ON THE DIFFERENCE OF THE FUNCTIONAL DEMAND ANALYSIS IN THE CONSTRUCTION OF CHINA'S NATIONAL CULTURAL DATABASE

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Abstract

In the 21st century, with the arrival of the cloud era, the continuous development of science and technology and the opening of the country,it has become the top priority of China to export culture, strengthen the soft power of national culture and build a cultural power. The premise of building a cultural power is to carry forward the excellent traditional culture of China of five thousand years. Today, China's cultural database construction is still guided by separate policies and exclusive to some only for use, resulting in repeated investment and construction, which is serious; In addition, the degree of data standardization is not high. Therefore, it is urgent to improve and build a national cultural database belonging to China. So the purpose of this study is to explore the needs of users for cultural database, so as to build a Chinese cultural database that meets the needs of users.Through literature analysis, this study investigated the current situation of the development of China's cultural database, then conducted a questionnaire survey to collect the functional needs of users for China's cultural database, and finally drew a conclusion and constructed a database of Chinese culture that meets the needs of users, and then better promoted the inheritance and protection

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Introduction

In recent years, with the advent of the information cloud era, the continuous improvement of China's comprehensive national strength, the continuous development of economic globalization,our demand for culture has been growing.At the 19th National Congress of the Communist Party of China in 2017,the General secretary of China, Xi Jinping pointed out that At the present stage, China should not only strengthen people to people and cultural exchanges with foreign countries, but also constantly promote the capacity-building of international cultural communication, Everyone should tell a good story of China's 5000 years, and show a real, three-dimensional and comprehensive China to the outside world. Only by improving the people's understanding of Chinese culture can we improve the soft power of Chinese national culture. In the new era of socialism with Chinese characteristics, China's excellent traditional culture needs to be integrated with modern science and technology to truly give Chinese culture new vitality in the digital era.(CAI Limin, 2018)

However, the database construction in Chinese Mainland started relatively late and the relevant theories are not mature. Wu Jiazhu (1998) pointed out that there are many problems in China's database industry at present, the most serious of which is the phenomenon of repeated database construction. In addition, the lack of investment from all parties leads to the lack of funds for database construction, which leads to the inadequacy of database functions. Zhang Limei (2013) and Zhao Xiaolu (2018) also pointed out in their research that at the emerging stage, China's databases still exist the phenomenon of self construction and self use, which has not reached resource sharing, and the functions of the databases are not perfect.

Therefore, according to the above research background, this study will focus on the construction of Chinese cultural database. Aimed at better carrying forward China's excellent culture.This study was based on the analysis of the service functions of cultural databases home and abroad, surveyed the needs of users for the service functions of Chinese cultural databases through questionnaires, and provided a reference for the construction of Chinese cultural databases that meet the needs of users after integrating the needs of users.

Research Objectives

The main purpose of this study is to study how to build a Chinese cultural database? Therefore, on the basis of the existing studies by scholars home and abroad, the researchers take the functions of the Chinese cultural database as the research context and the users as the research objects. The research objectives specifically include the following:

1. To have a acquaintance with the development of Chinese cultural database. Through literature analysis, this paper explores the current situation of the development of China's cultural database, and provides reference for the construction of China's national cultural database.

2. To find out the user's functional requirements for the Chinese cultural database. Through literature analysis, this paper explores the degree of users' demand for the functional construction of Chinese cultural database.

3. To have a conclusion about what are the functional requirements of the users for the construction of the Chinese cultural database, so as to put forward suggestions for modification and better build a Chinese cultural database that meets the needs of the users.

Journals Reviewed

1. China National Cultural Database

The so-called "Cultural Database" refers to a data processing mode that serves cultural related decisions and needs to be provided for the collection, storage, management and analysis of its cultural content. As the name implies, "National Cultural Database" is a data set of a country's historical culture, contemporary culture, art market, spatial culture with spatial dimension, socio-economic culture and new situation culture (Vishal Kumar, 2020). In addition, Qi Feng (2021) of Beijing University of Posts and Telecommunications, China, defined China's national cultural database as a digital collection of intangible culture and material culture inherited from China's national culture. The data obtained has the form of images, words, animation, sound, image, three-dimensional panorama and so on.

