady growth, rising in stages from 2014 to 2021. Its growth rate accelerated after 2021, reaching 0.243 in 2024, and the score gradually converged with that of the cultural tourism system.

The score trends of the three systems indicate that their development was not completely synchronous, with obvious differences in growth range and fluctuation degree at different stages. Nevertheless, their overall synergistic improvement trend was prominent.

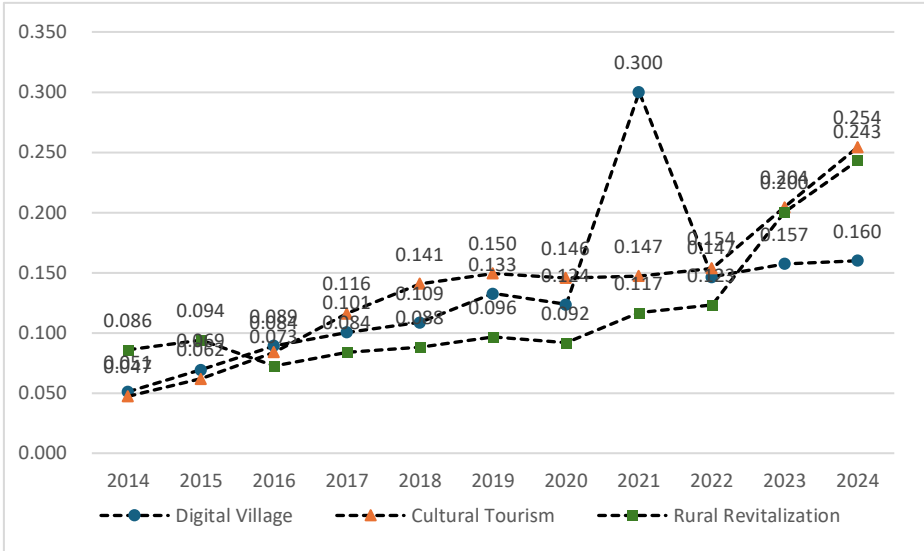


Fig. 1. Comprehensive Scores of China’s Digital Village, Cultural Tourism and Rural Revitalization Systems (2014-2024)

3.2 Analysis of Coupling Coordination Degree

The coupling coordination degree of the three systems rose in stages from 2014 to 2024 (Figure 2). It stood at only 0.144 in 2014, fluctuated upward from 2015 to 2021, and entered a rapid growth phase after 2022, reaching 0.869 in 2024. This trend clearly reflects the continuous optimization of the synergetic state among the three systems. Although short-term declines occurred in 2016 and 2021, the overall synergistic evolution trend was clear and highly consistent with the fluctuation nodes of the comprehensive development level, reflecting the synchronization between the overall system development and the synergetic state.

This characteristic is driven by policies, technologies, markets and the internal logic of the systems. At the policy level, coordinated advancement of relevant policies has reduced policy frictions between systems and guided resource agglomeration toward synergy. At the technical level, in-depth application of big data, the Internet of Things and artificial intelligence in rural areas has become a bond for factor flow and matching

between systems, significantly improving synergy efficiency. For example, big data analyzes tourist preferences to create targeted cultural tourism products^[22], the Internet of Things enables intelligent management of rural cultural tourism scenarios^[23], and rural revitalization to expand industrial dimensions. At the market level, upgrading of residents' consumption structure has spawned diversified demands for cultural experience, rural leisure and digital convenience, forcing digital village to optimize service supply, cultural tourism to innovate product forms, and rural revitalization to expand industrial dimensions. For example, S.Mazwane^[24]confirmed that agricultural digitalization can be achieved by transforming digital infrastructure, which supports relevant policy formulation and discussion. Market demand has driven the three systems to shift from decentralized development to synergistically meeting social demands. At the system internal logic level, digital village provides a technical lever for cultural tourism, cultural tourism offers an economic lever for rural revitalization in terms of income increase and industrial agglomeration^[25], and rural revitalization supplies a basic lever for the former two in terms of ecological, talent and spatial guarantee. The three form a closed-loop linkage of technology-economy-foundation. Even if external shocks such as the pandemic temporarily break the closed-loop balance, the online support of digital village and the basic guarantee of rural revitalization remain, enabling the system to recover rapidly after shocks and upgrade to a higher level of synergy.

