

Article

Built Equality and Sustainable Urban Cultural Space: A Case Study of Quanzhou, China

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Abstract: Geographic information and the mapping analysis of scientific knowledge have proven to be effective for the management and monitoring of built heritage. To understand built heritage and the urban cultural space, this study incorporates the following integrated data: public surveys, researchers' knowledge graphs, and urban map information. Firstly, the urban map of Quanzhou is used to analyze the spatial distribution of cultural heritage points. Secondly, Citespace literature co-citation analysis technology is used to establish a preliminary evaluation index of urban culture governance. Thirdly, a questionnaire survey was conducted on the creative economy and urban culture space, and a theoretical model of the urban culture ecosystem was established using Amos software, which includes six dimensions of "cultural inclusiveness, cultural sustainability, cultural integrity, cultural creativity, and cultural vitality". Finally, a comparative analysis is conducted on the number of visitors to different types of cultural public spaces in Quanzhou City. The results show that exemplary local knowledge and deep historical memory are core elements for building an ideal cultural ecosystem and are necessary to promote cities toward a sustainable future.

Keywords: cultural heritage; cultural spaces; cultural creativity; cultural governance; cultural ecosystems



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1. Introduction

A growing global trend is an attempt to open new opportunities for urban regeneration in the name of culture. In this context, creativity has emerged as a pivotal tool for safeguarding intangible cultural heritage within world heritage sites [1]. The rich tapestry of urban cultural heritage not only enriches the cultural ecosystem but also extends the spectrum of cultural ecosystem services [2]. Effective private engagement and community involvement are recognized as potent contributors to cultural rejuvenation and the effective management of creative cities [3]. Cultural heritage, as a driving force behind novel urban development paradigms, embodies both flexibility and democratic principles [4]. From the vantage point of sustainable urban development, urban cultural governance encompasses various dimensions. It entails the cultivation of cultural leadership to foster civic pride and identity, the establishment of collective symbolic capital and urban imagery to stimulate economic revitalization, and the promotion of specific cultural orders and tastes to maintain the esteemed status of urban elites [5]. Numerous studies exploring global creative cities have underscored the vital roles played by cultural heritage and cultural creativity in enhancing livability, fostering social cohesion, and nurturing cultural identities within urban landscapes [6–8]. Consequently, cities worldwide rely on elements such as distinctive images, collective symbolic capital, and distinguishing features (including art and cultural venues, local festivals, and historical cultural heritage) to showcase their uniqueness and propel their developmental aspirations. Nye [9] posits that, in the era of global information dissemination, the degree to which a country's cultural values align with mainstream or universal world values (such as liberalism, pluralism, and autonomy) correlates with its

capacity to enhance resilience and garner admiration on the international stage. Notably, the World Heritage List [10] has evolved into a powerful emblem, enhancing the visibility of designated locales, nurturing local pride and awareness, and fostering a collective commitment to preserving areas of significant cultural heritage, thereby spurring tourism.

Urban planning has witnessed an increasing integration of heritage and contemporary art, thereby accentuating the evolving relationship between these elements and urban spaces. To reinforce the realization of the Global Sustainable Development Goals through cultural avenues, UNESCO introduced the “Culture 2030 indicators” in 2009 [11]. These indicators, including “expenditure on heritage” and “sustainable management of heritage,” spotlight the pivotal role of cultural assets in both present and future contexts. Furthermore, the cultural and creative industries have extended the conventional boundaries of cultural policies to encompass broader economic and social interests [12,13]. This extension has engendered a multitude of local practices, interpretations, and debates [14], which, in turn, have influenced the intricate interplay between culture and the economy. As a result, local, cultural, and economic factors coexist harmoniously, engendering novel and mutually beneficial approaches to urban regeneration.

2. Culture Creativity and Urban Development

Numerous interactive relationships exist between cultural creativity and urban development. Through their dynamic interactions, they contribute to the formation of a cultural ecosystem. A cultural ecosystem serves as a representation of the evolutionary trajectory and distinctive characteristics of a specific region’s culture within the context of its natural ecological surroundings. It functions as a societal mechanism and embodies a pursuit of values aimed at addressing ecological challenges. Additionally, cultural heritage is recognized as a valuable resource that contributes to more environmentally sustainable and equitable urban development.

The improvement of the overall level of human civilization and the spiritual pursuit of urban residents have led to a significant transformation of urban development concepts and paradigms. Cultural factors such as diversity, inclusiveness, openness, and sustainability have become the core values of urban development. Cultural indicators are a set of specific, observable, and measurable characteristics that are used to track the expected outcomes of urban planning. They also act as tools for understanding the social and economic phenomena of culture. Through the setting and evaluation of indicators, the cultural sector can make the policy direction clearer, while regular evaluation can ascertain whether a cultural policy has achieved its mission and thus operates more smoothly. Urban organizations or evaluation systems such as the European City of Culture and the Creative Cities Network of the United Nations have emerged, and the charm of urban culture has become a core element of global talent resource allocation. UNESCO’s Culture for Development Indicators (CDIS) [15] attempt to depict the overall cultural diversity at the global or national level through a new framework and serve as a tool for reviewing cultural policies. The CDIS takes “economy, education, governance, social, gender, communication, and heritage” as its dimensions. Gilhespy [16], Lin, and Tian [17] suggest that “equality” must also be evaluated. Equality refers to accessibility and includes social and regional equality. The presentation of cultural governance relies on urban policies, including cultural celebrations and large-scale cultural events [18].

The American Creative Index (ACI) [19] includes “Technology, Talent, and Tolerance”. The European Creativity Index (ECI) [20] includes education in art schools, cultural employment, cultural offerings, cultural participation, technology penetration, regulatory and financial support of creation, and the economic contribution of cultural industries as indicators that are grouped into six pillars of creativity: human capital, institutional environment, openness and diversity, technology, and creative outputs. The Hong Kong Creative Index [21] includes outcomes of creativity, structural/institutional capital, human capital, social capital, and cultural capital. It highlights that “the accumulated effects and interplay of these different forms of capital are the measurable outputs/outcomes of creativ-

ity". The Index of Creativity (CSI) [22] includes talent, openness, cultural environment and tourism, technology and innovation, industry, regulation and incentives, entrepreneurship, accessibility, and livability.

In China, research on urban culture (including creativity) and indices that are directly related to this topic are also constantly updated. For example, the Chinese Creative City Evaluation Model (CATG) [23] includes a Creative Resources Index, an Amenity Index of the City, a Tolerance Index of the City, and a Government Support Index of the City. The Chinese Cultural Industry Development Index (CCIDI) includes a Cultural Industry Characterization Index and a Cultural Industry Connotation Index [24]; the China Creative City Index (CCCI) [25] includes creative industry, productivity, urban attractiveness, residents' participation, social support, human resources, degree of global integration and openness, inclusiveness, and diversity. The China Cultural Development Index (CCDI) [26] includes public cultural services, cultural participation and market, cultural environment, and cultural influence. China's Public Cultural Services Development Index (CPCSDI) [27] includes Resource Supply Level, Achievement Enjoyment Level, Efficiency Level, External Support Level, and Equalization Level. Fan [28] proposed a "runway model" (CUCCD) for the development of urban cultural competitiveness in China and constructed five core elements as an indicator system. The elements are cultural endowment (cultural resource elements, comprehensive urban elements: per capita GDP and Engel's coefficient), cultural economy (cultural production, consumption, and enterprise elements), cultural management (cultural organization and facilities elements), cultural potential (elements of cultural innovation and quality), and cultural exchange (elements of cultural communication and openness).

The evaluation of urban cultural development indicators varies significantly among countries, reflecting both commonalities and distinctions. Internationally, culture's role as a form of soft power in urban cultural governance has garnered widespread recognition [29–32].

This study is divided into two parts and three phases, including qualitative data analysis and quantitative data statistics, and finally proposes an urban cultural ecosystem design strategy (Figure 1).

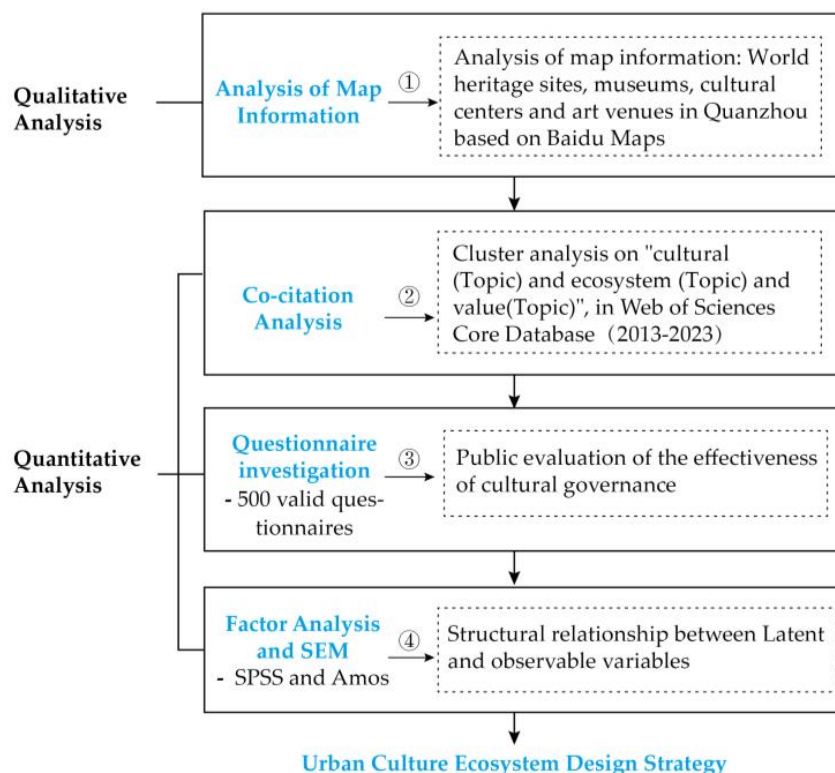


Figure 1. Research process and design.

3. Materials and Methods

3.1. Phase 1: World Heritage Sites and Urban Planning Based on Map Information

Quanzhou is in the east of China. Quanzhou City was approved to be included in the World Heritage List in 2021 as “Quanzhou: Empire of the World in Song Yuan China”. UNESCOs designation to distinguish world areas that are meritorious of preservation This enables the Quanzhou government to use culture (heritage) as a symbolic carrier for public awareness and utilize its symbolic media (heritage) to facilitate civic participation and group communication. “Cultural publicity” differs from “cultural attribution” in that the former pays more attention to communication and participation between cultural holding groups that occur through culture [33]. The core issue for Quanzhou now, in its post-World Heritage Application era, is how to respect and preserve the cultural awakening of heritage holders. The publicity of cultural heritage is based on the premise of confirming the cultural media characteristics of heritage, and on the platform built by heritage culture, all parties participate and negotiate with each other to achieve the rational sublimation of the cultural awakening of heritage holders to cultural exchanges.

