Hindawi
Discrete Dynamics in Nature and Society
Volume 2022, Article ID 9501415, 16 pages
https://doi.org/10.1155/2022/9501415

Research Article

An Empirical Study on the Digital Display Design of Intangible Cultural Heritages Based on Audience Satisfaction

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Received 18 August 2022; Revised 18 September 2022; Accepted 22 September 2022; Published 5 October 2022

Academic Editor: Lele Qin

How the audience perceive the display of intangible cultural heritages (ICHs) and what are their psychological needs of ICH display are of great value to the display design of ICHs. This article carries out a questionnaire survey on the audience of the "Splendid China" ICH costume show and empirically analyzes the survey results. After constructing the American Customer Satisfaction Index (ACSI), the authors classified the psychological needs of customers for the on-site display of ICHs through analytical hierarchy process (AHP) and factor analysis, conducted the theoretical discussion, and verified the results with actual data. The research explores how should the digital display of ICHs be designed to satisfy the audience and provides a reference for China's ICH display designers. The research shows that the construction of a public satisfaction evaluation model for the digital display of ICHs is the key to satisfaction evaluation, there is ample room to improve public satisfaction with the digital display of ICHs, the dissemination of ICH can be strengthened through model construction, and personalized service is an effective way to promote the digital development of ICHs.

1. Introduction

The display design of intangible cultural heritages (ICHs) fully reflects China's ICH protection principle of inheriting and representing vitality. It provides an important way to promote ICHs, making the public understand and love ICHs. However, the actual display effect of the "Splendid China" costume show and related textile and apparel ICH exhibitions was not desirable. Due to the lack of scientific management and effect feedback mechanism, some ICH exhibitions fail to attract the audience, albeit incurring a high cost. The audience are not very impressed, and some exhibitions are way to commercialized.

During ICH displays, the audience do not merely glance over the exhibits but go through a complex psychological process. The visit helps the audience form an overall cognition of ICHs through reasonable imagination, as their memories are invoked by the visual, auditory, and tactile perceptions of ICHs [1]. In essence, visiting an ICH display is about the mutual influence and interaction between ICH skills and the audience's psychological activities [2]. To inherit and disseminate ICH culture, it is crucial to explore the ICH display design based on the audience's perception and preference.

The significance of this research is to expand the research fields of ICH, design, and communication and to provide theoretical reference for promoting the creative transformation and innovative development of excellent traditional culture, at the same time promote the systematic protection of ICHS, provide consultation for the competent department of ICH exhibition and display, and provide a reference for the design practice of ICH display. As a combination of human knowledge and skills and aesthetic taste, the dissemination of ICH is facing the dilemma of "difficult to enter and difficult to exit." In order to greatly improve the dissemination effect of ICH, it is necessary to focus on audience satisfaction and actively use artificial intelligence technologies such as computer recognition, human-computer interaction, and simulation scene construction, in the digitization of dissemination subjects, the correlation of

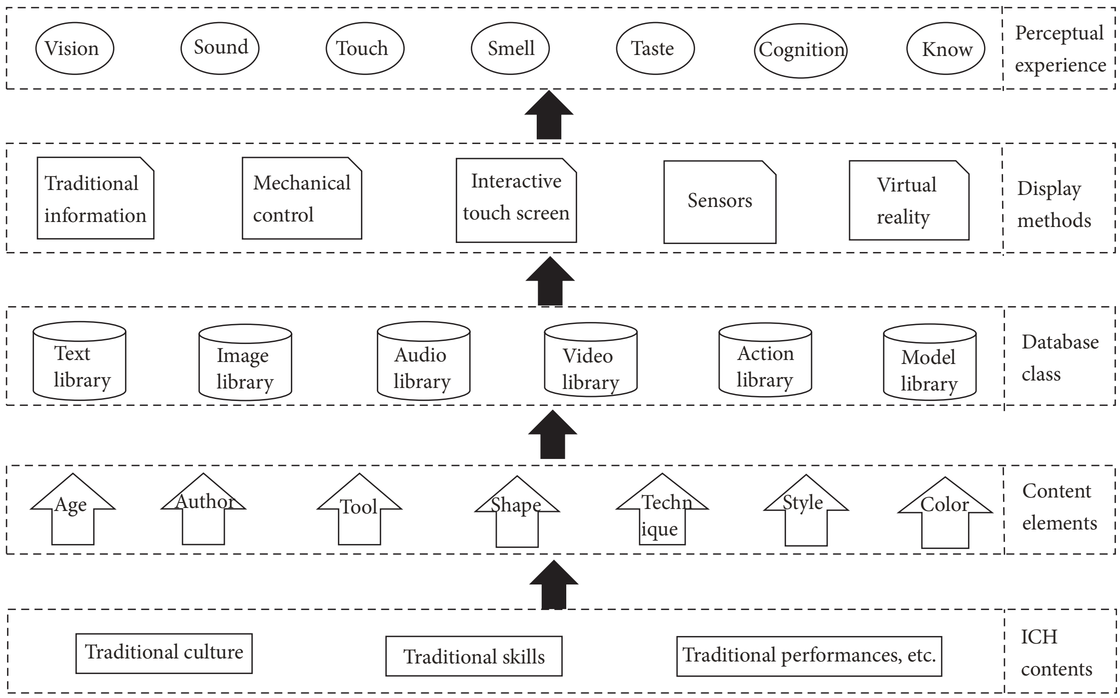

Figure 1: Flow of ICH digital display.

dissemination objects, and the liveliness of dissemination content. Innovate the ways of communication of ICHs from the expansion and diversification of dissemination channels.

2. Theoretical and Technological Overview

2.1. Overview of ICH Digital Display Technologies. Digital display compiles and reorganizes the contents of the exhibit in a way to form a complete work of digital display, using digital technology as the main technical means [3]. Currently, the traditional protection and inheritance methods of ICH can no longer meet the needs of development, which requires the continuous development of ICH display towards the digital display. The digital display of ICHs relies heavily on new media technologies, such as virtual reality, human-computer interaction, and augmented reality, to make the display authentic, complete, and interactive [4].

In the field of digital display, the ingenious application and combination of different technical means can stimulate the vitality of ICHs and improve the effectiveness of digital display, promoting innovation in the field [5]. However, advanced technology is not necessarily suitable. The digital display effect of ICHs can only be maximized by fully stimulating the audience's senses, which calls for mining the inherent elements of different kinds of ICHs, and utilizing scientific and reasonable digital technology [6].

Figure 1 shows the flow of ICH digital display [7]. Starting from the ICH contents, ICH digital display involves content elements, database classes, display methods, and the perception experience. Based on the dissemination features of ICHs and appropriate digital technology, this article analyzes the display methods of different types of ICHs, with the aim to extract differentiated features of each type, and leaves the audience an excellent impression [8].

The research on ICH digitization technology started early in Europe and North America and has achieved outstanding results in theory and application. For example, Rossella Cafib expounded the opportunities and challenges of digital cultural heritage protection in ethnic cultural areas and gave examples of its application in Italian libraries, cultural protection departments, and tourism departments [9]. Hong [10] studied the strategies and methods of digital recording of ICHs and enumerated the advantages and disadvantages of digital recording, providing a guide for digital acquisition. Idris et al. [11] clarified the relationship between cultural diversity and ICH digitization and discussed the strengths and weaknesses of the application of ICH digitization technology as well as related issues. Using the open data resources of social media, Kyriacos [12] carried out a three-dimensional (3D) visual reconstruction of cultural heritages. Suarez et al. [13] promoted the protection and inheritance of cultural contents, using computer modeling tools and virtual reality, combined with the sensory experience of archaeological acoustics.

