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Research Article

The Protection of Architectural Heritage in the Process of Urbanization under the Internet Environment

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The urbanization process is speeding up in the Internet age, and many architectural heritages will be harmed as a result. This paper examines the coupling relationship between architectural heritage protection and tourism development using the concepts of architectural heritage protection and tourism development, as well as coupling theory. A preliminary analysis of the mechanism of the coupling relationship between architectural heritage protection and tourism development is conducted. Under unsupervised conditions, the classification results and quantitative index classification results of architectural heritage are obtained using the cluster analysis method. The sigs of historical, artistic, scientific, and humanistic factors, according to variance analysis, are 0.003, 0.041, 0.011, and 0.013, respectively, all of which are less than 0.05, with a significant difference. The spatial factor variable has a sig value of 0.52, which is not significant. This method can be used to not only classify heritage but also to quantify architectural heritage factors. In the future work of cultural relics protection, we can broaden the scope of protection measures and make recommendations to protection workers.

1. Introduction

Chinese wood structure architecture technology and art are valuable assets in China's historical and cultural heritage. Wooden structures have a consistent structure, with structural requirements dictating the size, shape, and placement of each component [1]. Urbanization is manifested in the Internet environment not only by the rapid growth of the urban population but also by the trend of concentration of production factors in cities and towns. The perfecting of urban functions in order to adapt to the expansion of urban space and the renewal of urban appearance will inevitably lead to a conflict between urban construction and historical site protection [2]. Urban cultural heritage is an important cultural demand pursued by the masses as a long-term cultural achievement created and accumulated by urban ancestors. With the advancement of urbanization, historic buildings face numerous challenges, and their destruction and gradual disappearance also cause local cities to lose their original characteristics, which has numerous negative consequences for urban development.

Architectural heritage protection is an important mission to inherit a long history, a realistic need to strengthen the competitive soft power of cities, and an objective requirement to meet the spiritual and cultural needs of the masses. Therefore, it is of great significance to strengthen the research on architectural heritage protection. Tsivolas pointed out the importance of historic building heritage protection to the city, which is "the process of preserving the city's memory and enhancing the city's cultural heritage" [3]. Kersel et al. advocated the restoration of historical and cultural heritage to the so-called "ideal" original appearance, and "to restore a building is to return it to its integrity" [4]. Michí believes that in the development of heritage tourism, how to give consideration to both economic benefits and social goals is an important problem faced by all cultural heritage development plans, especially the public sector managers who have great influence on the plans [5]. Mcevansoneya has established the applicability evaluation method of historic preservation building structure by combining the existing evaluation method of architectural applicability with the evaluation system of architectural

heritage value [6]. Yang et al. have established a complete evaluation system and standard for the cultural heritage of historic villages and towns by comparing the research results of the heritage value evaluation system of historic villages and towns in recent years, as well as the evaluation system of historic areas and other related specialties [7]. Compared with foreign advanced protection experience, there is still a big gap in our concept, system, and method of protection.

Architectural heritage, as an extremely important historical and cultural resource, has thousands of years of cultural accumulation in China, even in the Internet age. The preservation of architectural heritage is important not only for the continuation of history but also for the growth of national pride. Cultural preservation and economic development are not incompatible opposites; rather, they must be joined together. Strengthening architectural heritage protection research can lead to new ideas and innovative methods. On a macro scale, the preservation and restoration of architectural heritage has injected new vitality into urban economies and cultures, and the mode has shifted from singular to diverse. Microscopically, it broadens the scope of urban planning and architecture research and demonstrates the value of industrial architecture technology and art. (1) The system model of tourism development and architectural heritage protection is established by coupling the two, and the simulation equations of main variables are compiled using the index weight, trial and error method, and regression method based on the preliminary analysis of the coupling relationship. (2) The principle of PCA is used in this paper to calculate the weight of architectural heritage value factors and reduce the dimension before cluster analysis. Cluster analysis is used to classify architectural heritage and quantitative factors so that data can be used to support later protection measures.

This article is divided into five parts: the first section introduces the research background and significance, and then introduces the main work of this paper. The second section mainly introduces the related theories of architectural heritage protection. The third section puts forward the concrete methods and implementation of this research. The fourth section verifies the superiority and feasibility of this research model. The fifth section is the summary of the full text.

2. Related Work

2.1. Research on Architectural Heritage Protection. With the improvement of historical protection awareness and the expansion of protection scope, the concept of urban historical protection is no longer a few cultural relics that have little impact on society and economy, but a large number of different kinds of cultural relics that can be protected. It can be seen in all parts of the city, with its unique historical buildings and lots. This is because the whole society is aware that the benefits of protection are not only history and culture but also environment and economy.

