

The Position of Intellectual Property Information Service Center in Colleges and Universities—A Case Study of Intellectual Property Information Service Center in Huazhong University of Science and Technology

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ABSTRACT

In order to clarify the position of intellectual property information service center in colleges and universities, starting from the advantage of developing intellectual property information service in colleges and universities, this study discusses the position of intellectual property information service center in the work of colleges and universities, and combining with the actual work of intellectual property information service center of Huazhong University of Science and Technology. Through the summary of experience, it is proposed that the intellectual property information service center in colleges and universities should transfer as the intellectual property training and teaching center, the intellectual property information support center, the intellectual property information research center, and the intellectual property system platform center, which is conducive to the development of intellectual property information service center in colleges and universities.

Keywords: *Intellectual Property Information Service Center; Colleges and universities; Position*

1. INTRODUCTION

With the policy of rejuvenating the country through science and technology, intellectual property rights have been paid more and more attention. Consequently, national ministries and commissions and local agencies have promulgated relevant policies and regulations aimed at the reasonable protection of intellectual property rights and the effective use of intellectual property rights. In this context, patent information services have become a fast-growing industry. In recent years, the country has promulgated several policies to support universities to develop intellectual property information services: Firstly, the Intellectual Property Office, the Development and Reform Commission, the Ministry of Science and Technology and other ministries and commissions jointly formulated *the Guiding Opinions on Accelerating the Cultivation and Development of Intellectual Property Service Industry* in 2013, which clearly stated that libraries had become a member of the public service system for intellectual property rights. Secondly, in *Several Opinions of the State Council on Accelerating the Construction of a Powerful Country of Intellectual Property Rights*, it proposed that it ought to increase the number of intellectual property information service outlets and improve the public service network of intellectual property information. Thirdly, *The*

13th Five-Year Plan for the Protection and Application of National Intellectual Property Rights (No.86 Document of State Council [2016]) called for increasing intellectual property information service outlets and strengthening capacity-building of intellectual property information services in public libraries, university libraries, scientific and technological information service institutions, industry organizations and so on. Finally, *The 13th Five-Year Plan for National Education Development (No.4 Document of State Council [2017])* clearly supported universities and colleges' libraries in building intellectual property information service centers to provide services for promoting university innovation.

Driven by policies, relevant national ministries and commissions were also active to promote universities and colleges to develop intellectual property information services. In 2019, the State Intellectual Property Office and the Ministry of Education jointly determined the first batch of 23 national intellectual property information service centers through selection. In addition, the selection work has also been completed in 2020 and other 37 national intellectual property information service centers have been identified. So far, there are 60 national intellectual property information service centers in colleges and universities in China. Moreover, in the *Several Opinions on Accelerating the Construction of a Public Service System for Intellectual Property Information under the New Situation* issued by the State Intellectual Property Office in 2019, it is

suggested that the number of national intellectual property information service centers should up to 100 in universities by 2022.

Scientific research in colleges and universities needs the support of intellectual property services, which has become an internal requirement for colleges and universities to develop intellectual property information services. With the increasing awareness of protecting innovation and creation, the amount of patents granted by colleges and universities continues to increase. According to data from the State Intellectual Property Office, in 2018, domestic universities received about 190000 authorized patents, as an increase of 14.1% over 2017. However, the problems of "emphasis on quantity over quality" and "emphasis on application over implementation" still exist [1]. Integrating intellectual property information services into the entire process of technological innovation is an effective way to improve the patents' quality and conversion rate in colleges and universities.

Whether from the promotion of national policy and practical work or the development of scientific research in colleges and universities, it is imperative for colleges universities to carry out intellectual property information services. Intellectual property information service is a new thing for colleges and universities, so its position and role in colleges and universities must be clearly defined in order to better promote development. Based on the advantages of carrying out intellectual property information service in colleges and universities, this study discusses the position of intellectual property information service center in the work of colleges and universities combining with practical work and provides some references for the successful development of intellectual property information service center in colleges and universities.

2. THE ADVANTAGES OF INTELLECTUAL PROPERTY INFORMATION SERVICE CENTER IN COLLEGES AND UNIVERSITIES

Colleges and universities are places where knowledge is spread and gathered. Intellectual property information service centers of colleges and universities are mostly located in libraries. As a result, it leads to certain advantages in terms of personnel, resources, tools [10] and market demand.

2.1. Personnel advantages

From the perspective of the general process of intellectual property information service work, staff needs to have five abilities: retrieval ability, team collaboration ability, logical thinking ability, communication ability, learning ability.

Colleges and universities' libraries have successively carried out a series of information services, such as novelty

search, disciplinary analysis, and disciplinary services and so on, then trained a group of librarians with good information literacy, familiarity with various database search methods, basic knowledge of patents and a better ability of words' expression. In their daily work, librarians already had work experience in information analysis services and have accumulated work experience in literature retrieval and information analysis, which laid a foundation for further development of patent information services. On the other hand, libraries of various schools have sent people to participate in patent training many times. Some of them have mastered the basic knowledge of patents including patent search skills, the use of patent analysis tools and the specifications for writing patent analysis reports and so on. Besides, they can also use analytical tools to write patent analysis report.