The technology application in China is as follows: Focusing on the ICHs of ethnic minorities in western Hunan province, Dong [14] and Zhang and Zhao [15] proposed a digital protection strategy for digital museums and other entities. Song et al. [16] investigated the display of domestic digital websites and presented the construction strategy and model for creating a comprehensive network platform. Meanwhile, some progress has been achieved by ICH researchers in the digital protection of traditional handicrafts with regional features. The relevant researchers have constructed ICH digital collection standards, the reproduction methods of ICH digital storage, the general architecture of ICH database construction, and other digital strategies [17–21].

With the advent of the era of digital communication, the characteristics of the Internet, such as interactivity, speed, convenience, openness, and comprehensiveness, have profoundly affected the way of digital display and dissemination of ICHs. Therefore, the dissemination characteristics of China's ICHs in the digital ecological environment have also occurred. Great changes and presents the following five new characteristics: plasticity, rheology, unboundedness, sharing, and interactivity. (1) Plasticity – showing the state of active display; (2) rheology – from invisible bearing to polymorphic rheology; (3) unbounded – from local cognition to wide-area communication; (4) sharing – across regional boundaries; and (5) interactivity – multidirectional interaction and "circle layering." Finally, based on the integration of digital technology and media, the advantages of digital display and dissemination will be brought into play, and intelligent and innovative digital display and dissemination methods of China's ICHs will be developed.

At present, the wide application and popularization of 5G technology in China is bound to bring about innovative changes in various industries. With the continuous development and large-scale application of AI technology, the digital communication of ICH has also been pushed into the era of application scenario experiential communication. This requires making full use of modern digital technology and AI technology to enhance the scene-based experience of ICH, which is embodied in two aspects: first, content experience, building an ICH virtual experience center, and comprehensively using VR and augmented reality, 3D dynamic, and other digital technologies, to show the audience the content of ICH culture, inheritance history, craftsmanship, and other contents from multiple dimensions and enhance the scene interaction and experience of ICHs.

2.2. Overview of Satisfaction Index Research. In 1965, American scholar Cardozo proposed customer satisfaction—the very first concept of satisfaction. Since then, the meaning of satisfaction, the evaluation method of satisfaction, and the analysis model of satisfaction have been widely studied and used. At present, business and academic circles commonly define satisfaction as a person's feeling of pleasure or disappointment, which resulted from comparing a product's perceived performance or outcome against his/her expectations, following the definition given by Philip Kotler, father of modern marketing. Satisfaction measures the level of his/her satisfaction.

Domestic and foreign scholars and institutions have established customer satisfaction evaluation models and utilized them to measure customer satisfaction, for example, Fornell and Larcker's [22] normal quality (NQ) standard model, Churchill and Supernant's [23] evaluated performance (EP) behavior evaluation model, and Parasuraman et al.'s [24] SERVQUAL model. In addition, Sweden established the Sweden Customer Satisfaction Barometer (SCSB) in 1989, based on which Europe constructed the European Customer Satisfaction Index (SCSI) [25]. Since 1999, China started to build China Customer Satisfaction Index (CCSI) and has achieved certain results.

The current research on satisfaction, especially customer satisfaction, is relatively systematic and mature in China. But the domestic research on ICH display satisfaction has just started. Chen Bin, a pioneer in this field [26], examined the quadrant graph model based on importance and satisfaction and discovered that professional visitors and exhibitors have obviously different evaluations of the exhibition objectives and indices. Ju et al. [27] used factor analysis to analyze the exhibition features valued by exhibitors and the exhibitors' perception of each characteristic index. But they did not directly measure or consider the core of audience satisfaction. He [28] adopted the structural equation model to construct a model of factors affecting the Chinese audience's satisfaction of international ICHs.

Later, domestic scholars have combined the quadrant graph model with factor analysis and structural equation model to study audience satisfaction. For instance, Xu et al. [29] first carried out an exploratory factor analysis on 21 original indices and then performed structural equation modeling. Later, scatterplots were drawn and analyzed according to the importance rated by the organizers and audience satisfaction. Wu and Zhang [30] successively analyzed 21 main factors affecting tourists' destination choice through factor analysis, structural analysis model, and quadrant graph model.

During the survey, satisfaction is actually a multivariate selection variable for ranking. The domestic research on ranking qualitative variables is relatively mature. For example, Lin and Ai [31] established an ordered probit regression model to examine the influence of main individual demographic features and social-economic status variables (e.g., age, income, gender, and education) over display demand. Zhao and Miao [32], Jin et al. [33], and Guo [34] also constructed and applied the probit model to systematically analyze the ranking qualitative variables in their research. Some domestic scholars have also used the probit model to analyze satisfaction.

On this basis, the United States constructed the American Customer Satisfaction Index (ACSI) evaluation model in 1994, which is a customer-based organizational performance evaluation system and a market- or customer-oriented performance evaluation method [35]. There are many researches on ACSI at home and abroad [36–39]. The ACSI model is a national-level global customer satisfaction evaluation model that takes the quality of products or services as the evaluation object and including four levels: department, enterprise, industry, and country. The US government takes the ACSI model as the foundation, refers to its own domestic government service status and characteristics of public services, and finally obtains the US government public satisfaction index evaluation model, which is an innovative application of the customer satisfaction model in the government public service level. Figure 2 presents the final improvement of the ACSI model [40], which covers public expectations, perceived quality, public satisfaction, public complaints, and public trust [41].

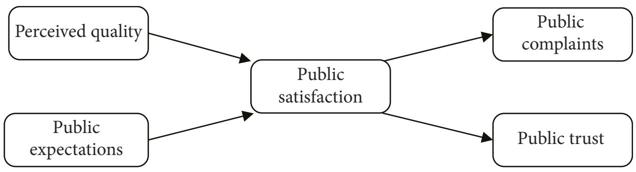

Figure 2: ACSI model.

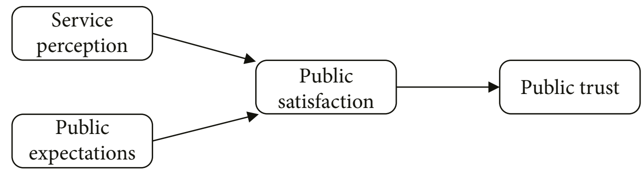

Figure 3: ACSI-based public satisfaction index model for ICH digital display.

ACSI is a macro-index to measure the quality of economic output. It is a comprehensive evaluation index of audience satisfaction level based on the process of product and service consumption. It is a national audience satisfaction theory with the most complete system and the best application effect model. The biggest feature of ACSI is that audience satisfaction can not only be compared between different products and industries but also between different customers of the same product, reflecting the differences between people. Compared with other models, the biggest advantage of the ACSI model is that it can carry out cross-industry comparisons, as well as vertical and cross-time comparisons, which has become a barometer of the US economy. At the same time, ACSI is a very effective management tool, which can help companies compare with competitors and evaluate their competitive position. It should be pointed out that ACSI is an accurate quantitative economic model established based on advanced consumer behavior theory. It is used to monitor the macroeconomic operation, and the main consideration is the comparison of audience satisfaction across cross-industry and cross-industry sectors, rather than firm-specific diagnostic guidance, so this model is rarely used in micro-level satisfaction surveys.

