

Some thoughts on the Patent Information Services in Libraries in the Digital Information Age

Shan Qi

Library, Binzhou University, Shandong, China

qiiq33@163.com

Abstract: The advent of digital information age has brought both great opportunities and challenges to the patent information services in libraries. Not only the channels of the patent information services can be expanded, but also the output of the patent achievements can be promoted, with the help of the massive data platform. By analyzing the current status of the patent information services in libraries and the necessity of expanding the patent services, this article offers some thoughts on the patent information services in libraries, and finally expounds the application of the big data in the patent information services in libraries, looking forward to offering help for the patent information services in libraries at present.

Keywords: big data, library, patent information services.

1. INTRODUCTION

Combining with different aspects of science, economics, technology, etc., the patent information is the crystallization of the wisdom of the broad masses of people and scientific workers, is a very important information resource, and is of great significance to the development and construction of the country [1]. Therefore, the current patent information resources are increasingly valued by people. At home, the patent information services that universities and colleges are providing, are still in a big gap in some aspects compared to those in foreign countries, and need to be improved gradually by our continuous efforts [2].

2. CURRENT STATUS OF THE PATENT INFORMATION SERVICES IN LIBRARIES

2.1 Differences among the patent information services

The patent information services provided in libraries, at the actual needs of the users, are some patent related knowledge with the help of the patent information database and some information resources in libraries. The basic content of the service is that the library provides the users with links of relevant patent information, as well as the specific methods of searching for the patent information and those of downloading relevant materials. According to relevant reports, at present, universities that can provide more comprehensive library patent services are mainly key universities such as Tsinghua University, Shanghai Jiaotong University, Zhejiang University, etc., while other general universities

provide only two aspects of patent information services: navigation of the patent documents and introduction to patent basics. Overall, the patent information services provided in universities are relatively simple at present, concentrated mainly on patent novelty searching and documents retrieval. Most libraries do not fully avail of their own advantages in such resources to provide more in-depth patent information services [3].

2.2 Causes of the problems in patent information services

Patent information involves many fields of knowledge, which requires patent information service personnel not only to have certain intellectual property knowledge, but also to have a wide range of knowledge, so as to better provide quality patent information services for the masses [4]. A qualified staff member of patent information services in a library should meet the following requirements: certain ability to acquire professional retrieval information; ability to integrate and analyze patent information; ability of communication; fundamental ability to read foreign documents etc. As a centralized place of literature and information, the library's function is mainly to serve scientific research and teaching in universities and colleges. In terms of scientific research, the service capabilities of the libraries in universities and colleges still remain at the shallow level of literature search. It is necessary to have professional staff for patent information services. In absence of such staff, it is difficult to further improve the patent information services, and to meet in-depth scientific research in various disciplines.

3. SIGNIFICANCE OF DEVELOPING LIBRARY PATENT INFORMATION SERVICES

3.1 Great importance paid by the state

With Rapid development of economy and improvement of science and technology in the country, the ability of scientific and technological innovation has become more and more important. Policies have been carried out by the state in recent years, which encourage the university students to start their own businesses and conduct independent researches, are also an appeal to people to pay attention to scientific and technological innovation. However, scientific and technological innovation cannot separate from intellectual property rights and patent applications, which have been paid importance by the state. As the important bases for cultivating talents, universities and colleges should actively respond to the call of the state to encourage and serve more outstanding talents to devote themselves to innovation. Thus, the patent information services need to be improved continuously in universities and colleges.

3.2 Emphasis on patent activities in universities and colleges

As the main places for scientific innovation, universities and colleges are the source of innovation power in the country. For example, the R&D Department of Science and Technology established in Peking University, has strengthened the scientific research and innovation in universities and colleges, and promoted the innovation system of science and technology in the country. In such activity, Peking University issued measures for the management of patent operations and established a university patent information services platform, which not only helped the patent application of the innovator

inside this university but also further promoted the transformation of the patented technology into a more practical value. Hence, the patent information services get developed.

3.3 Demand for patent services both inside and outside of the universities and colleges

Universities and colleges often undertake scientific research projects from the state or the provinces, and much demand for patent information services occur. First, with rapid growth of the patents in university and colleges, their value in the scientific research increases gradually. But, due to the insufficient scope of knowledge in patent applications and information transformation and lack of importance attached to the information transformation by the scientific researchers, guidance from professional institutions is necessary for patent information services inside the universities and colleges. Second, demand of patent retrieval and novelty searching sometimes occurs in libraries, which are places for patent novelty searching.

