OUTDATED ELECTRONIC RESOURCES OF THE UTILITY MANAGEMENT

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Abstract— A new problem has arisen in library that the number of electronic resources is rapidly increasing and its carrier has changed resources structure of bibliotheca after computers are applied to library. With the development and change of IT, electronic resources are shortening their service-life and corresponding software and hardware are eliminated quickly. Modern library management will face the problem: what will collect or use electronic carriers of books. A read-helped literature reading room may be built up to collect filmcards, floppy disks, video tapes, CD discs, VCD discs etc. and respective equipment. This room will continue to serve for readers in outdated media or those reliant on outdated technology. This paper introduces the status quo of library electronic resources, discusses the concept, management and applications of read-helping equipments so as to improve the management of read-helped literatures and the uses by the readers. This room will open its electronic literature and equipment when a reader needs to continue to use it. In this paper, this is our first time to offer a concept of help read and a read-helped literature reading room built where it has a lot of 5-floppy disks, 3-floppy disks, video tapes, CD discs, VCD discs kept with their equipments if readers want to read some electronic literature. Not only are electronic carries not eliminated nor worn out, but also the operating cost of equipment can decrease if there was no reader.

Keywords— Utility management, Outdated media management, Outdated technology equipment, Service audience, Electronic literature

I. INTRODUCTION

In recent years, the rate of electronic resources in library is higher and higher. Except for the use of online resources, electronic resources can supply literature database by use of local mirror image, backup data disks of online resources and lots of attachments of books and periodicals. These electronic resources are facing the loss of respective equipments and the decline utilization of carrier resources because of rapid development of information technology. Electronic publications need to display under the help of corresponding equipment, but usually some of equipments have been put aside or abandoned. Books or periodicals were kept but not their electronic attachments. Eventually problems on the quality of literatures arise, so we shall discuss this issue below. Current library have probably ceased to use 5-inch and 3-inch floppy disks and also eliminated a low-speed 32X CD-ROM drive. Because most of them were based on outdated operating system, such as FAT16 format of the DOS 6.22 operating system, but they could not be compatible with the system of Windows Me, 2000 and other latest version. Audience who needs to read literature has to use some machine to identify them, or library does not retain them in practical significance. A few years ago it was popular to use a CD-R disk to backup data recorders. At that time, in order to reduce costs, some database vendors also made use of data replication in the form of CD-R disk for sales. Even nowadays, some publishers sell their products in the form of DVD-R disk. These burnt disks are prone to be worn away and have difficulty in reading data unlike CD-ROM which is resistance to wear and made by the repressive machinery. When CD-R or CD-ROM data was reading in many DVD drives, there was a message that shows "Please insert disk drive", then the driver stopped reading. In particular, digital film discs can store data in various forms, but they cannot be driven to show audience pictures or let them hear voice without the support of corresponding software. The so-called universal player software exists in reality which can be compatible with VCD discs in previous formats. However, we need to continue to preserve this software. Many CD-ROM version literatures need their own database management system for the management of themselves data. Many literature databases in the form of CD-ROM have their own management system, but they still have some requirements on the compatibility of operating system. Or it can not decode the data of the literature databases themselves. Therefore, compatible software is more important than hardware in a set of read-helped tool. In other words, read-helped literature is based on both hardware and software.

Problem of corresponding equipment to read electronic attachments and backup data still exists, although some libraries have realized that modernized library should consider electronic resources as main preservation. Some libraries had installed a management system of electronic attachments with mirror image to server (Sheng Sui and Wang Wen, 2004) or copied electronic attachments to hard disks in a server (Qin Ping, 2003) via retrieval and download. Each contributing source users of universities in the USA has its own method to format and submit material. To preserve all documents, D-Space maintains a list of supported formats that are to be kept available and readable for the future (Howard Falk, 2003). The method of copying resources to floppy discs or CD-ROMs still consumes a lot of computers’ resources. Moreover, hard discs are easier to be broken than the other electronic attachments. The content

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stored on RAID is often required to be updated once new attachments are brought in. However, audience seldom makes use of attachments of old books. We copied the courseware of “Computer School” developed by Authorware in 1999 and the file composed of DOS 6.22 from 3 floppy discs for a long-term storage on the hard disk. The courseware has lost autorun.exe, autorun.ico, autorun.txt and main.ico and the file lost all exe files and modify the setup.exe.