Based on the above discussion, this article takes the theory of ICH digital display service and satisfaction as the basis, and by sorting out and analyzing the related theories of public satisfaction in the digital display of ICH, it creates conditions for the subsequent theoretical integration. (1) The digital dissemination of ICH should not be bound by the boundaries of traditional communication methods and continue to lead the innovation of ICH dissemination through its own technological advantages so as to help the continuous advancement of ICH in terms of protection and inheritance. At the same time, it also provides a new model for the inheritance of the current ICHs. (2) The research on satisfaction (especially customer satisfaction) provides an important reference for the display of ICHs.

3. Model Construction

3.1. Evaluation Model. The original ACSI model contains five structural variables, while the optimized ACSI model has four structural variables (Figure 3). In order to further optimize the structure, the research is guided by the public satisfaction index structure model constructed by the US government and further improved. Positive sentiment is relative, so incorporating the structural variable of public complaints into public trust is more conducive to building a public satisfaction evaluation model for the digital display of ICHs:

(1) Public expectations: the public's pre-event expected service level for the digital display service provided by the ICH digitization service provider. As the object of ICH digital services, the public must have expectations for the services they enjoy. Its structural variables include the following three observation variables: the overall expectation of ICH digital display service, the ICH new media communication service expectation, and the ICH venue digital service expectation.

(2) Service perception: the public's actual perception of the digital display service provided by the ICH service provider. Due to the difference between each person's subjective ideology and the actual external environment, they will also have differentiated psychological perceptions of the same service they enjoy. The evaluation variables include the service perception of the digital dissemination of ICH and the digital service of ICH venues.

(3) Public satisfaction: the public's post-event satisfaction with the digital display service provided by the ICH digitization service provider. The observed variables include the public's overall satisfaction with ICH digital services and the public's satisfaction with new media dissemination of ICH digital services and venues.

(4) Public trust: the public's psychological response, emotional response, and complaints to/about the digital display service provided by the ICH digitization service provider [42, 43]. The high level of satisfaction brought by a good digital display service of ICH can convey more positive emotions; otherwise, it will bring the opposite result. The observed variables are divided into the following three aspects: the public's reuse of ICH services, the public's recommendation of ICH services, and the public's complaints about services.

3.2. Calculation Principle. Our discussion and empirical analysis mainly utilize analytic hierarchy process (AHP) and factor analysis method (FAM), aiming to provide a guide for future calculation of satisfaction indices. The research mainly refers to the calculation principle of Cheng [44]. The calculation principle of public satisfaction index for ICH digital display is as follows:

(1) Let ξ denote public satisfaction; $x_1, x_2, \ldots, x_m$ denote the observed variables of public satisfaction; $\lambda_1, \lambda_2, \ldots, \lambda_m$ denote the standardized path

Table 1: Measurement indices.

Structural variables	Observed variables
Public expectations (ξ)	Overall expectation of ICH digital display service (x_1) Expectation of ICH new media communication service (x_2) Expectation of ICH venue digital display service (x_3)
Service perception (η_1)	Perception of f ICH new media communication service (y_1) Perception of ICH venue multimedia service (y_2) Perception of ICH venue human-machine interaction service (y_3)
Public satisfaction (η_2)	Overall satisfaction with ICH digital display service (y_4) Overall satisfaction with ICH new media communication (y_5) Overall satisfaction with ICH venue digital display (y_6)
Public trust (η_3)	Complaints (y_7) Public reuse of ICH digitization service (y_8) Public recommendation of ICH digitization service (y_9)

coefficients of $x_1, x_2, \ldots, x_m$ relative to ξ, then public satisfaction can be calculated as

$$\text{publicsatisfaction} = \frac{E(\xi) - \text{Min}(\xi)}{\text{Max}(\xi) - \text{Min}(\xi)} * 100, \quad (1)$$

where $E(\xi) = \sum_{i=1}^{m} \lambda_i \overline{x}_i$; $\text{Max}(\xi) = \sum_{i=1}^{m} \lambda_i$ Max (x_i); and $\text{Min}(\xi) = \sum_{i=1}^{m} \lambda_i$ Min (x_i). $E(\xi)$, $\text{Max}(\xi)$, and $\text{Min}(\xi)$ are the mean, maximum, and minimum of public satisfaction, respectively; $\overline{x}_i$, Max (x_i), and Min (x_i) are the mean, maximum, and minimum of x_i, respectively, $i \in \Omega_m$.

(2) Formula (1) can be properly simplified as

$$\text{publicsatisfaction} = \sum_{i=1}^{m} \lambda_i \overline{x}_i, \quad (2)$$

where $\lambda_1, \lambda_2, \ldots, \lambda_m$ are the standardized path coefficients of $x_1, x_2, \ldots, x_m$ relative to ξ; and $\overline{x}_i$ is the mean of x_i, $i \in \Omega_m$. The relevant indices of the observed variables can be weighted by

$$y_i = \frac{1}{n} \sum_{j=1}^{n} w_i y_{ij}, \quad (3)$$

where y_i is the evaluation item; y_{ij} is the score of item y_i against an index; w_i is the weight (importance) of that index; and n is the number of indices for evaluating item y_i.

(3) The FAM measures the degree of influence of each variable on the structural model, in the light of the correlation between variables, and then describes the model generally with a few common factors.

In the null hypothesis model, there are k measurement indices and n statistical variables:

$$X_i = \alpha_{i1}\lambda_1 + \alpha_{i2}\lambda_2 + \cdots + \alpha_{ip}\lambda_m + \varepsilon_i, \quad (4)$$

where $\lambda_1, \lambda_2, \ldots, \lambda_m$ are the common factors of the model (these factors are related to all statistical variables; their correlation coefficients are 0, a sign of the independence between them); ε_i is the unique special correlation factor of each statistical variable X_i; and coefficient α_{i1} is the weight index of the jth common factor relative to the ith statistical variable, reflecting the explanatory power and effect of the common factor on that variable [43]. Because in factor analysis, only jth main factors are usually selected, that is, the first main factor is selected according to the correlation of variables, so that its contribution to the variance of the common factor variance of each variable is the largest, and then the variance of this factor is eliminated. Therefore, $\alpha_{i1} > 0.5$.

3.3. Evaluation Method. The public satisfaction evaluation model for ICH digital display consists of four structural variables, namely public expectations, service perception, public satisfaction, and public trust; each structure contains one or more observed variables. The variables interact with each other to form a whole. The author mainly refers to the evaluation methods and models of scholar Cheng [44] and recollects the data for calculation. The specific variables are defined in Table 1.

The public satisfaction evaluation model for ICH digital display assumes that there is a linear relationship between variables. The structural variable of public expectations is the only exogenous causal variable in the model, while the other structural variables are the endogenous structural variables. The relationship can be represented by three matrix equations, including one structural equation and two measurement equations:

Structural equation:

$$\eta = A\eta + B\xi + m. \quad (5)$$

Measurement equations:

$$\begin{aligned} Y &= \Lambda_1 \eta + n, \\ X &= \Lambda_2 \eta + p, \end{aligned} \quad (6)$$

where A and B are the coefficient matrices reflecting the structural variable relationship in the structural model (A can be regarded as the relationship matrix of the mutual influence between all endogenous structural variables, and B can be understood as the relationship matrix of the influence of the exogenous structural variable “public expectations” on all endogenous variables); $\Lambda_1 and \Lambda_2$ are the relationship matrices of the mutual influence between observed variables, and that between structural variables; and m, n, and p are the error vectors of the three equation models, respectively.

