



Voice of Academia

Academic Series of Universiti Teknologi MARA Kedah

VoA
2023
Volume 19 Issue 1

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Academic Series of Universiti Teknologi MARA Kedah Branch

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e-ISSN: 2682-7840



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INFLUENCING FACTORS ON THE DECORATIVE ART FEATURES OF TRADITIONAL WINDOWS AND DOORS IN THE SOUTH YANGTZE RIVER REGIONS OF CHINA

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ARTICLE INFO

Article history:

Received May 2022
Accepted Sept 2022
Published Jan 2023

Keywords:

*Influencing Factors; Art Deco
Features; Traditional
Architectural Windows and
Doors*

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ABSTRACT

China's economic centre gradually moved to the south since the Southern Song Dynasty especially in the Ming and Qing Dynasties. The South Yangtze River Regions of China gradually became the economic, cultural and artistic centre of the whole country. The traditional windows and doors in the South Yangtze River Regions of China were influenced by contemporaneous politics, environment, economy, culture, history, literature and art, which formed unique artistic characteristics. Through the method of documentation investigation, field survey, data analysis and other investigation methods, these artistic characteristics from the aspects of structure, sculpture, colour, pattern, and practicality were summarised based on the analysis of artistic characteristics, consultation of relevant documents, and comparison between traditional architectures and architectural decorations. Through the empirical investigation and interview of traditional Chinese architectural practitioners in related industries, the influencing factors that form these Art Deco features and characteristics were illuminated. The degree of influence of each factor was evaluated, questionnaire surveys of professionals and practitioners were conducted, and the importance of various factors in the formation of their artistic characteristics was quantitatively analysed. The results made it feasible to better understand the differences in the degree of influence of politics, economy, culture, and art in the formation of the artistic characteristics of traditional

1. Introduction

Qingxi Lou (2004) discussed the windows and doors of traditional Chinese architecture as an important part of architecture. In addition to the interface of distinguishing between indoor and outdoor space, it is also an important carrier affecting the overall artistic style of architecture, with distinct artistic characteristics. During the Ming and Qing Dynasties, the South Yangtze River Regions of China became the economic and cultural centre of China. The prosperous economy and mature culture had a far-reaching influence on the traditional architectural style and environmental construction making doors and windows as important parts of architecture, not only having their own unique regional cultural connotation and artistic features, but also having extremely important cultural, historical and folk values, aesthetic value and manufacturing skill (Lou, 2011). Leoh Ming Pei mentioned that "in the west, the window is the window, and it puts in the sun and fresh air. But for the Chinese, it is a picture frame, and the garden is always outside it" (Jodidio & Strong, 2011; Rubalcaba, 2011).

Weidu Ma (2004) mentioned that the cultural and economic climate formed by the South Yangtze River Regions had been firmly enveloped in this fertile land. Over the centuries the tacit cooperation between the literati and craftsmen in the South Yangtze River Regions of China has made the small art category of windows and doors decoration change from simple to rich, from narrow to open, and get rid of the inherent formulas to show a world of freedom and vitality (W. Ma, 2004).

Guangyu Zhu (2008) mentioned that "After a hundred years of development in the South Yangtze River Regions of China, the prosperity of political economy and culture promoted the development of residential decoration. Windows and doors decoration is also the wisdom crystallization of the South Yangtze River Regions people's life and a mirror. More rich themes were carved on windows and doors, some windows and doors decorations are integrated with the environment, loaded with political wishes and beautiful longings. The performance of carving at all costs has left a rich legacy for future generations" (Zhu, 2008).

Based on the local natural environment in the South Yangtze River Regions of China, the traditional architectural windows and doors were combined with the technology, culture, aesthetics and other factors at that time, forming a practical and decorative architectural decoration component. These kinds of architectural decoration components were not only the embodiment of people's material life needs, but also the sustenance of people's spiritual pursuit. At present, due to the relatively good protection of traditional architectures in the South Yangtze River Regions of China, many traditional architectures with a long history have been preserved, and these provide a wealth of information for the development of investigation.