II. CONCEPT OF HELP READ

We called a process of helping read as some publications and electronic documents is required to be shown under the help of corresponding tools. What’s called read-helping is an abbreviation of helping or supporting reading by tools which include a corresponding special tool and equipment in an indirect role. We call the related tools or equipment as read-helping tool that is along with respective literature. Its role is to help, assist or support to display literature content, so that audience can identify and learn the literature. The read-helping tool is a set of computer, input and output devices such as floppy disk drivers, CD-ROM drivers, printers and tape recorder, video, microfiche film reading device, barcode collector, barcode audience etc. What’s more, some external equipment such as floppy disk (CD-ROM) drivers, CD-ROM servers and encryption dog can also be considered as read-helping equipment. If we further extend the range of read-helping, including the tools that can be a bridge as well as the library catalog cards.

Some content of graphic and literature neither can be recognized by naked eyes of normal people nor be read with peoples’ hands. The so-called read-helped literature requires tools or equipment to restore or make original literature be acceptable to audience. It is considered as hidden literature such as floppy disks, CD-ROMs, cassettes, videos, and semi-hidden one as films, microfiche. And hidden literature even includes ones that have not to come into library and to catalogue materials, such as various storage devices. With the development of information technology, literature carriers can be made in various materials, such as oracle, bamboo slips and the letter. Literature can also be stored in the format of paintings from Jin, drawings on the silk, paper or printed volumes of books, films, tapes, floppy disks and CD-ROM drivers, flash disks, hard disks and so on. These literatures show figure and characters fully or partly. Once these hidden literatures are displayed under the help of special tools, it becomes the so-called read-helped literature. Although the word of the read-helping sounds strange, it is not a new term. The management and use of read-helped the literature have been accompanied by the development of libraries, especially in the age when electronic resources occupy main parts in the digital library. Libraries have the responsibilities to collect and preserve the cultural heritage of mankind. To meet audience’ demand, the library itself plays an important role in supplying literature collection as well as the managing collections. In the modern library, the utilization of collections and the concept of “zero” increase in collection have replaced the traditional concept on paper literature which are formed for long years (Xu En-yuan, 2005). The more online resource we have, the less paper literature will be used. What’s more, to accelerate the use of the library preservation, the ratio of electronic publications tends to offset that of printing publications gradually. In order to improve the utilization of literature, library, in the short period, has to speed up eliminating the old literature, as a result old books and bound periodicals are firstly decreased as fixed assets. However, the similar electronic resources are still restored.

III. PRESENT STATE OF THE PROBLEM

In a long period, the print copy of literature will still take the most important role in the library collection. It is predicted that the print copy will not be eliminated thoroughly. If library only preserves the copy literature without storing its corresponding attachment, the original copy is greatly devalued. In other words, it is not useful and valuable enough for readers. At present, we have not found any indexed thesis which mainly describes people’s focus on the management of read-helped literature. What’s worse, we can not find out any solution to solving difficulties in reading literature which caused by outdated equipment or technology. Take China National Library as an example, it takes up the leading position both in quality and quantity in the collections of GPUS (Government Publication of the United States) among all libraries in China. However, over 90% of the microfiche have not been put in file and used in the past 20 years. Librarian in international organizations and government publications sector, acquisition and cataloguing department in National Library of China had put those microfiche into literature cabinet according to their original classification number. In fact, librarians did not really read the content of them, and then catalogued them. As a result, a great deal of valuable information was buried, because few of audience bought them and read those resources. (Luo Chen, 2005) Is it worth to storing the literature that is seldom used? Once the usage of collections discussed, libraries that claim to be customers-focused will continuously to cut down those collections with a lower usage. If libraries are rich in electronic resources, they prefer online or electronic resources to print literature. In particular, the journals in print are easily cut down. Libraries that claim to be both customers-focused and usage-focused have not had the ability to excavate the information or repair those outdated equipment. Then, collections with lower usage such as attached CD-ROMs or other corresponding equipment are dumped arbitrarily in many libraries. Without necessary maintenance and preservation, the literature and equipment will be damaged quickly, resulting in being lack of collection.

