Building a Specialized Database of the Culture of Yi People

Quanhua Li

Abstract:

To build a specialized database with local characteristics is one of the future directions for the academic library at prefectural level in China. The academic library can play an important role in preserving the local cultures. It is also an important channel to establish the relationship between the academic library and the local communities. In selecting a project properly, it is important to understand its background, choose the right theme, determine the appropriate content, analyze the key relevant issues and potential problems, set clear goals, and find the right way to get the job done. It is also important to establish a partnership with enterprises. It is important to build a database by the industrial standard, have persistent efforts, enrich, update the database continuously, and pay close attention to the effectiveness of the popularization and usage of the database.

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Building a Specialized Database of the Culture of Yi People

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ABSTRACT

To build a specialized database with local characteristics is one of the future directions for the academic library at prefectural level in China. The academic library can play an important role in preserving the local cultures. It is also an important channel to establish the relationship between the academic library and the local communities. In selecting a project properly, it is important to understand its background, choose the right theme, determine the appropriate content, analyze the key relevant issues and potential problems, set clear goals, and find the right way to get the job done. It is also important to establish a partnership with enterprises. It is important to build a database by the industrial standard, have persistent efforts, enrich, update the database continuously, and pay close attention to the effectiveness of the popularization and usage of the database.

Keywords: specialized database, database building, Yi culture, Yi People, academic library

INTRODUCTION

The Yi People are one of the approximately 50 ethnic groups in China. Yi is also one of few ethnic groups who have their own written language. Based on 2010 government census data, there is a population of 8.7 million Yi People, which ranks the sixth largest ethnic group in China. Most Yi population live in the Southwest region of China, including Yunnan Province, Sichuan Province, Guizhou Province, and Guangxi Zhuang Autonomous Region. In addition, there are roughly one million Yi People living in Vietnam, Laos, Myanmar, and Thailand. The total population of Yi People worldwide reach nine million.

The Chuxiong Normal University is located in the Yunnan Chuxiong Yi Autonomous Prefecture, one of the most concentrated areas of Yi People in China. The library of Chuxiong Normal University wanted to build a specialized database about Yi culture by utilizing its rich and unique collections of Yi culture and Yi People.

BACKGROUND AND DATABASE THEME

To build a database with local features was not an easy job for a small academic library at the prefectural level, for the library was limited in equipment, budget, and well-qualified personnel in

digital technology. As soon as such a project got started at Chuxiong Normal University, the library had to bear the cost and hire well-trained staff to maintain it. Meanwhile, in order to increase the value of the database, it was important to select the right theme and have a full understanding of its background. In 2014, the Chinese central government provided special funds to support the development of the prefectural colleges and universities. The library at Chuxiong Normal University seized the historical opportunity and proposed to build a database for the Yi culture and a data center in China.

At the meeting to decide the name of the database, participating scholars suggested several titles, such as "Yunnan Yi Cultural Database", "The Yi Cultural Database of China", "Chuxiong Yi Cultural Database". In consideration of the ever-increasing globalization, the progress of the "One Belt, One Road" development program, and the fact that the Yi culture has existed across the region and abroad, the Academic Committee of the library finally decided on the title as "Database Center of the Yi Culture" which is much more inclusive. Next, it is necessary to explore how the domestic and international backgrounds are relevant to build this specialized database.

Background information in China

After careful and thorough information research, the project team found that there was no such database that had ever been built in China. However, the following information was useful and required attention.

First, there were research projects relevant to the database and they were supported by the central government. Professors Quanhua Li and Jianchai Wang, and Mr. Jianhui Gao, a librarian, were conducting a research project which was called "the Building of a Comprehensive Platform for the Digital Reservation, Continuation, and Utilization of the Yi Cultural Heritage". This research project was funded with 3.5 million Chinese Yuan by the central government of China. The first stage of the research project had already made great progress, and the needed software and hardware were ready. The purpose of the project was to conduct research on building "One Platform with Three Centers" project for the Yi Cultural Heritage. That meant to build a shared digital platform for the Yi cultural heritage, a digital database center for the digitalization of the Yi cultural heritage, a center for the development of the Yi culture and art products, and a center for the digitalization and exhibition of the Yi culture.