Along with in-depth study of traditional architectural windows and doors in the South Yangtze River Regions of China, the beauty of form and connotation of windows and doors and their decorations could be analysed. By refining and researching their artistic characteristics, the public would have a new aesthetic perspective on traditional architectures in the South Yangtze River Regions of China, and would pay more attention to the traditional architectures' protection. At the same time, architects would absorb these experiences and ideas into modern decoration design. There were many factors that affected the formation of these artistic characteristics, involving economy, environment, humanities, history, crafts, and aesthetics (B. Ma, 2003).

From the current retrieval of research results, the reality showed that there were many related studies selecting traditional architectures in the South Yangtze River Regions of China as the research object. However, there were few studies analysing the reasons and influencing factors of its artistic characteristics. Most of the existing studies were qualitative studies. Most of these studies were concentrated in China, and only a few studies were conducted in other countries.

The artistic characteristics of windows and doors of traditional architectures in the South Yangtze River Regions of China by documentation investigation and field survey were summarised in this paper, and a relevant questionnaire based on these characteristics were formulated. Respondents were selected based on their background of architecture, decoration and traditional architecture as the survey objects. The degree of influence and difference of the influence factors of various levels on the formation of the artistic characteristics of traditional architectural windows and doors were analysed and illuminated.

2. Literature Review

Lattice windows appeared in the Tang Dynasty. It concisely revealed the space definition and regional division of the door. The mullion forms of the windows were rectangular section slab mullion, triangular section broken mullion and square section mullion. The Song Dynasty was the climax of the development of Chinese traditional architecture. In the Song Dynasty, Jie Li (2004) introduced four types of windows in the book "Building Standards": "Po Zi Ling window, Banliao window, Sui Temple window and railing hook window" (Li, 2004).

The Ming and Qing Dynasties were the most prosperous period of Chinese traditional architecture. The emergence of capitalist seeds and frequent overseas trade contributed to the maturity of Chinese traditional architecture. "Chinese traditional architectural windows and doors have a long history of development. The ancient ruins of the round house unearthed at the "Banpo" site of Xi'an showed a doorway form" (F. Liu, 2006).

"The appearance of bricks and tiles in the Western Zhou Dynasty changed the primitive state of the previous dwellings, and courtyard-style buildings also began to appear at that time" (Liang, 2005).

People were struggling to decorate windows and doors, doing their best to express their love for life. The decoration of doors and windows in Chinese traditional buildings had developed rapidly, and various shapes of doors and windows had appeared (McNeill, Li, & Wang, 2010).

Subsequently, the book "Engineering Practices of the Ministry of Industry" of the Qing Dynasty summarised relevant information about architectural theory and practice from the Song Dynasty to the Qing Dynasty (K. Liu, 2014). Then, in modern times, the related research on architecture had become a little more systematic and comprehensive, such as Liang Sicheng's "Chinese Architectural Art Atlas", "the history of Chinese architecture", his books also based on the basis of some previous documents, such as "Building standards", "Ministry of Industry Engineering Practice in the Qing Dynasty", "Research on windows and doors" etc (Castilla, 2021; Riavis, 2020).

After the 1980s, research materials on windows and doors became more and more abundant in China, such as "Twenty Lectures on Ancient Chinese Architecture", "The beauty of windows and doors", such as "Garden windows and doors", "Chinese traditional architecture-windows and doors". These works have analysed traditional windows and doors from the aspect of art decoration. These books analyse the craftsmanship and form of traditional windows and doors the point of discussion generally about windows and doors (Song & Moll-Murata, 2002).

Most of these studies were general summary studies on windows and doors as a whole, and their studies mainly focused on summarisation and enumeration. There were relatively few studies on the classification of a certain area and quantitative studies on influencing factors. Therefore, empirical quantitative investigations would be used as a new research perspective to understand the influencing factors on the art deco features of traditional architectural windows and doors.