The national cultural database is the inheritance and creation of a country's cultural protection. Chen Yuxiang and Li Yi (2021) emphasized that the development of the cultural data industry is a dual mission of opportunities and challenges. The most representative ones home and abroad are the "American Memory" of the United States, the "Asia Pacific Intangible Cultural Heritage Database" of Japan, the digital collection plan of Taiwan, China, etc. However, Chinese Mainland has started relatively late in the field of cultural databases. At present, cultural databases are built and used by various provinces and cities. Take Beijing Memory for example. The materials shot and created in the form of video and audio are far from enough, And the lack of unified standards has limited the sharing of Digital Libraries (Zhao Xinli et al., 2009).

2. Service Function of Chinese and Foreign Cultural Database Construction

Jiang Hong and Wang Wei (2014) pointed out that the service function of the database can be discussed and analyzed from three aspects: basic service function, personalized service function and characteristic service function. The basic service functions include: data service resources, data retrieval methods, data output methods, data acquisition methods, data retrieval help, and data result analysis; Personalized service functions include: data storage service function, data customization service function, data interaction service function and data sharing service function; The next characteristic service function specifically refers to the unique function of the database, such as CNKI's own service function, academic search service function, and so on; Web of science can realize the interconnection with Google academic search and so on. From the service function analysis of "American Memory" in the United States, Japan's "Asia Pacific Intangible Cultural Heritage Database" and "Taiwan, China Digital collection project database", the most representative cultural Databases in the world, the basic retrieval and browsing functions of "American Memory Project and Taiwan, China Digital Collection Project" are relatively complete. Secondly, other functions are as user experience centered as possible, For the three

databases, there is a user consultation function to help users solve frequently asked questions; It also provides a series of service-oriented functions such as the sharing function in the user station to achieve resource sharing.

Research Method

According to the classification of research emphasis, investigation methods can be divided into research investigation and application investigation. Among them, research investigation refers to social investigation that focuses on exploring and discovering the nature and laws of a certain kind of social phenomenon. It is an exploration of the universal laws in certain existing phenomena (Tan Zuxue and Zhou Yanyan, 2013, pages 9-13).

1. Research Object

The researchers mainly investigated users such as government agencies, public libraries, scientific research institutes, educational institutions, cultural enterprises, universities and academic enthusiasts among China's 989 million Internet users. According to the research of krejcie, R. v., & Morgan, D. W. (1970), if the total sample is n = 989 million, if the confidence level is 95%, then z = 1.96 and the allowable error is within 5%, the size of the initial sample size is determined:

$$n = \frac{z^2 p(1-p)}{e^2} = \frac{(1.96)^2 (0.5)(0.5)}{(0.05)^2} = 384$$

Sample size

Therefore, considering the problem of effective questionnaires, at least 400 questionnaires will be distributed.

2. Investigation method

The researchers collected data by voluntary sampling for the users designed above. The questionnaire design of this study is divided into two parts. The first part is the collection of basic information, and the second part is the views on the functional construction of the Chinese cultural database. See the appendix for the questionnaire.

Research results

1. Descriptive Statistical Analysis of User's Information

According to the frequency analysis of descriptive statistical analysis, for the sample of item "7.1 gender", 61.12% of the subjects are "male" and 38.88% are "female". For the item "7.2 age", more than 30% of the subjects are between "21-30 years old". For the item "7.3 education level", 33.74% of the sample chose "college or university". From the distribution of the item "7.4 identity (single choice)", most of the subjects were "College Teachers", accounting for 19.32%.