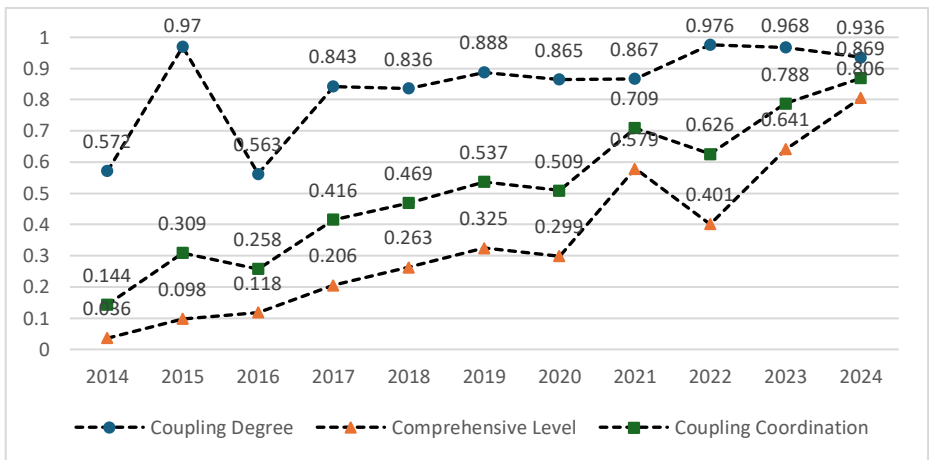


Fig. 2. Coupling Coordination Characteristics of China’s Digital Village, Cultural Tourism and Rural Revitalization Systems (2014-2024)

3.3 Internal Coupling Coordination Characteristics of Each Subsystem

3.3.1 Digital Village.

Figure 3 shows that the internal coupling coordination degree of China's digital village system fluctuated upward overall from 2014 to 2024, rising from 0.151 in 2014 to 0.782 in 2024, indicating a leap from low-level coordination to sound coupling in the system's synergetic state.

In stages, the coupling coordination degree increased from 0.151 to 0.551 from 2014 to 2017. During this period, the scores of the system's core indicators and secondary indicators such as digital infrastructure and digital information foundation were relatively scattered, leading to slow improvement in the synergetic state. From 2018 to 2019, the coupling coordination degree rose rapidly to 0.649, and the system's synergetic state entered a stage of accelerated optimization. From 2020 to 2021, the coupling coordination degree continued to fluctuate upward, peaking at 0.857 in 2021. Although it declined slightly afterward, it remained above 0.6, reflecting that the system's synergetic state has entered a relatively stable stage of sound coupling.

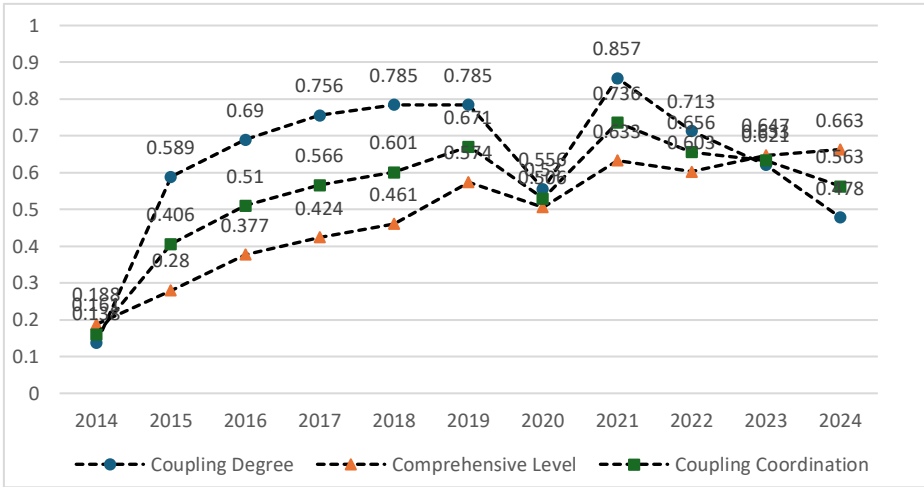


Fig. 3. Coupling Coordination Characteristics of China's Digital Village System (2014-2024)

3.3.2 Analysis of the Coupling and Coordination Characteristics of Cultural Tourism.

As shown in Figure 4, the internal coupling coordination degree of China's cultural tourism system fluctuated upward from 2014 to 2024, increasing from 0.169 in 2014 to 0.955 in 2024. The system's overall synergetic state has advanced from low-level coordination to high-level coupling.