In the first phase, this study used Baidu maps to locate the World Heritage Sites and cultural places in Quanzhou City. The keywords entered in Baidu maps are “museum”, “cultural and art center,” and “art gallery” (Figure 2). Figure 3 presents the cultural space addresses of Quanzhou City, sourced from Baidu Maps. It illustrates the urban-to-rural spatial distribution radiating outward from the city center, depicted as a gradient of yellow shading within a circular area. In Figure 3, the blue dots denote the presence of “museums,” while the orange dots represent “cultural and art centers,” and the rose dots signify “art galleries”. Notably, 22 distinct world cultural sites situated within Quanzhou City are individually numbered and marked with colored dots. Furthermore, the yellow dashed lines on the figure delineate the roads that interconnect these 22 sites, providing a representation of their spatial relationships.



Figure 2. The art and culture space is in the top comprehensive ranking on the Baidu map.

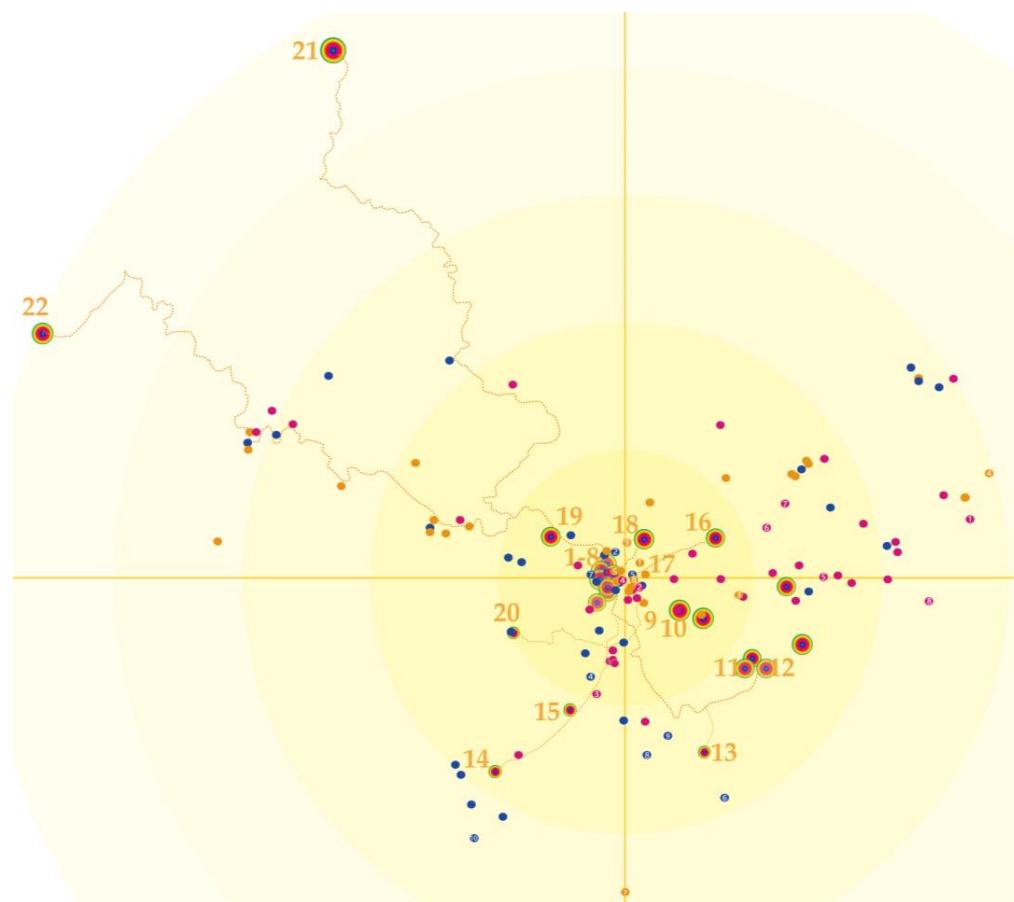


Figure 3. Mapping of the art and cultural space in Quanzhou, China (2023/2): Museum (blue dots), Cultural and Art Center (yellow dots), Art Gallery (rose dots), 22 representative historical sites (Colored Dots), Path between sites (yellow dashed line).

3.2. Phase 2: The Indicators of Cultural Ecosystem Based on Citespace

Citespace is a multivariate, time-sharing, and dynamic citation visualization analysis software that is used to analyze potential knowledge contained in scientific literature. Its results gradually develop in the context of scientific metrology, data, and information visualization [34]. The structural equation model is a statistical technique to test the fitness of a theoretical or hypothetical model that can simultaneously handle multiple variables in the causal model [35]. In order to propose cultural ecosystem indicators with flexible characteristics, the variables collected in the second phase were sieved and then added to the questionnaire survey in the three phases.

3.2.1. Data Collection: CiteSpace for Literature Co-Citation Analysis

A total of 2856 results from the Web of Science Core Collection for “cultural (Topic) ecosystem (Topic) and value (Topic)”. The retrieved timespan was set from 1 January 2013 to 1 June 2023 (Publication Date) (Table 1). Articles were defined by “Document Types: Articles” and “NOT Documents Types: Early Access or Proceeding Paper or Book Chapters or Data Paper”. From 2013 to 2022, the number of articles increased by 0.2–0.7 times year by year, reaching its highest point (502 articles) in 2021. Meanwhile, starting in 2022 (478 articles) and continuing until June 2023 (158 articles), it can be predicted that the discussion index of the entire topic will continue to decline (Appendix A-Figure A1). After analyzing 2856 articles using Citespace software, the strongest citation burst keywords were found to be 83. After comparing concepts and content, 14 keywords were ultimately determined to be relevant to this study. From the perspective of strength values, the keywords “ecology” (Strength = 6.14) and “social value” (Strength = 7) both ended in 2017.

Table 1 shows that from 2021 to 2023, the explosive words related to the preset theme are “nature contributions to people, local community, local knowledge, space, and landscape perception”. The strength of the explosive word “nature’s contributions to people” is 3.79, showing an increasing trend.

Table 1. Top 14 Keywords with the Strongest Citation Bursts (2018–2023).

Keywords	Year	Strength	Begin	End	2013–2023
ecology	2013	6.14	2013	2017	
social value	2013	7	2015	2017	
public preference	2018	3.95	2018	2020	
sociocultural valuation	2018	3.54	2018	2019	
recreational value	2018	3.29	2018	2020	
spatial analysis	2018	3.08	2018	2019	
justice	2019	2.97	2019	2020	
social media data	2020	3.51	2020	2023	
intrinsic value	2020	2.68	2020	2021	
natures contributions to people	2021	3.79	2021	2023	
local community	2021	2.76	2021	2023	
local knowledge	2021	2.76	2021	2023	
space	2018	2.72	2021	2023	
landscape perception	2021	2.67	2021	2023	

Note: The red square indicates that the intensity of keyword bursts is high during this period; the dark blue square indicates that the intensity of keyword bursts is medium during this period; and the light blue square indicates that the intensity of keyword bursts is low during this period.

3.2.2. Visualization and Analysis

Using CiteSpace version 6.1. R6 to perform duplicate removal on the dataset, no articles were deduplicated. The co-citation network is clustered through a modular approach, and the clustering is marked by latent semantic indexing and log-likelihood ratio techniques. Through the clustering analysis of keywords, 19 clusters were obtained (Appendix A-Table A1): social-ecological system (#0), ecosystem services (#1), place attachment (#2), ecosystem services (#3), cultural ecosystem services (#4), public perception (#5), urban green spaces (#6), socio-cultural values (#7), cultural services (#8), cultural heritage (#9), human-nature systems (#10), economic valuation (#11), historical ecology (#12), value transfer (#13), plural values (#14), value creation (#15), landscape values (#16), system dynamics (#17), and urban ecosystem services (#18). From the path direction shown in Figure 4, explosive words are more concentrated in clustering human feature systems (#10), system dynamics (#17), urban ecosystem services (#18), and plural values (#14). This indicates that the hot topic direction of the preset topic in 2023 has shifted to “ecosystem services” and “values creation,” with “landscape, system, conservation, indicator, perception” as the research method or focus (Figure 5).

3.2.3. Timeline View

The timeline visualization in CiteSpace depicts clusters along horizontal timelines (Figure 6). Each cluster is arranged vertically according to its size, with the largest cluster displayed at the top of the view. Color curves represent the co-reference links added in the corresponding color years. Large nodes, or nodes with red tree rings, are highly referenced. Under each timeline, the keywords with the highest frequency in a specific year are displayed. The most frequently referenced tags are located at the bottom of the timeline. The clusters are numbered from 0; the top four clusters are: cluster #17 (Silhouette 0.972),

cluster #18 (Silhouette 0.952), cluster #9 (Silhouette 0.962), and cluster #8 (Silhouette 0.946). Clusters #4, #7, #13, and #17 span five years and are still active. Clusters #0, #3, #4, #5, #6, #12, and #14 remain active in 2023.