2.2. Resources advantages

Intellectual property information services are based on patent literature and non-patent literature. Patent literature can be searched through the patent websites of various organizations in various countries, and the patent information of multiple countries can be conveniently obtained on the patent search platform as well, such as Derwent, Innography, Proquest Dialog-patents, Soopat and so on. For non-patent literature, part of them can be obtained through search engines. Nevertheless, most literature still needs to be obtained from various professional databases. Therefore, in order to obtain more accurate analysis conclusions, various professional databases are indispensable. It is the basis for obtaining information sources.

Colleges and universities generally invest tens of millions of funds in the construction of resources every year to ensure that resources can meet the scientific research's needs of various disciplines throughout the school while all kinds of professional databases ensure the completeness of non-patent literature. At the same time, some colleges and universities also purchased professional patent analysis tools such as Innography and DII, which are helpful for the development of patent analysis.

2.3. Demands advantages

Colleges and universities themselves are scientific research institutions, and there are many patent applications and project each year, which means these are potential service targets of patent information analysis services. Only taking the number of invention patents granted by some colleges and universities in Wuhan in 2019 as an example, there are 1754 pieces at Huazhong University of Science and Technology, 1339 pieces at Wuhan University and 1216 pieces at Wuhan University of Technology. This fully shows that teachers in colleges and universities have a strong awareness about patent application and have high-value technology at the same time. Accordingly,

teachers in colleges and universities actually need intellectual property information services to help them apply for patents then enhance the value of their patents. On the other hand, there are generally many scientific research institutions and technology enterprises around colleges and universities, which will also breed a large number of demands for patent information services. However, as far as Wuhan is concerned, the current number of existing patent agencies and intellectual property evaluation agencies is relatively small thus making it difficult to meet the growing demands for patent information services. This provides a good market opportunity for colleges and universities to develop patent information services.

3. POSITION OF INTELLECTUAL PROPERTY INFORMATION SERVICE CENTER OF COLLEGES AND UNIVERSITIES

Our school's intellectual property information service center was established in 2018. Over the past few years, we have made great efforts to build the center into the "four centers" of the school to service the school's discipline construction better and reflect the value of intellectual property services, namely, the school's intellectual property training and teaching center, the intellectual property information support center, the intellectual property information research center and the intellectual property system platform center.

3.1. The intellectual property training and teaching center

According to the estimation of the World Intellectual Property Organization, if the patent information can be effectively used, the starting point of the research of enterprises can be greatly improved, the technology research cycle can be shortened by 60% and the research funding can be also saved by 40%. As the most effective carrier of technical information, patents include more than 90% of the latest technical information in the world, which is 5 to 6 years earlier than the information provided by general technical publications, and the content is real and accurate. Patent information, which integrates technology, law and economic information, has the characteristics of literature concealment, legal compulsion and economic exclusivity. Patent's retrieval and analysis is a very basic and vital work both in China and abroad, which runs through the whole process of scientific research to transformation and production to marketing. It can be seen that patent literature occupies an extremely important position in scientific research.

Carrying out intellectual property education based on patent literature retrieval and knowledge related with intellectual property in colleges and universities can not only enhance college students' awareness of intellectual

property rights, improve students' ability to retrieval and analyze patents and promote the cultivation of intellectual property talents, but also improve college students' innovative ability and activate the country innovation vitality. However, at present, colleges and universities pay more attention to the teaching and training on the process of retrieval of scientific and technological literature, which involves less patent knowledge and patent literature's retrieval and often teaches all relevant knowledge within a few hours. It is difficult for students to fully grasp patent-related knowledge. As a result, it is particularly important to carry out professional intellectual property teaching in colleges and universities.

The intellectual property information service center of colleges and universities can rely on its own teaching staff and practical experience to develop intellectual property literacy education for the whole school thus creating conditions to carry out professional courses teaching and formulating the intellectual property training and teaching center of the school. On the one hand, it is recommended to popularize the legal knowledge of intellectual property rights so that college students can understand the relevant theories of intellectual property rights. More importantly, it is necessary to teach retrieval methods and analysis methods so that college students will find patent information and use patent information, then use intellectual property to protect their innovations.

In August 2019, the intellectual property information service center of our school has completed the teaching work of *Patent Literature's Retrieval and Analysis* for 32 hours in the national defense class of the college of Management and completed a number of lectures on intellectual property information services for faculties. Besides, it actively promoted related knowledge of intellectual property through WeChat, website and other various ways and carried out intellectual property teaching and training activities from various of aspects, then strove to become a school intellectual property training and teaching center eventually.