Melanie introduced the related concepts and technical terms of architectural heritage, emphasized the importance of using technical terms, and the help of creating new terms for theoretical research of architectural heritage [8]. Haspel believes that architectural heritage represents the memory of a country or a nation and is the representative of national culture. The state should protect the architectural heritage through various protection systems and measures, such as applying for financial assistance from international organizations, introducing management systems and government legislation by the government [9]. Hladík thinks that the oral language in architectural heritage projects, especially the minority languages, is an urgent object to be protected. This paper discusses the necessity and importance of laws for protecting and inheriting the minority languages. From the perspective of intellectual property rights of architectural heritage, this paper discusses how to protect and inherit architectural heritage by legislative means [10].

Lababidi pointed out the disadvantages of manual recording of historical sites, put forward a new method of data acquisition and storage using ground imaging and non-imaging sensors, and demonstrated the practical application of ground laser scanning and ground optical data in the damage detection of monuments [11]. According to the collected archival data and field research, Zcan makes historical and retrospective analysis of architectural heritage sites and uses augmented reality technology to rebuild architectural sites [12]. Guilan and Weiwei have established a strategic system of architectural heritage protection and reuse from four aspects: spatial layout, formal expression, technical support strategy, and implementation strategy [13]. Zhong thinks that space needs are closely related to people's behavior, and space perception comes into being with people's environmental cognition as an important origin [14]. The spatial syntax is applied to analyze the spatial forms of historical blocks in three scales: the whole city, the historical blocks, and the interior of buildings.

2.2. Cluster Analysis Research. The essence of clustering algorithm [15] is that people expect computers to automatically divide objects into different groups according to certain standards, and the objects in each group have similar attributes or approximate relationships. As an effective data analysis method, clustering algorithm is widely used in data mining, machine learning, image segmentation, speech recognition, biological information processing, and other fields. Clustering algorithm can also be applied to business analysis. It can help market decision makers distinguish market decision makers from different consumer groups in the consumer database and summarize the consumption patterns or habits of each type of consumers.

Sun et al. discussed the information loss of Mahalanobis distance function in high-dimensional data space [16]; Li gives a general guide on how to find the best distance to estimate the similarity between objects based on the statistical analysis of distribution model and distance function [17]; Nepal et al. put forward an evolutionary clustering algorithm, which adopts a new distance measure based on point symmetry. The algorithm can detect not only convex sets but also nonconvex sets [18]. Naeem et al. used hierarchical clustering algorithm to segment images [19];

hierarchical clustering algorithm is widely used to analyze protein series data because it is suitable for processing large data sets. Ya et al. summarized the application of clustering algorithm in gene expression data analysis, which is helpful for understanding related technologies and methods [20]. Wang comparatively evaluated the performance of various measures, mainly the measures used for classifiers, but these measures are not limited to classifiers, and some measures can also be used to evaluate clustering results [21].

3. Methodology

3.1. Construction of Architectural Heritage Protection Model. At present, most architectural heritages in China lack innovation, close ties with the times and appeal to the public. Whether it is material cultural heritage or intangible cultural heritage, it should enter the market as much as possible on the premise of ensuring that it will not be destroyed. And through market-oriented means to complete the operation of industrialized architectural heritage management, so as to achieve marketization. How to combine the realistic interests of economic construction with the long-term interests of protecting historical and cultural cities, so that architectural heritage and urban construction can be well combined and complement each other, has become the current focus. With the advancement of urbanization and the departure of rural population, the architectural heritage in some rural and remote areas began to disappear gradually. As a tourist attraction, the local architectural heritage attracted foreign tourists to realize scientific tourism. Reasonable development can benefit local residents and protect the original environment of architectural heritage.

The popularity of quantitative analysis as the primary method of scientific research has brought new ideas to space and object-related research, and the advancement of new technology has brought space science research. The application of various mathematical, simulation, and statistical techniques has become the space science development direction. We can realize the economic benefits of ourselves and the surrounding areas by displaying the value of history, scientific research, art, and education. We can also drive and promote the development of related industries and the improvement of the surrounding environment, all of which will help to promote economic development. It has the potential to not only ensure the long-term development of historical and cultural resources but also to provide new economic growth opportunities.

