Remittances Review
May, 2023
Volume: 8, No: 2, pp. 529-543
ISSN: 2059-6588 (Print) | ISSN 2059-6596 (Online)
remittancesreview.com

Received: 11 November 2022 Accepted: 15 March, 2023
DOI: https://doi.org/10.33182/rr.v8i2.33

The influence of public art on city cultural branding under the concept of green development

Wei Zhang [*1,2],

Abstract

By exploring the influence of public art on urban cultural branding, we provide a reference for urban construction. Taking representative urban public art as the research object, this paper investigates the citizens' and tourists' perceptions of public art and urban cultural branding using survey research. Based on exploratory factor analysis to analyze the association between the two from the survey data, and establish an evaluation index system for city cultural branding. After that, the resulting indicators were analyzed based on hierarchical analysis to explore the influence weight scores of urban public art on different indicators. In urban cultural branding, the exploratory factor of public art has a cultural perception score of 2.9546, which is a good level, and public art has the greatest influence on the perception of urban icons. Among the five indicator layers included in cultural perception, the highest weighting is for the preservation and expression of the spirit of place, with a score of 0.0954, followed by the regional expression of cultural image, with a score of 0.0887. This study was able to propose a series of strategies and suggestions for how public art can contribute to the construction and revitalization of urban culture and branding.

Keywords: *Public art, urban cultural branding, exploratory factor analysis, hierarchical analysis.*

Introduction

Public art is not only a physical construct in urban sculptures, murals, and urban public spaces, it is also a pacemaker of urban culture that events, exhibits, interacts, plans, or induces cultural growth (Ding-Yu W U, 2017; Makadzange et al., 2015; Zheng, 2017). The breadth and richness of its coverage, as well as its dynamic and evolving qualities, show that it can intervene in urban systems using diverse approaches. City branding is composed of political, cultural, economic, and natural advantageous resources. However, as the main source of the city, the development and optimization of cultural elements will play a role in the branding of the city to enhance the added value of the brand, enrich the brand connotation, increase the attractiveness of the brand, and cohesion of competitiveness. It can be said that city culture is the core of city brand building (Shu Y, 2016; Thandar, Boonyaleepun, Khaing, & Laohasiriwong, 2017). Leading urban development with art and strengthening urban culture construction have important guiding significance in the

[1] Faculty of Applied and Creative Arts, Universiti Malaysia Sarawak, Kota Samarahan, 94300, Malaysia
Corresponding author: Wei Zhang (zhangwei-8587@163.com)
[2] College of Art and Design, Xinyang University, Xinyang, Henan, 464000, China

national urban development strategy. Public art plays an irreplaceable role in building city culture and shaping city brands (Cook, 2009; Ma, Alqurashi, & Qeshta, 2022).

Urban space is essentially a multi-faceted whole, where economy, society and culture are intertwined in the man-made crafted landscape and natural ecological environment, constituting the whole picture of the city. The communication and marketing of a city brand cannot be separated from the narration and expression of the whole city. In the context of digitalization, the construction and communication of city brands need expression strategies and methods that are adapted to contemporary digital development (Han & Han, 2021). Compared to traditional public art works represented by sculptures and murals, new media art is more comprehensive and versatile in terms of creation methods and materials, with a strong emphasis on "interactivity" and "participation". Through the use of electronic and high-tech technologies, it creates an immersive experience and allows the audience to participate in the expression of the artwork. The expression of public art fits the needs of city branding and the revitalization of cities as cultural business cards. It has both theoretical and practical significance to understand how public art can influence and interpret urban culture and promote the development of city branding (Gao H, 2018; Lin K, 2015).

In recent years, city cultural branding has become a research hotspot for cultural soft power. The literature (Ciuculescu & Luca, 2022) explored the role of cultural strategies in city branding and pointed out that cultural activities have a mediating role in place attachment and city brand equity, which can increase the level of loyalty of a place. The literature constructs(Zhang, Wang, Zhou, & Law, 2022) a structural equation model using the dining experience as a mediating variable to empirically test the mechanism of urban cultural perceptions on city branding. The results of the study showed that dining experience plays a partially mediating role in city culture perception and city brand identity. The literature (Ahn, Hyun, & Kim, 2016) examined the relationship between urban residents' brand positioning, brand commitment, brand citizenship behavior, and brand pride, and found that brand reality was the most important brand positioning that influenced residents' brand commitment, followed by brand partnership, brand culture, and brand sector coordination.

