Exploration and Research on Digital Management of Science and Technology Library and Its Countermeasures

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Abstract: Science and technology library is an important place for scientific research personnel to acquire knowledge. With the development of society, the requirements of scientific research personnel for science and technology library are becoming higher and higher. In order to meet the needs of scientific research and innovation, it is inevitable for science and technology library to carry out digital management. Based on this, this paper analyzes the importance and existing problems of digital management of science and technology library, and puts forward countermeasures for reference.

Keywords: Science and Technology Library; Digital Management; Countermeasures Strategies

With the rapid development of network information technology, the information service function of traditional library can no longer meet the needs of scientific research personnel innovation. In this case, digital science and technology library should be brought into being. Compared with the traditional library, its resource management advantages are obvious, which provides a new way and source for the majority of scientific researchers to read and transmit documents, and satisfies the diversified scientific research and innovation needs. In the era of knowledge economy, how to implement digital management of science and technology library has become a key problem to be solved.

1. The importance of digital management of science and technology library

Science and technology library plays an important strategic supporting role in improving the quality, level and innovation ability of scientific research personnel. The traditional library in the literature management, simple classification cataloging are generally used, making literature brief, summary index and so on, and it mostly relies on manual completion, which consumes a lot of time and energy. However, some complicated management contents such as full-text search and patent novelty search have not been carried out effectively, which makes it difficult for many readers to find materials in the library. When the staff assists in searching, the efficiency is obviously low due to the lack of effective means. After the implementation of digital management in science and technology library, the majority of scientific researchers can accurately query all kinds of literature with the help of digital information retrieval platform, and can carry out value-added services such as borrowing, online browsing, printing and downloading. This not only saves a lot of time for researchers, but also greatly improves the quality and efficiency of library work. Digital management can help managers quickly understand the utilization of literature, classifying and integrating all kinds of documents, and accurately push them to readers, so as to improve the value of science and technology library and ensure the quality of library management[1].

2. Problems in digital management of science and technology library

2.1 The investment is small and the related equipment is not advanced enough

For science and technology library, in order to do a good job in digital management, it is necessary to have a set of advanced equipment system. The cost of purchasing advanced equipment and system is very high, which needs to be invested before the implementation of digital management, so as to ensure that the relevant management personnel can carry out the management work smoothly. However, from a related point of view, most science and technology libraries do not have sufficient funds for the introduction of advanced management equipment system in the early stage, so they can only purchase some equipment which is necessary for digital management with relative low price, and the software cannot meet the needs of subsequent applications[2]. Due to the lack of capital investment, the relevant managers lack of advanced equipment system in digital management, and the management work can only be limited to the simple use of computers, retrieval and classification of books, which does not meet the real needs of digital management[3].

2.2 Lack of compound talents proficient in digital document management

The digital management of science and technology library not only involves information technology, network technology and programming language, but also needs to be proficient in the knowledge of library management, information technology, information management, knowledge management and professional knowledge. The requirements for the quality and ability of management personnel are relatively high, in addition to the need to master the daily literature classification, cataloging, shelving, summary, statistics, publicity and promotion. In addition to some basic management tasks, we also need to solve the problems in the management work in time to provide satisfactory services for the readers. The management staff of science and technology library needs to manage a large amount of literature, various types, carrier forms and high use value. The quality of management directly affects the sustainable and healthy development of science and technology library, which has a far-reaching impact on the innovation of scientific research personnel. Therefore, managers need to maintain a rigorous, responsible attitude, with the spirit of dedication and dedication in the work, only in this way, can the role of digital management be brought into full play. However, from the survey, many managers' management ability and technology are not high, and they have not received systematic training. They manage the library only by their own experience, and their management attitude is not particularly correct. In addition, some managers are older, they do not fully grasp some new technologies, their computer operation ability and advanced management knowledge are not fully understood, resulting in many problems in the management work, failing to meet the requirements of digital management, with low management quality and efficiency.

2.3 Low level of digital application and immature technology

The application of digital management technology in the management of science and technology library can effectively improve the management quality and modernization level, and provide more convenient services for readers. In other words, the implementation of digital management can improve the utilization rate of literature and save a lot of time and funds for researchers. However, from the survey, although most of the scientific research libraries have introduced digital management system, the promotion and use of digital management system is not smooth because the management personnel are familiar with and accustomed to the original coding and query mode, and their own technical level is limited, so the promotion and use of digital management system is not smooth, let alone give full play to its role.

In addition, many science and technology library digital management technology is not mature, in the implementation of digital management of literature, but also a lot of tedious manual work, the relevant content into the computer system efficiency is very low, with very high error rate. In addition, the digital technology used for digital presentation of paper books is not friendly, and the quality problems such as random code and black shadow still exist.

3. Countermeasures of digital management of science and technology library

3.1 Raising funds through multiple channels and ensuring sufficient funds for digital management

Funds are the key to the smooth development of digital management of science and technology library. Without sufficient funds, the management work is difficult to achieve the desired effect. Therefore, to fully implement the management work,

we need to ensure sufficient funds for digital management, introduce advanced digital management equipment system, and build a platform for digital management. The core goal of digital management in science and technology library is to provide readers with high-quality services to meet their diversified needs. Therefore, in the introduction and use of digital related technologies, we must effectively consider its practicability and foresight, so as to more effectively meet the current and long-term management needs. In addition, the science and technology library can also expand the source of funds, raise funds from large users, and set up special funds for the purchase of specific professional digital management equipment and systems in specific fields, so as to lay a foundation for better digital management of characteristic scientific and technological documents.

3.2 Provide professional digital management personnel team and improving their management level and professional quality

In order to fully implement the digital management of science and technology library, we must rely on the digital management personnel, who are the guarantee for the smooth development of digital management and the improvement of management quality. In the actual management work, management personnel not only need to have professional management knowledge and experience, but also need to master modern technology, and be able to skillfully use computer technology, management technology and other technologies. At the same time, they should also have strong ability to cope with emergencies, analyze and resolve problems. This needs to be equipped with a professional digital management personnel team, strengthen the management of knowledge, technology and other aspects of training. Management personnel can be arranged to go out for training, practice, study and exchange to accumulate work experience; corresponding professionals can also be recruited to introduce responsible managers with strong digital management ability, high technology level, so as to improve the quality and level of digital management.

3.3 Building a one-stop digital resource management platform and ensuring the safety and effectiveness of digital management

In the process of digital management, we should combine the diversified management ideas, build a perfect one-stop management platform, and carry out unified centralized management of all kinds of literature, in order to provide targeted services according to the needs of readers.

In addition, in the implementation of digital management in science and technology library, it is necessary to integrate homogeneous or heterogeneous databases with the introduced multi database system, and ensure the security of local data, so as to avoid the system being damaged by hackers and viruses in the process of implementing digital management. Therefore, the science and technology library needs to combine its own work practice, ensure the safety of the digital equipment and system used, and use advanced anti-virus software as well as encrypt the system application. At the same time, some core files can also be encrypted and backed up to avoid the leakage and damage of documents and materials in case of security problems, which will bring adverse impact on management and scientific research work, and even economic losses and leakage problems.

4. Conclusion

In a word, with the rapid development of modern network information technology, digital management has been effectively used in every neighborhood, and has made some achievements. In order to better meet the needs of the development of the times and provide diversified services for the majority of scientific researchers, scientific and technological libraries need to carry out scientific digital management, improve the quality and efficiency of management, and promote the sustainable and healthy development of science and technology libraries, enabling scientific and technological innovation.

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