3. Methodology

3.1 Literature research method

On the basis of literature review, some representative books and documents are involved, such as "Building standards", "Windows and Doors of Ming and Qing dynasties in the South of the Yangtze River Regions", "Wooden lattice windows and doors ancient architecture art and production techniques", "Chinese architectural history", "Chinese Architecture windows and doors", "Chinese traditional architecture windows and doors: partition fan decorative art", "Decorative art of the door of Chinese traditional house", "ancient Chinese windows and doors", etc.. The development history, production technology, decorative arts characteristics and influencing factors of traditional architectural windows and doors in the South Yangtze River Regions of China were understood systematically. These contents provided a basis for the follow-up to summarise the artistic characteristics of traditional windows and doors in the area and analyse various influencing factors.

Through reading the literature, it found that the artistic characteristics of windows and doors in the South Yangtze River Regions of China could be summarised in terms of materials, patterns, and manufacturing techniques, while the influencing factors could be analysed in terms of economy, culture, crafts, and folk customs.

3.2 Field investigation method

Through documentation investigation, the artistic characteristics of windows and doors of traditional architectures in the South Yangtze River Regions of China were described and multiple feature descriptions were initially formed. Based on the previous documentation investigation, interviews were conducted and discussions through investigating multiple professionals engaged in traditional architecture-related work, and identified obvious artistic features. For example, the material was mainly wood; the windows and doors were slenderer and the opening was larger; the carving process was more detailed; the application of lattice windows was more; the colour was relatively dark and the patterns were diverse.

These characteristics of traditional building doors and windows could basically include the main differences between the South Yangtze River Regions and other parts of China.

3.3 Questionnaire survey research method

In accordance with the principles of scale compilation, a questionnaire was designed containing the main factors that influenced the formation of these artistic characteristics through documentation investigation and field survey. These influencing factors relate to politics, society, economy, building materials, building technology, architectural design concepts, viewpoints and artistic achievements. The final questionnaire contained the basic information of the respondents and the influence degree of the factors that form the artistic characteristics of doors and windows in traditional buildings. Appendix 1 is the questionnaire.

The questionnaire consisted of three parts: the first part introduces the background and purpose of the questionnaire; The second part focused on the background information of the survey subjects. The questions include the working years, educational background, and job title of the survey subjects, which could facilitate the professional screening in the later period and increase

the credibility and professionalism of the questionnaire. The third part listed 13 influencing factors from the aspects of economy, culture, environment and craftsmanship.

The degree of these influencing factors on the formation of the artistic characteristics of traditional architectural windows and doors in the South Yangtze River Regions was analysed to verify the rationale of the extraction of these factors.

The respondents are required to evaluate the degree of influence of various influencing factors according to their professional knowledge and work experience. Using Likert scale 5, the scale of 1-5 indicates the obvious degree of influence from low to high.

3.4 Data analysis and research method

SPSS software is used to analyse the data of the questionnaire. First of all, a quantitative and qualitative analysis was made on the basic information of the questionnaire, including the analysis of the basic information of respondents. Secondly, the reliability and validity of the questionnaire were analysed based on the data obtained, and the validity and reliability of the questionnaire survey data and extraction factors were confirmed. Finally, the degree of influence of various influencing factors on the formation of the artistic characteristics of windows and doors of traditional architectures in the South Yangtze River Regions of China was analysed.

4. Results

4.1 Summary of the artistic characteristics of traditional architectural windows and doors in the South of the Yangtze River Regions.

Since the Song Dynasty, the area south of the Yangtze River had become the economic and cultural centres of the whole country, and the doors and windows of traditional buildings also had distinct regional characteristics, which are closely related to the local environment, politics, economy and culture. Through documentation investigation, the artistic features of traditional architectural windows and doors in the South Yangtze River Regions of China were described integrally, and based on the previous description, we investigated some professionals who are engaged in traditional architecture-related work, conducted interviews and discussions, and identified several more obvious artistic features. These features include: wood was the main material; windows and doors were slenderer and more open; the carving process was more detailed; more lattice windows were used; the patterns were diverse and the colours were simple.