The literature (Kang Y B, 2016) analyzed the basic principles of urban cultural branding innovation, taking the creation of a harmonious cultural brand in Guigang as a research case, and proposed the principles of originating from history, based on reality, rooted in life, and advancing with the times, based on cultural relics, cultural traditions, and cultural reality. The literature (Yang J J, 2016) explored the application strategy of urban brand culture in the design of public facilities, analyzed the significance of the formation and application of urban brand culture, and demonstrated the interrelationship between public facilities and urban brand culture. The literature (Xu Y Y, 2017) analyzed the promotion path of Dong culture brand in Hengshui, and concluded that the in-depth excavation and research of Dong culture industry development is a major key to create a local culture brand strategy in Hengshui, and that it is necessary to break the geographical restrictions, promote Dong culture, pay attention to Dong culture talent training, and strengthen Dong culture

brand trademark protection. The literature (Wan X, 2017) analyzes Fuxin tourism culture brand communication using inductive analysis method for the problems of tourism culture brand communication, and proposes strategies for promoting tourism culture brand in resource-based cities to better help Fuxin's economic development. Taking Chicago, New York, Philadelphia, Shanghai and Beijing as research cases, this paper first designed a survey questionnaire on urban cultural branding and public art, investigated the perceptions of public art practitioners and the general public on urban new media public art and urban culture and urban branding, and established 12 evaluation indicators for urban cultural branding. Then, exploratory factor analysis was used to analyze the survey data, and the KMO test and Bartlett's spherical method were used to conduct correlation tests. The number of factors was determined based on the extraction of public factors, and the factor scores were calculated on this basis after factor spinning and naming. Finally, based on the obtained index factor scores, the influence of public art on city culture branding at different criterion levels was investigated based on hierarchical analysis.

Establishment of evaluation indexes for city culture branding

Research Design

Research case selection

This study uses representative urban public art at home and abroad as case studies to explore and evaluate the characteristics of public art in relation to urban culture and urban brand development, and to explore the characteristics of public art design. For the cases selected in the questionnaire survey, the study refers to the World City Directory, which rates cities in four categories: Alpha, Beta, Gamma, and Sufficiency, with two to four +/- ratings underneath, indicating the city's position in the globalized economy and its degree of integration. The four first-tier cities in the world and one second-tier city in the world selected for this study are shown in Table 1, which is used to study the impact of public art on the cultural construction of cities.

Table 1. Research Case Selection and Overview Summary

City	City Rating	Device Name	Location
Chicago	Alpha++	Crown Fountain	Millennium Park
New York	Alpha+	Heartbeat	Times Square
Philadelphia	Beta	Pulse	Municipal Plaza
Shanghai	Alpha++	Projection Light Show	Bund Complex
Beijing	Alpha++	Beijing - Memories	Nanluoguxiang Subway Station

Subjects of investigation

The relevant data was obtained mainly by using a questionnaire method to investigate the perceptions of public art practitioners and the general public about urban new media public art and

urban culture and urban branding. On the one hand, respondents' perceptions of public art and cultural branding in their own cities of residence were investigated. On the other hand, the significance and value of urban new media public art in promoting the construction of urban culture and brand revitalization were analyzed.

The proportion of male and female participants in this questionnaire was evenly distributed, with 49.72% of the valid respondents being male and 50.28% being female. The education level is mainly undergraduate, with 54.28% of the fillers having a bachelor's degree and 17.15% being postgraduate and above. The survey had a wide range of participants, covering 19 provinces in China, and received questionnaires from some overseas cities. The largest number of participants came from Shanghai, followed by Wuhan.

Survey results

Perception of urban public art

More than half of the respondents believe they have some knowledge of urban public art. When asked if they had some knowledge of new media public art, 36.45% and 36.12% of the respondents chose "agree" and "strongly agree" respectively.

For the seven representative urban new media public art pieces selected for the survey, respondents showed a high level of understanding. The projection light show of the Bund in Shanghai has the highest level of awareness, which is related to the city where the participants are located. Respondents' knowledge of the Amsterdam Light Art Festival was also good, with 39.56% of respondents choosing the option "very well known".