The study of the collection and integration of information resources, as well as the creation of networks, is the research mode of sharing. Factors such as the complexity of data collection due to geographical factors, the coverage of information and data, the financial, human, and time costs of data collection, and the method of delivery to the clearing house should all be taken into account. Under the condition of meeting the requirements of all levels of centres set up by the state, such as township centres, county-level centres, county-level centres, etc., municipal, provincial, and national centres should build a communication mode of information resource collection and integration and network

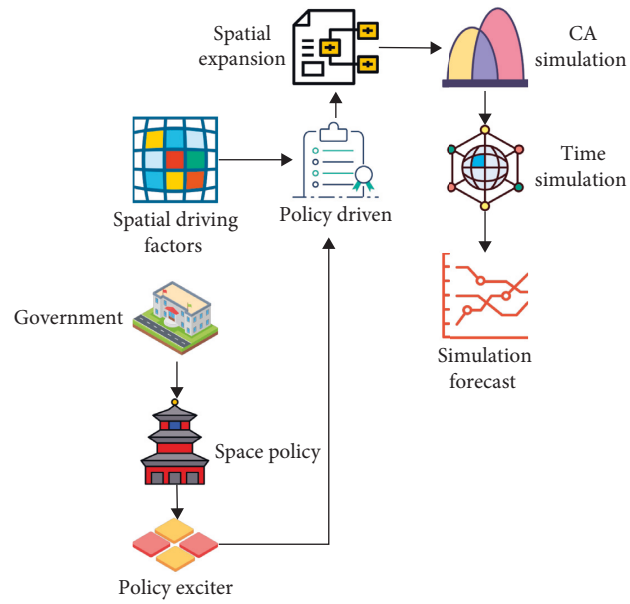

Figure 1: CA simulation driven by multilevel combination.

construction based on the collection and integration of information resources and the establishment of neural networks for network construction.

To optimize various factors, make the following assumptions: C_1 stands for information resource collection; C_2 stands for network construction.

Through the above assumptions, the following mathematical model is obtained:

$$Z = \min\{\phi_1 A_1 + \phi_2 A_2\}, \tag{1}$$

wherein, the parameters satisfy:

$$\begin{cases} \phi_1 + \phi_2 = 1, \\ C_1, C_2. \end{cases} \tag{2}$$

The above model comprehensively considered two factors and finally converted into the minimum value of Z. After the minimum value is obtained, the optimal scheme is formulated according to the actual situation.

Land use change is a complex spatiotemporal dynamic process. Traditional analytical methods based on mathematical equations are difficult to simulate this complex spatiotemporal evolution process, while CA (cellular automata) can simulate complex macroscopic models through simple local self-evolution.

Land use change is a multiscale joint process, which can be solved by pyramid structure:

(1) The top floor of the tower represents the overall development momentum of regional social economy and is the main basis for estimating the overall scale of regional urban construction land changing with time.

(2) The middle level of the tower represents the regional spatial development policy, is the macro design of land use development carried out by the government on behalf of the public interests, and plays an

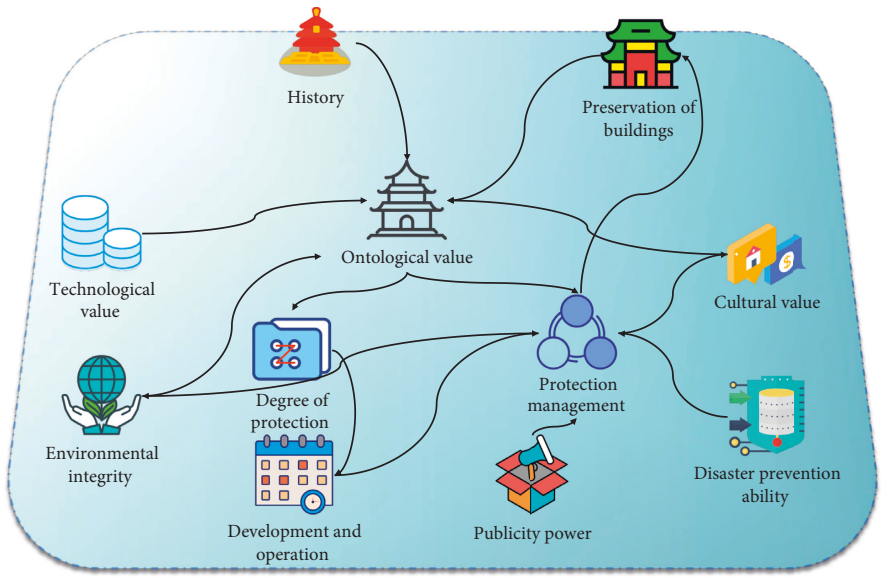

Figure 2: Causality diagram of architectural heritage protection system.

important role in spatial positioning of micro land use changes.

(3) The ground floor of the tower is used to describe the specific land use and development activities, which is subject to the local development conditions and has strong spatial self-organization.

Three levels of driving work together in the process of urban growth, and a multiscale urban growth simulation framework driven jointly can be described as shown in Figure 1.