4.2 Basic situation of questionnaire collection

During the investigation period, the relevant personnel selected consists of graduates from the building engineering technology and traditional building technology programmes. The survey was conducted through targeted e-mail and questionnaire platforms. A total of 350 questionnaires were distributed in this survey, and 309 valid questionnaires were collected. The first question was on the work situation of the respondents and the statistical results are shown in Table 1. At present, a total of 277 respondents were still engaged in work related to traditional buildings and ancient buildings, accounting for 89.6%, which can meet the basic requirements of the research in terms of quantity. The follow-up research will be mainly based on the survey results of 277 professionals.

Table 1
The work situation of the survey respondents

Are you engaged in work related to traditional architecture or ancient architecture?	Quantity	Percentage	Effective percentage
Yes:	277	89.6	89.6
No:	32	10.4	10.4
Total:	309	100.0	100.0

4.3 Analysis of background information of survey subjects

In order to ensure the reliability and validity of the data, the following procedure were followed during the process of sending the questionnaire. First of all, the respondents need to have professional learning experiences related to traditional architecture and ancient architecture. A question on the current occupation of the respondents is included in the questionnaire in order to ensure that they have professional knowledge and working experience in traditional architecture and ancient architecture. A total of 309 questionnaires were collected in this survey, of which 277 people, accounting for 89.6%, were still engaged in related occupations, which ensured the authenticity and reliability of the survey data. Secondly, when distributing the questionnaire, the respondents were selected from different graduation years and the with longer graduation years as the main subjects. The question of "How many years have you been engaged in work related to traditional architecture or ancient architecture?" also verified this aspect and relates with the respondent background. Among the 277 survey respondents who are engaged in occupations such as traditional architecture or ancient architecture, 227 of respondents have worked for more than 5 years, accounting for 81.9%, which is the vast majority of the survey respondents. The specific ratio is shown in Fig.1. This data guaranteed the professional level of the respondents.

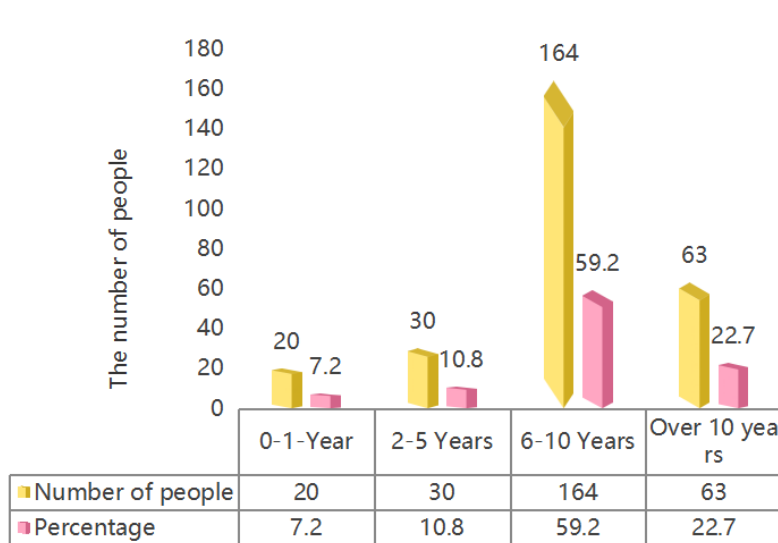


Fig.1 The working years of the survey respondents engaged in traditional construction or ancient architecture

A questions on the subjects' educational background and professional and technical post level was asked in the questionnaire. In terms of educational background (Fig.2), there were 179 respondents with bachelor's degree and 76 respondents with postgraduate degree or above. This accounted for 92.1% of the respondents, which showed that the survey respondents had a high professional level, and the survey conducted had a high professional credibility. This kind of professionalism could also be verified from the distribution of survey subjects' professional titles. In Fig.3, the subjects with intermediate and senior professional titles accounted for more than 90%. It showed that the survey respondents had abundant work experience, which guaranteed the accuracy of their answers to the questions.