Perception of the city's cultural brand

The results of the survey on the respondents' perception of the city brand status of their place of residence are shown in Table 2. More than two-thirds of them think that their place of residence has a distinct city brand image. Among them, 33.73% think they understand the brand culture of the city they live in well, and 27.07% say they understand the brand and culture of the city they live in.

Table 2. Awareness of the brand of the city where you live

	Strongly disagree	Disagree	Neutral	Couldn't agree more	Agree
Have a distinct image	25.17%	3.88%	11.08%	21.76%	38.11%
Self-understood	7.29%	4.46%	27.45%	27.07%	33.73%

Evaluation index of city culture brand

In order to analyze the influence of public art on urban culture, it is necessary to first establish an

index system for evaluating urban cultural brands. Based on the results of the research, the urban culture brand evaluation indexes established in this paper are shown in Table 3.

Table 3. City Culture Brand Evaluation Index

Indicators	Symbols	Indicators	Symbols
Cultural Features	C_1	Commercial Service Configuration	C_7
Geographical expression	C_2	Public Facilities	C_8
Unified theme	C_3	Functional layout	C_9
Integrated Aesthetic	C_4	Science Education	C_{10}
Atmosphere Creation	C_5	Psychological Belonging	C_{11}
Carrying activities	C_6	Experience	C_{12}

Analysis of the association between public art and city cultural branding

Correlation analysis of indicators based on exploratory factors

Exploratory factor analysis model

Exploratory factor analysis (EFA) is a multivariate statistical analysis method to identify the main factors influencing the original variables by exploring the characteristics and properties of the original variables and the intrinsic relationships among them, and to estimate the influence of the factors on the original variables. It can streamline numerous disorganized original variables into a smaller number of core factors with subsequent explanatory power, thus enabling the extraction and reconstruction of measurement information.

The common EFA mathematical models are as follows:

$$\begin{cases} x_1 = a_{11} f_1 + a_{12} f_2 + \mathrm{L} + a_{1m} f_m + \varepsilon_1 \\ x_2 = a_{21} f_1 + a_{22} f_2 + \mathrm{L} + a_{2m} f_m + \varepsilon_2 \\ \qquad\qquad \mathrm{M} \\ x_n = a_{n1} f_1 + a_{n2} f_2 + \mathrm{L} + a_{nm} f_m + \varepsilon_n \end{cases}, m \le n \tag{1}$$

Model (1) is written in matrix form as:

$$\begin{pmatrix} x_1 \\ x_2 \\ \mathrm{M} \\ x_n \end{pmatrix} = \begin{pmatrix} a_{11} & a_{12} & \mathrm{L} & a_{1m} \\ a_{21} & a_{22} & \mathrm{L} & a_{2m} \\ \mathrm{M} & \mathrm{M} & \mathrm{O} & \mathrm{M} \\ a_{n1} & a_{n2} & \mathrm{L} & a_{nm} \end{pmatrix} \begin{pmatrix} f_1 \\ f_2 \\ \mathrm{M} \\ f_m \end{pmatrix} + \begin{pmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \mathrm{M} \\ \varepsilon_n \end{pmatrix}, m \le n \tag{2}$$

where X is a $n\times1$-dimensional random vector consisting of n original variables, F is a common factor matrix consisting of m factors. A is a $n\times m$-dimensional factor loading matrix, and ε is a $n\times1$ special factor matrix or residual matrix.

Based on the EFA model and model assumptions, we can obtain the covariance matrix of X as follows:

$$\Sigma = Cov(X) = Cov(AF+\varepsilon) = ACov(F)A^{\cdot} + Cov(\varepsilon) = AA^{\cdot} + D_{\sigma} \tag{3}$$

where A is the factor loading matrix.

The covariance matrix of X can also be expressed as:

$$\Sigma_{ij} = Cov\left(x_i, x_j\right) = E\left[\left(x_i - \overline{x_i}\right)\left(x_j - \overline{x_j}\right)\right], i, j = 1,2,\mathrm{L}\ ,n \tag{4}$$

From the above equation, we can solve for the eigenvalues of the covariance matrix and its corresponding eigenvectors. From this, we can obtain an estimate of the ij st factor loading. Where λ_i is the i rd eigenvalue, e_{ij} is the j th component of the i th eigenvector corresponding to λ_i, and l_{ij} is the degree of influence of the j th factor on the i th original variable.

