

Construction Strategy of Informatization of Rural Ethnic Cultural Archives Based on Big Data

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Abstract. Rural ethnic cultural archives have great potential in serving rural revitalization. Big data technology improves the application ability of big data by improving “processing ability”, and constructs a “big data + archives management” mechanism, which can give more convenient play to the value of archives. Starting from the problems existing in the construction of archives informatization talents and archives digitization technology system, this paper puts forward the information construction strategies of rural ethnic culture archives, such as accelerating the transformation and upgrading of rural ethnic cultural archives management, innovating the effective path of the development and utilization of rural ethnic cultural archives resources and so on.

Keywords. Informatization, rural ethnic cultural archives, big data

1. Introduction

Rural ethnic archives are very important national cultural resources and an integral part of building the common spiritual home of the Chinese nation. Most ethnic minority areas in the country are located in remote areas with special geographical environment. In the long-term historical development process, they have formed distinctive national culture and accumulated precious archives of national cultural heritage. As the historical evidence, the archives of ethnic minority areas provide a large number of historical materials for the inheritance of Chinese civilization, which is conducive to carrying forward and developing the excellent traditional culture of all ethnic groups in China [1]. Big data is a collection of data, including a series of professional technologies for data value obtain, such as collection, storage, management, analysis and security. Big data technology is to enhance the application ability of big data by improving “processing ability” [2]. The characteristics of big data technology, such as large capacity, fast response speed and many categories, have been widely used in all walks of life. Under the background of rural vitalization and big data, relying on information technology to mine and use rural ethnic cultural archives has become a trend [3]. Archivists should think about how to apply information and electronic technology and computer network system in the management and utilization of rural

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ethnic cultural archives to realize the information construction of archives resources, and build a “big data + rural archives management” mode on the basis of saving human and material resources, so as to give better play to the value of rural ethnic cultural archives [4].

2. Purpose of informatization construction of rural ethnic cultural archives

With the development of information science and technology, the object of archives management presents the trend of large-scale and complexity. By combining big data technology with archives management, we can give full play to the advantages of high efficiency and convenience of big data technology, as well as the functions of fast processing and large storage. Archives managers can complete efficient and high-quality management only by daily operation and maintenance of computer system. Integrating big data technology into archives management greatly reduces the labor and time cost of management. Comprehensively promoting rural vitalization is the only way to implement the grand goal of China's socialist modernization and the inevitable requirement of the development of the new era. The traditional archives management mode and thinking can not meet the needs of contemporary development, which limits the improvement of the efficiency and quality of archives management. With the rapid development and revitalization of various rural undertakings, the level of rural economic and social development has also moved to a new level, and the rural archives have also increased significantly, which requires the rural cultural archives management to keep pace with the times and comply with the development of the times [5]. Archives management and research work should keep up with the pace of rural economic and social development, integrate big data technology and fully implement modern and intelligent management, so as to provide convenient, fast, accurate, timely and effective archives utilization services for rural revitalization, create greater social value and integrate into the era wave of rural vitalization [6].

3. Problems in the informatization construction of rural ethnic cultural archives

3.1. Problems in the construction of archives digitization technology system

At present, the digital collection of rural ethnic cultural archives is completed by typing and inputting with computer system and digital scanning with electronic scanner. Typing is not only slow, but also time-consuming and labor-consuming. Scanning by electronic scanner is easily affected by resolution and device memory. The digital technology of rural ethnic cultural archives focuses on the development of text input system, and ignores the research and development of multimedia information technology such as image and sound. The digitization of rural ethnic cultural archives presents the characteristics of “surface”, which still stays in the input of catalogue, digital scanning of archives and so on. This way is not conducive to the retrieval and reading of archival researchers, nor to the development and utilization of the cultural value of rural archives [7]. Only relying on text input system and scanning technology can not fully show the rich connotation and precious value of rural ethnic cultural archives. In order to make archives work better serve the revitalization and

development of rural areas, the country needs rich, efficient and convenient digital technology as support, so as to realize the digitization of rural ethnic cultural archives [8]. The digitization of rural ethnic cultural archives includes the correct selection of parameters such as scanning technology, graphic editing, image format and storage, as well as the adoption of information technology, including scanning processing, decontamination treatment, quality inspection, and the association of digitized images, documents and literature indexing information [9]. The digitalization of archives is not yet mature, and the theoretical research on the digitalization of archives is still in its infancy. At present, the research focus is not obvious, and stays in the conceptual exploration and research stage, mainly focusing on the digital construction of some special archives and the establishment of digital archives, and there is a lack of theoretical research with guiding significance for practical work.