In different stages, the coupling coordination degree grew slowly from 2014 to 2017, rising only from 0.169 to 0.524. During this period, the scores of the system's core indicators and secondary indicators such as industrial scale and integration environment were relatively scattered, resulting in slow improvement in the synergetic state. From 2018 to 2019, the coupling coordination degree entered an accelerated growth phase, reaching a phased high of 0.687 in 2019, with a significant increase in the optimization speed of the system's synergetic state. From 2020 to 2022, the coupling coordination degree fluctuated slightly but remained above 0.5. It entered another rapid growth phase after 2023 and hit 0.955 in 2024, marking that the system's synergetic state has entered a stable stage of high-level coupling.

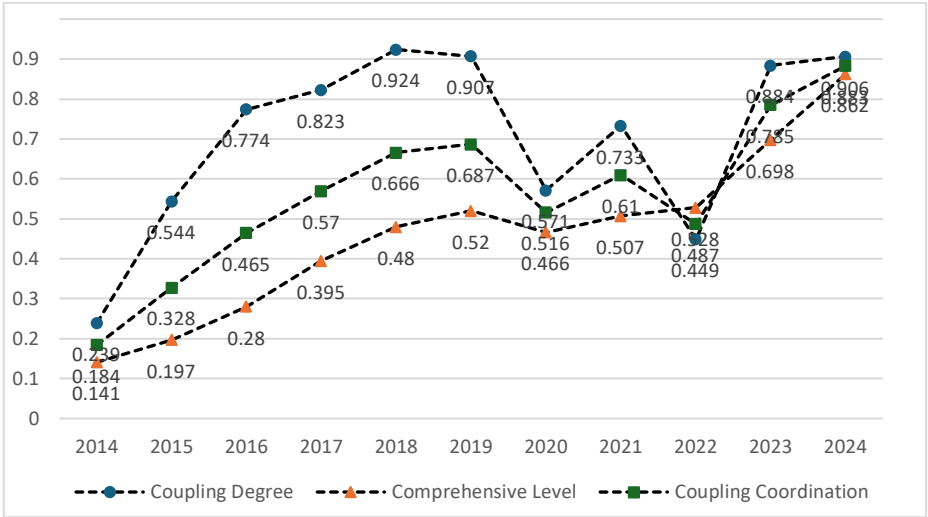


Fig. 4. Coupling Coordination Characteristics of China's Cultural Tourism System (2014-2024)

3.3.3 Analysis of Coupling and Coordination Characteristics of Rural Revitalization.

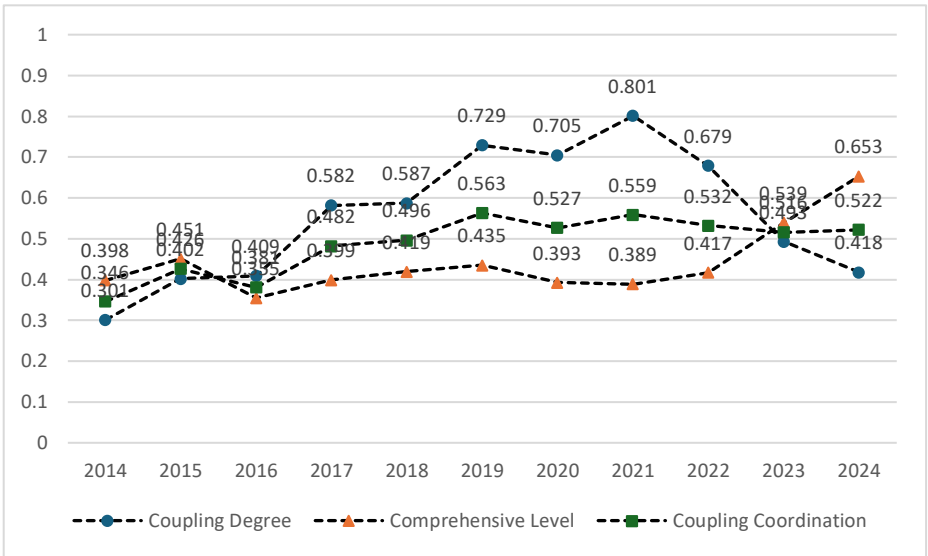


Fig. 5. Coupling Coordination Characteristics of China's Rural Revitalization System (2014-2024)

Figure 5 indicates that the internal coupling coordination degree of China's rural revitalization system fluctuated upward overall from 2014 to 2024, rising from 0.158 in

2014 to 0.620 in 2024, with the system's synergetic state evolving from low-level coordination to sound coordination.