Thus, the model can be written in the following form:

$$\begin{cases} x_1 = \sqrt{\lambda_1}e_{11}f_1 + \sqrt{\lambda_2}e_{12}f_2 + \mathrm{L}\ + \sqrt{\lambda_m}e_{1m}f_m + \varepsilon_1 \\ x_2 = \sqrt{\lambda_1}e_{21}f_1 + \sqrt{\lambda_2}e_{22}f_2 + \mathrm{L}\ + \sqrt{\lambda_m}e_{2m}f_m + \varepsilon_2 \\ \qquad\qquad \mathrm{M} \\ x_n = \sqrt{\lambda_1}e_{n1}f_1 + \sqrt{\lambda_2}e_{n2}f_2 + \mathrm{L}\ + \sqrt{\lambda_m}e_{nm}f_m + \varepsilon_n \end{cases}, m \le n \tag{5}$$

In the case of $m=n$, the remaining residual terms are set to 0. In the case of $m<n$, the value of the remaining residual terms is set to $\sqrt{\lambda_m}c_{nm}f_m, n>m$.

From the equations and the assumptions of the EFA model, we can define the variance of the original variables as follows:

$$\begin{aligned} Var\left(x_i\right) &= a_{i1}^2 Var\left(f_1\right) + a_{i2}^2 Var\left(f_2\right) + \mathrm{L}\ + a_{im}^2 Var\left(f_m\right) + Var\left(\varepsilon_i\right) \\ &= a_{i1}^2 + a_{i2}^2 + \mathrm{L}\ + a_{im}^2 + \sigma_i^2, \\ i &= 1,2,\mathrm{L}\ ,n. \end{aligned} \tag{6}$$

Then there are:

$$Var(x_i) = h_i^2 + \sigma_i^2, i = 1, 2, \mathrm{L}\ , n \tag{7}$$

Here, h_i^2 consists of the sum of the squares of the factor loadings on the original variable x_i and represents the proportion of the variance in the original variable x_i explained by the common factor F. We refer to h_i^2 as the commonality of the original variables x_i, which reflects the effect of the common factor F on the total variance of the original variables x_i. σ_i^2 can be referred to as the specificity or residual variance of the original variable x_i, which reflects the part of the variance of the original variable x_i that is not accounted for by the common factor F. As the common degree h_i^2 gets closer to 1, it means that the common factor F explains almost all the variance of the original variables x_i.

Steps of exploratory factor analysis

The basic steps for conducting exploratory factor analysis are divided into six steps: correlation test, public factor extraction, determining the number of factors, factor pivoting, factor naming, and factor scoring. The model of exploratory factor analysis is shown in Figure 1.

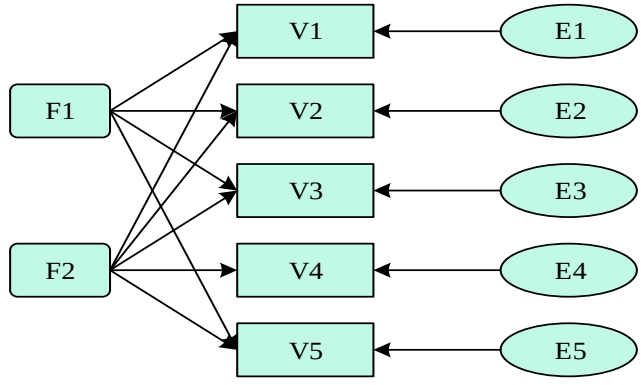

Figure 1. Models for exploratory factor analysis

(1) Correlation test

To ensure the applicability of EFA, the correlation test of the original variables is needed first. Two methods, KMO test and Bartlett's spherical test, are generally used to test the correlation of the original variables.

The KMO test is used to test the correlation and bias correlation between the original variables, and the KMO value ranges from 0 to 1. If the value of KMO is closer to 1, it means that the original variables are more suitable for factor analysis.

(2) Public factor extraction

After the correlation test of the original variables has been performed to ensure the applicability of exploratory factor analysis, public factor extraction is then performed. Broadly speaking, most models can be divided into principal component models and factor models. In the principal component model, the total variance of the original variables is retained as much as possible, while the factor model retains the variance due to the common factors and the variance due to the special factors. If the principal components extracted from the principal component model are considered as common factors, the components that are discarded can be considered as special factors.