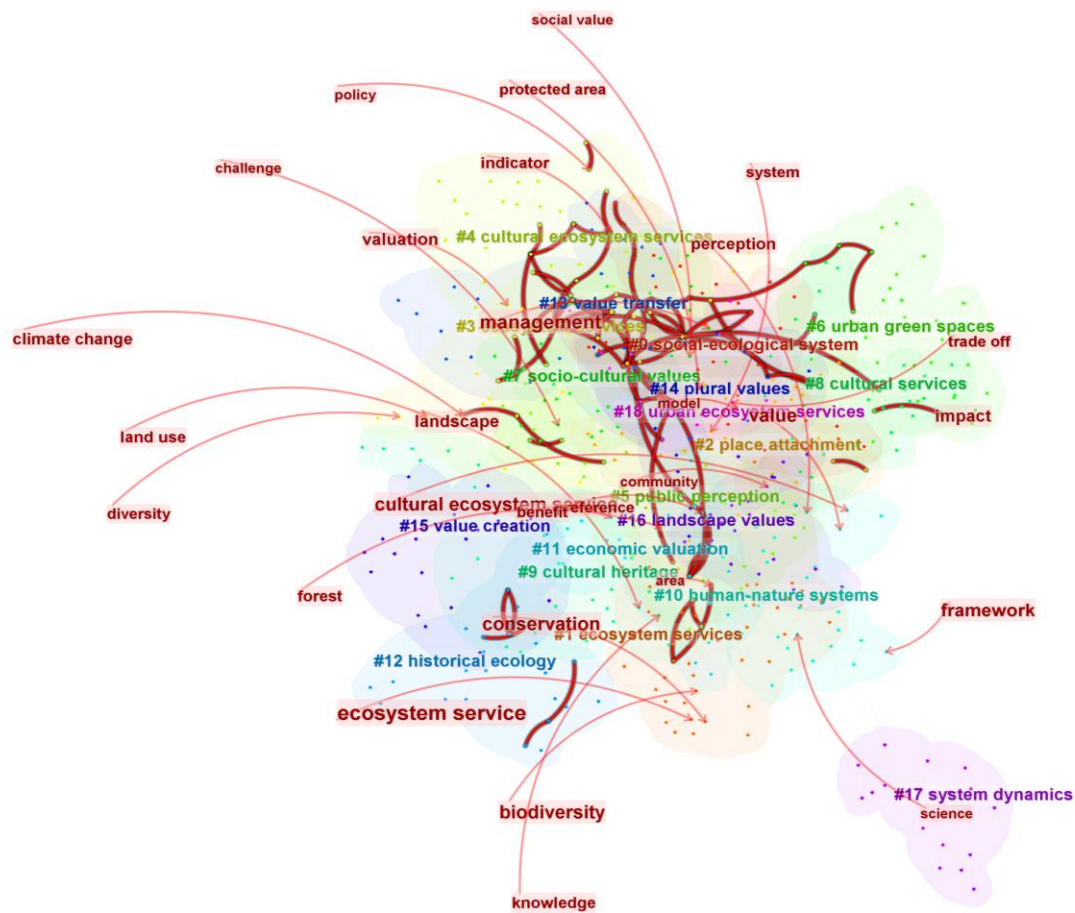


Figure 4. Keyword frequency burst path in 2023.

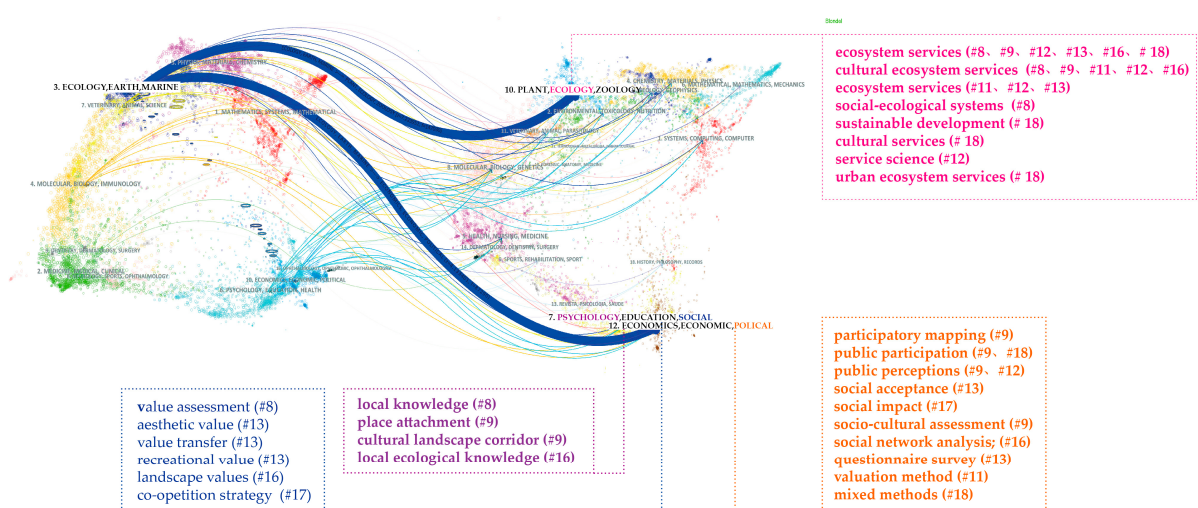


Figure 5. Literature citation and clustering keywords: Domain-level citation patterns (2013–2023, in Web of Science): The cluster on the left indicates the retrieved research frontier, while the cluster on the right indicates the location of their references; Citation tracks and reference tracks are distinguished by the color of the reference area; The thickness of these tracks is proportional to the reference frequency of the z-score.

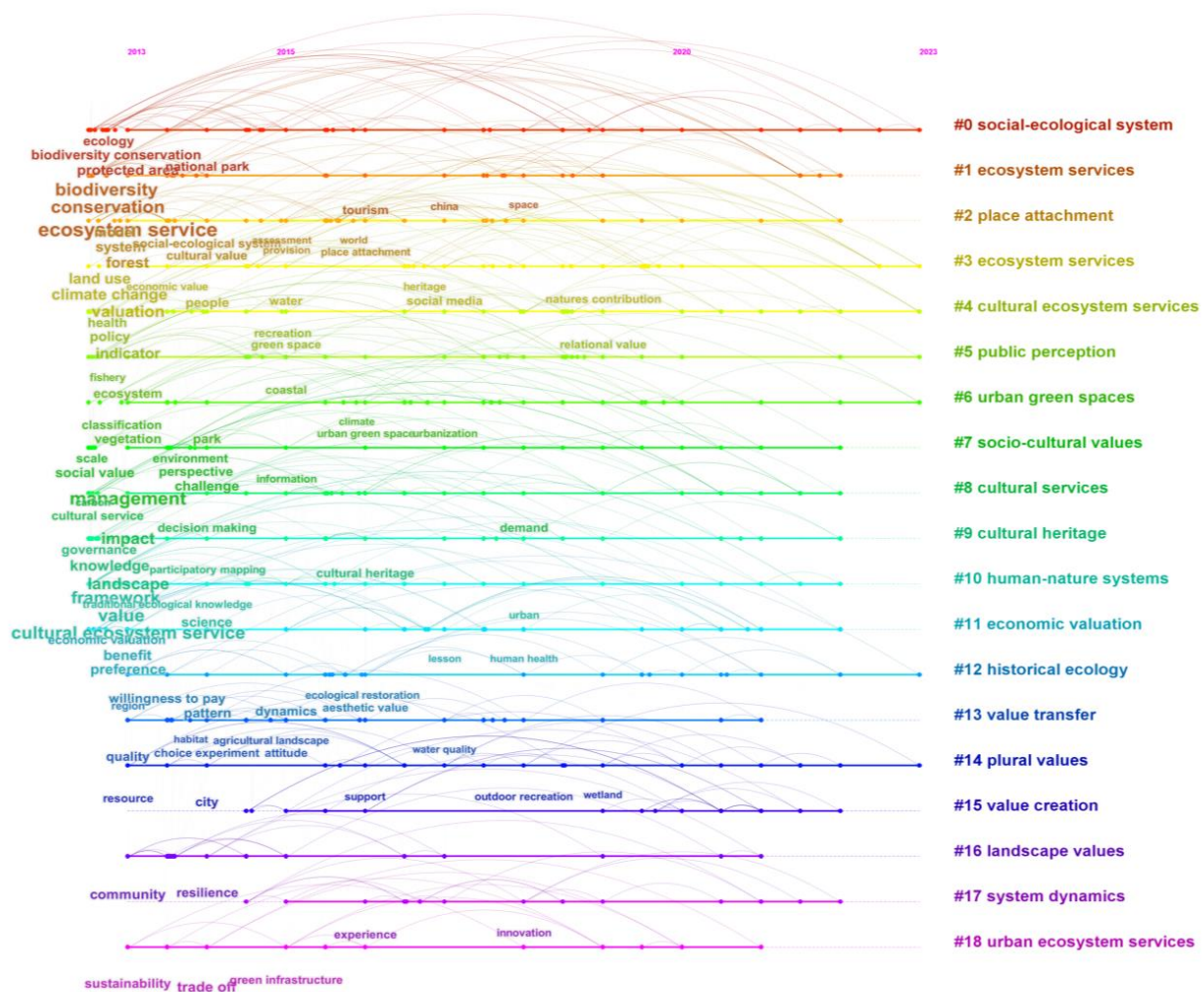


Figure 6. A total of 19 clusters with timeline view: Node size shows strengths.

3.3. Phase 3: Questionnaire Survey

3.3.1. Data Collection

Utilizing the strongest citation burst keywords from the first phase of co-citation analysis (Table 1), this study developed a survey questionnaire (Appendix A-Table A2) to collect the attitudes of the general population towards “ecological culture, ecosystem, and value”. The detailed description of measurement variables and sources is shown in Table 2. The ratio of literature co-citation analysis and questionnaire survey is equal and is used together to support the results. The relationship between research assumptions and indicators is shown in Figure 7.

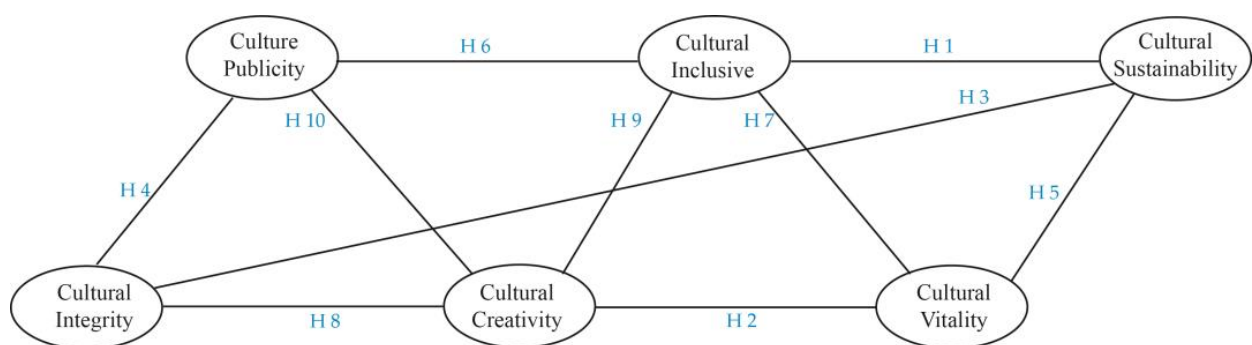


Figure 7. Research hypotheses.

Table 2. Measurement variables and sources.