2. Service function of China's National Cultural Database Construction

The fourth part of the questionnaire is the service function perception survey of the construction of China's national cultural database. Through descriptive statistical analysis with SPSS, it can be seen that there is no abnormal value in the current data, so the average value analysis is carried out. From the distribution of the average value of the service function of the construction of the National Cultural Database by the subjects from large to small, it can be concluded that in the service

function of the construction of the national cultural database, Most of the subjects think that basic service functions are very important, such as "search methods should be diverse"; Next, it is very important to build such a characteristic service function as "Chinese culture learning column".

3. Differences in Service Functions for Construction of Chinese Cultural Database Among Users

3.1 Differences in the service functions for the Construction of Chinese Cultural Database among users of different genders

In this study, the independent sample t test was used to test whether users of different genders (male and female) have significant differences in the total scores of the service function identity of the construction of the Chinese cultural database. The results are shown in Table 2 below. The service functions of the construction of the Chinese national cultural database of different genders (male and female) show significant differences (P < 0.05). The details are as follows:The assumptions of the service function identity of the subjects of different genders (male and female) in the construction of China's national cultural database are as follows:

Ho: the average value of the total index of the service function identity of male subjects in the construction of China's National Cultural Database = the average value of the total index of the service function identity of female subjects in the construction of China's national cultural database.

H1: the average value of the total index of service function identity of male subjects in the construction of China's national cultural database ≠ the average value of the total index of service function identity of female subjects in the construction of China's national cultural database.According to the assumption in Table 2 below, the result of the equal variance test is f = 25.914, P = 0.000< α = 0.05, thus rejecting the ho hypothesis and accepting the H1 hypothesis, showing statistical significance (P = 0.001< α = 0.05), it can be considered that there are significant differences in the average value of the total index of the service function identity of the Chinese National Cultural Database Construction between the subjects of different genders (male and female). The results based on the group statistics show that the average value of the total index of the male in the service function identity of the Chinese National Cultural Database Construction (M = 3.94), It will be significantly higher than the average value of the total index of women's recognition of service functions in the construction of China's National Cultural Database (M = 3.63).

Table 1 Independent Sample t-test of Service Functions for Users of Different Genders in the Construction of Chinese Cultural Database

Independent Sample Test										
Group Statistics						Levine varianceEquivalence test		Mean value equivalence t-test		
standarddeviation	average value （M）	Number of cases	Gender			F	Significance	t	freedom	Sig. (Double tailed)
.784	3.94	250	male	Service functions	Assumed equal variance	25.914	.000*	3.573	407	.000*
.938	3.63	159	female		Equal variance is not assumed			3.434	292.771	.001
* p<0.05										

3.2 Differences of Service Functions of Different Age Subjects in the Construction of Chinese Cultural Database

This study uses one-way ANOVA to test whether there are significant differences in the average total scores of the service function identity of the construction of the Chinese cultural database among different ages (20 years old and below, 21-30 years old, 31-40 years old, 41-50 years old, 51-60 years old, and 61 years old and above). The results are as follows:Whether there are significant differences in the recognition of the database service function of the Chinese Cultural Database Construction among the subjects of different ages (20 years old and below, 21-30 years old, 31-40 years old, 41-50 years old, 51-60 years old, and 61 years old and above), as shown in Table 3, P = 0.001< α = 0.05, reaching the level of significance. It can be considered that at least one pair of subjects of different ages (20 years old and below, 21-30 years old, 31-40 years old, 41-50 years old, 51-60 years old, and 61 years old and above) have significant differences in the recognition of the database service function of the construction of Chinese cultural database

Table 2 ANOVA of database service function of subjects of different ages

ANOVA Results						
Analysis item	term	sample size	average value	standard deviation	F	p
Service functions	20 and under 20	84	3.88	0.78	4.490	0.001*
	21-30	154	4.01	0.73		
	31-40	68	3.71	0.99		
	41-50	56	3.57	0.81		
	51-60	33	3.61	1.06		
	60 and above	14	3.29	1.07		
	total	409	3.82	0.86		
* p<0.05						

Subsequently, the researchers conducted post hoc tests to specifically compare the differences between the two groups. In this study, Scheffe's method was

used to conduct post hoc multiple comparisons on the collected samples. It can be seen that the subjects of different ages have a pair of P< α = 0.05, so there is a significant difference between these 1 pairs.