3.2. Problems in the construction of archives informatization talents

The informatization consciousness and ability of rural national culture archives staff can not meet the needs of archives digital development. Most of the human resources for the digital construction of rural ethnic cultural archives come from the archives administration department. They have received professional training in the digital construction of archives. However, due to the lack of standardized and systematic skill training and professional education, they lack professional knowledge in computer, big data technology and other aspects [6]. At present, some of the personnel engaged in the digitization of rural cultural archives are technical talents who have received professional education in information technology and master professional knowledge of archives at the same time; There are also college graduates majoring in archives, and archives professionals who master big data technology by themselves. The limitation of the current talent structure is that talents with professional knowledge and skills of rural cultural archives can not master the knowledge of information technology and carry out the in-depth digital construction of rural cultural archives. Talents with information technology professional background do not master the professional knowledge of archives, so it is difficult to really understand archives work and integrate with their own information technology. There is a lack of personnel with information technology professional background in rural cultural archives management. Under the background of big data, archives personnel should not only have the ability and knowledge of archives information collection, sorting, transmission and identification, but also master big data processing, multimedia, network communication technology and other technologies. In the digital construction planning, function design, system analysis and technical realization of rural ethnic cultural archives, there are few talents with dual abilities of information technology and archives who play a leading and communication role. Especially in the archives institutions in ethnic areas, even if ethnic cultural archives are collected here, due to its remote location and underdeveloped economy, there is a greater lack of high-quality information technology and archives professionals. Due to the limitations of geographical and economic conditions in rural areas, archives institutions have no talent competitiveness, so it is difficult to introduce and retain high-level talents, and even the original talents flow to large cities with high treatment, flexible management and large development space. Only by formulating attractive talent incentive mechanism and management policies can we solve the problem of lack of national archives management talents [10].

4. Accelerate the transformation and upgrading of rural ethnic cultural archives management in combination with Rural Revitalization

Popularizing the awareness of rural archives is the ideological basis and premise for comprehensively improving the level of rural ethnic cultural archives management. Therefore, we should not only take effective forms and means to widely publicize the archives work, such as actively publicizing and implementing the archives law, but also seize various opportunities, especially in combination with rural reality, strengthen the specialization, standardization, digitization, networking and Comprehensively popularize the knowledge of informatization and other construction, implement the goal of archives management in the new era, and build the rural culture with archives resources as the carrier into the concept of archives work that is interlinked and integrated with the rural development in the new era [11]. First, actively promote the investigation and general survey of rural archival resources, establish a more scientific collection and management system of rural archival cultural resources in combination with the actual construction of various industries such as rural vitalization and rural environmental improvement, and fully integrate rural culture. As shown in Figure 1, especially all kinds of archival cultural information resources related to rural vitalization (including material, non-material and characteristic archives) into the scope of scientific management, so that the archival cultural resources generated and accumulated in the process of rural development can be scientifically and effectively managed and protected [12]. Second, in the construction of rural archives resources, we should pay attention to optimizing the content structure of rural national culture archives resources, and take corresponding scientific methods to manage and utilize archives of different categories, forms and carriers. From the perspective of serving rural revitalization, the competent department of rural archives should give full play to the advantages of administrative means and professional foundation, coordinate and jointly tackle key problems, implement the main body of responsibility for the management of rural ethnic cultural archives, and create a social atmosphere for the standardized construction of rural archives. Third, talent modernization is the premise of the modernization of rural ethnic cultural archives, and the talent team is the main body of rural archives to serve rural revitalization. It is necessary to strengthen the selection, employment and training of archives information management talents represented by big data technology, build a rural archives work team proficient in archives specialty, mastering modern information technology and making progress in harmony with rural revitalization, and provide talent guarantee and intellectual support for the “living” of rural ethnic cultural archives [13]. Fourth, with the help of the national strategy of rural revitalization, we should speed up the investment of modern archives management equipment and facilities, introduce modern archives management technology, promote the renewal and application of modern archives management equipment and technology, promote the transformation of rural archives management to modernization and informatization, promote the digitization, networking and informatization of rural archives as a whole, and enrich rural ethnic cultural archives resources, Make rural ethnic cultural archives “fire up” and contribute to rural vitalization and rural social development [14].