Measurement Variables	Sources from Literature Review	Sources from Co-Citation Analysis (Cluster)
Diversity, Innovation, Technology, Talent, Tolerance	[20,36]	#0, #1
Cultural Identity, Cultural Development, Democracy, Cultural Heritage, Art Education, Science and Communication, Administration and Financing support	[14,27,33,37]	#9, #10
OUV, historical and cultural values, integrity, authenticity	[10]	#7, #8, #15, #16
The values of cultural universality, Inclusiveness, Innovation	[38]	#11, #13, #14,
City image	[39]	#11, #15, #18
Freedom and autonomy in creation, Expression, Cultural Participation Cultural Equality; Cultural Access	[20,21,37,40]	#9, #12

H1. “Cultural Sustainability” was significantly correlated with “Cultural Inclusive”.

H2. “Cultural Creativity” was significantly correlated with “Cultural Vitality”.

H3. “Cultural Integrity” was significantly correlated with “Cultural Sustainability”.

H4. “Cultural Publicity” was significantly correlated with “Cultural Integrity”.

H5. “Cultural Vitality” was significantly correlated with “Cultural Sustainability”.

H6. “Cultural Inclusive” was significantly correlated with “Cultural Publicity”.

H7. “Cultural Vitality” was significantly correlated with “Cultural Inclusive”.

H8. “Cultural Integrity” was significantly correlated with “Cultural Creativity”.

H9. “Cultural Inclusive” was significantly correlated with “Cultural Creativity”.

H10. “Cultural Publicity” was significantly correlated with “Cultural Creativity”.

The questionnaire uses the Credamo data platform for data collection. In order to effectively improve the quality of the subjects and their responses, quality control has been implemented for the questionnaire, including allowing only one person to respond from within a one-kilometer area, conducting intelligent man-machine verification before allowing answers to be submitted, allowing each IP to only be answered once, and authorizing locations. The historical adoption rate of the subjects is greater than or equal to 80% (historical adoption rate = the number of questionnaires adopted divided by the/total number of questionnaires filled in and answered). A screening question was arranged in the questionnaire to automatically reject careless subjects. The questionnaire was distributed from 6–7 June 2023, with a total of 619 questionnaires received, of which 500 were valid.

In the first question of the questionnaire, we inserted an official video of Quanzhou applying for World Cultural Heritage projects and gathered respondents’ feedback. In question two, we selected five cultural and creative award-winning works (including natural heritage landscapes and cultural landscapes) from the Quanzhou Urban Cultural and Creative Product Design Competition as our product evaluation. Questions 3–11 are all based on a matrix scale. Question 12 is a multiple-choice question, and the last three questions are the basic information of the respondents (Appendix A-Table A1).

3.3.2. Descriptive Statistics and Analysis

The respondents to the questionnaire were located in coastal provinces of China, including Guangdong Province (13.6%), Zhejiang Province (3.8%), and Fujian Province (4.2%), as well as central cities such as Shandong Province (8.6%), Jiangsu Province (8.4%), Henan Province (7%), Jiangxi Province (6%), Guangxi Zhuang Autonomous Region (5.4%), and Hubei Province (4.4%). Age is mainly concentrated between the ages of 20 and 40, accounting for 90.8%. The respondents’ occupations were mainly divided into three categories: private enterprise employment (37.2%), student employment (26.6%), and

state-owned enterprise employment (17%). The gender ratio between men and women was 37:63 (Table 3).

Table 3. Demographic information of questionnaire respondents.

Items	Category	Frequency	Percentage
Age	20–30	291	58.2%
	31–40	163	32.6%
	41–50	32	6.4%
	51–60	14	2.8%
Occupation	student	133	26.6%
	state-owned enterprise	85	17%
	government-affiliated institutions	44	8.8%
	civil servant	9	1.8%
	private enterprise	186	37.2%
	foreign enterprise	26	5.2%
	liberal professions	17	3.4%
Gender	Male	185	37%
	Female	315	63%

The reliability and validity of the questionnaire should usually be tested through reliability and validity analysis. The reliability analysis is used to test the internal stability and consistency of the questionnaire scale, which is judged by Cronbach's α coefficient. When Cronbach's α coefficient is greater than 0.7, the reliability of the questionnaire is good. Table 4 data shows that the overall Cronbach's α value of the questionnaire is 0.897. Table 5 shows that Cronbach's α values for each dimension were 0.89, 0.879, 0.876, 0.869, 0.86, and 0.817, respectively. Each value was greater than 0.7, indicating that the reliability between the items on the scale was high.

Table 4. Reliability Statistics.

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
0.895	0.888	65

Table 5. Reliability Statistics.

Variance	Item	Factor Loadings	Cronbach's Alpha	AVE	CR
CS	CS1	0.888	0.89	0.601	0.882
	CS2	0.773			
	CS3	0.742			
	CS4	0.740			
	CS5	0.723			
CI	CI1	0.882	0.879	0.603	0.883
	CI2	0.783			
	CI3	0.752			
	CI4	0.729			
	CI5	0.726			
CC	CC1	0.891	0.876	0.589	0.877
	CC2	0.765			
	CC3	0.740			
	CC4	0.722			
	CC5	0.708			
CIg	CIg1	0.874	0.869	0.582	0.873
	CIg2	0.744			
	CIg3	0.742			
	CIg4	0.726			
	CIg5	0.719			
CP	CP1	0.892	0.860	0.622	0.867
	CP2	0.772			
	CP3	0.741			
	CP4	0.740			
CV	CV1	0.832	0.817	0.512	0.806
	CV2	0.684			
	CV3	0.673			
	CV4	0.660			

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in six iterations.

The validity analysis is used to test the reliability of the scale, observe the reflection degree of the potential variables in the scale, and use the aggregation validity and discriminant validity to judge. There are two main methods to test the convergent validity of the scale. First, the standard load coefficient values should be greater than 0.7 (but any value greater than 0.5 is acceptable). Second, the Average Variances Extracted (AVE) should be greater than 0.5, and the and Composite Reliability (CR) should be greater than 0.7, indicating that the aggregation validity of the scale is high. Table 5 shows that the AVE values are all greater than 0.5, and the CR values are all greater than 0.7.

The Kaiser-Meyer-Olkin (KMO) value was 0.92 (Table 6), and the significance index was 0.000. As this value was less than 0.05, the questionnaire was found to be suitable for factor analysis.

Table 6. KMO and Bartlett's Test.

Kaiser–Meyer–Olkin Measure of Sampling Adequacy		0.920
Bartlett's Test of Sphericity	Approx. Chi-Square	7757.474
	df	378
	Sig.	0.000

Through multiple-factor convergence, a total of six dimensions and 28 indicators were obtained after six-factor rotations. The overall explained variation was found to be 68.24% (Table 7). Table 8 shows the contents and dimension names of the variables.

Table 7. Total Variance Explained.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.519	33.996	33.996	9.519	33.996	33.996	3.500	12.499	12.499
2	2.362	8.436	42.432	2.362	8.436	42.432	3.446	12.308	24.807
3	2.189	7.819	50.251	2.189	7.819	50.251	3.413	12.189	36.996
4	1.930	6.892	57.143	1.930	6.892	57.143	3.386	12.092	49.089
5	1.774	6.335	63.478	1.774	6.335	63.478	2.877	10.273	59.362
6	1.333	4.762	68.240	1.333	4.762	68.240	2.486	8.878	68.240

Extraction Method: Principal Component Analysis.

Table 8. Variable and dimension naming.

Dimension	Variable	Content
Cultural Publicity (CP)	CP1	Visit or participate in literary and folk festivals
	CP2	Viewing visual exhibitions or exhibition activities
	CP3	Viewing visual exhibitions
	CP4	Participate in or appreciate performing arts activities
Cultural Inclusive (CI)	CI1	People enjoy the rights and interests of the spirit and property brought about by the results of creative activities
	CI2	The people enjoy the freedom to engage in cultural creation, expression, participation, and the right to autonomy
	CI3	People have the right to choose their own language to express, communicate, disseminate, and create
	CI4	The cultural rights enjoyed by the people shall not be discriminated against on the grounds of ethnic group, language, age, region, sex, physical or mental condition, socio-economic status, or other conditions
	CI5	The right to live and work for cultural and artistic workers should be guaranteed

Table 8. Cont.

Dimension	Variable	Content
Cultural Sustainability (CS)	CS1	Promote cultural equality through routine reporting
	CS2	Cross-domain co-creation and sharing, building cultural laboratories, and constructing cultural experimental ecosystems
	CS3	Create cultural science and technology, plan cultural cards, and establish cultural big data
	CS4	In response to the goal of the circular economy, support green alternative projects, including content creation and scrap management
	CS5	Community overall construction, development of local creation, construction of local knowledge
Culture Integrity (CIg)	CIg1	Set the cultural and technological governance program and cultivate cross-domain and intermediary talents
	CIg2	Add and amend the cultural governance legal system, including incentives, bailouts, revitalization subsidies, investment, and tax concessions
	CIg3	Produce cultural content industry ecosystem
	Cgl4	The works reproduce the cultural symbols, daily life, and emotions of Quanzhou
	CIg5	The works highlight the cultural characteristics of the locality and its uniqueness
Cultural Creativity (CC)	CC1	Develop the international market and shape the local cultural brand
	CC2	International cooperation is localized, and local culture is internationalized
	CC3	Expand the content of native culture to achieve more international
	CC4	Improve the professional management of all types of exhibition venues, develop and produce multicultural content, and create an international stage
	CC5	Promote international cultural exchanges and encourage civil participation in international cultural exchanges
Cultural Vitality (CV)	CV1	The government cultivates professional talents, improves the ladder cultivation mechanism for cultural talents, and cultivates creative talents
	CV2	Cultural asset cultivation, talent cultivation, and civic awareness
	CV3	Preservation of the subjectivity of local culture
	CV4	Develop local festival activities, cultural tourism, and cultural festival internationalization

3.3.3. AMOS Fitness Analysis

This study uses AMOS 23.0 software to explore theoretical models and detect whether the hypothetical path coefficients reach a significant level. AMOS path coefficients are used to measure the strength of the relationship between various variables in the model. The value range of the AMOS path coefficient should be between 0.3 and 0.7, which is considered appropriate. The bootstrapping sampling method was repeated 5000 times and was used to solve the path coefficient and test the significance level of the model path. Table 9 shows the coefficient values for each assumed path. The standardized path coefficient values of H1, H2, H4, H5, and H7 were 0.439, 0.524, 0.341, 0.379, and 0.357; all values were greater than 0.3. Considering that the *p*-value was less than 0.01, the normalized path coefficient values of H3 (0.293), H6 (0.278), and H8 (0.286) are close to 0.3. Hypotheses H3, H6, and H8 were also considered statistically significant.