The coupling coordination degree grew slowly from 2014 to 2017, increasing only from 0.158 to 0.434. During this period, the scores of the system's core indicators and secondary indicators such as industrial prosperity and eco-friendly living environment were relatively scattered, leading to slow improvement in the synergetic state. From 2018 to 2019, the coupling coordination degree entered an accelerated growth phase, reaching 0.565 in 2019, with a notable increase in the optimization speed of the system's synergetic state. From 2020 to 2021, the coupling coordination degree continued to fluctuate upward, peaking at 0.801 in 2021. Although it declined slightly afterward, it remained above 0.4, reflecting that the system's synergetic state has entered a relatively stable stage of sound coordination.

4 Discussion

Existing research on rural system synergy is mostly confined to binary interaction frameworks, hindering a full understanding of the diversified linkage logic of rural development. X. X. Chen(2022)^[26] studied the coupling of digital technologies and cultural tourism, analyzing how digital tools empower the integration of cultural and tourism resources. However, they did not incorporate rural revitalization into the core correlation dimension, cutting off the in-depth connection between industrial upgrading and overall rural development, and failed to discuss the adaptability of industrial evolution and rural development in combination with the Tourism Destination Life Cycle Theory. L. C. Hou(2023)^[27] focused on the synergistic path of digital village and rural revitalization, ignoring the intermediary value of cultural tourism in urban-rural factor flow, and did not introduce the Theory of Digital Innovation Diffusion to analyze the transmission mechanism of technological empowerment, resulting in dual deficiencies in theory and research dimensions. Based on the Tourism Destination Life Cycle Theory and the Theory of Digital Innovation Diffusion, this study constructs a tripartite coupling analysis framework for digital village, cultural tourism and rural revitalization, and finds that the three systems have distinct core influencing indicators: digital governance is the core of digital village development; resource endowment and industrial efficiency lead the development of cultural tourism; ecological livability and industrial prosperity are the key to rural revitalization. This finding complements the indicator focus of previous single-dimensional research and provides a new theoretical perspective for the study of rural multi-system synergy.

5 Conclusions and Prospects

Based on panel data of China's prefecture-level cities from 2014 to 2024, this study constructs a tripartite system evaluation indicator system covering digital village, cultural tourism and rural revitalization. Combining the entropy weight method and the coupling coordination model, it systematically measures and analyzes the spatio-temporal evolution characteristics of their synergistic development, aiming to fill the gap

in empirical analysis of multi-system coupling in existing research and provide theoretical support and practical references for the multi-dimensional synergistic development of rural areas.

5.1 Core Research Findings

From 2014 to 2024, the digital village, cultural tourism and rural revitalization systems all achieved steady development with distinct heterogeneous characteristics. The digital village witnessed continuous improvement in rural digital infrastructure, yet the in-depth application of digital technologies remained insufficient, leading to slight fluctuations in its development in the later period. Cultural tourism recorded the fastest growth among the three and showed strong adaptability and resilience against external shocks. Rural revitalization kept a stable development pace, reflecting the long-term and systematic nature of its advancement driven by the coordination of multiple factors. In terms of the overall coupling coordination of the three systems, their coupling coordination degree went through three stages of unidirectional support (2014-2018), bidirectional interaction (2019-2022) and tri-dimensional symbiosis (2023-2024), rising gradually from 0.144 to 0.869 and realizing a leap from unbalanced development to sound coordination. The internal coupling coordination of each subsystem also presented notable heterogeneity: the digital village subsystem developed steadily, was less impacted by external environmental shocks and maintained a relatively stable coordination level throughout; the cultural tourism subsystem was highly sensitive to external environmental changes but could recover rapidly after shocks through digital transformation, with its coordination level rising consistently; the rural revitalization subsystem saw a slow and steady growth in internal coupling coordination degree due to its inherent long-term and systematic development features, achieving steady progress in its overall development.

5.2 Research Limitations and Future Prospects

This study focuses on the macro-level measurement of the tripartite coupling coordination of digital village, cultural tourism and rural revitalization, with limited discussion on meso and micro scales. In addition, the research conclusions are based on China's institutional and policy context, with certain limitations in cross-country and cross-regional promotion. With the rapid development of the digital economy, this study on China's rural tripartite system synergy still has important reference significance for the high-quality development of global rural tourism. Future research can further explore the development differences and action mechanisms of the three systems at the meso and micro scales, and analyze the regional differentiation characteristics of synergistic development based on different natural endowments and economic foundations, so as to enrich the research depth and breadth of rural multi-system synergistic development.

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