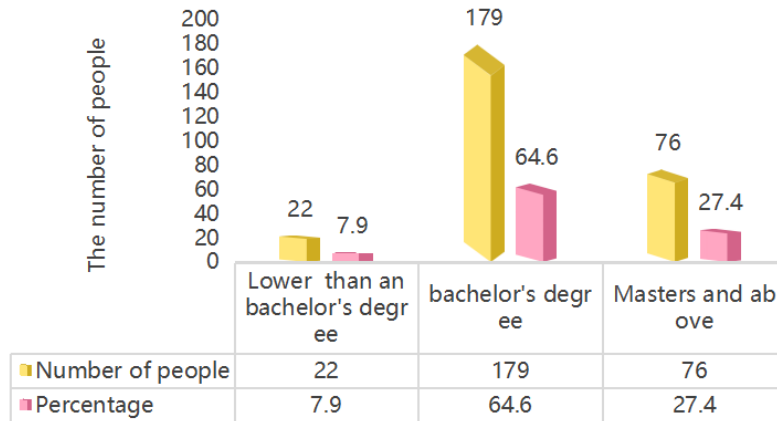


Fig. 2 Educational background of survey respondents

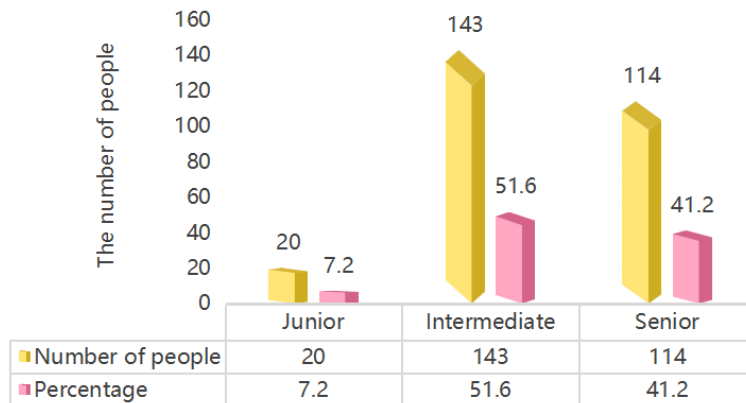


Fig. 3 Professional titles of survey respondents

4.4 The Reliability Analysis of the Survey and Research Questionnaire

L.J. Cronbach (1951) defined "the reliability of the questionnaire is the dependability or stability of the scale." The commonly used method to test reliability in the attitude scale is the a

(alpha) coefficient created by Cronbach. Cronbach's alpha coefficient is a coefficient that measures the reliability of the internal consistency of the scale, and is most commonly used in the Likert scale (Cronbach, 1951). L.J. Cronbach expressed the internal consistency reliability of the scale with the α coefficient. If the alpha coefficient is higher, it means that the internal consistency of the scale is better. The numerical value of the α coefficient is between 0 and 1. The probability that the two extreme values of a coefficient are 0 or 1 is very low (but it is also possible).

However, different statisticians had different opinions on how big the alpha coefficient was to be considered a high degree of reliability. Nunally (1978) believed that the numerical value of alpha coefficient equal to 0.70 was a low but acceptable boundary value of the scale.

DeVellis (1991) also put forward the following points: if the numerical value of the coefficient was between 0.60 and 0.65, it was better to be abandoned. The numerical value of the α coefficient between 0.65 and 0.70 was the minimum acceptable value. The numerical value of the coefficient between 0.70 and 0.80 was good. The numerical value of the α coefficient falls between 0.80 and 0.90 was perfect. As Bryman and Cramer (1997) considered if the internal reliability coefficient was above 0.80, it indicates that the scale has high reliability (Bryman & Cramer, 1997).

The data of the 13 influencing factors of this investigation was analysed using the IBM SPSS 23 software for reliability analysis. Through software analysis, the coefficient was obtained (Table 2). The numerical value of the α coefficient is 0.985. According to the definition of the value of the coefficient by most scholars, this questionnaire had a high reliability, all questions had strong internal consistency. Therefore, this investigation was of research value and practical significance.