Then, from the broken line chart of the views of the subjects of different age groups on the recognition of the database service function given by the mean chart, as shown in Figure 1, the average value of the total index of the subjects of 21-30 years old in the recognition of the database service function (M = 4.013) is significantly higher than the average value of the total index of the subjects of other age groups in the recognition of the database service function. The mean difference is as follows:There is a significant difference in the functional identity of the Chinese cultural database service between the "21-30" age group and the "41-50" age group, that is, 21-30 years old (M = 4.013) > 41-50 years old (M = 3.571).
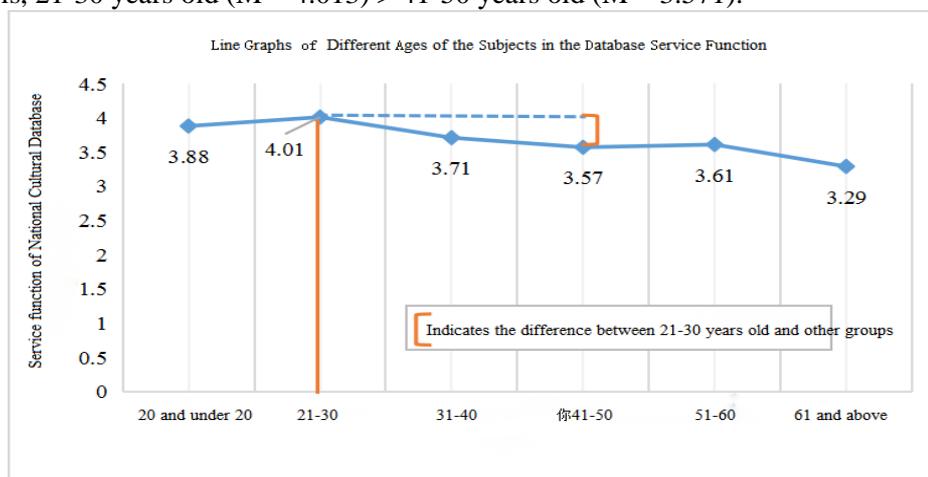

Figure 1: Line Chart of the Average of the Service Functions of the Database for Different Ages

3.3 Differences in the construction of Chinese cultural database among subjects with different educational levels

This study uses one-way ANOVA to test whether there is a significant difference in the average total score of the service function identity of the construction of the Chinese Cultural Database between different educational levels (junior high school and below, technical secondary school or high school, college or undergraduate, graduate and above). The results are as follows:

4. Whether there are significant differences in the recognition of the database service function of the Chinese Cultural Database Construction among the subjects with different educational levels (junior high school and below, technical secondary school or high school, college or university, graduate student and above), as shown in Table 4, P = 0.018< α = 0.05, reaching the level of significance, thus it can be considered that there is at least one pair of significant differences in the recognition of the database service function of the Chinese Cultural Database Construction among the subjects with different educational levels (junior high school and below, technical secondary school or high school, college or undergraduate, postgraduate and above).

Table 4 ANOVA of Database Service Functions of Subjects with Different Educational Levels

ANOVA Results						
Analysis item	item	sample size	average value	standard deviation	F	p
service function	junior middle school and under	86	3.72	0.86	3.385	0.018*
	technical secondary school or high school	120	3.69	0.84		
	junior college and undergraduate	138	4.00	0.86		
	master and above	65	3.78	0.84		
	total	409	3.82	0.86		
* p<0.05						

Subsequently, the researchers conducted post hoc tests to specifically compare the differences between the two groups. In this study, Scheffe's method was used to conduct post hoc multiple comparisons on the collected samples. It can be seen that the subjects with different educational levels have a pair of $P < \alpha = 0.05$, so there is a significant difference between these 1 pairs.