4. APPLICATION OF BIG DATA IN DIGITAL INFORMATION AGE

With the development of the internet industry in geometric explosion in recent years, big data has been widely used in many industries. They include the internet companies taking the internet as their developing platform, as well as some offline entity sales companies introducing big data into their industries. For example, Tesco, a retailer in the UK, has long collected actual user data information and changed its sales model accordingly. The specific approach is to collect users' consumption data information for comprehensive analysis, by which relevant activities are carried out that meet the users' consumption standards, and have achieved good results. This is especially true for Internet companies. Take Headlines Today for an example, it collects the users' browsing data to judge their interests by the length of reading time, so that similar updates will be made in real time during their browsing next time, and the users will get the news they are interested in time. This is highly approved by the users.

Big data is also carried out in domestic libraries to provide personalized services. Resources can be accurately located by the radio frequency identification technology with the help of the identification management, facilitating resources management in libraries and making it easy for the readers to find the relevant resources in time. By remembering and reading information from the chips of the library cards, the new personalized data analysis software can analyze readers' borrowing records, draw out their reading habits, and recommend information for readers through the function of index. And this can help libraries provide readers with personalized services.

5. PATENT INFORMATION SERVICES IN LIBRARIES UNDER BIG DATA

5.1 Strengthen staff Training and publicity

For the patent information services in libraries, the first thing is to master multi-dimensional knowledge of patent information, including the basic knowledge of patent at a shallow level as well as the professional knowledge at a deep level. The staff of the patent information services attaches much importance to the patents full of higher content of science and technology. The staff should be classified simply inside the library. Regular training of professional knowledge need to be paid importance to and the control of patent information by patent information service staff need to be

strengthened, to better meet the actual demand of the users; libraries should also strengthen the promotion of patent information services and publicize the library's patent information services to enterprises through open platforms.

5.2 Integrate information resources and strengthen cooperation

The information resources need be to integrated in libraries so as to better carry out cooperation with enterprises: first, to integrate existing resources; second, to establish cooperation with enterprises to share resources; and third, establish characteristic resources. With reference to the practice of the patent agencies in the market, a variety of patent information services can be developed, including the patent information consultation for enterprises and the platform for developing patents by the enterprises themselves. Making full advantage of the resources of their own, libraries can cooperate with enterprises to develop new resources with unique characters, taking the users' demand as basic target, so that the patent information services in libraries can better serve the national economy to meet the demand of the market.

5.3 Establish a one-stop platform

Through the platform of big data, one-stop platform of the patent information services to be established in libraries, should be the main developing trend of the patent information services in libraries. This one-stop platform includes patent information resources in libraries, patent service publicity and personalized service. Patent inquiry and consultation can be carried out under each module of the platform so that the actual users' data information statistics can be facilitated in libraries. Then, patent information that meets the demand of the users will be pushed out to help the users efficiently obtain patent information, and at the same time the patent information service platform in libraries can be further popularized. The patent information resource platform in libraries includes patent database, patent periodicals and books, and patent information navigation; the patent service promotion platform is mainly aimed at actual users, including consultation service and users training; the personalized service platform mainly aims at the exploration of in-depth users' demand, including patent information demand in various areas such as law, and science and technology.

5.4 Carry out personalized information pushing

Personalized information pushing is realized by means of big data platform. Just like Headlines Today mentioned above, certain data information will be left by the users during browsing information in libraries or borrowing books from the libraries. By analyzing different user data information with the help of big data platform, we will get to know the actual interests and hobbies of the users, and will push books information that users may be interested in when they browse the interface the next time, and namely push personalized information to users. In the process of information pushing, statistical analysis on a large number of users' data information in the background can be performed by means of big data, and patent information pushing service for specific people will be carried out, so as to further strengthen the library's competitive power in such area. With the ability of information updating in big data, it's convenient for libraries to update patent

information to the latest in time, so that the user can obtain the patent information message at the first time, which is helpful for the promotion of the library patent information service platform.

6. CONCLUSION

In summary, with the advent of the digital information age, big data has been introduced into more and more industries. Big data should be introduced into the patent information services in libraries to improve the overall level of the patent information services in libraries, and to promote the development in the market of the library patent information services.

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