The three matrix equations are as follows:

The structural model, that is, the relationship between structural variables can be calculated as

$$\begin{bmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \end{bmatrix} = \begin{bmatrix} 0 & 0 & 0 \\ \beta_{21} & 0 & 0 \\ 0 & \beta_{32} & 0 \end{bmatrix} * \begin{bmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \end{bmatrix} + \begin{bmatrix} \gamma_{11} \\ \gamma_{12} \\ 0 \end{bmatrix} * \xi + \begin{bmatrix} m_1 \\ m_2 \\ m_3 \end{bmatrix}, \quad (7)$$

where $\eta_1, \eta_2, \text{and} \eta_3$ are service perception, public satisfaction, and public trust, respectively; β_{ij} is the degree of influence of endogenous structural variable j on endogenous structural variable i; γ_{ij} is the degree of influence of endogenous structural variable ξ on exogenous structural variable η_j; and m is the error vector of the model.

$$\begin{bmatrix} y_1 \\ y_2 \\ y_3 \\ y_4 \\ y_5 \\ y_6 \\ y_7 \\ y_8 \\ y_9 \end{bmatrix} = \begin{bmatrix} \varphi_{11} & 0 & 0 \\ \varphi_{21} & 0 & 0 \\ \varphi_{31} & 0 & 0 \\ 0 & \varphi_{42} & 0 \\ 0 & \varphi_{52} & 0 \\ 0 & \varphi_{62} & 0 \\ 0 & 0 & \varphi_{73} \\ 0 & 0 & \varphi_{83} \\ 0 & 0 & \varphi_{93} \end{bmatrix} * \begin{bmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \end{bmatrix} + \begin{bmatrix} n_1 \\ n_2 \\ n_3 \\ n_4 \\ n_5 \\ n_6 \\ n_7 \\ n_8 \\ n_9 \end{bmatrix}, \quad (8)$$

$$\begin{bmatrix} x_1 \\ x_2 \\ x_3 \end{bmatrix} = \begin{bmatrix} \omega_1 \\ \omega_2 \\ \omega_3 \end{bmatrix} * \xi + \begin{bmatrix} \rho_1 \\ \rho_2 \\ \rho_3 \end{bmatrix}, \quad (9)$$

where $x_1, x_2, \text{and} x_3$ are the observed variables of exogenous structural variable public expectations (ξ); $y_1, y_2, y_3 \cdots y_8, \text{and} y_9$ are the observed variables of service perception (η_1), public satisfaction (η_2), and public trust (η_3);φ_{ij} andω_i are the coefficients of the coefficient matrices Λ_1 *and*Λ_2 of the measurement models, respectively (the two coefficients reflect the degree of influence of each structural variable over its own observed variables); and n_i andρ_i are the error vectors of the two models, respectively.

This article will use the Amos Graphics tool in the statistical software SPSS to construct and analyze the structural model in order to derive the structural equations of the measurement model of public satisfaction of the digital display of ICH and to verify and optimize the path coefficients of the measurement equations in order to obtain the optimal fitting model. Common model validation fit indicators are P-value, confidence level, significance level, chi-square value, chi-square ratio, canonical fit index, etc. Among them, P-value is generally applied together with the significance level for true-false speculation of the hypothesized model. And it is generally considered that if $P < 0.10$, it can indicate that the model test variable is significant and the original hypothesis is not valid.

The specific index criteria are as follows [44].

3.3.1. Chi-Squared Test. To test the reasonableness of the model, or to verify the consistency of the theoretical model with the empirical data, some scientific indicators are needed. One of the most commonly used evaluation indicators is the chi-squared statistic. Its derived formula is as follows:

$$x^2 = (N-1)F_{\min}, \quad (10)$$

where x^2 represents the check value of the model fit and N is the number of samples, and $F_{\min}$ indicates the minimum value of the test equation derived by different parameter estimation methods (maximum likelihood estimation and generalized least squares method).

At the significance level, if $x^2 < x_\alpha^2$, it indicates that the original hypothesis is approved and the model fit meets the requirements. Otherwise, the original hypothesis is rejected and the alternative hypothesis is accepted. From the above, it can be seen that the chi-squared test statistic is smaller, and the data is the better. It can also be seen that when its value is 0, it indicates that the measured data fit the hypothesized model perfectly.

3.3.2. Goodness-of-Fit Index. GFI (goodness-of-fit index) is the division of the explanatory strength of the hypothetical model based on the theory of the overall variability of the measured data. The formula is as follows:

$$GFI = \frac{tr(\sigma w \sigma)}{tr(sws)}. \quad (11)$$

AGFI (adjusted goodness-of-fit index) will be combined with the number of parameters of the model itself for a comprehensive analysis. The greater the number of parameters, the greater the value of the AGFI, and the more favorable it is to obtain a model with a good fit. The formula is as follows:

$$AGFI = \frac{1 - GFI}{1 - \text{the number of estimated paramters/the number of observations}}. \quad (12)$$

Table 2: Key aspects of audience satisfaction with ICH display design.

Serial number	Name
1	Favorability and intelligibility of the subject
2	Representativeness of craftsmanship
3	Rationality of the visiting route
4	Creation of atmosphere (sound and light)
5	Instructions for texts and images
6	Communication between artisans and audience
7	Space design
8	Audience engagement
9	Construction of relevant cultural scenes
10	Purchase of souvenirs
11	Relevance to life
12	Combination of high technology such as Internet and virtual reality
13	Entertaining design
14	Rest facilities for audience
15	ICH video introduction
16	Quality of display service

When normalized values are taken, the value of AGFI is between 0 and 1. The difference between its value and 1 is inversely related to the degree of fit of the model. In general, when its value is not lower than 0.90, it indicates that the fitting model is acceptable.

PGFI (parsimony goodness-of-fit index) can reflect the number of parameters to be estimated in the fitting model from the side, and its formula is as follows:

$$PGFI = \left(1 - \frac{\text{the number of estimated paramters}}{\text{the number of observations}}\right) * GFI. \tag{13}$$

In general, according to (12), the PGFI is related to the number of estimated parameters and the number of observations, so it is not much less than, but there is a definite coefficient relationship between them.

NFI (normed fit indices) and NNFI (non-normed fit indices) can both be interpreted as the level of difference between the fitting model and the independent model [44].

$$\begin{aligned} NFI &= \frac{x_{\text{indep}}^2 - x_{\text{test}}^2}{x_{\text{indep}}^2}, \\ NNFI &= \frac{x_{\text{indep}}^2 - df_{\text{indep}} x_{\text{test}}^2 / df_{\text{test}}}{x_{\text{indep}}^2 - df_{\text{indep}}}, \end{aligned} \tag{14}$$

where x_{test}^2 and df_{test} denote the chi-square value and degrees of freedom of the fitting model, and x_{indep}^2 and df_{indep} denote the chi-square value and degrees of freedom of the independent model. Practice has proved that when the amount of data obtained is insufficient and there are many model parameters. The NFI can be misjudged in the evaluation of a well-fitted model, while the NNFI compensates for its deficiency to some extent. A value of not less than 0.90 for both marks an acceptable fitting model.

