RESEARCH ARTICLE

Big Data Mining and Decision Analysis Research on Personalized Service of Gansu Library

li'e Wang
Gansu Provincial Library Lanzhou, Gansu 730000, China

Abstract: At this stage, with the development of Internet technology, big data has occupied a very important position in people's production and life. The library, as a modern information system, has begun to receive high attention from all walks of life. In this paper, first of all, the challenges and individual needs of Gansu Library under big data are analyzed. Secondly, it combs the structure and process of Gansu Library. Finally, it studies the personalized application of big data mining and decision-making in the library.
Keywords: Big data; Mining; Decision making

Citation: Wang li'e, 2020. Big Data Mining and Decision Analysis Research on Personalized Service of Gansu Library. *Journal of Smart Cities*, 5(1): 4-6. http://doi.org/10.26789/JSC.2020.01.002
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1. Introduction

In the information society, many provinces and regions begin to pay more attention to libraries. Software system, under the continuous innovation of Internet technology, science and technology, presents a tendency of complication. How to make the basic hardware facilities of the library personalized and meet people's personalized needs for the library has become the key task of the development of the library in Gansu Province. Therefore, the research of this paper has realistic value.

2. Challenges and individual needs of libraries in Gansu Province under big data

2.1 Complexity and openness of library service platform system

The rise and development of microservice architectures has led to changes in applications. Applications are gradually shifting from monolithic to distributed, with a focus on microservices architecture, which greatly increases the complexity of the system. In addition, the development of the Internet has accelerated the shipping of information in the network and improved the level of resource sharing in different Spaces and times [1]. However, due to the virtual nature of the Internet, the openness of big data may have an impact on privacy or data security. Compared with traditional data resources, new data resources, including big data and cloud computing, are characterized by complexity and openness.

2.2 Contradiction between library service quality guarantee and user privacy protection

Under the big data environment, the service quality guarantee and user privacy protection of libraries in Gansu Province present certain contradictions. This is mainly reflected in the excessive analysis of data in the personalized service of library users. Excessive use or analysis of user data in the development of library personalization may distort the results obtained from analysis. In serious cases, users' privacy will even be leaked, which will not play a positive role in the development of personalized service of the library. In addition, hackers will also extensively collect library and user information through intrusion [2]. In view of the problem of privacy disclosure of

library users, Gansu Library began to put forward how to realize the protection of user privacy through mining and decision analysis. In order to avoid the risk of privacy disclosure caused by information acquisition, data analysis and mining should be carried out on the basis of protecting user privacy as far as possible.

2.3Auxiliary personalized demand analysis of library

The application of mining and decision analysis technology can be developed from three angles. In the first place. Anticipate in advance. In the application of the above technology, gansu library can sort out the relevant data in the library, and provide the prediction basis for the future service development model of the library. At the same time, clear the needs of library users, according to the actual needs of users to improve the service scale, so that the library can meet the needs of users on resources, demand. Secondly, perception in the event [3]. Big data has a large capacity, so it is not easy to select the data with high value from the sea data and carry out scientific mining. Therefore, libraries should prepare activities in advance. Gansu Library can set every Sunday as the lecture activity day, and the lecture room is opposite to the reading room, so that users can directly enter the reading room to read books after listening to the lecture. Finally, feedback after the fact. Real-time feedback can guarantee the rational application of library technology. Therefore, in the process of mining and decision-making analysis, gansu library should do a good job of text information feedback afterwards.

3. Structure and process of library in Gansu Province under big data mining and decision analysis

3.1 Structure analysis of Gansu Library

According to the analysis of gansu province library, the core system of its big data sub-service is the customer. Further optimize the book search process, search and borrowing process, etc., effectively combine and unify all kinds of processes, apply cloud technology to launch intelligent auxiliary services, and promote gansu library to form a practical and scientific management module. In the computing service of Gansu Library, algorithm model training and data computing training can be carried out internally, and calculation results can be imported into cloud database and ADS, among which ADS can support BI system and play a role of real-time response to form BI reports. At the same time, some data can be stored in the cloud database, which can control the storage cost of information and improve the application security of data.

3.2 Process analysis of Gansu Library

Under big data mining and decision analysis, the process of Gansu Library is mainly reflected in the following aspects. First, access to data. Data sources are extracted from multiple dimensions. Generally, data can be extracted from various data storage platforms, services, or the Internet. Secondly, evaluate and analyze the scale and sample. The library system of Gansu province applies the comprehensive benefit evaluation method and system to evaluate the scale, and distributes reasonably according to the actual size of the scale. Third, determine modeling. It is necessary to apply modeling to the monitoring, classification and demand prediction of library users, and determine the modeling method according to the actual situation. Fourth, determine and optimize the output mode. On the basis of determining the weight of evaluation indicators, the report output will be analyzed by using TOPSIS method.

4. Research on the application of big data mining and decision making in personality service of Gansu Library

In gansu province in the development of library personalized service for mining and decision of personalized applications, is actually from the broad market environment, clear the characteristics of the user, habits, from scientific Eng surface, for large data storage management behavior, search, management behavior, sharing management behavior, such as building, form a relatively scientific and perfect management information system. In addition, based on the analysis of users' browsing content and mode, we can timely grasp the content that users are interested in from the real-time perspective, and design a targeted service scheme for users' interest and demand, highlighting the individuality.

5. Conclusion

In the information age, Internet technology, cloud computing and big data have gradually penetrated into people's lives. Library, as a modern information system, can help people understand the hidden world behind the data with the help of a large number of semi-structured and unstructured data. In order to further clarify the development of personalized service in libraries under big data mining and decision-making, this paper takes Gansu Library as an example to discuss. Through the research, the challenges and personalized needs of gansu libraries in the big data environment are clarified, and the architecture, process

and service application of Gansu libraries are summarized. It is expected to provide suggestions for improving the personalized level of gansu library in the future.

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