Table 10 shows a positive initial model-data fit. After removing the H9 and H10 paths that are not significantly correlated, the remaining assumptions (H1–H8) are valid, and all values have reached an acceptable range. There is no need to modify the MI index. From other overall fitness indexes, the chi-square degree of freedom ratio is $2.022 < 3.00$, and the root mean square error of approximation (RMSEA) value is $0.045 < 0.05$. The GFI value is 0.913, the NFI value is 0.913, the RFI value is 0.903, the IFI value is 0.954, the TLI value is 0.949, and the CFI value is 0.954. These are all greater than 0.09. The fitness of the overall model is, therefore, ideal. The Consistent Akaike's Information Criterion (CAIC) value of the theoretical model is equal to 1153.196, less than that of the independent model value (8120.822), and less than the Expected Cross-Validation Index value of the saturated model (2929.131), indicating that the model is acceptable. The model is named the “urban culture

governance model”. The relationship and path coefficient values of each dimension in the model are shown in Figure 8.

Table 9. Results of structural equation model analysis.

Hypothesis	Standardized Path Coefficient	Standard Error	Bias-Corrected 95% CI		p-Value	Support
			Lower	Upper		
H1. CS←CIg	0.439	0.043	0.368	0.508	0.010	Yes
H2. CC←CV	0.524	0.042	0.448	0.588	0.007	Yes
H3. CI←CS	0.293	0.049	0.189	0.373	0.012	Yes
H4. CP←CI	0.341	0.050	0.261	0.426	0.013	Yes
H5. CV←CS	0.379	0.043	0.298	0.445	0.016	Yes
H6. CT←CP	0.278	0.052	0.200	0.370	0.008	Yes
H7. CV←CIg	0.357	0.044	0.285	0.424	0.007	Yes
H8. CI←CC	0.286	0.051	0.193	0.381	0.007	Yes
H9. CC←CIg	0.133	0.038	0.039	0.234	0.028	NO
H10. CC←CP	0.145	0.048	0.026	0.222	0.034	NO

Note: The data listed are standard coefficients.

Table 10. Model fit summary.

Statistical Test Quantity	Criterion or Threshold for Adaptation	Test Result Data	Model Fit Judgment
Absolute Fit Measures			
RMSEA	<0.05	0.045	Yes
GFI	>0.90	0.913	Yes
Baseline Comparisons			
NFI	>0.90	0.913	Yes
RFI	>0.90	0.903	Yes
IFI	>0.90	0.954	Yes
TLI	>0.90	0.949	Yes
CFI	>0.90	0.954	Yes
Parsimony-Adjusted			
PGFI	>0.50	0.769	Yes
PNFI	>0.50	0.826	Yes
PCFI	>0.50	0.863	Yes
CMIN/DF	<3.00	2.022	Yes
CAIC	The theoretical model value is less than the independent model value and, at the same time, less than the saturated model value.	1153.196 < 2929.131 1153.196 < 8120.822	Yes

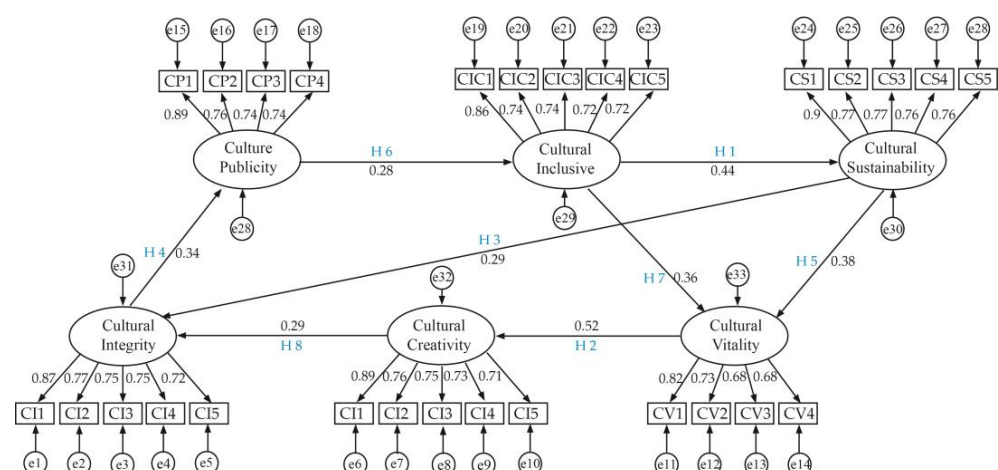


Figure 8. Urban culture governance model.

4. Results

4.1. Urban Cultural Ecosystem Design Strategy for Cultural Sustainability

Based on the data analysis of the three stages mentioned above, this study identified six dimensions of cultural ecological design. Based on the numerical values of the interactions between the six dimensions, a corresponding relationship model was drawn (Figure 8). Cultural places such as museums and cultural centers serve as carriers to connect the public, cultural behaviors, and their derived cultural identities (Figure 9).

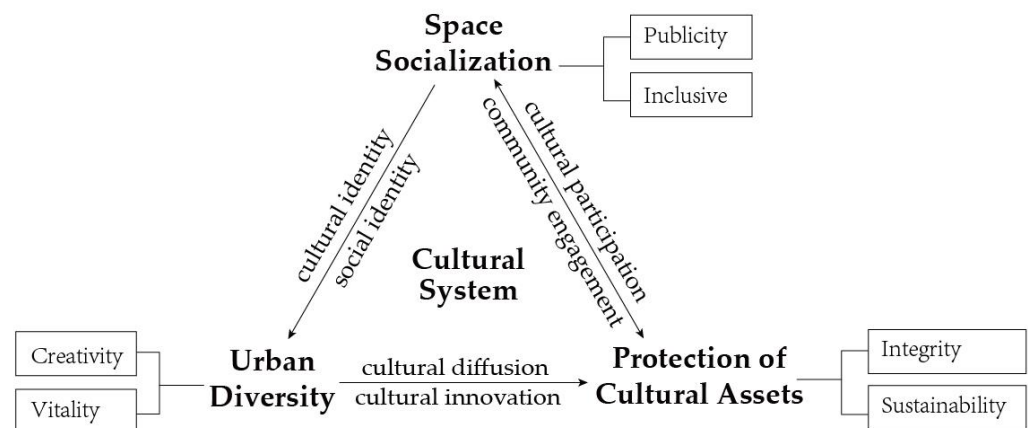


Figure 9. Ideal urban cultural ecosystem design.

4.1.1. Cultural Publicity (CP)

The dimension of “cultural publicity” includes: visiting or participating in literary and folk festivals; viewing visual exhibitions or exhibition activities; viewing visual exhibitions; and participating in or appreciating performing arts activities. These indicators also include the intention to participate in online or offline activities. Regarding the governance of cultural affairs, whether it is local art and cultural institutions, art and cultural activities, or local community building, cultural activities require participants. In addition to strengthening publicity and marketing, the more fundamental component is the cultivation of art, cultural consumers, and productive consumers. The preservation of cultural assets requires long-term management and interactive and deep participation by local communities. Local governments can create an artistic and cultural environment with local significance, develop local characteristics and industries, and guide the upgrading of local festivals. Furthermore, they can develop experiential content through folk art and cultural venues, art and cultural teams, and art and cultural workers, providing opportunities for on-site participation that promote cultural value recognition and deepen cultural citizenship.

4.1.2. Cultural Inclusive (CI)

The term “culturally inclusive” encompasses several dimensions that ensure individuals’ rights, interests, and freedoms in the realm of cultural activities: the rights and interests of the spirit and property brought by the results of creative activities; the freedom to engage in cultural creation, expression, and participation; the right to autonomy; the right to choose their own language to express, communicate, disseminate, and create; the guarantee that cultural rights shall not be discriminated against or on the grounds of ethnic group, language, age, region, sex, physical or mental condition, socio-economic status, and other conditions; the guaranteed rights of cultural and artistic workers to live and work. The central principle of cultural inclusivity revolves around the government’s recognition, encouragement, and respect for cultural differences. Cultural inclusivity, in essence, fosters cultural diversity and creativity. It does so by promoting the recognition and appreciation of differences within society. This recognition is not only instrumental in nurturing the talents present within a society but also facilitates reciprocal exchanges of these talents through cultural policies.

4.1.3. Cultural Sustainability (CS)

“Cultural sustainability” refers to the economic influence of culture and art. This series of indicators explores the preservation of cultural resources, contemporary creativity, and the dynamic nature of technological tools. Indicators include promoting cultural equality, routine reporting, co-creating and sharing across domains, building cultural laboratories, and constructing experimental cultural ecosystems. They involve creating cultural science and technology and establishing big cultural data. In response to the goal of a circular economy, they support green alternative projects, from content creation to scrap management, as well as overall community construction, the development of local creations, and the construction of local knowledge. They also support the development of cultural cards, which utilize information technology to provide opportunities for teenagers to experience art and culture and access cultural support during their growth. The cards encourage people to engage in art and cultural activities, cultivate cultural consumption habits, and implement cultural equality. The greater challenge of a cultural policy lies in effectively structuring and integrating these aspects, improving the ecological system for cultural content and artistic and cultural development, and integrating cultural power with economic power.

4.1.4. Cultural Integrity (CIg)

“Cultural integrity” refers to the regulatory framework of cultural policies and the implementation of cultural equality, which is linked to local historical memory, language, and environmental justice. The series of indicators includes establishing a cultural and technological governance program, cultivating cross-domain and intermediary talents, adding to and amending the cultural governance legal system, and including incentives, bailouts, revitalization subsidies, investment, and tax concessions. The actions facilitate the production of a cultural content industry ecosystem that reproduces the cultural symbols, daily lives, and emotions of the location. These works highlight the cultural characteristics of locality and uniqueness. Local governments create a public-private partnership model, and the public sector is responsible for building a public governance support system, delivering cultural vitality to citizens, the private sector, and non-profit organizations, and developing a cultural ecosystem that empowers citizens and communities.

4.1.5. Cultural Creativity (CC)

Culture does not only need the support of policies but also the development of internalized subjectivity among the people. “Cultural creativity” states that the core of cultural policy lies in maintaining the creativity of communities, and maintaining creativity requires a complete artistic and cultural ecology and support system. The series of indicators include: developing the international market and shaping the local cultural brand; localizing international cooperation and internationalizing local culture; expanding the content of native culture to achieve a greater reach; improving the professional management of all types of exhibition venues; developing and producing multicultural content; creating an international stage; and promoting international cultural exchanges and encouraging civic participation in such exchanges.