4. Empirical Analysis

4.1. Basic Data Analysis

4.1.1. Index Determination. The research team consulted 21 experts in relevant research directions. Among them, 11 are experts in planning cultural exhibitions, 5 are professors from cultural heritage research institutes of relevant universities, and 5 are ICH protection experts. These experts were invited to evaluate the correlation between indices. According to their opinions, the audience mainly focus on 16 aspects of ICH display design (Table 2).

4.1.2. Data Collection. From June 1, 2018 to July 1, 2022, four sessions of the "Splendid China" ICH costume show were hosted by Prince Kung's Palace Museum of the Ministry of Culture and Tourism. The subjects were extracted from all the audience interested in the show. A total of 400 questionnaires were distributed, and 395 were collected. Among them, 97% (390) responses were valid. The statistical results show that the respondents are largely aged between 18 and 60, including 51.2% males and 48.8% females. The audience are roughly made up of employees of enterprises and public institutions (44%), college students (25%), and the retired (31%). The random sampling of the subjects assures the representativeness and reliability of the questionnaire survey.

4.2. Model Calculation and Empirical Analysis

4.2.1. Model Calculation. Tables 3 and 4 show the parameter estimations based on the model structure in

Table 3: Statistical estimates of path coefficients.

	Nonstandardized path coefficients	S.E.	C.R.	P	Label	Standardized path coefficients
fwgz←gzqw	0.711	0.089	7.887	***	par_9	0.642
gzmy←fwgz	0.647	0.071	9.997	***	par_10	0.728
gzmy←gzqw	0.281	0.059	4.209	***	par_11	0.289
gzxr←gzmy	1.129	0.089	11.502	***	par_12	0.791
y1←fwgz	1.000					0.856
y2←fwgz	0.899	0.049	17.494	***	par_1	0.891
y3←fwgz	1.005	0.061	17.098	***	par_2	0.802
x3←gzqw	0.971	0.089	10.611	***	par_3	0.799
x2←gzqw	0.667	0.080	9.037	***	par_4	0.611
x1←gzqw	1.000					0.776
y4←gzmy	1.000					0.751
y5←gzmy	1.079	0.079	12.989	***	par_5	0.799
y6←gzmy	1.139	0.078	13.798	***	par_6	0.873
y7←gzxr	−0.108	0.040	−3.087	***	par_7	−0.198
y8←gzxr	1.000					0.947
y9←gzxr	0.941	0.061	17.571	***	par_8	0.895

Note: ***significance at the level of 0.01; S.E. and C.R. represent standard error and Cronbach's alpha, respectively.

Table 4: Variance estimates.

	Variance estimates	S.E.	C.R.	P	Label
gzqw	0.456	0.071	6.399	***	par_13
m1	0.368	0.051	6.876	***	par_14
m2	0.037	0.019	3.411	0.001	par_15
m3	0.341	0.052	6.897	***	par_16
n1	0.234	0.019	8.610	***	par_17
n2	0.130	0.021	7.576	***	par_18
n3	0.173	0.028	8.311	***	par_19
p3	0.268	0.042	7.209	***	par_20
p2	0.314	0.051	9.596	***	par_21
p1	0.327	0.049	7.410	***	par_22
n4	0.335	0.042	9.945	***	par_23
n5	0.264	0.037	9.311	***	par_24
n6	0.186	0.039	8.210	***	par_25
n7	0.246	0.019	11.219	***	par_26
n8	0.137	0.041	3.809	***	par_27
n9	0.240	0.038	6.298	***	par_28

Note: ***significance at the level of 0.01.

Figure 4, through the statistical analysis on Amos Graphics. In the two tables, x1, x2, x3, y1, y2, y3, . . ., y8, y9 represent the 12 observed variables; p1, p2, p3, n1, n2, n3, . . ., n8, n9 represent their error terms; m1, m2, and m3 are the disturbance terms of the three endogenous structural variables, namely service perception, public satisfaction, and public trust, respectively. A path coefficient can be considered significant, when its confidence is 96% and P value is smaller than 0.01.

As shown in Tables 3 and 4, every model parameter was significant at the level of 0.05, which is in line with reality. Table 5 displays the common fitness indices solved by the model.

The results in Table 5 reflect a good fitness of our model. However, the fitness indies have not reached the ideal values.

Next, the model was modified by the modification index (MI) obtained through Amos fitting. Tables 6 and 7 show the MI results for covariance and regression weight, respectively, which were fitted through the structural equation model. Note that the sign ⟷ indicates the measuring results on the relationship between the error term and disturbance term of the structural equation model, that is, how much the chi-squared of the model is improved by adding the bidirectional relationship between indicator variables. The sign ← indicates the measuring results on the relationship between observed variables in the structural equation model, that is, how much the chi-squared of the model is improved by adding the unidirectional relationship between indicator variables.

Before optimizing the model with the MI, it is important to consider the rationality and comprehensibility of each index. For each revision, the largest value should be selected from the obtained index values and analyzed first. The modification starts from the covariance part. It

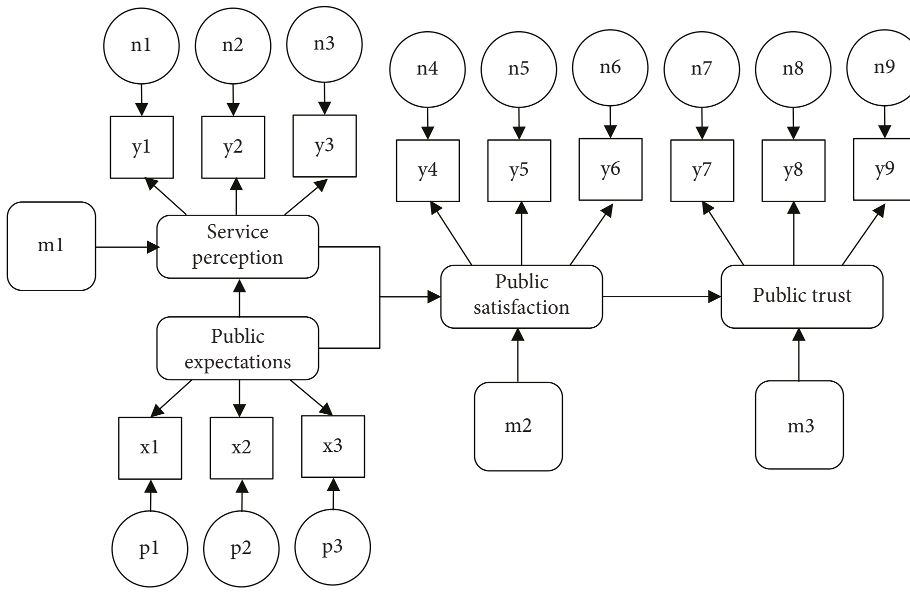

Figure 4: Structural equation model for public satisfaction with ICH digital display.

Table 5: Common fitness indices.

Fitting index	X^2 (chi-squared)/degree of freedom	X^2/df value	AGFI	RMR	RMSEA	IFI	CFI	AIC
Results	152.421/50	3.048	0.864	0.031	0.091	0.895	0.931	202.412

Note: X^2, df, AGFI, RMR, RMSEA, IFI, CFI, and AIC represent chi-squared, degree of freedom, adjusted goodness-of-fit index, root mean square residual, root mean square error of approximation, incremental fit index, comparative fit index, and Akaike's information criterion (AIC), respectively.

Table 6: MI values of covariance.