Table 2
Reliability statistics

Cronbach Alpha coefficient	Number of Items
0.958	14

After deleting the items which are not reliable, the reliability was analysed for the remaining questions again and found that the numerical coefficient value of each individual item was above 0.9. This showed that the reliability and consistency of each question were relatively good. The 13 questions were all about the degree of influence of various factors on the formation of the artistic characteristics of traditional architectural windows and doors in the South Yangtze River Regions of China. The correlation between them was relatively high and the coefficients are all above 0.6 (Table 3).

Table 3
Reliability analysis of influencing factors after deleting other items

Influencing factors	Scaled average after deleting other items	Scale variance after deleting other terms	Relevance after correction	Alpha coefficient after deleting other items
Climate factors	27.57	115.282	0.636	0.958

Dense river network	27.41	111.713	0.755	0.955
People's living habits and needs in various times	27.47	111.054	0.837	0.953
A well-developed ancient business development model	27.45	110.220	0.870	0.953
Ancient foreign trade	27.35	109.918	0.873	0.953
The planning of urban construction and development in ancient times	27.35	109.896	0.847	0.953
Population migration factors	27.30	110.466	0.794	0.954
Hierarchy in ancient China	27.45	110.995	0.824	0.954
Chinese traditional aesthetic concept	27.52	110.794	0.863	0.953
Traditional folk culture	27.47	110.018	0.884	0.952
The level of development of the handicraft industry	27.41	109.692	0.861	0.953
The construction level of ancient architectural craftsmen	27.48	111.185	0.784	0.955
Building material factors at the time	27.42	110.309	0.846	0.953

4.5 Analysis of the construct validity of the questionnaire

Kaiser (1960) pointed out that construct validity was the correspondence between measurement problems and measurement variables. There were two measurement methods for construct validity (Kaiser, 1960). One was exploratory factor analysis, and the other was confirmatory factor analysis. Exploratory factor analysis was a widely used method to measure the structural validity, which could be realised using BIMSSPSS software. When using exploratory factor analysis to verify validity, firstly the value of KMO needs to be described. Kaiser (1970) defined KMO (Kaiser-Meyer-Olkin) as an indicator used to compare simple correlation coefficients and partial correlation coefficients between variables. KMO was mainly used for the factor analysis of multivariate statistics. KMO could check whether the data was suitable for common factor analysis. The value range of 0 ~ 1, 0.9 or above means it is very suitable; 0.8-0.9 means suitable; 0.7-0.8 means general; 0.5-0.7 means not suitable and 0.5 or below means extremely unsuitable. After analysing the data, it was found that the KMO value was 0.959>0.9, which means it was very suitable for factor analysis (Table 4).

Table 4
KMO inspection

KMO	
The value of KMO	0.959

4.6 Exploratory factor analysis of the questionnaire

Exploratory factor analysis is used to analyse the degree of influence of each influencing factor, the need to analyse the weight of each influencing factor, and the premise of the weight analysis. In exploratory factor analysis, it is necessary to make clear the number of extracted factors, the variance interpretation rate of each factor, etc. and describe the corresponding relationship between each influencing factor item and the common factor in detail. If the corresponding relationship is consistent with expectations, it can also indicate that the questionnaire has good construct validity. When using exploratory factor analysis to verify the validity, items with inconsistent correspondences with expectations or items with lower factor loading coefficients should be deleted, so that the construct validity of the questionnaire is more reasonable. On the basis of the previous investigation and research, the result tried to summarise the influencing factors in four aspects: the natural environment, trade economy, folk customs,

and construction craftsmanship. This kind of common factor induction could be used as a hypothesis. Analysing the data obtained using the SPSS software could verify whether this hypothesis is true. At the same time, various influencing factors could be summarised through common factor analysis for subsequent impact weighting analysis. The exploratory factor analysis extracted variance explanation rates after four factor rounds (Table 5): 28.405%, 27.312%, 17.223% and 13.512%, and the cumulative variance explanation rate totaled 86.451%. This showed that the four common factors could effectively extract 86.451% of the item information of the research scale.