4.1.6. Cultural Vitality (CV)

The material and symbolic context of cultural assets formed by the interconnection of communities, cultural venues, museum groups, cultural and historical groups, and civic organizations is the source of cultural creativity, the basis for the self-definition of all communities, and the symbol of international cultural identity. In order to build a close ecological network for cultural production, preservation, and display, policies need to be carefully planned, and the division of labor among institutions warrants the cultivation of a high degree of professionalism. The series of indicators include: a government that cultivates professional talents, improves the ladder cultivation mechanism for cultural talents, and cultivates creative talents; a civil society that is committed to cultural asset

talent cultivation and civic awareness; the preservation of the subjectivity of local culture; and the development of local festival activities, cultural tourism, and cultural festival internationalization.

4.1.7. Correlation between Dimensions

“Cultural inclusivity” and “cultural integrity” emphasize the importance of non-discrimination and the protection of cultural rights. Inclusivity ensures that everyone has equal access to cultural opportunities, while integrity safeguards the authenticity and uniqueness of culture. “Cultural creativity” drives the generation of new cultural content, while publicity ensures that this content reaches a wide audience. “Cultural inclusivity” fosters a diverse and inclusive cultural environment, which, in turn, fuels creativity by bringing together a variety of perspectives and experiences. A vibrant cultural scene relies on effective publicity to attract audiences and participants. Publicity plays a crucial role in promoting cultural events and activities that contribute to a city’s cultural vitality. “Cultural sustainability” and “cultural integrity” are concerned with preserving cultural assets. Sustainability views it from a resource perspective, while integrity focuses on maintaining the cultural essence. Combining them ensures a balanced approach to cultural preservation. These six dimensions are interconnected and interdependent, forming a comprehensive framework for urban cultural governance. They address various aspects of cultural development, from access and diversity to sustainability and authenticity, collectively contributing to the creation of a thriving cultural ecosystem within an urban context.

4.2. The Mediating Effect of Cultural Creativity on Cultural Sustainability

In this study, the bootstrap method was used to repeatedly sample the original data, forming a new sample with a capacity of 500, in order to evaluate the relationship between the paths. The test results may be seen below.

From Table 11, it can be concluded that:

1. Mediating Effect of Cultural Inclusive (CI) on Cultural Creativity (CC)

The observed total effect value of Cultural Vitality (CV) on Cultural Creativity (CC) is notably substantial at 0.524. This suggests that a robust level of cultural vitality directly contributes to enhancing creative endeavors within the urban context. However, the mediating analysis reveals that Cultural Inclusive (CI) plays a significant mediating role in this relationship, with a partial mediation effect, denoted by the non-zero direct effect value of 0.28. In essence, Cultural Inclusive (CI) serves as a conduit through which the influence of Cultural Vitality (CV) on Cultural Creativity (CC) is channeled.

2. Mediating Effect of Cultural Sustainability (CS) on Cultural Creativity (CC)

The substantial total effect value of Cultural Vitality (CV) on Cultural Creativity (CC) at 0.524 signifies the direct positive impact of a vibrant cultural environment on creative outcomes. In this case, Cultural Sustainability (CS) assumes a pivotal mediating role, as indicated by a partial mediation effect with a non-zero direct effect value of 0.208. Cultural Sustainability (CS) acts as an intermediary, facilitating the flow of influence from Cultural Vitality (CV) to Cultural Creativity (CC).

These findings collectively underscore the intricate dynamics within the urban cultural ecosystem. They suggest that, while Cultural Vitality (CV) exerts a significant direct impact on Cultural Creativity (CC), the mediation through Cultural Inclusive (CI) and Cultural Sustainability (CS) amplifies and refines this influence. This intricate web of relationships highlights the necessity of fostering cultural inclusivity and sustainability as strategic imperatives in cultivating urban cultural ecosystems conducive to creativity and vitality.

In practical terms, urban planners, policymakers, and cultural stakeholders should consider implementing measures that promote cultural inclusivity and sustainability as integral components of their strategies to enhance cultural creativity and vitality within the urban context. By recognizing these mediating effects, stakeholders can design more

effective interventions aimed at nurturing a thriving and dynamic urban cultural ecosystem. This approach aligns with the broader goals of fostering cultural richness and resilience in urban environments, ultimately contributing to the holistic development of cities as centers of cultural innovation and expression.

Table 11. List of mediation effects.

95% Confidence Interval				
	Estimate	BC/PC <i>p</i> -Value	BC	PC
Standardized Total Effects				
CS←CIg	0.439	0.010/0.010	0.369~0.508	0.368~0.508
CC←CV	0.524	0.007/0.010	0.448~0.588	0.446~0.585
CI←CS	0.293	0.012/0.010	0.189~0.373	0.197~0.380
CP←CI	0.341	0.013/0.010	0.261~0.426	0.263~0.435
CV←CS	0.379	0.016/0.010	0.298~0.445	0.304~0.451
CT←CP	0.278	0.008/0.010	0.200~0.370	0.194~0.363
CV←CIg	0.357	0.007/0.010	0.285~0.424	0.275~0.419
CI←CC	0.286	0.007/0.010	0.193~0.381	0.188~0.376
Standardized Direct Effects				
CV←CS	0.379	0.016/0.010	0.298~0.445	0.304~0.451
CV←CIg	0.357	0.007/0.010	0.285~0.424	0.275~0.419
CP←CI	0.341	0.013/0.010	0.261~0.426	0.263~0.435
CT←CP	0.278	0.008/0.010	0.200~0.370	0.194~0.363
CI←CC	0.286	0.007/0.010	0.193~0.381	0.188~0.376
CI←CS	0.293	0.012/0.010	0.189~0.373	0.197~0.380
CS←CIg	0.439	0.010/0.010	0.368~0.508	0.368~0.508
CS←CV	0.524	0.007/0.010	0.448~0.588	0.446~0.585
Standardized Indirect Effects				
CV←CIg	0.177	0.009/0.010	0.130~0.223	0.130~0.222
CV←CP	0.148	0.005/0.010	0.107~0.211	0.094~0.207
CP←CC	0.099	0.008/0.010	0.066~0.150	0.065~0.147
CP←CS	0.122	0.015/0.010	0.080~0.168	0.081~0.172
CT←CI	0.097	0.008/0.010	0.065~0.137	0.065~0.135
CI←CIg	0.211	0.013/0.010	0.162~0.262	0.165~0.269
CI←CV	0.153	0.006/0.010	0.105~0.204	0.100~0.202
CS←CP	0.125	0.004/0.010	0.089~0.186	0.083~0.180
CC←CS	0.208	0.008/0.010	0.157~0.262	0.155~0.260
CC←CIg	0.280	0.005/0.010	0.229~0.335	0.221~0.330

4.3. OUV and Responsible Cultural Ecosystem

The ancient city of Quanzhou was listed on the UNESCO World Heritage List in 2021 as “Quanzhou, Emporium of the World in Song-Yuan China”. Its 22 heritage sites and their associated environment and spatial composition reflect the unique structure of port cities during the 10th to 14th centuries AD, providing an overall historical and geographical narrative for the economic and cultural development of East and Southeast Asia. Currently, Quanzhou has entered the “post-heritage application” era and faces issues of urban development such as the protection and management of cultural heritage, the protection of traditional neighborhoods, cultural tourism, the construction of public cultural infrastructure, and community building.

The first question of the scale was selected from the official public video materials of Quanzhou’s World Cultural Heritage List (named “Quanzhou in China, Quanzhou in the World” [41]) application. After watching the video, respondents needed to rate Quanzhou OUV’s value perception with a single choice item. The setting of this question also aimed to help prepare respondents for the topics to be discussed in the subsequent questions, ensuring that respondents would have a basic understanding of the World Cultural Heritage projects in Quanzhou City. Of the 500 valid questionnaires, 70.2% (351 people) agreed with the OUV expressed in the video. Of the 21 respondents from

Fujian, 71.4% (15 people) expressed the same agreement. Table 12 shows that the data of the broad set and the smaller subset are similar; therefore, it can be inferred that the sample of 500 people, regardless of whether they have visited Quanzhou or not, can rely on video transmission to form their own evaluation of the value of World Cultural Heritage.

Table 12. The matching degree between the official video and OUV.

Category	Total Frequency (Fujian)	Percentage
Basically corresponds	8	1.4%
Not fully demonstrated	7 (1)	1.6%
Fully demonstrated	51 (4)	10.2%
Enhanced urban image	83 (1)	16.6%
Represent the OUV	351 (15)	70.2%

This official video presented the current status of 22 heritage sites, while there were few images of intangible cultural heritage in Quanzhou. In fact, Quanzhou does not only have 22 monuments representative of “World Cultural Heritage;” however, it also has six sites that are representative of “World Intangible Cultural Heritage”. As a living heritage, the occurrence of intangible cultural heritage is difficult to capture within the framework and implementation norms of the Convention to a certain extent. Quanzhou is the only city in China that has three categories of UN intangible cultural heritage projects. A total of 3% of the respondents were not very satisfied with their evaluation of the video (Basically corresponds to 1.4%; not fully demonstrated: 1.6%).

Figure 10 shows the data results of the 12th question in the survey, “How should cultural and creative industries play their role in promoting sustainable urban development?” The possible responses were: UR1—Support the development of vulnerable groups in society and create employment opportunities; UR2—Help cities improve and upgrade from the perspective of wisdom and enhance the competitiveness; UR3—Stimulate diversified cultural and artistic forms and local imagination; UR4—Bear the social responsibility of local cultural heritage; UR5—Strengthen social cohesion, shape, and reconstruct local identity; UR6—Create a green ecological circular economy; UR7—Improve the cultural quality and aesthetic cultivation of citizens; and UR8—Activate the vitality of the old community and rebuild the historical and cultural space. The top four items with relatively high numerical values were UR3 (78.2%), UR4 (78%), UR5 (76%), and UR7 (70.2%), which respectively point to artistic and cultural activities and local images, social responsibility, social cohesion, cultural equality, and aesthetic cultivation. The data reveals a message that urban regeneration and greater cultural citizenship are matters of public opinion.