At the same time, a project to build a specialized database of Yi People in Chuxiong Prefecture conducted by Chuxiong Normal University Library was approved by the Committee of the Academic Libraries of Yunnan Province. The project was assigned to Chuxiong Normal University by the same committee. By then, the database project had more than 15,000 pieces of information and 13,982 metadata records (Li, 2015a) had already been uploaded.

In Yunnan Province, there were two social science research projects that were relevant to the database. A research scientist, Zhongliang Li, directed a research project on the Yi Ancient Works and their Digitized Reservation (Project Number: 13BTQ042). This project was funded by the National Social Science Foundation and the project would be completed in 2017. This project did a comprehensive research study on the distribution of the ancient works of the Yi in the southwest of China. It also provided suggestions for the digitized reservation and utilization of the ancient works of the Yi (Gao, Li, & Li, 2016).

Another research project was directed by Professor Luogui Long at Honghe University to study the digitized reservation and utilization of the important ancient works by the Yi in Yunnan Province. This research project compiled statistics of the important ancient works in Yunnan Province and made good suggestions for the digitized reservation and utilization of the works. The project was supported by Yunnan Social Science Foundation.

Still another research project directed by Jianhui Gao, a librarian at Chuxiong Normal University, studied the collection and processing of the information on the oral history of the Yi in southwest of China. This project was funded by the National Social Science Foundation and the result of the research project could contribute to the specialized database (Gao, 2016).

International research on Yi culture

A few international scholars did research on the Yi People. Professor Steven Harrell at the Department of Anthropology and the Research Institute of the International Studies at Washington University is one of the few (His works include Mountain Patterns: The Survival of Nuosu Culture in China, 2000 and Field Studies of Ethnic identity: Yi Communities of Southwest China, 2002) (Harrell, 2000). A Russian scholar, Pote Gullart also published his research work: Princess of the Black Bone Life in the Tibetan which was translated and published by Sichuan Wenyi Publishing House in 2004 (Gullart, 2004). However, neither scholars have touched on the issues of digitalization and utilization of the Yi culture.

Compared with the development in China, the digitalization and utilization of the minorities' culture in Europe started earlier than in China and the technology is more advanced, such as the 3D-Murale supported by the European Union that has provided multimedia in recording, categorizing, reserving and restoring ancient vessels, buildings, and archeological sites (Ren, 2005). These developments gave many ideas and technical inspirations to the building of the digital database for the Yi culture. Therefore, there was no such a database of Yi culture and Yi People in the world yet. Most relevant research was done in Yunnan Province and the scholars in the library at Chuxiong Normal University which seemed to have done more research works than did other scholars elsewhere.

VALUES AND SIGNIFICANCE OF THE DATABASE

Uniqueness

As mentioned above, there was no such "Yi Cultural Database" ever created in China or abroad. Therefore, the database we proposed to build would be the only one in the world. Besides taking consideration of its cultural values, we also had to consider its potential market value. It is well known that academic libraries spend more than 40% of its budget on purchasing databases and 99% of the market has been dominated by commercial database vendors. Face with such a circumstance, the academic libraries with advanced technology and skilled professional staff should feel embarrassed. As the biggest consumer, it was a wise idea for an academic library to build such a database with potential market values. After the database is built, the library can work with the database vendor to realize its market value. The benefit are two folds. First, it shows that the academic library has the ability to turn its knowledge into commercial value; secondly, the library can use the money returned to enhance and maintain the database.

Collecting and preserving the Yi culture

Since the governments at all levels took a great effort to preserve the cultures of minority people, there were an increasing number of research institutions established in both Yunnan and Sichuan provinces where there is a diverse population of minority people living in China. The number of scholars who were interested in the Yi culture was increasing. The most particularly encouraging phenomenon was that more and more young scholars were engaged in research projects on the Yi culture. Although the research was relatively abundant, the results were scattered and uncollected (Yang, 2011). In the age of global information digitalization, it was time to collect and centralize the research results on the Yi culture. Therefore, to build a digitized database for the Yi culture had strategic values.

