Study on the Information Service of University Library based on Big Data

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ABSTRACT: With the rapid development of computer network technology in the world, hundreds of millions of computers and mobile devices are continuously create a tremendous amount of information, and the world has been transferred to the data centric paradigm -- the age of big data. In this age, big data technology has the maturity of information technology such as cloud computing, mobile internet and so on, so big data technology for the library will bring creative change in the next few years. After expounding the meaning of big data, the article analyses challenges and problems faced by the library information service in big data age, and put forward the conception of library information service system in big data environment. It includes establishing the library users analysis, establishing the standard platform of knowledge service, establish information resource integration, carrying out personalized pushing service and establishing cooperative relations with other institutions.

KEYWORD: Big data; Information Service; University Library

1 THE CONCEPTION OF BIG DATA

The definition of big data in the current is no universal standard, and it is generally considered a great quantity of data, diverse forms of unstructured data. The famous consulting company McKinsey most early proposed that the big data era has arrived. IBM company thinks big data with 4V features: volume, variety, velocity and value. Gartner company proposes that big data – information of extreme size, diversity and complexity – is everywhere. This phenomenon is destined to help organizations drive innovation by gaining new and faster insight into their customers. The definition of big data in Wikipedia is that big data is an all-encompassing term for any collection of data sets so large and complex that it becomes difficult to process using traditional data processing applications. In the word, after entering the 2012, the unstructured data occupies the proportion will reach to 75% throughout the internet, which means that the personalized data era arrives. Data has penetrated into every industry and business, and has gradually become an important production factor. At present, the research and application of big data has become a hot issue in the field of computer and information science, and all the countries in the world attach great importance to the study, exploration and application of the big data.

2 NEW CHALLENGES OF BIG DATA FOR THE UNIVERSITY LIBRARY

2.1 *Speed up the transformation of Library Service Technology*

With the large growth of unstructured data, it will bring a profound influence for the library information service which is a based on information service structured data previously. Big data put forward higher requirement for existing library information storage and computing ability. But the existing library information data storage and computation technology is difficult to satisfy the application of big data and model of knowledge service requirements. The perfection of the whole university library service technology architecture should be imperative.

2.2 *Improve library service ability*

Data will become one of the most important asset in the library. The library service is no longer provide simple document supply and information service, but using data mining technology provide the needed data for scientific research from the literature and information data. The library service will build on data analysis and information processing, which will bring unprecedented opportunities for the library. The library analysis, capture, and mine data, in order

to provide intellectual support for scientific decision and research. The library itself also improve the knowledge and information service ability in the exploitation and utilization of the big data.

2.3 *Improve the quality of universitiy librarians*

In big data age, an advanced requirement of information ability is raised for the university librarians. First of all, the application of big data technology requires a number of technical personnel, who provide professional technical support for the information service of university library in order to ensure the mining data more accurate. Secondly, the university library needs compound talents in big data age, who have more comprehensive knowledge system in addition to the library professional knowledge, and also master the intersection and penetration of each discipline. Finally, the university librarian needs higher consciousness of the information service, which is not only to improve an important aspect of reader satisfaction, but also to improve the comprehensive quality of librarians

3 ESTABLISH OF THE LIBRARY INFORMATION SERVICE SYSTEM BASED ON BIG DATA

3.1 *Analyse library users data*

The library's social status and value is continuously weakening, and the users are turning to other cultural information institutions. Big data technology can make the library clearly grasp the users' information need .It will also help the library predict the users' behaviors. Big data technology enhance the utilization of library for readers the ability to research and interactive data analysis. The library mine the useful information from the massive data so as to establish users' files and model. It improves the users experience, increases the competitiveness of library information service, and retains the customers.

3.2 *Establish the standard platform of knowledge service*

Knowledge service platform technology has been the main research topic in the field of library and information, at the same time it is also the core technology of library information service. The library service platform by big data technology is the main content of library information service system upgrade. Big data knowledge service platform is different from the traditional knowledge platform. It not only contains the traditional academic search platform, but also includes users behaviors of intelligent analysis platform, users information demand forecasting platform, network knowledge analysis platform, resource and service recommendation platform etc

3.3 *Establish information resource integration*

At present, the information resources of library are all provided for the users online retrieval downloadon. But in the information explosion era, the users (including personal or college, department) hold a large amount of information resources of the academic field, the other users who need resources will first think of the library. The library strengthen its own information resources construction, at the same time it should fully absorb the vast number of users participating in the construction of library resources so as to upload the users resources channel. In addition, the problem of intellectual property in the information resources management, also need to pay attention to.

3.4 *Carry out personalized pushing service*

The library has accumulated a large amount of data after years of development. It includes both the users behaviors data such as various video equipment data, access control channel data, network data, and feedback data which the library reference to the users. The library uses big data technology applied the users data mining and personalized data analysis. The library should recommend what kind of information service based on the actual each user or potential demand. Then, the library pushes the most appropriate content and approximate resources to the users to choose by face to face or network forms, which is not only increases the users' choices, but also help the users to discover new information in the searching of the resources. Personalized service greatly enhances the users' participation and satisfaction.

3.5 *Establishing cooperative relations with other institutions*

The focus of library resource construction in our country inclines to the digital resources construction in the data age. And the popularity of network application has prompted the establishment of cooperation between libraries and other institutions, such as cooperation with the local culture department which preserves local intangible cultural heritage by using digital technology advantage. The university liabrary can also be combined with other institutions to carry out the librarian training activities. Moreover the university library should strengthen customer service aspects of cooperation with other agencies, especially in the information consulting services at present .For example, the digital resource construction and digital information service level of local university library are relatively

high, so in the region of the middle and primary schools library or the county level library can set up their partnership

4 CONCLUSIONS

The library plays a data provider, developers, maintainers and users multiple roles in the new information service system. At present, the Library have taken place great changes in the information service system, and will use these new ideas, advanced technology to improve library service efficiency and service efficiency

5 ACKNOWLEDGEMENTS

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