	M.I.	Par change
n9↔m1	4.198	0.036
n9↔m2	10.159	−0.043
n8↔m2	6.611	0.041
n7↔n8	5.129	0.034
n6↔m3	8.213	0.059
n5↔m3	4.412	−0.048
n5↔n9	17.798	−0.079
n4↔n5	4.712	0.051
p2↔n8	4.712	0.053
p2↔n6	5.312	−0.052
n3↔n9	9.513	0.063
n3↔n5	7.312	−0.039
n3↔n4	6.899	−0.038
n2↔n9	8.910	0.051
n2↔n5	9.812	−0.037
n1↔n9	4.212	−0.041
n1↔n5	35.421	0.122

can be seen from Table 6 that the path parameter between variables n1 and n5 led to the greatest decline of chi-squared (MI)—35.421. In other words, the chi-squared of the model declined the deepest, after the path related to the error between n1 and n5 was added. In addition, there must be a correlation between the perception of ICH new media communication and the overall satisfaction of ICH new media service. Therefore, the null hypothesis model could be optimized by adding the path between n1 and n5.

Table 7: MI values of regression weight.

	M.I.	Par change
y9←y5	6.511	−0.112
y9←y3	4.241	0.097
y8←y7	4.798	0.162
y6←x2	4.396	−0.087
y5←y9	7.298	−0.087
y5←y1	6.899	0.111
y4←x2	4.411	0.105
y3←y4	4.399	−0.087
y1←y5	13.019	0.147

After optimizing the null hypothesis model, the relevant parameters were recalculated, and the MI was selected in the same way. The largest chi-squared (MI) value (12.369) was found between n5 and n9. But no clear correlation was observed between the overall satisfaction of ICH new media service and the public recommendation of ICH digitization service. Moreover, the MI between other variables was small and fell short of fitting and optimization requirements. Thus, the model improved from the null hypothesis model is displayed in Figure 5.

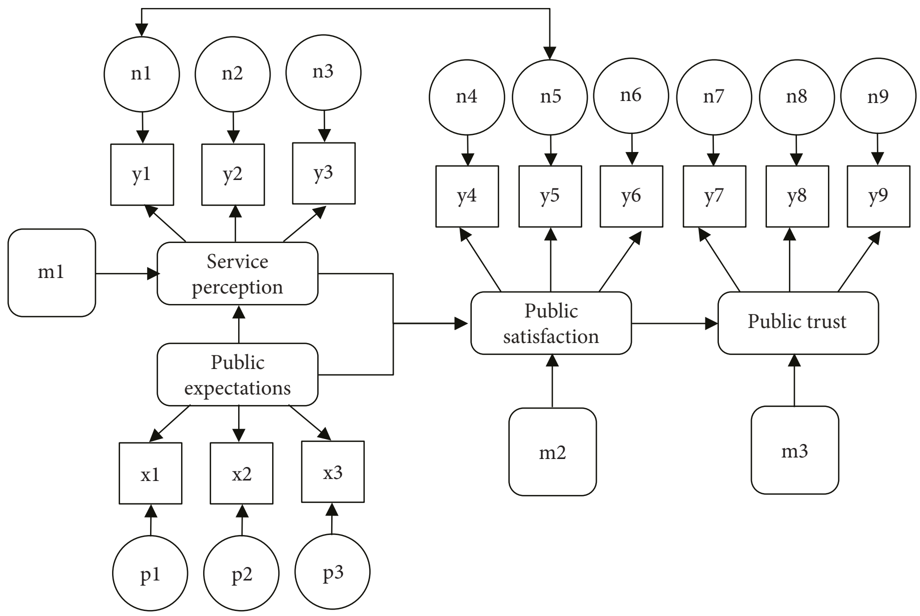

Figure 5: Optimized structural equation model for public satisfaction with ICH digital display.

Table 8: Common fitness indices.

Fitting index	X^2 (chi-squared)/degree of freedom	X^2/df value	AGFI	RMR	RMSEA	IFI	CFI	AIC
Results	108.126/49	2.207	0.916	0.018	0.072	0.971	0.971	167.421

Table 9: Final estimates of path coefficients.

	Nonstandardized path coefficients	S.E.	C.R.	P	Label	Standardized path coefficients
fwgz←gzqw	0.692	0.089	7.856	***	par_9	0.637
gzmy←fwgz	0.631	0.059	10.011	***	par_10	0.721
gzmy←gzqw	0.291	0.058	4.741	***	par_11	0.302
gzxr←gzmy	1.152	0.101	11.554	***	par_12	0.789
y1←fwgz	1.000					0.828
y2←fwgz	0.932	0.061	17.542	***	par_1	0.889
y3←fwgz	1.034	0.071	17.095	***	par_2	0.881
x3←gzqw	0.972	0.098	10.547	***	par_3	0.781
x2←gzqw	0.687	0.081	9.121	***	par_4	0.629
x1←gzqw	1.000					0.771
y4←gzmy	1.000					0.739
y5←gzmy	1.071	0.089	12.823	***	par_5	0.791
y6←gzmy	1.162	0.091	13.771	***	par_6	0.858
y7←gzxr	−0.119	0.042	−3.131	0.002	par_7	−0.211
y8←gzxr	1.000					0.931
y9←gzxr	0.941	0.061	17.590	***	par_8	0.882

Note: ***significance at the level of 0.01.

Table 8 shows the parameter estimations based on the model structure in Figure 5 through the statistical analysis on Amos Graphics.

Comparing Tables 5 and 8, it is clear that the fitness indices were optimized to different degrees, and the correlation paths all passed the significance test. The final optimal estimates of path coefficients and variances are shown in Tables 9 and 10, respectively.

Referring to formulas (8)–(10), the relationship between structural variables and observed variables can be described by the following three equations, where the coefficients are standardized coefficients:

Table 10: Final variance estimates.

	Estimate	S.E.	C.R.	P	Label
gzqw	0.451	0.070	6.447	***	par_14
m1	0.319	0.051	6.988	***	par_15
m2	0.056	0.017	3.982	***	par_16
m3	0.334	0.051	6.798	***	par_17
n1	0.241	0.029	8.977	***	par_18
n2	0.115	0.019	7.098	***	par_19
n3	0.181	0.023	7.969	***	par_20
p3	0.270	0.038	7.109	***	par_21
p2	0.324	0.034	9.622	***	par_22
p1	0.310	0.047	7.348	***	par_23
n4	0.331	0.034	9.792	***	par_24
n5	0.296	0.032	9.413	***	par_25
n6	0.189	0.031	7.781	***	par_26
n7	0.241	0.028	11.177	***	par_27
n8	0.149	0.041	3.932	***	par_28
n9	0.241	0.041	6.337	***	par_29

Note: ***significance at the level of 0.01.