At the same time, many resources of the Yi culture faced the danger of being permanently lost. For example, some of the Yi classical works were still scattered in the hands of individuals. There were fewer Yi individuals who were learning and handing down their language and writings to the younger generation. Therefore, it was necessary to build a digitized database to maintain and preserve such Yi cultural resources. The database would facilitate the collection and preservation of the Yi culture, and also allow scholars to access the Yi culture and facilitate their research.

Increasing digitized resources of the Yi culture

Digitized information is the major form of cultural heritage preservation in the future. In the various forms of the existence of the world culture, many forms of the current Yi culture are living fossil of the world cultures. The proposed "Digital Metadata of the Yi Culture" would be the historical archive of the Yi. The database would not only add great value to the Chinese culture but also to world culture. In this sense, to build this specialized database would be an invaluable contribution to the culture of the minorities in China.

GOALS AND OBJECTIVES

In terms of its content, the database should be as complete as possible, systematic, and current, so as to facilitate understanding, research, and preservation of the Yi culture. For the digital technology and standard, the metadata should be standardized and easy to use. As for the website, it should be attractive, accessible, unique, and with strong characteristics of the Yi.

First, the project team developed a list of contents based on the distribution of the Yi population with the help of all levels of the government administrations on minority affairs and obtained the current information about digitalization and utilization of the Yi culture through the research institutions. Second, the project identified and listed the cultural resources of the Yi that were valuable but not yet digitized and facing the liability of being permanently lost. This task was completed by field research, survey, and statistical analysis. Third, the project started the technical tasks of database creation through cooperation with commercial entities.

DATABASE CONTENTS, WORKING PROCEDURES, SCHEDULING, THE MAJOR TASKS AND POTENTIAL PROBLEMS

Contents of the database

The Yi culture can be defined as a system of all the elements relevant to the laboring and living activities of the Yi population (Liu, 2007). What to be included in the database was decided according to the purpose of building the database. The essential purpose of the database was to make it the most complete, most systematic, and most updated database that could facilitate the understanding of, research on, and collecting of the Yi culture. Therefore, the content of the database included all aspects of the Yi culture, such as books, newspapers and research papers, audio resources, video resources, biographies, picture resources and other resources.

Working procedures

We conducted a systematic study of the major distribution, category, preservation and current digitalization of Yi culture.

Yi is a minority with a long history and rich culture. The fifth national census of China indicates that the total population of the Yi is 8.71 million and they inhabit in each of the provinces of China. Most of them live in Yunnan Province, Sichuan Province, and east part of the Guangxi Zhuang Autonomous Region (Fang, 1984). The most highly concentrated areas are in Chuxiong Yi Autonomous Prefecture in Yunnan Province and the Liangshan Yi Autonomous Prefecture in Sichuan Province.

The rich cultural resources of the Yi include written characters, oral language, music, and dance. However, the digitalization of the Yi culture is very limited. For example, the National Library of China has not digitized the Yi cultural resources yet, although it possesses more than 500 volumes of the ancient books in Yi language. Similarly, the collections of the Yi culture and ancient books in both the university libraries at the Minzu University of China and the Southwest Minzu University are only kept in paper form. Most of the Yi cultural resources in the National Library of China, the Minzu University of China, and the Southwest Minzu University are solicited from Yunnan Province (Wu & Wang, 2008).

The Chuxiong Yi Autonomous Prefecture is one of the two Yi autonomous prefectures in China. It has already digitized the "Yi Bimo Scripture" which has 106 volumes. About 15,000 entries of the outstanding Yi literature in Chuxiong have also been digitized. There are also many Yi People inhabited in Honghe Hani and Yi Autonomous Prefecture and the "Honghe Yi Language Dictionary" has also been digitized. These digitized resources of the Yi culture were about 30% of the total Yi cultural resources (Li, 2010).

