

# THE APPLICATION STATUS OF ENTERPRISE PATENT INFORMATION MANAGEMENT RESEARCH IN CHINESE CREATIVE INDUSTRY PARK

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## ABSTRACT

The patent information resource system have taken as the research platform and the enterprise with the registered patent information resource system as the research object. The article analyzes the application of patent information of enterprises, including the amount of patent search and patent selection of registered users, the classification of the nature of the enterprise, the classification of enterprise scale, the classification of national economic industries, etc..This article points out the importance of patent information to the development of enterprises and puts forward suggestions on how to promote and apply patent information in enterprises. That meet the needs of enterprise scientific and technological development. Through some measure will enhance the ability of enterprises to innovate independently. This article analyzes the enterprise patent protection through the platform registered enterprises. Most enterprises have a weak awareness of patent protection. Through the classification and comparison of enterprises, the article puts forward some corresponding measures to improve the patent protection of enterprises.

**Keywords:** patent information; Intellectual Property Rights; Enterprises; Scientific and technological development

## 1 . INTRODUCTION

In recent years, scientific and technological innovation as a national strategy has been elevated to an unprecedented height. As an important carrier and support for developing an innovative country, promoting and applying scientific and technological information is increasingly important. The gradual implementation of scientific and technological information projects has expanded the new field of service enterprise development and enriched and enriched the connotation of serving enterprise scientific and technological innovation. For a long time, Chinese governments have been active exploring ways and channels to serve enterprises. However, the lack of good entry points, patent information service enterprise technology innovation project as an essential part of the service for enterprise innovation, has become the grass-roots level for local enterprises to serve the leading products, by the local enterprises generally welcomed, but also to a certain extent by the local government relevant departments attention and support.

The patent information resource system covers data from many countries and regions worldwide. It is a big data platform for utilizing foreign patent information. It integrates patent resource databases, industry databases, patent litigation databases, industrial design databases, patent management, public services and other modules. Provide enterprises with foreign high-quality patent information resources, enhance core competitiveness, and achieve high-quality

development. From 2014 to the present, the author has undertaken the promotion and application service project of scientific and technological information enterprises for many years, carried out scientific and technological information service promotion activities for the actual needs of enterprises with specific innovative capabilities, conducted one-on-one on-site counselling for active enterprise users, helped enterprise scientific and technological personnel master the operation and use the method of the patent information resource system, and effectively improved the level of enterprise application. At the same time, it tracks the application of enterprises, analyzes and feedback on enterprises' innovation results, collects and refines achievements, cultivates typical cases, and improves project output and effectiveness through accurate service to enterprises.

Taking the patent information resource system as the research platform and the science and technology enterprises of the registered patent information resource system as the research object, the article analyzes the application of patent information of enterprises, including the number of patent searches and patent selection of registered users, the classification of the nature of the enterprise, the classification of enterprise scale, the classification of national economic industries, etc.. The article points out the importance of patent information to enterprises and puts forward suggestions on how to promote and apply patent information in enterprises. To meet the needs of enterprise scientific and technological development, enhance the ability of enterprises to innovate independently.

## 2 . STATUS OF INTELLECTUAL PROPERTY RIGHTS IN CHINA

On September 14, 2021, the 2020 Evaluation Report on the Development of Intellectual Property in China released by the Intellectual Property Development Research Center of the State Intellectual Property Office of China. [ 1] The report shows that China's IP development level has risen rapidly in the world's rankings, and it is currently ranked eighth. Looking at the output capacity of intellectual property rights alone, China has jumped to fifth place in the world in 2018. Ip performance is ranked 3rd in the world. The rapid growth of the index is the remarkable achievements in the corresponding areas of IP creation indicators. In 2019, the number of invention patents authorized in China was 354,000 ( excluding Hong Kong, Macao and Taiwan), that is 4.8 times of 2010.[2] The number of domestic trademark registrations was 6.028 million (excluding Hong Kong, Macao and Taiwan), that is 5.2 times of 2010. The number of copyrights registered in China was 4.186 million, that is 9.5 times of 2010; 56,000 international patent applications under the PCT, 4.8 times higher than in 2010; The number of invention patents is 13.3 / per 10,000 people, which is 7.6 times of 2010. While China's intellectual property rights are booming, there are still some shortcomings in the intellectual property work of enterprises [3].