Then, from the broken line chart of the views of the subjects with different educational levels on the identity of the database service function given by the mean chart, as shown in Figure 2, the average value of the total index of the subjects with college or university in the identity of the database service function (M = 4.000) is significantly higher than the average value of the total index of the subjects with other educational levels in the identity of the database service function. The mean difference is as follows:

There is a significant difference between the subjects with "college or university" education and those with "technical secondary school or high school" education in the recognition of Chinese cultural database service function, that is, college or University (M = 4.000) > technical secondary school or high school (M = 3.692).
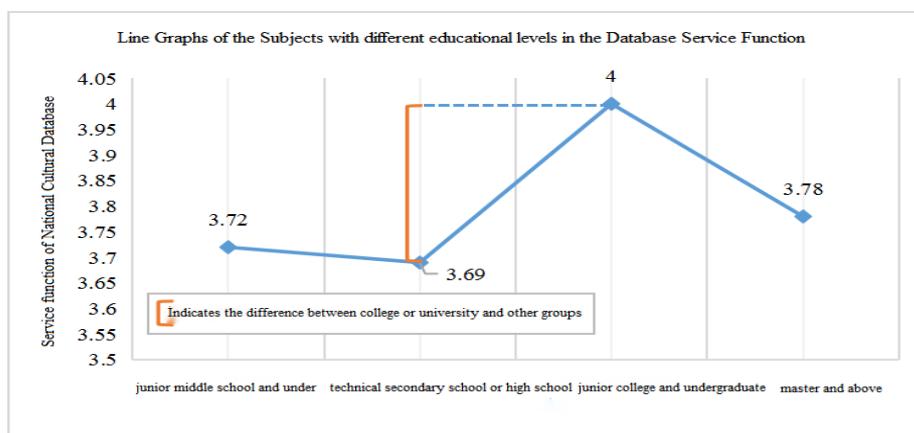
Figure 2: Broken Line Chart of the Average of the Service Functions of the Database for Different Educational Levels

5. Differences of Subjects with Different Identities in the Construction of Chinese Cultural Database

This study uses one-way ANOVA to test whether there are significant differences in the average total score of the service function identity of Chinese Cultural Database Construction among different identities (college students, college teachers, government personnel, public library personnel, scientific research institutions, education and training institutions, enterprise personnel, academic enthusiasts, and others). The results are as follows:

Whether the subjects with different identities (university students, university teachers, government personnel, public library personnel, personnel of scientific research institutions, personnel of education and training institutions, enterprise personnel, academic enthusiasts, and others) have significant differences in the recognition of the database service function in the construction of the Chinese cultural database, as shown in table 5, P = 0.278 > α = 0.05, not reaching the significance level, so it can be considered that there is no significant difference in the database service function of the Chinese Cultural Database Construction identity of the subjects with different identities (college students, college teachers, government personnel, public library personnel, scientific research institutions, education and training institutions, enterprise personnel, academic enthusiasts, and others).

Table 5 variance analysis of database service functions of subjects with different identities

Results of ANOVA						
Analysis item	item	sample size	average value	standard deviation	F□	p□
Service function	College Students	59	3.88	0.93	1.233	0.278
	College Teachers	79	3.81	0.89		
	Government personnel	32	3.97	0.90		
	Public library staff	33	3.64	0.93		
	Personnel of scientific research institutes	24	3.71	0.91		
	Personnel of education and training institutions	35	3.97	0.75		
	Enterprise personnel	77	3.91	0.80		
	Academic enthusiast	67	3.67	0.81		
	other	3	3.00	0.00		
	total	409	3.82	0.86		
* p<0.05						

To sum up, the following three assumptions are true

H1: users of different genders have significant differences in the service function identity of cultural database construction.

H2: users of different ages have significant differences in the service function recognition of cultural database construction.

H3: users with different educational levels have significant differences in the service function recognition of cultural database construction.