$$
\begin{gathered}
\begin{bmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \end{bmatrix} = \begin{bmatrix} 0 & 0 & 0 \\ 0.721 & 0 & 0 \\ 0 & 0.789 & 0 \end{bmatrix} * \begin{bmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \end{bmatrix} + \begin{bmatrix} 0.637 \\ 0.302 \\ 0 \end{bmatrix} * \xi + \begin{bmatrix} m_1 \\ m_2 \\ m_3 \end{bmatrix}, \\
\begin{bmatrix} y_1 \\ y_2 \\ y_3 \\ y_4 \\ y_5 \\ y_6 \\ y_7 \\ y_8 \\ y_9 \end{bmatrix} = \begin{bmatrix} 0.828 & 0 & 0 \\ 0.889 & 0 & 0 \\ 0.881 & 0 & 0 \\ 0 & 0.739 & 0 \\ 0 & 0.791 & 0 \\ 0 & 0.858 & 0 \\ 0 & 0 & -0.211 \\ 0 & 0 & 0.931 \\ 0 & 0 & 0.882 \end{bmatrix} * \begin{bmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \end{bmatrix} + \begin{bmatrix} n_1 \\ n_2 \\ n_3 \\ n_4 \\ n_5 \\ n_6 \\ n_7 \\ n_8 \\ n_9 \end{bmatrix}, \\
\begin{bmatrix} x_1 \\ x_2 \\ x_3 \end{bmatrix} = \begin{bmatrix} 0.771 \\ 0.629 \\ 0.781 \end{bmatrix} * \xi + \begin{bmatrix} \rho_1 \\ \rho_2 \\ \rho_3 \end{bmatrix}.
\end{gathered}
\tag{15}
$$

4.2.2. Empirical Analysis. The main function of the structural equation model is to reveal the structural relationships between the structural variables. These relationships are reflected by path coefficients in the model. Combined with the empirical research of scholar Cheng [44], the optimal structural equation model for public satisfaction with ICH digital display was analyzed on Amos Graphics. Table 11 shows the estimated standardization effects between the structural variables.

The direct effect refers to the direct influence of the cause variable on the result variable in all paths of the structural equation model. Generally, the direct effect is measured by the standardized path coefficient from the cause variable to the result variable, as shown in the last column of Table 9. For example, the normalized path coefficient from public expectations (gzqw) to public satisfaction (gzmy) is 0.302, indicating that the direct effect of public expectations on public satisfaction through the path relationship is 0.302, that is, when other conditions remain unchanged in the structural equation model, the structural variable "public expectations" will increase by 1 standardized coefficient and the structural variable "public satisfaction" will correspondingly increase by 0.302 of a standardized coefficient.

The indirect effect means that in all paths of the structural equation model, the cause variable and the result variable are not directly connected, but are influenced by the mutual conduction of one or more intermediary variables between them. The value of the indirect effect is the product between the standardized path coefficients of connected paths. As shown in Table 9, the standardized path coefficient from public expectations (gzqw) to service perception (fwgz) was 0.637 and that from service perception (fwgz) to public satisfaction (gzmy) was 0.721. Then, the indirect effect from public expectations to public satisfaction was $0.637 * 0.721 = 0.459$. When the other conditions in the structural equation model remain unchanged, if the structural variable "public expectations" increases by 1 standardized coefficient, then the structural variable "public satisfaction" will indirectly increase by 0.459 of a standardized coefficient.

The total effect refers to the overall influence of the cause variable on the result variable in all paths of the structural equation model. It consists of direct effect and indirect effect. For example, the direct effect from public expectations (gzqw) to public satisfaction (gzmy) was 0.302 and the indirect effect was 0.451. Then, the total effect was $0.302 + 0.451 = 0.753$. When the other conditions in the structural equation model remain unchanged, if the structural variable "public expectations" increases by 1 standardized coefficient, then the structural variable "public satisfaction" will increase by 0.753 of a standardized coefficient.

Tables 11 and 12 show the structural relationship between each structural variable and each observed variable, indicating the total effect of each structural variable on the observed variable. It can be found that almost all structural variables have a positive effect or no effect on the observed variable. The only exception is the negative effect of the structural variable public trust (gzxr) on the observed variable public complaints (y7). Therefore, the increase of the structural coefficient by each standardized coefficient can enhance each observed variable. The factor weights are shown in Table 13.

Following the calculation principle, public satisfaction was solved by formulas (1) and (2) based on the data in Table 13.

For the structural variable public satisfaction (gzmy), the sum of factor weights was 0.856. Thus, the MI of the structural variable was $\psi = 1/0.856$.

By formula (1), we have

Table 11: Estimates of standardization effect.

	Public expectations	Service perception	Public satisfaction	Public trust
Service perception (total effect)	0.637	0.000	0.000	0.000
(Direct effect)	0.637	0.000	0.000	0.000
(Indirect effect)	0.000	0.000	0.000	0.000
Public satisfaction (total effect)	0.753	0.717	0.000	0.000
(Direct effect)	0.302	0.000	0.000	0.000
(Indirect effect)	0.451	0.000	0.000	0.000
Public trust (total effect)	0.589	0.565	0.790	0.000
(Direct effect)	0.000	0.000	0.790	0.000
(Indirect effect)	0.589	0.565	0.000	0.000

Table 12: Estimates of standardized total effect.

	Public expectations	Service perception	Public satisfaction	Public trust
y1	0.521	0.828	0.000	0.000
y2	0.560	0.889	0.000	0.000
y3	0.545	0.881	0.000	0.000
y4	0.556	0.533	0.739	0.000
y5	0.585	0.562	0.791	0.000
y6	0.648	0.622	0.869	0.000
y7	−0.121	−0.117	−0.163	−0.211
y8	0.545	0.523	0.732	0.931
y9	0.516	0.495	0.692	0.882
x1	0.771	0.000	0.000	0.000
x2	0.629	0.000	0.000	0.000
x3	0.781	0.000	0.000	0.000

Table 13: Final factor weights.

	x1	x2	x3	y1	y2	y3	y4	y5	y6	y7	y8	y9
Public expectations	0.25	0.16	0.28	−0.01	0.02	0.01	0.03	0.05	0.080	−0.00	0.02	0.01
Service perception	0.00	0.00	0.00	0.18	0.34	0.24	0.04	−0.01	0.1004	−0.00	0.02	0.01
Public satisfaction	0.04	0.02	0.04	0.00	0.13	0.09	0.10	0.12	0.226	−0.00	0.06	0.03
Public trust	0.01	0.00	0.01	0.00	0.03	0.02	0.02	0.03	0.057	−0.03	0.51	0.30

$$\begin{aligned}
\text{publicsatisfaction}\,(cs)_1 &= \frac{E(\xi)-\text{Min}(\xi)}{\text{Max}(\xi)-\text{Min}(\xi)} * 100 \\
&= \frac{1/12\left(\sum_{i=1}^{3} w_i\overline{x}_i + \sum_{j=1}^{9}\varphi_j\overline{y}_j\right) - 1/12\left(\sum_{i=1}^{3} w_i\text{Min}(x_i) + \sum_{j=1}^{9}\varphi_j\text{Min}(y_i)\right)}{1/12\left(\sum_{i=1}^{3} w_i\text{Man}(x_i) + \sum_{j=1}^{9}\varphi_j\text{Max}(y_i)\right) - 1/12\left(\sum_{i=1}^{3} w_i\text{Min}(x_i) + \sum_{j=1}^{9}\varphi_j\text{Min}(y_i)\right)} * 100, \quad (16)\\
\psi &= \frac{3.54-1.03}{4.47-1.03} * 100 * \psi = \frac{2.51}{3.44} * 100 * \psi = 85.24,
\end{aligned}$$

where $E(\xi), \text{Max}(\xi))$, and $\text{Min}(\xi)$ are the mean, maximum, and minimum of public satisfaction, respectively; $\overline{x}_i$, $\text{Max}(x_i)$, and $\text{Min}(x_i)$ are the mean, maximum, and minimum of x_i; $\overline{y}_j$, $\text{Max}(y_j)$, and $\text{Min}(y_j)$ are the mean, maximum, and minimum of y_j; w_i and φ_j are the weights of each factor; and ψ is the correction index, $i \in \Omega_3$, $j \in \Omega_9$.