First, most enterprises have established corresponding research and development systems in system construction, but the construction of intellectual property work systems is relatively lagging. For many enterprises, intellectual property work is only a formality, not part of the daily management of enterprises.

Second, in terms of organizational structure, for many Chinese enterprises, tiny and medium-sized enterprises, there is no patent business department or even full-time patent business personnel, many of them are part-time personnel, only responsible for docking with relevant administrative departments and patent agencies, and they cannot protect intellectual

property rights. Let alone flexibly use intellectual property strategies to enhance the ability of enterprises to innovate independently.

Third, in terms of resource investment, the current science and technology enterprises are paying more and more attention to research and development and have increased investment in research and development funds but insufficient investment in intellectual property management and protection.

Fourth, in terms of talent teams, most enterprises pay more attention to the construction of professional teams, recognize that this is an essential part of enterprise development, and cultivate talents through internal, external, regular or irregular forms. However, the training in intellectual property rights and patents is still relatively small. Intellectual property management talents are still relatively lacking. For most enterprises, the assessment of intellectual property rights and patent work is not included in the enterprise performance appraisal system.

### 3 . THE IMPORTANCE OF PATENT INFORMATION RESOURCE SYSTEMS FOR ENTERPRISES

This article's patent information resource database covers patent data from many countries and regions worldwide. It is a big data platform for patent information that integrates a patent resource database, an industry database, patent litigation database, industrial design database, patent management, public service and other modules. Provide enterprises with high-quality patent information resources, and improve the level of scientific and technological research and development and innovation capabilities of enterprises.

The patent information resource system can help enterprises grasp the technological development trends of foreign enterprises, reduce the legal risks of using and borrowing foreign patents, help enterprises find potential partners or predict competitors through patent information, and enhance the ability and level of enterprises to use patent information and protect intellectual property rights of their own technological innovation achievements. Can be used for industry-university-research and technology research, optimize the process, improve product quality, innovate patented technology, and promote industrial technology upgrading; For small and medium-sized enterprises with relatively weak technical strength and weak research and development capabilities, it can be used to absorb and learn from scientific and technological information related to their own products, optimize the original products, develop new products, and enhance the innovation ability of enterprises; For enterprises and individuals that lack investment projects and have investment needs, they can make full use of scientific and technological information resources, organize experts, screen projects, do a good job in market research, and carry out improvements or experiments to adapt to localization, so that they can become projects that can be invested; For colleges and universities, scientific research institutes, you can fully grasp the advanced scientific research achievements of developed countries such as the United States and the European Union, understand the world's most cutting-edge patented technologies in this significant, avoid repeated R&D investment to the greatest extent, save funds and time costs, and improve scientific research and innovation capabilities [4].

### 4 . APPLICATION ANALYSIS OF ENTERPRISE PATENT INFORMATION

#### 4.1 The overall situation of the application of patent information of registered enterprises

From 2014 to the present, the author has undertaken the promotion and application service project of scientific and technological information enterprises for many years, carrying out scientific and technological information service promotion activities for the actual needs of enterprises with specific innovative capabilities, conducting one-on-one on-site counselling for active enterprise users, helping enterprise scientific and technological personnel to master the operation and use of patent information resource systems, and effectively improving the level of enterprise application. The total number of registered patent information resource systems for 1 841 enterprises, and the number of patent searches for registered enterprise users, was 22 454. The number of patent selection was 11 938, of which the number of patent searches was more than 100 times 46, accounting for 2.5%, and 436 users with 10 to 99 patent searches, accounting for the proportion of 3.68% of the users with 1-9 patent searches were 745, accounting for 40.47%. The number of patent searches was 0. The number of users was 614, accounting for 33.35%.

It can be seen from the above data that through the promotion of the patent information resource system in enterprises, some enterprises use the patent information resource system as their research and development resources. However, many enterprises still have not been used after registration, of which only 46 active users with more than 100 patent searches, accounting for only 2.5%. At the same time, 614 enterprises have not been used after registration, accounting for the total number of registered users 33.35%.