3.2. The intellectual property information support center

Information institutions in colleges and universities are mostly set up in libraries. With the rich literature resources of the libraries, they can provide services to clients, including information collection, information analysis and information mining based on patent literature. At present, our school's intellectual property information service center has become the school's intellectual property information support center to provide professional services for school talent construction, discipline development, and scientific research projects.

3.2.1. Provide decision support for discipline construction and talents' introduction

The amount of patents and the transfer of patents are more and more valued by colleges and universities. They have gradually become one of the important evaluation indices for discipline construction and talents' introduction. In addition, they are also an effective way and an important symbol to improve the school's innovation ability and accelerate the construction of "double first-class".

The intellectual property information service center of our school regularly sorts out the patents of key disciplines and conducts targeted comparisons among related schools thus to fully grasp the patents of key disciplines and provide reference opinions for the management measures of the layout, transfer and transformation of patents of various subjects. On the other hand, it also provides patent-related data for subject evaluation. At the same time, it ought to contact with personnel department and relevant departments of college to provide patent evaluation and analysis for the introduction of high-level talents, and then finally conduct a comprehensive analysis and evaluation on the scientific research level of talents.

3.2.2. Provide support for scientific research

Our school's intellectual property information service center is embedded in the school's key scientific research team and participates in the whole process of project establishment, project research, project conclusion and project achievement's transformation as much as possible and provides valuable literature and patent information to the scientific research team and the whole process of patent information management service for the project in a timely manner.

Table 1 lists the information services provided by our school's intellectual property information service center for school research projects in recent years. Among them, in 2018, it searched and screened relevant literature for aircraft antifreeze systems and collect market, technology and other cutting-edge information as well. Next, it provided intellectual property information services for the project *Bridge Safety Diagnosis and Regional and Precise Technology of the Detection of Flaws*, and provides evidence to prove the project which successfully obtained National Award for Technological Invention. Lastly, in 2020, according to the requirements of the small boat receiving and releasing task group at different stages, the technologies to be studied or being researched by the clients are analyzed, compared and excavated with the existing related technology to provide protection for the clients' novelty of technology. The intellectual property information service center not only provides information support for the project groups, but also provides valuable reference suggestions for the project groups' scientific research. The center position of the center's information support is increasingly prominent.

Table 1. The situation of intellectual property information services from 2018 to 2019

	Patents' Retrieval/pieces	Patents' Novelty Search/pieces	Patents' Analysis/pieces
In 2018	2	12	7
In 2019	14	13	6

3.3. The intellectual property information research center

The information disclosed by intellectual property is very ample. In this respect, the intellectual property information service center can conduct in-depth research on the information content, using methods of information and information analysis methods of intellectual property, then become a research center based on intellectual property information. Being an intellectual property information research center can not only produce new scientific research results and guide new practices on the one hand. On the other hand, while carrying out scientific research, the theoretical and practical level of the staff of the center can also be rapidly improved.

The intellectual property information service center of our school has actively applied for all kinds of projects in recent years, which accelerated the training of personnel in scientific research and enhanced the status of the center. In 2019, we cooperated with the State Intellectual Property Office on patent special projects and completed those projects successfully. Furthermore, it also undertook a number of scientific research topics for off-campus enterprises in 2012.

At the same time, our school's intellectual property information service center also began to study the patent information: research on patents in part of colleges and universities across the country, and it is planned to form a set of patent evaluation indices system through research and comparative analysis, then determine the weight standard, which will eventually form a ranking system with certain credibility for colleges and universities' innovation.

3.4. The intellectual property system platform center

At present, there are hundreds of millions of patents in the world, and the disclosure rate and utilization rate of patents are generally low. In response to this problem, building an appropriate system platform is an effective way to change the low efficiency of patents' utilization rate. It is one of the tasks of the intellectual property information service center to use the Internet, big data, artificial intelligence and other new technologies to build a system platform that is suitable for its own institution in the complex patent data to improve service efficiency.

Our school's intellectual property information service center participates in the construction of intellectual property system platforms: embeds patent modules in the knowledge base of school institutions; develops and trial an online platform for intellectual property services of Huazhong University of Science and Technology; Meanwhile, completes the construction of intellectual property service portals as well. On the website, our school's patents are displayed in all aspects, providing a platform for our school's intellectual property transfer and transformation.

4. SUMMARY

The Implementation Measures for the Construction of Intellectual Property Information Service Centers in Colleges and Universities pointed out: The intellectual property information service centers in colleges and universities should provide full-process services for the creation, use, protection and management of the intellectual property in colleges and universities, support collaborative innovation and the construction of superior disciplines and promote colleges and universities' transformation of scientific and technological achievements. After several years of development, our school's intellectual property information service center has gradually become the school's intellectual property training and teaching center, intellectual property information support center, intellectual property information research center and intellectual property system platform center. In a word, it has played a better role in intellectual property information services with its center function. Correct positioning is beneficial to the development of intellectual property information service centers in colleges and universities. The position of the "four centers" of our school's intellectual property information service center will serve as a reference for the position of intellectual property center in colleges and universities.

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