Table 5
Variance explanatory rates after rotation

Common factor	Variance explanatory rates after rotation		
	Total	Percentage of variance	Accumulated percentage
1	3.693	28.405	28.405
2	3.550	27.312	55.716
3	2.239	17.223	72.939
4	1.757	13.512	86.451

Based on Table 6, it was found that the factor load coefficient values corresponding to each item were all higher than 0.6, with the lowest value of 0.607. This showed that there was a good corresponding relationship between influencing factor items and common factors. Specifically, each influencing factor item had a corresponding relationship with the assumed four common factors of nature and environment, trade and economy, folk customs, and construction craftsmanship. This kind of situation was consistent with the classification of influencing factors by professional knowledge. Therefore, it explained the specific and good construct validity of the scale, and also showed that the research data could be used for subsequent research from the perspective of item setting.

Table 6
Ingredient matrix after rotation table

Influencing factors	Coefficient of common factor loading			
	Common factor 1	Common factor 2	Common factor 3	Common factor 4
Climate factors	0.276	0.192	0.230	0.881
Dense river network	0.245	0.291	0.253	0.739
People's living habits and needs	0.430	0.280	0.646	0.323
A well-developed ancient business development model	0.454	0.607	0.223	0.153
Ancient foreign trade	0.340	0.705	0.485	0.203
The planning of urban construction and development in ancient times	0.417	0.674	0.369	0.213
Population migration factors	0.327	0.839	0.240	0.123
Hierarchy in ancient China	0.394	0.403	0.689	0.390
Chinese traditional aesthetic concept	0.384	0.319	0.741	0.292
Traditional folk culture	0.289	0.474	0.853	0.201

The level of development of the handicraft industry	0.727	0.498	0.266	0.151
The construction level of ancient architectural craftsmen	0.835	0.260	0.213	0.264
Building material factors at the time	0.659	0.487	0.231	0.301

Notes: Extraction method: Principal component analysis method.

Table 6 summarised the common factors and influencing factors by using extraction method. It could be seen in the Table 7 which simplify the scale of influencing factors into four common factors of 3,4,4 and 2 respectively. These 4 factors can be named as common factor of building technology, the common factor of trade and economy, the common factor of folk customs and the common factor of natural environment. Exploratory factor analysis could prepare for the subsequent weight calculation. Usually, exploratory factor analysis extraction could be performed simultaneously with validity analysis.

Table 7
Correspondence table of common factor and influencing factors

Common factor 1 (construction technology)	Common factor 2 (trade economy)	Common factor 3 (folk customs)	Common factor 4 (natural environment)
A1 The level of development of the handicraft industry	B1 A well-developed ancient business development model	C1 People's living habits and needs in various times	D1 Climate factors
A2 The construction level of ancient architectural craftsmen	B2 Ancient foreign trade	C2 Hierarchy in ancient China	D2 Dense River network
A3 Building material factors at the time	B3 The planning of urban construction and development in ancient times	C3 Chinese traditional aesthetic concept	
	B4 Population migration factors	C4 Traditional folk culture	

4.7 The influence weighting analysis of influencing factors on the formation of artistic characteristics

On the basis of common factor extraction, it can further calculate the weights to understand the degree of influence of each common factor in the formation of the artistic characteristics of traditional architectural windows and doors in the South Yangtze River Regions of China, as well as the degree of influence of the influencing factors in common factors.

A total of 4 common factors were extracted from this survey. As shown in Table 7, the cumulative variance explanation rate of these 4 common factors was 86.451% in total. Theoretically, it was generally believed that common factors represent all questionnaire items in the study (that is, the total variance explanation rate should be 100% instead of 86.451%). Therefore, it was necessary to perform weighted conversion operations on these 4 common factors. After conversion, the variance explanation rates of the 4 factors should be: $28.405\%/86.451\%=32.857\%$, $27.312\%/86.451\%=31.592\%$, $17.223\%/86.451\%=19.922\%$, $13.512\%/86.451\%=15.630\%$. The data showed that the influence degree of 31.592%.