No matter how many driving forces the urban growth is, the rules of cell state change must be formulated in the end because the evolution of each cell state in CA determines the quantity scale and spatial pattern of the land used. For example, adjust the direction of urban development. Spatial planning agents constantly inject their intentions into the simulation process through political incentives, which can generate new dynamic synthesis probability. Here, it is assumed that the coupling of the first driver and the second driver follows a linear relationship. Therefore, the CA transfer probability can be expressed as:

$$p_{ij}(t) = \alpha \times p_{ij}^{1} + (1-\alpha) \times p_{ij}^{2}(t), \tag{3}$$

where α and $(1-\alpha)$ represent the weights of the first driving force and the second driving force, respectively. If the simulator focuses on the driving of the first driving force, then $\alpha > 0.5$, otherwise $\alpha < 0.5$. Architectural heritage protection system is a nonlinear and multilevel system involving society, economy, culture, and other aspects. There are many cycles and links among its subsystems. This paper adds four causal relationships and holds that the higher the degree of protection and management, the better the surrounding environment of architectural heritage, the greater the degree of participation of surrounding residents in protection, and the greater the publicity of protection. On this basis, this paper constructs a model of architectural heritage protection system as shown in Figure 2.

The causality diagram can describe the causality of the system, and the system flowchart can further show the changes of different variables in the process of causality transmission according to the causality diagram. On the basis of the causality diagram, the system flowchart further identifies the characteristics of variables and describes the internal relations among various factors in the transmission process through intuitive marks.

Therefore, when planning, we should base ourselves on cultural connotation, combine historical development factors with the possibility of future development, adhere to the principle of "overall protection," and pay attention to the coordination between historical assets protection and cultural relics protection. Organically combine with the surrounding environment, material heritage and intangible traditions and comprehensively protect the historical features, cultural connotations, and lifestyles; strive to show local characteristics, continue historical characteristics, inherit cultural characteristics, strive to reflect the continuity of local history and excellent traditional development, and have a unique natural and traditional style.

3.2. Application of Cluster Analysis in Architectural Heritage Protection. The involvement of digital means in heritage protection provides more choices for the continuation of regional culture and also leads to the rethinking of existing forms and the protection of traditional buildings. As far as the characteristics of design discipline are concerned, the research on the core value of urban heritage should start with the research on the value of heritage ontology. Digital technology is only a comprehensive technology platform that plays a core role, not an investigation. The creation of space is the basic feature that distinguishes space-related disciplines (such as architecture and design) from other

disciplines. After a deep understanding of the complexity, diversity, and dynamics of space, the spatial meta-types are extracted, refined and sublimated.

Given a set of objects $X = \{x_1, x_2, \ldots, x_n\}$, it is assumed that each object $x_i, i = 1, 2, \ldots, n$ contains m features $x_i = \{l_1, l_2, \ldots, l_m\}$., and the features of the objects are represented by vectors here. The process of clustering analysis is to analyze the similarity between objects according to their features and obtain the clustering results according to some clustering decision criteria.

Common distance functions include Euclidean distance and Mahalanobis distance. Usually, different distance functions are designed according to the application of cluster analysis. At present, there is no universal distance function. See following formula for the definition of European distance:

$$\begin{aligned} d\left(x_i, x_j\right) &= \sqrt{\left(x_i - x_j\right)^T \left(x_i - x_j\right)} \\ &= \sqrt{\sum_{k=1}^{m} \left(l_{ik} - l_{jk}\right)^2}. \end{aligned} \tag{4}$$

Euclidean distance function is the most popular distance measurement function of continuous feature space, which is generally used to measure the distance between objects in 2D or 3D space.

Mahalanobis distance is defined as follows:

$$d\left(x_i, x_j\right) = \left(x_i, x_j\right)^T \sum^{-1} \left(x_i, x_j\right), \tag{5}$$

where $\sum^{-1}(x_i, x_j)$ is the covariance matrix of the sample. It is an effective method to calculate the similarity of two unknown sample sets.

K-means algorithm is a process of finding the minimization of the objective function, which usually adopts the minimum variance function. The definition of the function is as follows.

$$E\left(c_1, c_2, \ldots, c_k\right) = \frac{1}{n} \sum_{i=1}^{k} \sum_{x_j \in c_i} \left\| x_j - c_i \right\|^2, \tag{6}$$

where c_i represents the centre point of each class; this centre point definition can be in various forms, and it can be the centroid or the representative point of the class. K-means algorithm is simple to implement, and its operation efficiency is high. It is suitable for analyzing and processing large data sets.

Heritage value scores are calculated using a quantitative system for architectural heritage. These scores represent quantitative factors that are equivalent and cannot reflect their relative importance. The value of cultural relics determines the architectural heritage evaluation grade, which is generally divided into three grades: target grade, value grade, and index grade. The quantitative system of architectural heritage has been established, and data from expert scoring, questionnaire surveys, and field investigations are used to express various heritage attributes. To get the weighted quantitative value/score of an architectural heritage, multiply the index weight obtained by subjective or objective methods by the original quantitative value/score of the architectural heritage.