By formula (2), we have

$$\text{publicsatisfaction}\,(cs)_2 = \left(\sum_{j=1}^{3} w_i\overline{x}_i + \sum_{j=1}^{9}\phi_j\overline{y}_j\right) * \psi = 3.54 * \psi = 4.14. \quad (17)$$

The above result can be expressed as a percentage:

Table 14: Digital forms of the ICH works visited by the public.

		Response		Case percentage
		N	Percentage	
Form of digital works	Image	477	25.9	77.3
	Audio	310	16.9	51.6
	Video	498	27.1	85.0
	Animation	266	14.5	41.6
	Interactive game	121	6.6	17.4
	Human-computer interaction	78	4.2	11.1
	Integrated display of sound and light	89	4.8	14.8
In total		1839	100.0	298.8

Table 15: Digital forms of the ICH works favored by the public.

		Mean
Ranking by the degree of preference	Character	1.64
	Image	2.37
	Audio	1.88
	Video	3.44
	Animation	2.21
	Interactive game	1.76
	Human-computer interaction	1.02
	Integrated display of sound and light	1.65

Note: the greater the value, the stronger the degree of preference.

$$\text{publicsatisfaction}\,(cs)_3 = \frac{\text{publicsatisfaction}\,(cs)_2 * 100}{5} = 82.8. \tag{18}$$

With reference to the relevant literature on satisfaction evaluation standards, combined with the characteristics of ICH digital display services, the evaluation standards for this evaluation model are set as follows:

When $\text{CS} < 60$, it indicates that the quality of the digital display service of ICH is not good, and the public feels very bad about the quality of the digital display service of ICH; when $60 \le \text{CS} < 70$, it indicates that the service quality of the digital display of ICH is average, and the public has a general perception of the quality of the digital display service of ICH; when $70 \le \text{CS} < 80$, it shows that the service quality of the digital display of ICH is good, and the public feels good about the service quality of the digital display of ICH; and when $\text{CS} \ge 80$, it shows that the quality of the digital display service of ICH is very good, and the public feels very good about the quality of the digital display service of ICH.

4.3. Countermeasures. The ICH digitization should be service-oriented and emphasize the digitization service quality of ICH works. According to the results of the valid responses, the digital forms of the ICH works visited by the public and favored by the public are ranked in Tables 14 and 15, respectively. In the structural equation model of public satisfaction with the digital display of ICH, the structural variable service perception (fwgz) has the highest direct impact on the structural variable public satisfaction (gzmy), reaching 0.715, which shows that improving the service quality of ICH digital display is also the top priority for improving public satisfaction with the digital display of ICH.

Table 16: Degree of preference for different ICH display forms.

Display form	Mean
Purely physical display	2.88
Purely digital display	1.76
Physical display + digital display	2.89
Field participation of inheritor + digital display	2.43

Note: the greater the value, the stronger the degree of preference.

As shown in Tables 14 and 15, the public mainly visited digital works in the form of video, image, and audio, but rarely visited those in the form of interactive game, human-computer interaction, and integrated display of sound and light. The top 3 most preferred forms are video, image, and animation.

The survey shows that 42.4% of the respondents have visited digital ICH exhibits. Hence, digital display means have not been widely utilized. The public has not comprehensively learned the display forms of ICHs. Table 16 shows the degree of preference of the public for different display forms of ICHs.

Through the empirical research on the Splendid China costume show, it can be seen that the different ICH display design elements act differently on audience satisfaction. This requires that ICH display designers not only have rich ICH knowledge, display theory, and practical skills but also need to study the psychology of ICH audience to understand how the audience's psychology will be affected by different ICH display strategies and feel and develop different design strategies for different types of elements. The following countermeasures were therefore designed:

(1) Application of conventional display media. Based on the research on the ICH project itself, we can understand the way its elements are displayed. In other words, these elements have begun to have the nature of exhibits and can be managed through digital display schemes. No matter what kind of media tool is used, the act of dissemination itself has no value, only when the work obtains useful information in the process of dissemination and affects people's behavior, it has meaning. Therefore, in the process of displaying the existing ICH projects, it is necessary to screen reasonable media and obtain key information from them before spreading.

(2) Emotional positioning in ICH projects. In terms of display form, it is necessary to combine physical display with digital display. Using the art elements of visual language (e.g., equipment modeling; matching lighting and color), the scene needs to be creatively processed according to a certain theme and rationality, creating a cultural atmosphere that matches the ICHs, arouses the interest of the audience, and provides a pleasant experience of the ICHs.

(3) The construction of interactive mode. The operation interaction mode is a multidimensional interactive experience design through multimedia technology, supplemented by computer program processing solutions. The core of ICHs lies in the activation of people's participation. Therefore, ICH designers should not only consider the contents and form of ICHs but also fully explore the interactive features of ICHs with the aid of online multimedia technology. The intricate technical contents of ICHs should be organized into a rich experience effect so that the audience become more satisfied with the experience of ICHs.

5. Conclusions and Suggestions

(1) The construction of a public satisfaction evaluation model for the digital display of ICHs is the key to satisfaction evaluation. Our public satisfaction evaluation model for the digital display of ICHs is in line with China's national conditions. With a strong practical value, the model creates favorable conditions for the research on public satisfaction for ICH digital display.

(2) There is ample room to improve public satisfaction with the digital display of ICHs. According to the ACSI-based public satisfaction evaluation model for ICH digital display, the ICH-related service provider should strengthen the construction of ICH digital service-related projects, understand the public's expectations of and emphasis on ICH digital-related projects, and improve the key links and weak points.

(3) The digital display design of ICH is the product of the era combining ICH protection and digital technology. As an information processing technology, digital technology is the foundation of computer technology, multimedia technology, intelligent technology, and information dissemination technology. It provides various technical support for the display of ICHs. No matter how the digital display design of ICH is carried out, the owner and inheritor of ICH should be the main body. From the perspective of the development trend of ICH digital display design, combined with the theory of audience satisfaction, the ultimate goal of ICH digital display design is to ignore digital technology, that is, to integrate digital technology into ICHs and become a part of its life.

(4) Promoting the dissemination of ICHs is an important measure to further enhance ICH protection. The main weakness lies in the brand image of ICH display. ICH curators should actively improve their own brand awareness; increase publicity through television, radio, Internet, and other channels; and expand the influence of ICHs by hosting large-scale events.

(5) Personalized service is an effective way to promote the digital development of ICHs. Only by understanding the preference of different groups of the public for different types of ICHs, and digitizing ICHs by the digital service methods favored by the public, can we achieve targeted development of ICHs and improve the efficiency and effectiveness of ICH display.

Data Availability

The data that support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The authors declare that they have no conflicts of interest regarding the publication of this article.

Acknowledgments

This study was supported by the Research Project of Prince Kung's Palace Museum of the Ministry of Culture and Tourism (GBLXFY-2021-Y-01); Special Subject of Practical Skills of China Arts and Crafts Society (CNACS-IV-002); Philosophy and Social Science Research Project of Hubei Province Colleges and Universities (21Q126); and Research Project on the Construction of Yangtze River National Cultural Park of Hubei Province (HCYK2022Y22).

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