(3) Determining the number of factors

Deciding how many factors to keep is an important task when performing the extraction of public factors. Researchers may face the problem of extracting too few factors or too many factors, although previous studies have shown that the more factors extracted, the lower the error when estimating factor loadings. However, extracting too many factors may result in the constructed structure having no theoretical value. In addition, outliers or outliers may artificially increase the eigenvalues of the correlation matrix, resulting in unrealistic estimates of the number of factors. Therefore, the number of factors extracted should be moderate.

(4) Factor transcending

The purpose of conducting EFA is usually to study the potential factors affecting each original variable, and in order to make these factors have a clearer explanatory meaning, they need to be factor pivoted. The methods of factor pivoting are mainly divided into two types of methods: orthogonal pivoting and oblique pivoting, which mainly differ in the correlation between the factors.

(5) Factor naming

After pivoting the factors, the interpretation of the realistic meaning of the public factors becomes clear and simple. The factors are categorized according to the magnitude of the factor loadings, and thus the factors are named. If the orthogonal axis method is used, the factor loadings matrix after the axis rotation is used. In the case of the oblique axis method, the factor style loading matrix is used.

(6) Factor scores

In the exploratory factor analysis, by the previous steps we have explained the reality of the public factors and estimated the factor loading matrix in the model, using the linear combination of the public factors to reflect the relevant characteristics of the observable original variables. Conversely,

we use the linear combination of the observable original variables to represent the public factor, and this estimation of the public factor is the factor score.

Empirical study of city culture brand indicator layer

A sample of 155 rating questionnaires was taken as the data base, and exploratory factor analysis was used to determine the correlation of each indicator stratum in the importance rating valuation, so as to scientifically determine the criterion stratum of the rating system.

Before the exploratory factor analysis, KMO and Bartlett tests were conducted to determine whether the sample was suitable for the exploratory factor analysis test. Based on the results, the KMO value was 0.861, which was greater than 0.5, and the significance of the sample was less than 1%, within the test criteria, there was a significant correlation between the indicators, and the sample was suitable for exploratory factor analysis.

For the exploratory factor analysis method in this study, factors were extracted according to the characteristic root greater than 1. The factor extraction method used the principal component method to obtain the total number of sample variables.

Criteria layer analysis based on hierarchical analysis

Hierarchical analysis method

(1) Hierarchical decision model

The first step in analyzing a problem using AHP hierarchical analysis is to disassemble and stratify the decision objectives on the basis of an in-depth analysis of the problem and the study of various causal factors, combined with the ultimate goal, to build a hierarchical structure diagram from top to bottom. In this hierarchy, the objective layer is at the top, which usually refers to the problem that needs to be solved, and there is usually one and only one, if there is no accident. The criterion layer usually exists as an intermediate layer, and there is a certain affiliation between the criterion layer and the target layer of the previous layer.

(2) Construction of judgment matrix

In the process of using AHP hierarchical analysis, the most important thing is the construction of weights. In the process of constructing weights, the following method is usually used: firstly, a comprehensive index evaluation system is established for the object of analysis, then the relative importance of each index is determined by comparing all the indexes in the index evaluation system, and finally the weights of each evaluation index are determined by objective mathematical operations. Thus, it can be seen that the first step to determine the weights is to construct a judgment matrix that can reflect the relative importance of each indicator.

Let A be a judgment matrix to represent the judgment values of the relative importance of each indicator at the same level, then we have:

$$A = (a_{ij})_{m\times n} \tag{8}$$

In this judgment matrix, each element a_{ij} represents a two-by-two comparison of the relative importance of indicator Z_i in the horizontal row to indicator Z_j in each column. It is obvious that this judgment matrix is actually a square matrix, which means that this judgment matrix can also be expressed as:

$$A = (a_{ij})_{m\times m} \tag{9}$$

When comparing relative importance, the scoring rule of weights is generally used. The specific form of the judgment matrix can be obtained as:

$$A = \begin{matrix} a_{11} & \mathrm{L} & a_{1m} \\ \mathrm{M} & \mathrm{O} & \mathrm{M} \\ a_{m1} & \mathrm{L} & a_{mm} \end{matrix} \tag{10}$$