PCA (principal component analysis) is an analysis method that uses some integral indicators to represent multiple indicators in data. These integral indicators can better represent the original data. That is, we want to use as few variables as possible to represent the information in the original data, so that the relationship between them can be represented by a linear relationship. The main models are as follows:

$$\begin{cases} F_1 = A_{11}X_1 + A_{21}X_2 + \cdots + A_{P1}X_P \\ F_2 = A_{12}X_1 + A_{22}X_2 + \cdots + A_{P2}X_P \\ \vdots \\ F_M = A_{1M}X_1 + A_{2M}X_2 + \cdots + A_{PM}X_P, \end{cases} \tag{7}$$

where $A_{1I}, A_{2I}, \ldots, A_{PI}\,(I = 1, 2, \ldots, M)$. represents the eigenvector corresponding to the eigenvalue of X, and the value of the initial variable after standardized processing is $X_1, X_2, \ldots, X_P$.

$$A = \left(A_{IJ}\right)_{\mathrm{MP}} = \left(A_1, A_2, \ldots, A_M\right),\ R_{AJ} = \lambda_I A_I, \tag{8}$$

R is the correlation coefficient matrix, and λ_I, A_I is its corresponding eigenvalue and unit eigenvector.

Preprocess the initial data in the sample array, change the original data into positive indicators, and then use the following formula:

$$x_{ij}^{*} = \frac{x_0 - \overline{x}_i}{\sqrt{\mathrm{var}\left(x_j\right)}}, \quad i = 1, 2, \ldots, n;\ j = 1, 2, \ldots, m, \tag{9}$$

where $\overline{x}_i, \mathrm{var}\,(x_j)$ is the average and standard deviation of the j th variable, respectively.

Calculate the sample correlation coefficient matrix of the matrix given above:

$$R = \left[r_{ij}\right]_{p \times p} = \frac{Z'Z}{n-1}. \tag{10}$$

By solving the characteristic equation of the sample coefficient matrix R, P eigenvalues can be obtained.

Different clustering methods are suitable for different types of data and have different data processing capabilities and classification methods. The selection of grouping methods is based on the following considerations:

(1) Confirm the data type of quantitative value data of architectural heritage and choose the appropriate clustering method.

(2) On the premise of using the clustering method, choose the clustering method with simple algorithm.

(3) After selecting the clustering method, confirm the distance algorithm between index data.

Once the cluster analysis method is established, the architectural heritage is analyzed in groups, and finally the classification and classification results of the cluster analysis

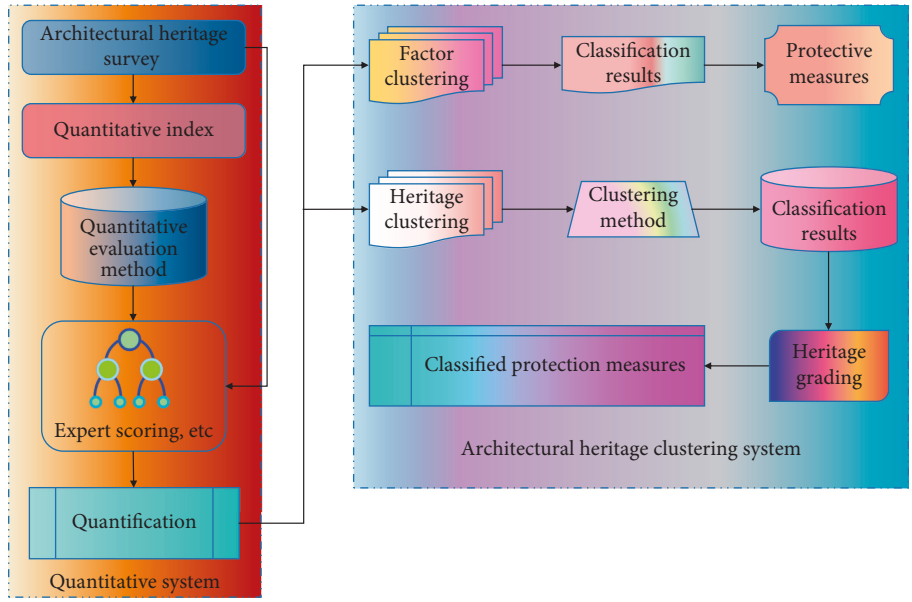

Figure 3: Cluster analysis process of architectural heritage.