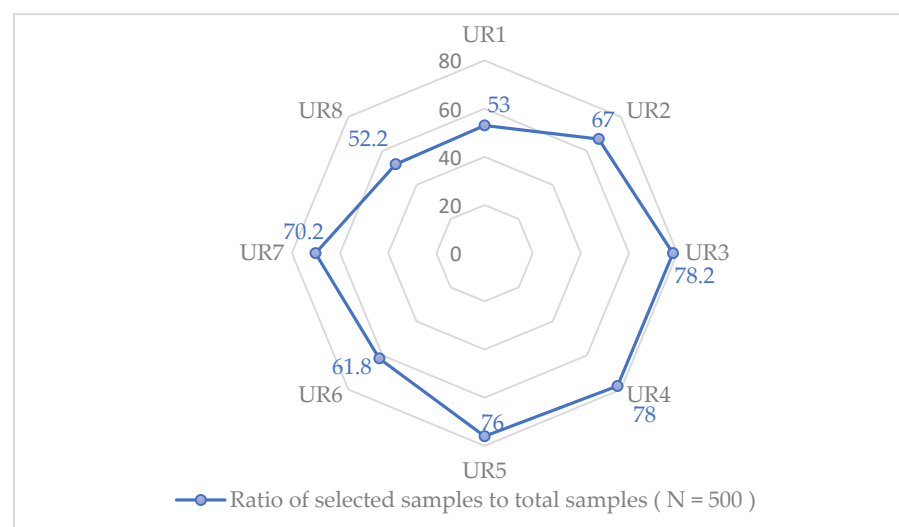


Figure 10. The role of cultural creativity in urban sustainable development.

5. Discussion and Conclusions

5.1. Discussion

The effective governance of culture within the context of urban planning represents a multifaceted and collaborative endeavor that necessitates a strategic shift towards inclusivity, collaboration, and adaptability. This article underscores the paramount importance of both establishing and evaluating cultural indicators to enhance the clarity of cultural policies and make substantial contributions to the sustainable and innovative development of world cultural heritage cities. This transformative process entails a transition from traditional urban resource allocation methods to more inclusive and diverse approaches, which are instrumental in the cultivation of culturally vibrant cities.

Moreover, the six evaluation indicators introduced within this article, denoted as “cultural inclusivity, cultural sustainability, cultural integrity, cultural creativity, and cultural vitality,” find their roots in the research methodologies of cultural geography and cultural consumption analysis. This approach thoughtfully considers the diverse perspectives of various stakeholders and draws inspiration from existing literature on heritage conservation strategies, urban planning within heritage cities, and the dynamic research landscape concerning creative cities. In doing so, it acknowledges the unique characteristics and needs of each specific location, thus showcasing a notable degree of universality and adaptability.

In summary, the evolution of cultural governance within urban planning necessitates a comprehensive and forward-looking approach. The effective implementation of cultural indicators establishes a structured framework aimed at enhancing both the transparency and effectiveness of cultural policies. This, in turn, makes significant contributions to the sustainable development and innovation of world cultural heritage cities while concurrently facilitating the transition towards more inclusive and diverse urban governance models.

5.2. Conclusions

With the new status of Quanzhou as a world cultural heritage city, it has become necessary to study the urban-rural distribution of art and cultural venues as well as the accessibility of cultural public spaces within this historic city. This imperative arises from multiple academic perspectives, including cultural heritage protection and development, urban diversity, and considerations of cultural citizenship.

To begin, cultural heritage protection extends beyond the preservation of physical and historical sites; it also encompasses the creation of spaces conducive to cultural expression and active participation [42]. However, when cultural venues are disproportionately concentrated in urban centers, the broader rural context risks marginalization within heritage narratives. This exclusion perpetuates spatial disparities and fails to fully acknowledge and conserve the cultural significance embedded in rural landscapes and traditions [43]. Figure 11 shows that the unequal allocation of resources and limited cultural engagement in the construction of public cultural infrastructure in Fujian underscore the urgent need for increased cultural promotion and enhanced cultural accessibility. Furthermore, the presence of cultural sites along the cultural pathways connecting the city’s 22 heritage sites is notably limited. Cultural accessibility serves as the cornerstone for promoting cultural engagement among the population [44].

The Cultural Path is envisioned as a conduit for appreciating and interpreting heritage. Ideally, each site along this path should be equipped with a corresponding cultural space, enabling residents and tourists alike to immerse themselves in the rich local culture. The current deficit in cultural accessibility restricts the democratization of culture and may hinder certain segments of the population from engaging with their own heritage. This exclusion not only detrimentally impacts the cultural well-being of the community but also undermines the broader objective of conserving cultural heritage [45]. Achieving a more equitable distribution of cultural sites along the Cultural Path is paramount to ensuring that cultural heritage remains a vibrant, accessible, and shared experience for all.

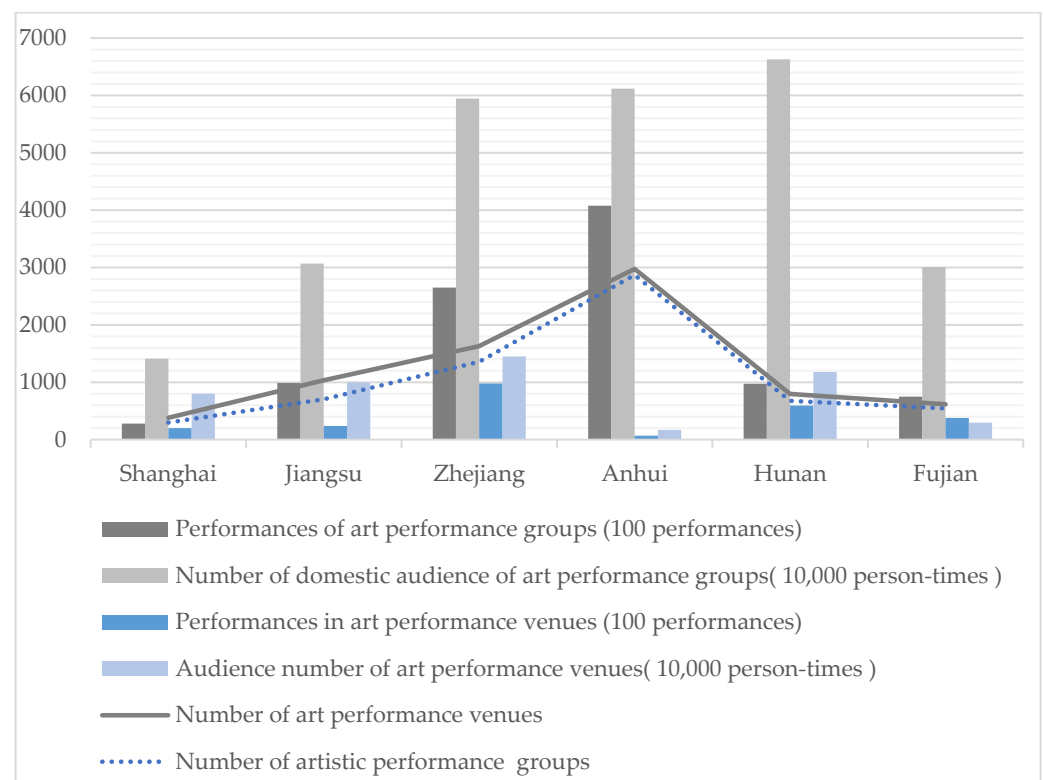


Figure 11. The performance of art performance groups and art performance venues by region: Detailed data are provided in Appendix A-Table A2.

Moreover, viewed through the lens of cultural citizenship, the existing spatial imbalance in cultural venues throughout Quanzhou raises issues of representation and cultural rights [46]. Residents residing in areas devoid of cultural venues are deprived of the opportunity to actively participate in urban cultural life, leaving them culturally marginalized. This situation may perpetuate disparities in cultural participation and exacerbate social inequalities.

In summary, the uneven distribution of cultural sites in Quanzhou, particularly along the Cultural Path that encompasses its 22 heritage sites, presents numerous challenges. Analyzed from the perspectives of cultural heritage protection and development, cultural accessibility, and cultural citizenship, this spatial disparity warrants considerable attention. Addressing these discrepancies is not only pivotal for safeguarding Quanzhou's unique cultural heritage but also for cultivating an inclusive and culturally vibrant community that embraces its status as a World Cultural Heritage city.

5.3. Research Limitations and Contributions

One of the limitations inherent in this study pertains to the absence of comparative data across different cities and the amalgamation of sample data. This approach is grounded in the research assumption that there are no substantial variances among the cities under consideration. It is worth acknowledging that this assumption could potentially impact the generalizability of the findings, as regional disparities in cultural development and governance strategies may exist [47,48]. To mitigate this limitation, future research should endeavor to collect diverse datasets across multiple cities, enabling a more comprehensive analysis of the nuanced variations in cultural governance.

Another limitation lies in the nature of the indicator system introduced in this study. The system currently operates at a first-level dimension. To enhance its precision and comprehensiveness, future research endeavors should aim to refine these indicators and establish a second-level dimension. This refinement should ideally be informed by an

in-depth analysis of the allocation of rights and responsibilities among local cultural departments, facilitating a more granular assessment of cultural governance effectiveness [49,50].

This study makes noteworthy contributions to the fields of cultural governance and sustainable urban development. Firstly, the research indicators employed in this study represent an exploratory indicator system. This system draws on existing cultural development indicators from various countries and supplements them with data obtained through structured questionnaires. This approach ensures that the data sources used in this study are authentic and reliable, strengthening the robustness of the research findings. This contribution aligns with the principles of evidence-based policy-making, enhancing the quality of decision-making processes in the realm of cultural governance [51,52].

This study takes a distinct perspective by focusing on sustainable development issues through the lens of cultural heritage conservation and the creative economy. By exploring the synergies between cultural heritage preservation and the creative economy, this study sheds light on new avenues for urban development that are both culturally rich and economically vibrant. The implications of this research are broad-ranging and have relevance to the formulation of cultural governance strategies in urban cultural ecosystems, where the integration of cultural heritage and economic vitality is pivotal [5,53].

In conclusion, despite the acknowledged limitations, this study advances our understanding of cultural governance in urban settings, offering insights that can inform policy and practice in fostering sustainable urban development through the preservation of cultural heritage and the stimulation of the creative economy. Future research on urban cultural ecosystems can explore three viable strategies for promoting cultural prosperity and fostering urban development.

1. The urban cultural ecosystem should recognize and embrace the diversity and uniqueness of cultural values, placing culture at the forefront. This approach will empower urban citizens with affirmative cultural rights, fostering a sense of recognition and local cultural integrity.
2. Emphasizing the centrality of culture in a governance linkage system is crucial for the urban cultural ecosystem. It should promote collaboration and active interaction between the cultural sector and other administrative departments, opening avenues for culture to influence and guide other policy domains.