Summary and Discussion

According to the data analysis, at present, more than 30% of the users agree with the setting of the basic service function, personalized service function and characteristic service function of the service function of China's national cultural database construction, as shown in Figure 3.
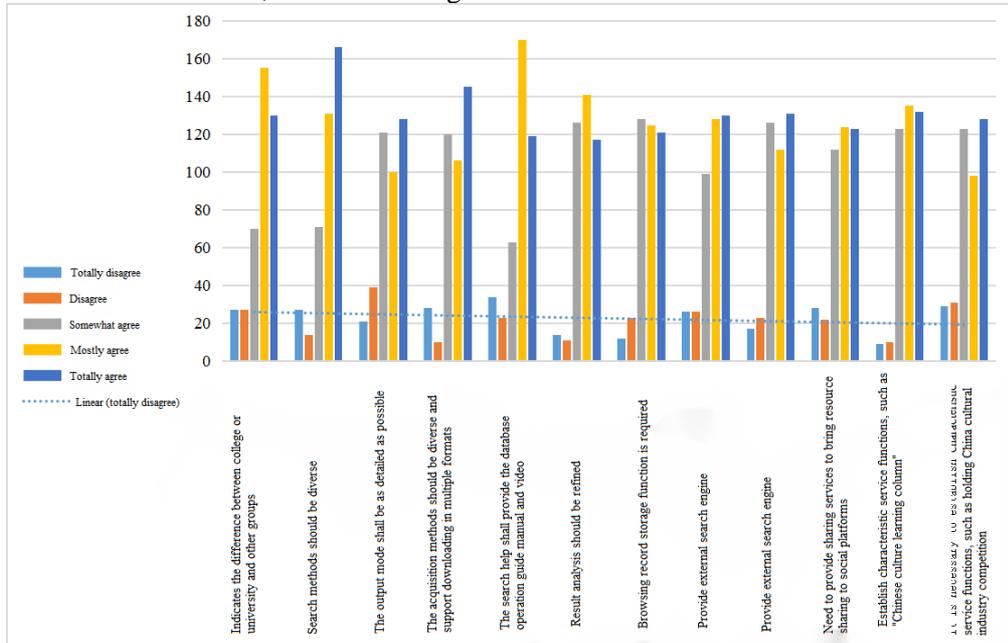

Figure 3 Service Functions of China's National Cultural Database Construction

The reasons that affect users' views on the service functions of the construction of the national cultural database can mainly be found from the basic information of users. According to the above data, male users will have a significantly higher view on the service functions of the construction of the National Cultural Database of China than female users, and users aged 21-30 years will have a significantly higher view on the service functions of the construction of the database than users of other ages. Finally, from the perspective of education level, users with college or bachelor's degrees will have a significantly higher view of the service function of China's national cultural database construction than users with technical secondary school or high school degrees.

Not only that, according to the analysis of the questionnaire results, the author believes that to truly turn national cultural data into new means of production and capital, it is necessary to carry out meaningful exchange and integration of national cultural data resources, so that the whole national cultural data can flow and become a truly tradable product. The following points must be done to meet the differences of different users:

First of all, we should achieve the unity of the openness of national cultural resources and cultural security. We should not only promote the open sharing of cultural resource data, but also accelerate the standardization and networking of

cultural resource data. Establish unified cultural data standards for structured storage. In addition, we should also pay attention to the security of cultural resource data.

Then, we should enhance the personalized experience of culture. Strengthen the integrated application of digitalization, networking, artificial intelligence and other technologies to the national cultural database, promote the socialization and decentralization of the content production and dissemination of national culture, and let more people participate in the production and dissemination of personalized content.

The last but no least, we should enhance the personalized experience of culture. Strengthen the integrated application of digitalization, networking, artificial intelligence and other technologies to the national cultural database, promote the socialization and decentralization of the content production and dissemination of national culture, and let more people participate in the production and dissemination of personalized content.

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