People are more and more dependent on Internet and online resources, and information technology is developing faster and faster to satisfy audience’ demand. As a result, the literature carriers are diversified and the usage cycle of the literature is shortened. For example, computers have no longer been installed 5-inch floppy discs for many years, but there are still piles of floppy discs in stock in the library, which were imported abroad as attachments to original erecting books in the early years. Their main contents are
computers’ program or data referred in books. It will be the same with the 3-inch floppy discs. Less and less 3-inch floppy discs can be found, instead there are more and more compact discs. Instrumentune-up was the first 5-inch floppy collection in the library which was attached to a book. It was written by S. N. Deming and S. L. Morgan and published by Elsevier in 1984. Dos to OS/2 was the first 3-inch floppy discs collection which included lots of executive programs. It was written by Jay Ranade and Angelo Bobak and published by the McGraw-Hill, Inc. in 1991. At present, our library preserves 350 pieces of 5-inch floppy discs and 1,200 pieces of 3-inch floppy discs. Win32 API Desktop Reference was the first CD-ROM discs collection, which was written by James McCord and published by Sams in 1993. It could not be played until relevant program had been installed and original codes were entered. The first VCD collected in our library was Multimedia Madness, which was edited by NAUTILUS and published by Sams. Those two publications from Sams can be opened by today’s DVD drivers, but the playing speed is very slow and their qualities are poor. Judging from the attachments collected in the early days, they were imported together with the original erecting books. These publications were from Computer Company in the USA with a high price. Take Management of Economics and Business Strategy as an example, it was written by Michael Buye R and published by the Social Sciences system Documents Publishing House in November, 2003. A 3-inch floppy disc was attached to this book, in which there were all tables and forms mentioned in the book but not showed to audience. It is of value to exercises on this book. Just as the author wrote in its preface, “It presents experimental materials to help students make economic decision.” Some of popular DOS 6.0-based software is attached books that are published in recent years. In early ages, computer drivers and operating system were supplied in the form of floppy discs. Nowadays, CD-ROM discs replace the floppy ones, electronic users’ guide instead of the handbook in print. Besides, lots video proceedings and video recorders bought abroad are no longer used. Microfiche were earlier than videos, which collected large quantities of proceedings in old days. From what I discussed above, it draws that a new literature carrier can be replaced by another quickly in a short period except the paper collection which can be read by naked eyes.

Electronic publications need the support of some corresponding equipment to display their contents. But lots of the equipment has been put aside or abandoned. In collection planning and construction, outdated electronic publications were easier to be removed or eliminated. Compared to books and periodicals, their attachments are usually abandoned. At last, problems on quality of literature spring up. The literature database was no longer available for taking or purchasing backup data discs. Registered webpage took up great number of hits. Some databases have a restriction to the number of users or website servers, and then resources can not be browsed or downloaded. Finally, managers make use of local mirror images to help solve the problem. Although electronic resources plays the most important role in library, its backup data is stored in discs, CD-ROM discs or RAID which still takes up a lot of room in the library. The spread of management methods would impact the management philosophy of modern library, and cause irretrievable losses of collections. Librarians should pay more attention to strengthen collection management.

IV. BUILDING READ-HELPED LITERATURE ROOM

In such an information age, library should make sure that audience can have access to all collections preserved, including read-helped literature. At present, if people do not take measures to protect those read-helped literature effectively, manage and maintain read-helping equipment properly, those read-helped literature will be dumped in the near future. At last, information recorded or stored in the read-helped literature will be forgotten. Human history might be incomplete. Whether the library is use-focused or use-and-collection-focused, the preservation of read-helped literature does not contradict to their management thinking. In information society, we should not misunderstand that audience only needs online resources without the need of local collections of electronic resources. Research on read-helped literature and read-helping equipment is necessary. Studies are carried on to explain the definition of read-helped literature, the definition of help-reading equipment, collections and management policies on how to preserve outdated equipment and literature reproduction.