Incorporating these transformations will not only nurture a vibrant and culturally enriched urban environment but also establish culture as a driving force in shaping urban policies and practices [54]. This dynamic approach to cultural governance aligns with the evolving landscape of World Cultural Heritage cities, facilitating their sustainable development while preserving their unique cultural heritage.

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Institutional Review Board Statement: Ethical review and approval were waived for this study due to all the interviewees being older than 20 years old and the questionnaires being anonymous.

Informed Consent Statement: Informed consent was obtained from all subjects involved in this study.

Data Availability Statement: Not applicable.

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

Appendix A

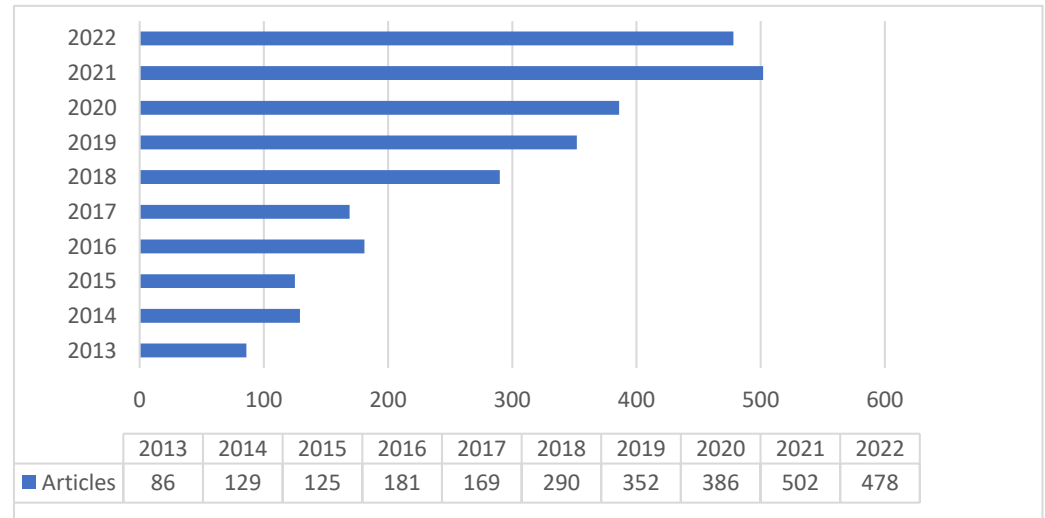


Figure A1. Articles and year distributed by year (2013.1–2022.6).

Table A1. The 19 LLR clusters sorted by size (2013–2023).

Cluster ID	Size	Silhouette	Mean (Year)	Label (LLR)
0	44	0.891	2017	protected areas (69.99, 1.0×10^{-4}); biodiversity conservation (39.88, 1.0×10^{-4}); landscape planning (19.68, 1.0×10^{-4}); national park (17.89, 1.0×10^{-4}); protected area (16.11, 1.0×10^{-4})
1	42	0.883	2016	ecosystem services (121.76, 1.0×10^{-4}); natural capital (23.17, 1.0×10^{-4}); conservation (22.21, 1.0×10^{-4}); contingent valuation (20.02, 1.0×10^{-4}); biodiversity (19.14, 1.0×10^{-4})
2	42	0.829	2016	place attachment (31.83, 1.0×10^{-4}); social-ecological systems (24.65, 1.0×10^{-4}); cultural values (19, 1.0×10^{-4}); social preferences (16.96, 1.0×10^{-4}); social-ecological system (16.26, 1.0×10^{-4})
3	38	0.836	2017	climate change (37.37, 1.0×10^{-4}); land use (37.23, 1.0×10^{-4}); social media (31.5, 1.0×10^{-4}); travel cost method (29.04, 1.0×10^{-4}); food security (24.83, 1.0×10^{-4})
4	37	0.811	2016	indigenous knowledge (23.32, 1.0×10^{-4}); sustainable development (19.1, 1.0×10^{-4}); relational values (16.42, 1.0×10^{-4}); ecosystem services (15.22, 1.0×10^{-4}); environmental justice (12.67, 0.001)
5	35	0.887	2017	coral reef (19.72, 1.0×10^{-4}); fish (15.29, 1.0×10^{-4}); service (13.14, 0.001); coral reefs (11.63, 0.001); cultural ecosystem services (10.97, 0.001)
6	35	0.865	2017	urban green spaces (40.02, 1.0×10^{-4}); urban green space (24.65, 1.0×10^{-4}); urban parks (16.86, 1.0×10^{-4}); consequence (12.85, 0.001); climate (12.85, 0.001)
7	34	0.879	2015	social values (26.8, 1.0×10^{-4}); socio-cultural values (19.97, 1.0×10^{-4}); socio-cultural valuation (18.82, 1.0×10^{-4}); sense of place (17.46, 1.0×10^{-4}); cultural theory (15.45, 1.0×10^{-4})
8	33	0.946	2017	regulating services (24.29, 1.0×10^{-4}); cultural services (23.59, 1.0×10^{-4}); carbon sequestration (14.76, 0.001); monetary valuation (13.81, 0.001); supporting services (12.14, 0.001)
9	31	0.962	2016	cultural heritage (37.76, 1.0×10^{-4}); adaptive reuse (23.63, 1.0×10^{-4}); participatory mapping (19.36, 1.0×10^{-4}); indigenous communities (17.34, 1.0×10^{-4}); networks (11.56, 0.001)

Table A1. Cont.

Cluster ID	Size	Silhouette	Mean (Year)	Label (LLR)
10	30	0.892	2016	cultural ecosystem services ($126.88, 1.0 \times 10^{-4}$); public participation ($15.76, 1.0 \times 10^{-4}$); photo series analysis ($14.24, 0.001$); social perception ($14.24, 0.001$); volunteered geographic information ($13.74, 0.001$)
11	28	0.914	2017	economic valuation ($43.72, 1.0 \times 10^{-4}$); travel cost ($18.34, 1.0 \times 10^{-4}$); islands ($12.22, 0.001$); high nature value farmland ($12.22, 0.001$); richness ($12.22, 0.001$)
12	27	0.926	2018	historical ecology ($12.69, 0.001$); trade-off ($11.58, 0.001$); synergy ($10.99, 0.001$); ecological restoration ($10.51, 0.005$)
13	24	0.928	2016	water quality ($45.32, 1.0 \times 10^{-4}$); eutrophication ($19.4, 1.0 \times 10^{-4}$); sustainable forest management ($19.4, 1.0 \times 10^{-4}$); phosphorus ($12.92, 0.001$); nitrogen ($12.92, 0.001$)
14	22	0.798	2018	inland fisheries ($13.24, 0.001$); forest recreation ($13.24, 0.001$); outdoor recreation ($11.13, 0.001$); green areas ($9.5, 0.005$); urban agriculture ($8.86, 0.005$)
15	21	0.868	2019	institutional theory ($25.49, 1.0 \times 10^{-4}$); ecosystem services ($12.56, 0.001$); sustainable development goals ($11.49, 0.001$); service-dominant logic ($11.49, 0.001$)
16	19	0.927	2015	cultural keystone species ($23.08, 1.0 \times 10^{-4}$); biocultural diversity ($18.1, 1.0 \times 10^{-4}$); resilience ($15.82, 1.0 \times 10^{-4}$); home gardens ($15.63, 1.0 \times 10^{-4}$); ecological knowledge ($13.36, 0.001$)
17	17	0.972	2018	entrepreneurial ecosystem ($32.13, 1.0 \times 10^{-4}$); ecosystem services ($31.68, 1.0 \times 10^{-4}$); entrepreneurship ($25.31, 1.0 \times 10^{-4}$); performance ($22.47, 1.0 \times 10^{-4}$); cultural ecosystem services ($15.51, 1.0 \times 10^{-4}$)
18	14	0.952	2016	green infrastructure ($27.2, 1.0 \times 10^{-4}$); spatial planning ($13.91, 0.001$); landscape architecture ($12.92, 0.001$); urban ecosystem services ($12.83, 0.001$); cultural ecosystem services ($12.5, 0.001$)

Table A2. Questionnaire content and quantity.

No.	Questionnaire Content	Quantity	Category
1	Evaluation of feelings after watching the video of Quanzhou applying for World Cultural Heritage	5	Single choice
2	Evaluation of Quanzhou Cultural and Creative Works	7	Likert 7 metrics
3	Intention to participate in cultural activities (online activities or on-site experience)	6	Likert 7 metrics
4	In your opinion, the following factors are important in making good use of cultural resources for urban sustainable development:	5	Likert 7 metrics
5	In order to cultivate cultural creativity, support the freedom of artistic creation and cultivate an aesthetic sense. The importance of the following cultural governance strategies	7	Likert 7 metrics
6	In order to face various difficulties and challenges, we should preserve and take root in culture, establish local cultural subjectivity and culturally fertile soil, and connect land with people's historical memory. The degree of recognition of the following cultural governance strategies	9	Likert 7 metrics
7	In order to support the shaping of the ecosystem of cultural content and the development of arts and culture and promote the sustainability of the cultural economy and cultural and creative ecosystem. The importance of the following cultural governance strategies	6	Likert 7 metrics
8	In order to develop the cultural future, create cultural technology, and create and share across regions. The importance of the following cultural governance strategies	6	Likert 7 metrics
9	In order to promote an environment of cultural diversity and implement cultural equality, the importance of the following governance strategies	7	Likert 7 metrics
10	In order to promote cultural governance reform and organizational restructuring, the importance of the following governance strategies	6	Likert 7 metrics
11	The importance of the following strategies and programs for the development of cultural and creative industries	6	Likert 7 metrics
12	How should cultural and creative industries play their role in promoting sustainable urban development?	8	Multiple choice
13	Gender	2	Single choice
14	Age	5	Single choice
15	Occupation	7	Single choice

Table A3. Performance of art performance groups and venues by region, in China (2021).

Region	Art Performance Groups			Art Performance Venues		
	Number of Institutions	Performances (10,000)	Audience (10,000)	Number of Institutions	Performances (10,000)	Visitors (10,000)
Shanghai	298	2.80	1411	83	1.99	802
Jiangsu	704	9.89	3069	329	2.38	995
Zhejiang	1357	26.51	5947	273	9.80	1450
Anhui	2870	40.77	6119	106	0.69	169
Hunan	675	9.75	6628	122	5.93	1178
Fujian	545	7.49	3010	72	3.77	297

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