The Changing Trend of Library Service in the Era of Big Data

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Abstract. This paper focuses on the service mode change of University Library in the era of big data. Through the analysis of AHP, this paper holds that although university library belongs to the most traditional information management unit, it also experiences the information revolution. University library is playing a more and more important role in scientific research and teaching.

Keywords: Changing Trend, Library Service, Era of Big Data

1. Introduction
Electronic library, with the emergence of electronic version, the development of network communication technology, and gradually appeared. The electronic library has the characteristics of large storage capacity, fast speed, long storage time, low cost and easy communication. CD-ROM is a mass storage, capable of storing thousands of times more information than traditional books, much more than microfilm, and includes images, videos, sounds, etc. Using electronic technology, in this kind of library, we can quickly find the information we need from the vast number of books. In this kind of library, the time of information preservation is much longer, and there are no problems such as mildew, insects and so on [1]. This kind of books can be used in thousands of miles and thousands of miles of units and homes by using the Internet, with high efficiency.

A library serving teaching and scientific research in Colleges and universities. It refers to university library, college library, etc. it is the document information center of colleges and universities. At the beginning of 2016, the regulations for libraries of general institutions of higher learning issued by the Ministry of education made it clear that libraries should open no less than 90 hours a week during school teaching time, and there should be necessary opening hours for holidays [2]. Schools with conditions can open all day according to actual needs; the service of online resources should be open 24 hours a day.

The university library realizes the electronic library system reform, first through the form of opening the electronic reading room in the University. Under the promotion of CNKI, Wanfang Data, VIP data and other e-library and information service platforms, the E-reading room of colleges and universities has gradually formed a terminal service window covering all the library and information...
resources, such as periodicals, newspapers, monographs, reviews and so on [3]. The University Library began to get rid of the service mode which was realized by purchasing and collecting books and maintaining card library, and formed a new service mode. The university library, which studies the new mode of big data era thoroughly, has higher service efficiency, and can also effectively promote the feasibility study and literature research work of the University.

2. Service Mode in the Era of Big Data

At present, the vast majority of university libraries use the two track system, as shown in Figure 1.

![Library Service System Module Diagram](image)

**Figure 1. Library Service System Module Diagram**

Under the traditional mode, on the basis of the card library, the book retrieval system and the book borrowing system are maintained. At the same time, according to the relevant data of the book retrieval system and the book borrowing system, the purchase and collection of books are determined. Make plans and budgets for book purchasing and collection, and maintain the scale of books in university libraries.[4]

Under the mode of big data linkage, the electronic reading system is formed by maintaining the data of the electronic library, connecting the external network CNKI and other literature databases and library information databases, and supporting the relevant literature screening and printing services. At present, the content of E-library has realized the whole network linkage, which does not need the university library to build its own database, but also supports the university library to build its own database. The database constructed by the university library only provides relevant services to the self operated electronic reading room, but cannot be accessed on the external network. That is to say, according to the research characteristics of the University, the university library can build its own science and technology archives to realize the information management of some secret related scientific research projects.

3. Service Mode of E-library

The university library will build an electronic reading room network in the library for the computer terminal in the University electronic reading room to browse electronic books and related documents. The online reading service of E-reading room in some colleges and universities has provided comprehensive services in the campus network, that is, computer terminals in Teachers' offices, students' dormitories and other areas, mobile phones and tablets connected to WiFi can browse e-books and related documents in the E-reading room. This is the most basic electronic reading room service. However, the information documents in the electronic reading room of colleges and universities are generally classified into classified levels. The experimental data in Colleges and universities, especially the classified experimental data and high-tech experimental data, are not allowed to be disclosed outside the school, or even to non laboratory related personnel. At this time,
the security system of the electronic reading room in Colleges and universities will also be upgraded. However, there is a scenario that most users in the campus can not access the literature and information data, laboratory personnel need to visit on the public network outside the campus, or even need to display on the public equipment that cannot be specially authorized (such as academic exchange meeting, etc.), at this time, the electronic library needs to screen and access the data visitors outside the local area network. This uses VPN user management running on the public network. Generally, electronic libraries in Colleges and universities provide at least dozens of VPN accounts. Because academic business travelers can apply for temporary VPN authorization from the electronic library, in order to achieve the outside access to the electronic library in the campus network with high authority. Because if we do not open this right, it may cause these people to install VPN bridge software on their own office computers, and then make the access process of university library more uncontrollable.

The system administrator of E-library is the librarian of university library. They use MD5 authentication of user name and password to log in with the highest management authority on the computer with specific IP authorization binding MAC authorization in the library, and manage the e-library and card library accordingly. The borrowing system, retrieval system, book purchase system, electronic reading system and document information printing system of general colleges and universities are all independent systems. The administrator needs an independent administrator account to manage them, which is also a means to ensure the system security.

Figure 2. Service Structure of E-library

4. The Essence and Innovation of Library Service
The essence of university library is to provide enough high-quality book resources and document information resources for the scientific research and teaching work of University. It is the support unit for the scientific research and teaching work of University, and also the display unit for the scientific research and teaching achievements of University. With the society entering the era of Internet + and big data, the working mode of university library has also changed. In summary, the changes are as follows:

4.1. The cloudization of Library and information resources
In the past, the library belongs to the storage type of book service, from the closed library service law that the library only allows the librarian in and out of the library, to the opening service law and the service law that readers can directly access the library to consult books, to today's electronic reading room and Book Imaging service method, the library has gone through many stages of development.
Each stage makes the borrowing and reading of books more convenient. Today, with the sharing mode of the big data in the electronic reading room has been accepted by the majority of colleges and universities, the book resources have no need to be stored in the self operating database of the university library, let alone in the warehouse of the university library.

4.2. Paperless lending and reading services

Since the 1990s, the promotion of E-reading room has made the University Library begin to scan and archive the collection of books, and establish the e-card library at the same time. Today, the library information has fully realized the cloud, and the field of library management has only experienced less than 20 years. At present, there are fewer and fewer readers borrowing paper books in the library, and the book borrowing is changing towards paperless.

4.3. The transformation from traditional information to network information

Library management is the earliest information management. At the beginning, almost every university library managed tens of thousands of books and hundreds of thousands of pages of archives and information. However, with the rapid changes in the era of big data, library management itself is also undergoing information-based changes. The total amount of documents in library management has increased exponentially, but the library collection does not need to be expanded on a larger scale. From the initial control of temperature, humidity, rodents and pests in the warehouse to the management of data warehouse, the service nature of the library has undergone great changes.

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