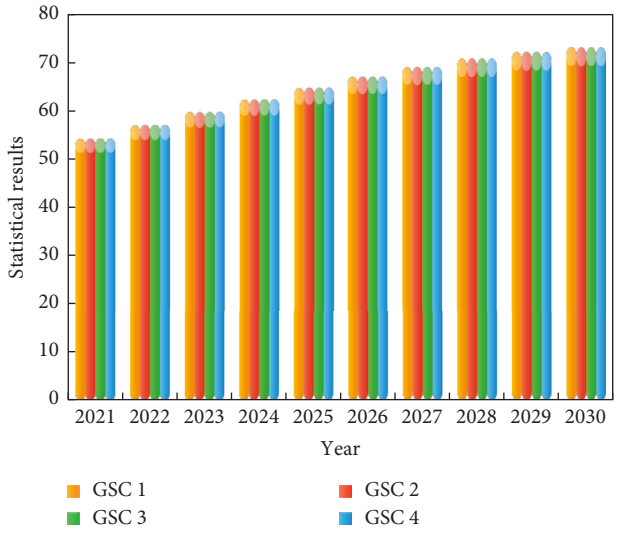

Figure 4: Numerical statistics of tourism suitability simulation.

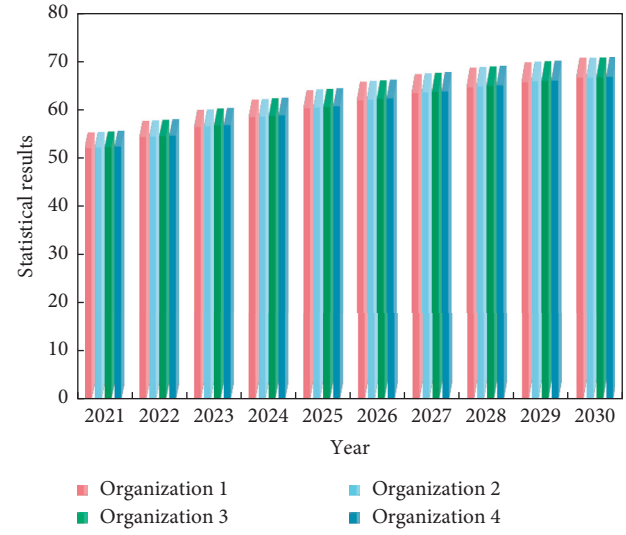

Figure 5: Comprehensive evaluation index simulation numerical statistics.

of architectural heritage are obtained, so that the protection is related to the formulation of heritage protection measures. The execution process of architectural heritage clustering method is shown in Figure 3.

Clustering architectural heritage is divided into the following steps:

(1) Reduce the dimension of quantitative indicators to reduce the amount of computation in the process of heritage clustering;

(2) According to the grouping results, analyze the value of the heritage cluster and the members of each category;

(3) Another clustering method carries out clustering analysis on the same group of housing estates, compares the obtained results with the previous clustering results, and corrects the clustering results;

(4) The clustering results are combined with the comprehensive value of heritage to obtain the grading results of architectural heritage;

(5) In the process of systematic clustering, the similarity between heritages is used to formulate relevant protection measures for heritages.

4. Experiment and Results

In this work, the government supervision coefficient acts on the degree of protection of architectural heritage through causal chain, so it has a great influence on the degree of

Table 1: Descriptive statistics of deep well/building volume ratio.

	Mean value	Standard deviation	Kurtosis	Minimum	Median	Maximum
Deep well volume	192.01	161.38	0.401	30.17	145.21	186.54
Building volume	2044.17	2217.46	22.553	206.93	1098.67	6451.28
Atrium/building volume ratio	12.22	3.49	1.781	7.55	13.32	14.96

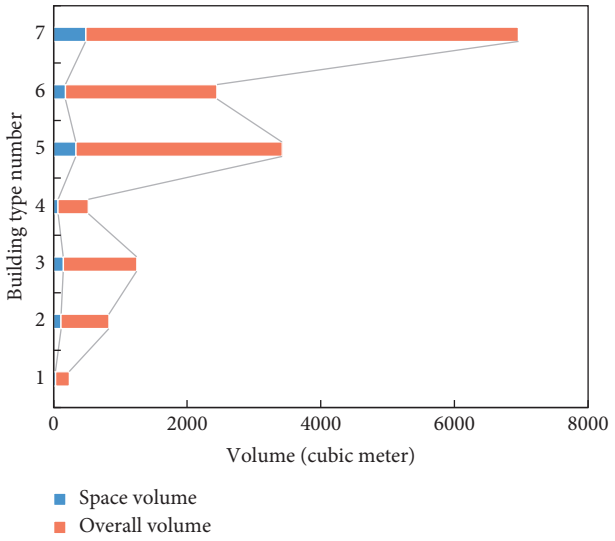

Figure 6: Building volume ratio.