(3) Determination of weights

After the judgment matrix is available, the researcher can determine the weights of each index. The specific calculation method is to calculate the geometric mean of each line first, and then calculate the importance weights of each evaluation index, and its calculation formula is respectively:

$$\overline{a}_i = \sqrt[m]{a_{i1}\times a_{i2}\times \mathrm{L}\times a_{im}} = \sqrt[m]{\prod_{j=1}^{m} a_{ij}} \tag{11}$$

$$w_i = \frac{\overline{a}_i}{\sum_{i=1}^{m}\overline{a}_i} \tag{12}$$

If the importance weights of the indicators of each evaluation are expressed as a vector, then it is:

$$W = (w_1, w_2, \ldots, w_m) \tag{13}$$

The vector is also called the eigenvector of the judgment matrix.

(4) Consistency test of single ranking

Compared with other methods of determining the weight coefficients of indicators, the biggest advantage of AHP hierarchical analysis method is that it can ensure the professionals' unity in thought logic by consistency test.

Calculate the maximum characteristic root of the broken matrix. In the specific calculation, the

following method can be used:

$$\lambda_{\max} = \frac{1}{m}\sum_{i=1}^{m}\frac{(AW)_i}{w_i} \tag{14}$$

In this expression, AW is the product of the judgment matrix A and the eigenvector W of this judgment matrix A.

To calculate the consistency index of the judgment matrix, the following expression can be used:

$$CI = \frac{\lambda_{\max} - m}{m-1} \tag{15}$$

Calculate the stochastic consistency ratio of the judgment matrix. From the consistency index CI, the stochastic consistency ratio CR for the test can be calculated, which is given by:

$$CR = \frac{CI}{RI} \tag{16}$$

where RI is the average random consistency index of the judgment matrix, and its size depends on the number of evaluation indexes in the judgment matrix.

Empirical Study of City Culture Branding Guidelines Layer

In this study, AHP analysis was used for the valuation of 15 expert weight questionnaires, and the group policy weights were calculated by integrating the 15 experts' assignments to the weight matrix. To ensure the reliability of the indicator weights, the consistency of the judgment matrix also needs to be tested. The test method compares the consistency index CI with the average randomness index RI to obtain the consistency ratio index CR. The consistency ratio index requires $CR < 0.1$, and if $CR \geq 0.1$, the weight assignments need to be fine-tuned to meet the requirements.

Analysis of the empirical results of the impact of public art on branding

Exploratory Factor Analysis for Cultural Branding

The exploratory factor scores for public art in urban cultural branding are shown in Figure 2. The final weight score for scoring based on the user dimension is 3.3576, which is in the medium rank. The static evaluation of use (current state of use) scored 3.3253, which is in the medium grade, while the dynamic evaluation (future development) scored 3.8102, which is in the good grade. In the static evaluation, functional perception (3.4895), emotional perception (3.8812) is in good grade, and spatial perception (3.2264) and cultural perception (2.9546) are in medium grade. In the

dynamic evaluation, branding (2.9602) was rated as medium and development potential (4.3658) was rated as good. Public art has the greatest impact on the perception of the city's logo. Public art also has a great influence on city branding culture. Public art is one of the carriers of city culture, and the vivid and intuitive expression of public art helps the public know the city brand and culture.