Some libraries have established an old book museum in their new libraries to preserve scare books, rare books and the only existing books that cannot be borrowed. But they may be read and reused through network after digitalization. Some libraries also moved cards counters and directory cards that are useless now to the museum. Collections in library are totally different from that in museum. Resources collected in library are to meet audience’ demand. Even though audiences can not have access to original literature, simulated literature should be available for them to use. The action plan in the Florida Center for Library Automation was given out various preservation methods. (Priscilla Caplan, 2004) But migration programs or converting programs themselves are also outdated. Resources digitalization should cover old books, which are an intergraded part of library collections. In a general, they are useful for audience’ appreciation and studies. We have an old book Great Qing Post Maps published in 1907. After digitalization, it is released on the library homepage NUPT for audience to browse. Customers are able to search for all information available through single access point. The system should allow automatic consulting of the customer organization’s own print and electronic holdings (Foachim Schopfel and Facqueline Gillet, 2007).

Building up a read-helped literature reading room is a solution to these problems and is one of the best methods for audience’ studies on outdated literature. It is a new type of reading room just like stack books reading room, old books reading room and electronic publication reading room. Its collections consist of outdated attachments, tools and equipment. Specifically speaking, they are 5-inch and 3-inch floppy disks, CD-ROM discs, computers with floppy disk drivers and 32X or low rate CD-ROM driver, small capacity...
hardware with the low version of DOS 6.22 operating system, Windows 95/NT4.0 operating system and previous version network systems and various software tools, tape and video recorders, microfiche and microfilm-audience, cards and card counters before 2005. Collections should also have servers for the previous disk, CD-ROM drivers, Novel network management system or other network systems and corresponding adapters to support the service and data recorded. Some CD-ROM servers installed CDNETACCESS which was a kind of management software based on Windows NT4.0. Their greatest strength was able to form a virtual driver that could realize the management on 7xn groups of CD-ROM and set up its own CD documents respectively. But if the CD-R is deposited in drivers of servers for a long-term, it will cause damage to boot sector of CD-R and documents, resulting in a waste disk as well as data losses. Generally speaking, CD-ROM driver is changed into hard discs, copying documents from CD-ROM to hard discs. Each document is equivalent to a CD-ROM. Then we can continue to use CD-ROM driver and CDNETACCESS. When an audience needs to use some outdated attachments of books or periodicals, the corresponding equipment will be open to help reading. As a result, it can not only decrease the cost but also protect attachments. Some outdated contents or program files will be transformed into current format when user read the literature under the help of OPAC. Program files or contents might be copied into text or Word and then transmit them to meet audience’s needs. But multimedia cannot be transformed from 8 bits into 16 bits or 32 bits because of its poor quality. We have built a management system for 5-inch and 3-inch floppy disks based on MS SQL Server and the original management system was based on DBASEIII and FoxPro DBMS. The current management system is appropriate for outdated CD-ROM to transfer data and system to other servers. Because information technology advances the development of library digitalization, the collection scope of digital literature will be wider and wider. The read-helped literature must be equipped with the appropriate read-helping tools, otherwise the read-helping tools could be gradually eliminated and the usage cycle of literature is greatly shortened. Attachments were not as valuable as their mother literature, because read-helped literature was not readable without the help of appropriate equipment. The read-helped literature reading room will play an important role in serving audience. In consideration of technology development of computers and the process from using catalogue cards to search by computers, librarians should make proper planning for the cards catalogueing and management. In case those catalogue cards will put in loose without any management. Each library has lots of cards which were made by librarians to search for resources several years ago, such as citations and index. There are also numerous old collections or collections which do not need to be backtracking into database. Though computers and online services are accessible to the reading room, catalogue card still bring a great deal of convenience to audience. Moreover, there catalogue cards are supplementary to data inadequacies searched by computers. Above all books in library should be historical, integral and readable.

V. REFERENCES


VI. BIOGRAPHY

1) I, Bin Yan, am a research librarian/professor and a postgraduate instructor and a former chief librarian of NUPT. I was graduated from Peking University and have engaged in library technical work for over twenty years. I have published more than forty theses on contemporary information management and system in domestic academic journals. My main study area is the theory and application of modern information management technology