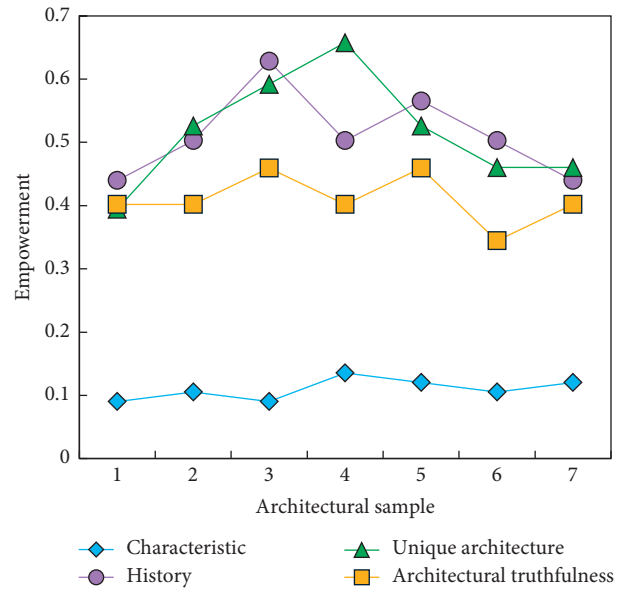

Figure 7: Empowerment of architectural heritage.

protection of architectural heritage. By adjusting the value of government regulation coefficient and observing the dynamic development trend of architectural heritage protection degree and tourism development suitability, we can judge the influence of government regulation coefficient. The degree of protection of architectural heritage and the suitability of tourism development are simulated. With the change of government regulation coefficient, the degree of protection of architectural heritage has also changed greatly. The higher the proportion of government supervision, the higher the degree of protection. And GSC (Government Supervision Coefficient) changes of architectural heritage protection degree (Figure 4).

It can be found that under the same government regulation coefficient, the overall trend of tourism development suitability has not changed. It first increased to 73.2175 in 2030 and then began to decline. In the same year, with the strengthening of government supervision, the suitability of tourism development began to decline. Therefore, strengthening the supervision coefficient of architectural heritage protection will greatly improve the degree of architectural heritage protection, but it has little impact on the suitability of tourism development. With the strengthening of the proportion of government supervision, the comprehensive evaluation score is high, so it is worth considering to comprehensively improve the proportion of government supervision.

The number of research institutions and organizations is one of the important indicators that affect the degree of architectural heritage protection. Through the analysis data provided by research institutions and organizations, local residents can have a deeper understanding and appreciation of the environment and architectural heritage in which they live. Figure 5 shows the numerical statistics of the simulation of comprehensive evaluation indicators.

The number of research institutions and institutions fluctuates, which has an impact on the system of coupling relationships between architectural heritage preservation and tourism development. The comprehensive evaluation score of the degree of heritage protection and the suitability of tourism development will be higher in 2030 and earlier, as the number of research institutions and institutions increases. The comprehensive assessment score began to decline after 2030, due to the system's negative feedback loop. A compound group is the basic unit of an architectural complex in the planning organization system, and the courtyards of multiple architectural complexes usually develop in depth first. This viewpoint encapsulates the courtyard house community's layout. The weather has an impact on the scale of deep well space, and the space of deep wells at different latitudes is different. The interface between the building scale plane and the buildings surrounding the deep well affects the space of the deep well, just as it does the outdoor space in a residential building.

In this section, 3D GIS method is used to make statistical analysis on the proportion of general space and gray space in deep wells and try to extract the spatial design features of buildings from the overall spatial data. The specific results are shown in Table 1 and Figure 6 respectively.

From the data point of view, the average proportion of deep wells is concentrated in 12.13%, the average volume of

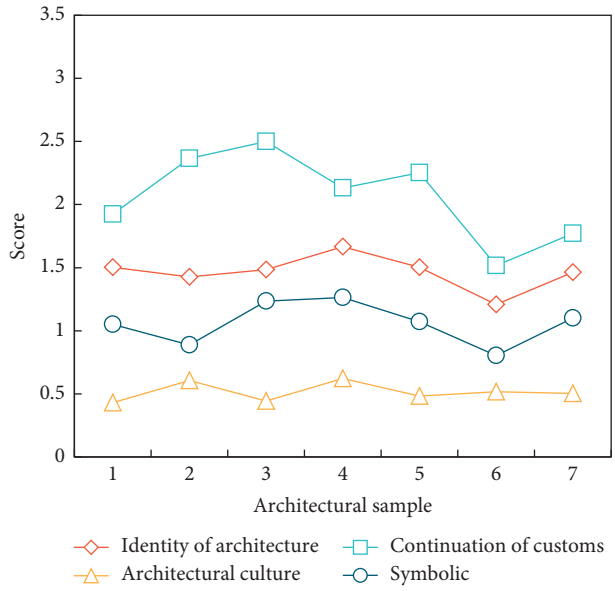

Figure 8: Cluster analysis of architectural heritage system.

Table 2: Variance analysis.