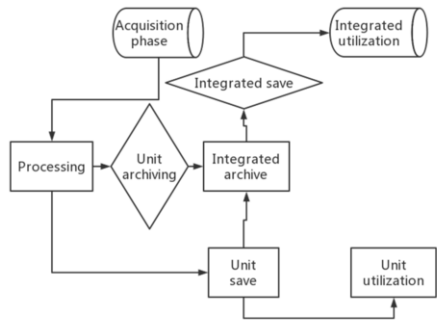


Figure 1 Process model of integrated management of rural ethnic cultural archives resources

5. Conclusions

The development of archival information resources is to sort out the disordered archival information according to the law of information development and scientific methods, so as to make it orderly and systematic. Through the excavation of the external characteristics and cultural connotation of archives, a variety of retrieval methods are provided for the full development and utilization of archives information resources. The way of information organization has developed from manual classification, indexing and sorting to the development of network information resources (text, hypertext and multimedia information). We can choose the organization mode according to the characteristics of organization information. Full text retrieval is not only a processing method of text information, but also the simplest organization method. It only needs to input the full-text file information into the system as the basis of retrieval, and the application range of database mode is very wide. The database standardizes a large number of documents and archives data and saves them in the database in a fixed format for quick search. Hypertext organization is actually an extension of database organization and an innovation of database organization. The main reason is that its storage mode is not linear, but network storage according to internal relations. Because it conforms to people's thinking habits, it is also used more. There are also many, such as the organization of theme trees and search engines. Because the diversity of carriers of rural ethnic cultural archives resources (shell leaves, metals, stones, silk, etc.) and the diversity of information forms (audio, video, images, etc.), so these form the multimedia organization mode of rural ethnic cultural archives resources.

The object-oriented data model objectively describes the problems between file entities. Each object corresponds to a file entity, and each object has a specific identifier and value. This object is not limited to data, but can also be text, chart, picture, audio, video, etc. In object-oriented organization, objects and their constraints are regarded as a class. Under a large category, it can be divided into many subclasses. The constraint of a subclass can be to integrate the original class or reset its operation mode. Generally, relational database considers the overall structure, how to extract the information of keywords, topics, titles and other fields, how to store them in the database, how to establish an index to provide retrieval, and object-oriented database considers the establishment of data model. The establishment of object-oriented data

model is only the production of the collection, compilation, research and retrieval of ethnic archives information. In the face of a large number of rural ethnic cultural archives resources, we should also use the way of data mining to organize the archives information under the condition of simple digital operation, so as to make the archives compilation and research materials more rich, detailed and closely linked.

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References

- [1] Mi juanting, Wan Zhongna. On the role of minority archives in the development of Minority Areas -- Taking Gansu Province as an example [J]. Archives, 2017 (5): 52-55.
- [2] Li Jue. Improvement strategy of archives management business of petroleum enterprises under the background of big data [J]. Office business, 2022 (1): 118-119.
- [3] Dong Fei. Path analysis of innovative enterprise archives management under the background of big data era [J]. Urban construction archives, 2021 (12): 101-102.
- [4] Li Xiaomei. Measures for informatization construction of career archives under the background of Internet [J]. Heilongjiang archives, 2021 (6): 260-261.
- [5] Zhang Tenghua. Thoughts on establishing archives resource management system suitable for rural development [J]. Heilongjiang archives, 2022 (1): 108-110.
- [6] Zhang Tenghua. Comprehensively improve the level of rural archives management in rural vitalization -- an analysis of the path of rural archives management in the new era [J]. Heilongjiang archives, 2021 (6): 244-245.
- [7] Zhang Donghua, Gao Rui. On the path of constructing the cultural field of public archives under the background of digital village strategy [J]. Archives and construction, 2020 (10): 36-40,44.
- [8] Zhou Linxing, Cui Yunping. Development of rural archives memory resources for Digital Humanities: value, mechanism and path choice [J]. Beijing archives, 2021 (10): 10-14.
- [9] Zhao Demi. Research on the digital construction of historical archives of ethnic minorities in Yunnan [D]. Yunnan University, 2011,50-64.
- [10] LV Faxiang. Focus on grass-roots governance, Serve rural vitalization and promote the overall improvement of rural archives work [J]. Archives of China, 2021 (2): 32-33.
- [11] Wang Ping, Li Yuling. Dilemma and breakthrough of socialized utilization of traditional village archives [J]. Archives and construction, 2021 (3): 31-36.
- [12] Tang Jingxia. Serving rural grass-roots social governance and Promoting rural vitalization in an all-round way -- Thoughts on agricultural and rural archives work in Yiyuan County [J]. Shandong archives, 2020 (6): 74-75.
- [13] LV Jing. Discussion on rural archives work in the new era [J]. Heilongjiang archives, 2020: 47.
- [14] Wang Jian, Yu Qilin. Grasp the guidance and sing the "main melody" of service -- Zhangjiagang City creates a new model of file service and rural vitalization[J]. Archives and construction, 2021 (3): 52-54.