The degree of influence of common factor 3 (folk customs) on the formation of artistic characteristics was 19.922% and the degree of influence of common factor 3 (natural environment) on the formation of artistic features was 15.630%. This showed that among the listed common factors, common factor 1 > common factor 2 > common factor 3>common factor 4, construction technology and trade economy played a decisive role in the formation of the artistic characteristics of traditional architectural windows and doors in the South Yangtze River Regions of China.

Combining the weights of the 4 common factors, the SPSS software was used to calculate the component score coefficients of the influencing factors in each common factor, which was used to compare the degree of influence of each influencing factor in the 4 common factors.(Table 8)

Table 8
Component score coefficient matrix table

Influencing factors	Component score			
	common factor 1 construction technology	common factor 2 trade economy	common factor 3 folk customs	common factor 4 natural environment
D1 Climate factors	-0.134	-0.063	-0.381	0.625
D2 Dense river network	-0.287	-0.211	-0.238	0.456
B1 A well-developed ancient business development model	-0.061	0.362	-0.227	-0.328
B2 Ancient Foreign Trade	-0.267	0.335	-0.231	-0.126
B3 The planning of urban construction and development in ancient times	-0.123	0.330	-0.014	-0.053
B4 Population migration factors	-0.247	0.663	-0.282	-0.064
C1 People's living habits and needs in various times	-0.069	-0.212	0.647	-0.098
C2 Hierarchy in ancient China	-0.148	-0.109	0.503	-0.331
C3 Chinese traditional aesthetic concept	-0.347	-0.306	0.205	-0.075
C4 Traditional Folk Culture	-0.308	-0.060	0.306	-0.139
A1 The level of development of the handicraft industry	0.383	-0.002	-0.175	-0.159
A2 The construction level of ancient architectural craftsmen	0.631	-0.310	-0.240	-0.002
A3 Building material factors at the time	0.285	-0.055	-0.315	-0.096

According to the data analysis of the component score coefficient matrix table of the four common factors, the degree of influence of each influencing factor also had a certain difference. In this table, the data irrelevant to the common factor were all shown as negative numbers, and the positive numbers were all corresponding to the corresponding common factors.

These data illustrated the relationship between the common factor and the items of each influencing factor. The higher the numerical value, the greater the impact. From the data in the table, for the common factors of construction technology, A2>A1>A3, indicating that among the influencing factors related to construction technology, the level of craftsman had more obvious influence; in the common factor of trade economic , B4>B1>B2>B3, where the population

migration factor was significantly higher than the other three factors in the common factor, indicating that this factor had a very obvious influence on the formation of artistic characteristics. As for the common factor of folk custom factor, $C1 > C2 > C4 > C3$, and hierarchy in ancient China, people's living habits and needs had a more obvious influence on the formation of artistic characteristics. In the natural environment factor, $D1 > D2$, the two influencing factors had high values, and both had a more obvious influence on the formation of artistic characteristics.

5. Discussion and conclusion

Through empirical data analysis, we could roughly understand the influence level of the factors that promoted the formation of the decorative artistic characteristics of the traditional architectural windows and doors in the South Yangtze River Regions of China. Among all the influencing factors, the level of craftsmanship, population migration, hierarchical concepts, living habits and needs in the South Yangtze River Regions of China were the main influencing factors. The results laid the foundation for the subsequent application of decorative art for traditional architecture windows and doors in the South Yangtze River Regions of China.

Acknowledgments

The authors are grateful to acknowledge Universiti Teknologi MARA (UiTM), Voice of Academia of UiTM Kedah for providing the precious opportunity to publish this paper. The authors also would like to thank everyone who have helped in constructing this paper.

Conflict of Interest

The work described has not been submitted elsewhere for publication, in whole or in part, or is not under review process in another journal and all the authors listed have approved the manuscript that is enclosed.

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ISSN: : 1985-5079