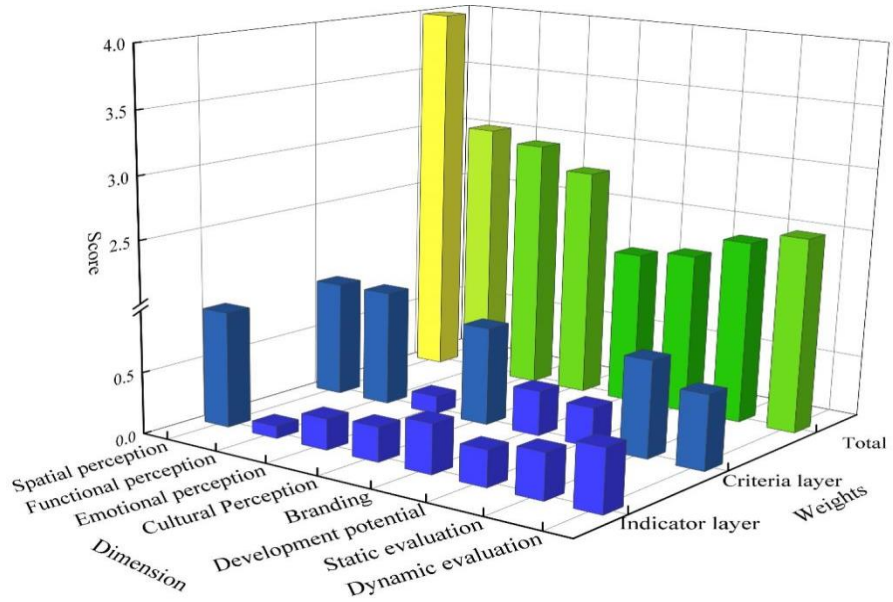

Figure 2. Exploratory Factor Score for Public Art

Hierarchical analysis of the impact of public art on branding

The influence of public art on urban cultural branding indicators is shown in Figure 3. The highest weighted criterion layer of cultural perception contains five indicator layers, whose weights are ranked as preservation and expression of the spirit of place ($C_5 = 0.0954$) > regional expression of cultural images ($C_7 = 0.0887$) > diversity of cultural expressions ($C_1 = 0.0582$) > thematic unity with outstanding characteristics ($C_3 = 0.0436$) > identification signage system with cultural characteristics ($C_{10} = 0.0403$). Public art significantly increases the emotional resonance and recognition of city branding, and to some extent enhances the satisfaction, residential comfort and experiential pleasure of the city, and the willingness to travel and settle in the city increases accordingly. For the branding of a city's culture, its cultural presentation and expression is of utmost importance. The most important factor to reflect its cultural uniqueness is the expression of the site's history and cultural spirit. Secondly, based on the regional characteristics, the cultural image is combined with the regional customs to design and express, which can better combine the cultural image characteristics of the site itself with the overall impression of the city.

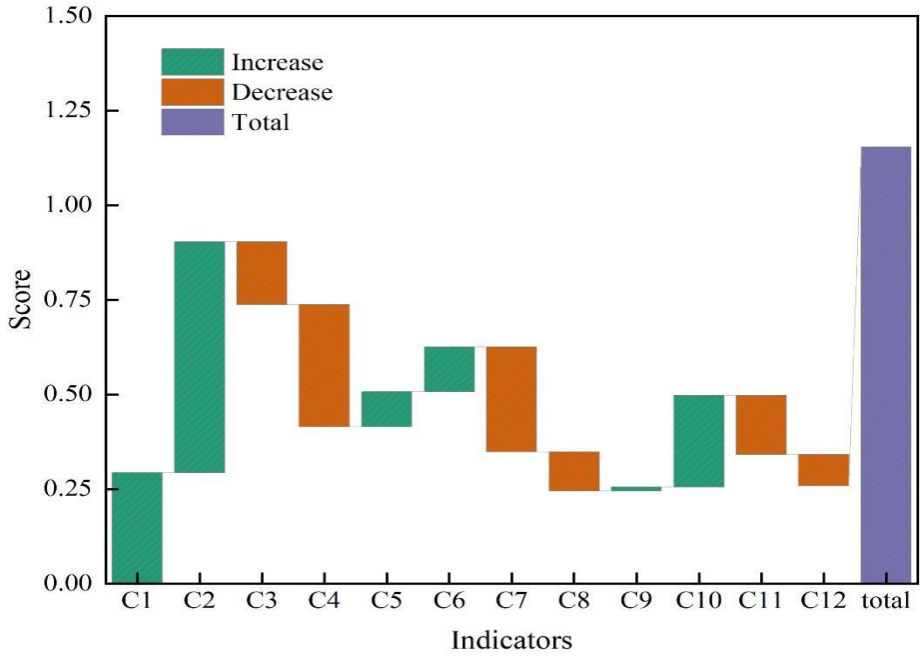

Figure 3. The impact of public art on urban cultural branding indicators

Conclusion

This paper investigates the impact of public art on urban cultural branding based on exploratory factor analysis and hierarchical analysis, and obtains data samples on public perceptions of public art and urban cultural branding through research. The impact of public art is mainly reflected in:

(1) Public art increases the interest of urban space, improves the experience of urban public space, enhances the public's cultural identity and loyalty, and helps urban brands achieve a breakthrough from sharing to co-creation. City patrons inject humanistic emotions and spiritual connotations into the co-creation process of city brand values in moments of participation, experience and immersion.