Factor	Cluster		Error		F	Sig
	Mean square	df	Mean square	df		
History	0.322	3	0.014	7	20.57	0.003
Art	0.082	3	0.017	7	5.12	0.041
Science	0.021	3	0.025	7	10.68	0.011
Human culture	0.016	3	0.023	7	0.63	0.013
Space	0.011	3	0.022	7	0.41	0.52

deep wells is 192.67 cubic meters, and the proportion of deep wells in the total space is between 13 and 16%, with an average of 14.38%. Compared with the scale of the building volume, the proportion is basically smaller, and the overall proportion is narrower than other residential forms in the south, while forming a semienclosed gray space form. It can be found that it develops reversely: the smaller the total space volume, the greater the proportion of deep well space. According to different fusion algorithms, clustering analysis is mainly divided into two methods: systematic clustering and segmentation clustering. As the initial position of the cluster centre in the segmentation clustering method has great influence on the final classification result, we will cluster seven architectural heritages by using the systematic clustering method, so as to find out the grouping environment of the heritage classification framework from the quantitative data of architectural heritages in unsupervised learning (see Figures 7 and 8).

From the variance analysis of architectural heritage grouping variables, it can be seen that among the five variables (Table 2), the sig (meaning) of historical, artistic, scientific, and humanistic factors are 0.003, 0.041, 0.011, and 0.013, respectively, all of which are less than 0.05, respectively. It shows that these four variables are highly significant and different. The sig value of the spatial factor variable is 0.52, which is less significant and has little influence on the classification results.

The goal of categorising architectural heritage is to make it more specific. Architectural heritage can be classified and protected in the case of limited energy or material resources. Because the protection value of architectural heritage is developed from its quantitative factors, grouping the quantitative factors of architectural heritage can strengthen the protection of all types of buildings in architectural heritage. Different protection methods will be formulated for different classifications and grades according to the protection requirements, based on the results of systematic cluster analysis of architectural heritage, combined with the weights of quantitative factors of architectural heritage and protection measures.

The existing architectural heritage protection decision-making procedures are mostly one-way top-down vertical mode, primarily organised by government and cultural relics functional departments. As a result, whether or not cultural heritage is protected, how it is protected, and whether or not it is successful is largely dependent on the government. Ideology and the focus of leadership cannot ensure the scientificity, long-term sustainability, comprehensiveness, and fairness of decision-making. Establish a government-independent expert committee for architectural heritage protection, and through institutional rules, clarify the expert committee's authority in identifying cultural heritage, formulating protection plans, and approving cultural relics construction projects. Making appropriate decisions is critical. It is necessary to seek input from people from all walks of life before formulating a scientific and reasonable safeguard plan that considers all parties' interests.

The degree of protection of architectural heritage and the suitability of tourism development are significantly improved, which shows that tourism development of architectural heritage can not only protect and utilize architectural heritage in a certain range but also increase its economy. Therefore, the tourism development of architectural heritage should be based on the principle of authenticity protection and sustainable development, follow the natural law of architectural heritage protection and tourism development, carry out scientific and reasonable protection and planning, and put an end to blind development. Make the protection of architectural heritage and tourism development, the coordinated development of economy and environment get social recognition.

Reasonable and intelligent restoration, renovation, and reuse of cultural relics buildings can not only reduce the burden of owners, development companies, or relevant government departments but also bring about a great cause if effective functional positioning and bold planning and operation as before are used. Give opportunities to the corresponding investors and owners and create huge profits and values. A proper fit not only will not detract from the value and use of the building itself but also can endow the building with new vitality if properly handled, which is more in line with the living habits and needs of contemporary people and better serves mankind. Some buildings have simple internal structures, while others have experienced

many transformations and constructions during their use. Therefore, as far as indoor space is concerned, it should be a wise protection and renewal strategy to update it in time to improve visibility and utilization under the condition of restoring the original spatial pattern.

5. Conclusion

How to combine the realistic interests of economic construction with the long-term interests of historical and cultural city protection, incorporate the protection plan into the construction plan, and strictly implement it, so that the good integration of architectural heritage and urban construction becomes the focus of current scholars' attention in the Internet environment. A reverse solution is the study of architectural space. We should strengthen the comprehensive measurement of people's perception of objects in the research process, expand the updating of space research methods, and improve according to new scientific and technological conditions according to the characteristics of the design discipline. The results of architectural heritage cluster analysis and analysis of various quantitative factors are obtained using the cluster analysis method. The analysis reasons are used to form the cluster analysis results, as opposed to the classification results of architectural heritage based primarily on architectural typology. According to the data, the average proportion of deep wells is 12.13%, their average volume is 192.67 cubic metres, and their proportion in the total space is between 13% and 16%, with an average of 14.38%. Formulate graded protection measures and related protection measures in accordance with the results of the grouping.

Data Availability

The data used to support the findings of this study are included within the article.

Conflicts of Interest

The authors do not have any possible conflicts of interest.

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