We analyzed and sorted what had been done in the Chuxiong Normal University Library. There were two projects funded by the central government and another two projects funded by the National Social Science Foundation. We figured out the relationships between these projects. This proposed project at Chuxiong Normal University would build the main database of the Yi culture. Other databases would be the branches. The main database and the branches would support and complement each other. Each would have its own tasks but also cooperate with each other in building the digitized database of the Yi culture. At the same time, we also analyzed and learned from the building of other digitized databases of other minorities' cultures.

One of the major purposes of analyzing the distribution, category, preservation, and to what extent it had been digitized of the Yi cultural resources was to compile a useful bibliography list of the content for the digitalization of the Yi cultural resources. Then the project could prioritize its tasks according to its plan, which was the guide for building of the database.

The database website should be attractively designed, eye-catching, easy to access and navigate, with appropriate items, efficient and convenient to use. The website design was done by the Technical Center for Digitalization at Chuxiong Normal University. It was proposed that the home page menu include books, newspapers, research papers, online resources, audio resources, video resources, biography of famous Yi individuals, photo resources, ancient books in the Yi language, manuscripts, letters, stone carving, and rubbing.

For the written information of the Yi culture, we digitized it through the format of electronic books. For the oral history, rap music, songs and similar resources, we digitized them in record format. For dancing, sacrifice, holidays, production activities, and daily life, we digitized them as video recording. For the information that had already been digitized, we categorized, catalogued, and condensed them in standardized format to be electronically transferrable.

For the field research and questionnaires, we visited different levels of government organizations that oversee minority affairs and research institutions. Questionnaires were administered in these organizations to understand Yi cultural resources and if they were digitized. We also made plans to save and preserve the Yi cultural resources that might be permanently lost. At the same time, we found out the distribution and classification of the Yi culture through selections and analyses. We also compiled statistics of the Yi cultural resources so that the Yi cultural resources could be better utilized.

Schedule

After deciding on the tasks and procedures, we made a schedule so that the project could be carried out effectively and the database could be built on time. It could take four years to complete the enormous task, for the Yi culture is a complex, huge and continuously changing system. Table 1 displays the working schedule for building the database of Yi culture:

Table 1.

Schedule for building the database of Yi culture

Timeline	Goals
2014	Deciding on the project title, contents, items, ways to build database, and procedures. Developing a complete project proposal and getting approval by specialists.
2015	Conducting a survey and collecting relevant information on the Yi culture, compiling a list of contents about the digitized database of the Yi cultural resources, making a good plan and getting it approved about the needed hardware and software with a budget on the building of the database. Submitting the plan to the University for approval.
2016	Purchasing the needed hardware and software for the building of the database, and building the database working platform with the cooperation of the enterprises that won the bid for the project.
2017	Completing the digitized database of the Yi culture with at least 40,000 entries and testing the database online, collecting and evaluating the information about its usage, and making improvement.

Major tasks and potential problems

We paid close attention to the major tasks and potential problems, and made sure that the project was carried out appropriately and effectively.

The major tasks of building the database were to decide on the cataloguing and to build the digitized database communication platform. The decision on the cataloguing would determine the route of database building. First, such a decision required a comprehensive understanding of the total information on the Yi cultural resources; second, the identification of the valuable resources, and third, knowing what was digitized and what was not. Based on full knowledge of the valuable resources, we decided on the new catalogue.

One of the reasons of building the database was its usage and the best way to facilitate the usage was to build a website with an effective infrastructure, which could not be accomplished by the project team alone. It was accomplished by the cooperation between the library and two information technology companies.

The challenges in database building of the Yi culture include full understanding of the Yi cultural resources, collecting and sorting resources, fully understanding the distribution of the resources, and obtaining the copyright of the Yi cultural resources. These were enormous tasks that could not be accomplished without a full support of the government organizations that administer the minority affairs and research institutions of minority cultures. The collection and classification of the resources did not only need many personnel support, but also the technical support in photo taking, information classification, and cataloguing.