(2) The performance content of city brand communication is mainly the core values and cultural heritage of the city. City brand communication is the process of communication with the audience to realize the establishment, recognition and identification of the brand image. Good communication between city brand and city customers is the key link of city brand communication, and public art provides an effective way for communication of city brand.

(3) Public art can help to form highly recognizable memory points in the competition of city brands. The clever use of expression to recreate an existing logo or finished artwork produces a superimposed effect of brand image promotion. This is less costly than creating a new work altogether, and the updating of the original work allows it to build on the original cumulative

attention and raise new expectations, attracting wider attention.

References

Ahn, Y.-j., Hyun, S. S., & Kim, I. (2016). City residents' perception of MICE city brand orientation and their brand citizenship behavior: A case study of Busan, South Korea. *Asia Pacific Journal of Tourism Research, 21*(3), 328-353.

Ciuculescu, E.-L. P., & Luca, F.-A. (2022). How Can Cultural Strategies And Place Attachment Shape City Branding? *CrossCultural Management Journal*(1), 37-44.

Cook, S. C. (2009). Redress: debates informing exhibitions and acquisitions in selected South African public art galleries (1990-1994).

Ding-Yu W U, Z. Y. X. (2017). Integration and Symbiosis——A Discussion on the Development of Public Art in Landscape Design. *Journal of Beijing Union University (Humanities and Social Sciences)*.

Gao H, L. Y. (2018). Research on Wuhan City Brand Promotion Strategy by the Core Culture of Wuhan Tennis Open. *Bulletin of Sport ence & Technology*.

Han, L., & Han, L. (2021). Research on visual recognition intelligent system of city brand image based on fuzzy theory and regional culture. *Journal of Intelligent & Fuzzy Systems*(Preprint), 1-9.

Kang Y B, M. S. O., University H, et al. . (2016). On Basic Principles of the Innovation of Urban Culture Brand: A Case Study on the Creation of Harmonious Culture Brand in Guigang. *Journal of Hezhou University*.

Lin K, W. B. J., Humanities S O, et al. (2015). On the Building of City Culture Brand of Yong'an. *Journal of Sanming University*.

Ma, L., Alqurashi, F. A., & Qeshta, M. H. (2022). Risk contagion in financial markets based on copula model. *Applied Mathematics and Nonlinear Sciences, 7*(1), 565-572.

Makadzange, A., Higgins-Biddle, M., Chimukangara, B., Birri, R., Gordon, M., Mahlanza, T., . . . Ndung'u, T. (2015). Clinical, virologic, immunologic outcomes and emerging HIV drug resistance patterns in children and adolescents in public ART care in Zimbabwe. *PLoS One, 10*(12), e0144057.

Shu Y, U. X. (2016). Design Strategy of Interactive Public Art of Underground Space. *Packaging Engineering*.

Thandar, M., Boonyaleepun, S., Khaing, C. T., & Laohasiriwong, W. (2017). Prevalence of depression and its associated factors among PLHIVs attending the Public ART centers, Yangon region, Myanmar. *Annals of Tropical Medicine & Public Health, 10*(1).

Wan X, L. L., Wang S. (2017). Dissemination of tourism culture brand in Fuxin under the background of transformation of resource-based cities. *Journal of Liaoning Technical University (Social Science Edition)*.

Xu Y Y, C. Y. X., University H. (2017). Study on the Promotion Path of Dong Culture Brand of Hengshui City. *Journal of Jiamusi Vocational Institute*.

Yang J J, S. X. H., Ye L U, et al. . (2016). Communal Facilities in Taizhou Based on City Brand Culture Construction. *Packaging Engineering*.

Zhang, M., Wang, L., Zhou, J., & Law, R. (2022). Urban Culture and City Brand: A Study on Food Experience. *Journal of Service Science and Management, 15*(2), 108-127.

Zheng, J. (2017). Contextualizing public art production in China: The urban sculpture planning system in Shanghai. *Geoforum, 82*, 89-101.