COOPERATION WITH THE ENTERPRISE AND THE COMPLETION OF THE DATABASE PLATFORM

In recent years, the information industry has gradually taken away services historically covered by the traditional libraries. Information development and commercial services have consciously or unconsciously penetrated the services of the academic library. They have become an unlisted part of the services of the academic libraries (Li, 2015b). Although the academic libraries have the resources and equipment in building digital database, they are less experienced and less equipped with technology in terms of standardization and communication than the information companies, such as the Beijing Chaoxing Group and Chongqing Weipu. Therefore, a partnership with such companies could balance the deficiencies of the academic libraries. Such a cooperation could also make database building more effective.

We adhered to the principles of cooperation and paid attention to both social and financial efficiencies. For the companies, they could learn the needs of the colleges and universities and make adjustments to their investment when collaborating with academic libraries. At the same time, they could easily understand the value of the database. As soon as they saw the commercial value, the companies became interested in the specialized database building. The project for the database had invited bidders with the principle of cooperation. Biding for the project was divided into two parts. For the first part, bidding focused on the hardware to build the database. For the second part, bidding focused on the software to build the database. Finally, Kunming Longben

Keji Company succeeded in bidding for the first part of the project and Beijing Chaoxing Group won the bidding for the second part of the project.

The draft of the cooperation contract with the companies was prepared by Chuxiong Normal University Library which had provided the office space for the project. Kunming Long Ben Company built the data center, provided servers, terminals, the network, internet access and the maintenance services. The company also built the Center for Engineering and Technology for Digitalization of the Yi Culture and Heritages, the Center for the Yi Culture Development and Art Products, and the Center for Exhibition and Digitalization of the Yi Culture. Beijing Chaoxing Group built the platform for the metadata, processed and standardized the metadata, built the online network and ensured the function of the platform.

ENRICHING THE DATABASE AND IMPROVING THE POPULARIZATION

The uniqueness of the database for the Yi culture is its resources. As any of the resources may grow, the database needs to be enriched continuously. The same procedure will be needed for database building of the Yi culture. On the one hand, the current existing resources may not be all collected right away. On the other hand, the Yi culture is still developing and changing. Therefore, the database must be continuously updated so that the specialized database can be complete and current.

The life of the specialized database depends on its usage and popularity. Therefore, it is important to collect the statistics of the database usage. Accurate usage statistics may demonstrate the usage and popularity. If the database is rarely used, it means that the database is not valued or little is known to the public. The usage and popularity of the database depend on two variables. Whether the database is valuable to students and scholars or whether the database is easy to be popularized and easily accessible by the users. Therefore, it is necessary to promote the use of the database, to understand how the database has been used, and to improve the accessibility and value of the database.

CONCLUSION

After four years of continuous work, the first phase of database building has been completed. Approximately 40,000 entries have been uploaded and currently, the database is at its online trial stage (URL: http://yzwh.cxtc.edu.cn:8080/). The next step is to continue collecting and processing the original resources of Yi culture to increase the entries to reach 100,000. The database of the Yi culture is very important heritage and is important to build Chinese culture as a whole. It is an important way of preserving and protecting the Yi culture and an important channel to improve the capabilities of the university libraries at the prefectural level in building a digital database.

Through our experiences, we have realized that the following are essential to ensure the success of the project. First, obtaining the support of the university administration and supports of different levels of the government agencies is essential. Second, obtaining funding for the research on the project is important. It is also important to gather relative information, obtain cooperation with other research institutions, and rally the support of different organizations. Third, it is important to

follow the scientific method in building the database. Collaborating with enterprises and deciding the appropriate methods and procedures, paying close attention to the patrons and relevant problems are all important, too. We hope that database building by the university library at prefecture level may open a new development for the small academic libraries like us.

One of the biggest challenges we encountered during the project was the copyright issue. Because we were collecting and preserving large amounts of previous works and research, it was critical to clear the copyright and ensure intellectual protection. This task occupied a tremendous amount of time and effort. It is suggested for successful future projects to make a comprehensive plan, ensure the budget, and clear the copyright beforehand to avoid the potential trouble.

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