Combined with the user's feedback, the main reasons for analyzing it are as follows:

First, the awareness of patent application and layout of some enterprises needs to be further enhanced; the attention to patents is not great, they do not realize the importance of patents to research and development and production, and they do not invest enough in intellectual property work.

Second, the patent information resource system can provide services for multiple modules such as an enterprise patent resource database, an industry database, a patent litigation database, an industrial design database, patent management, and public service. However, for most small and medium-sized enterprises, there is no special patent department and patent staff, usually part-time personnel and patent agencies docking by the patent agency to help enterprises complete the patent-related work; the enterprise itself is less involved in patent work.

Third, many enterprises' technical personnel and patent staff cannot transform intellectual property rights and patent applications, and they are not very proactive in applying patent information resource systems.

Fourth, the enterprise users who push the patent information resource system are not accurate enough, and some enterprises do not need intellectual property rights.

Fifth, the publicity of enterprise intellectual property rights and patent work should be done insufficiently, and it is necessary to strengthen the guidance of enterprise intellectual property work, help enterprise scientific and technological personnel master the operation and use method of the patent information resource system, and conduct relevant training for enterprise R&D personnel and intellectual property commissioners.

#### 4.2 Analysis of the nature of the registered enterprise

Among the 1841 enterprises registered in the patent information resource system, according to the nature of the enterprise, listed companies accounted for 0.6%, limited (limited liability) companies accounted for 36.2%, and state-owned or state-controlled enterprises accounted for 3.7%. Private enterprises accounted for 59.5%. It can be seen that private enterprises and limited (limited liability) companies that have a particular ability to innovate and attach importance to intellectual property rights are the main force of the registered patent information resource system, on the one hand, because the base of private enterprises and restricted shares (limited liability) companies is large, on the other hand, because relative to joint-stock listed companies, state-owned or state-controlled enterprises, private enterprises and restricted shares (limited liability) companies need to have free R&D data resources to meet their own technological innovation needs. [18]

#### 4.3 Analysis of the size of registered enterprises

Of the 1,820 enterprises, large enterprises accounted for 4.9 per cent and micro, small and medium-sized enterprises (MSMEs) by size. [17] It can be seen that dynamic MICRO, SMALL AND MICRO ENTERPRISES account for most of the registered patent information resource system. Analysis of its reasons and the nature of the enterprise analysis is similar, and the main reason is that, on the one hand, the base of small and medium-sized enterprises is significant; on the other hand, some large enterprises already have their research and development information resources. Small and medium-sized enterprises compared to large enterprises need to have their free research and development data resources.[16]

#### 4.4 Classification analysis of national economic industries of registered enterprises

Among the enterprises registered in the patent information resource system, according to the classification of national economic industries, the top two enterprises account for the manufacturing industry; Information transmission, software and information technology services. Among them, the manufacturing industry accounts for 50%, and the information transmission, software and information technology service industry accounts for 26.29%, ranking in the top two, accounting for most of the proportion, which is basically in line with the layout of China's industrial and industry structure. [9] Manufacturing and information transmission, software and information technology services are two of the most technologically intensive areas.

##### *Classification of registered enterprises in the national economy*

Classification of registered enterprises in the national economy	Percentage (%)
Industry Classification manufacturing	50
Information transmission, software and information technology services	26.29
Leasing and business services	6.71
Agriculture, forestry, animal husbandry, fisheries	3
Water conservancy, environment and public facilities management industry	2.43
Construction	2.14
Transportation, warehousing and postal services	1.86
Other (less than 1% of the total number of industries)	7.57

#### 4.5 Analysis of the nature of active enterprises

Of the 1,841 corporate users of the Registered Patent Information Resource System, the number of patent searches was 22,454, and the number of patent selections was 11,938. Among them are 482 active users with more than ten patent searches. Among the active enterprise users, according to the nature of the enterprise, the share limited (limited liability) company accounted for 37.5%, and the state-owned or state-controlled enterprise accounted for 4.17%. The private enterprise accounted for 58.33%. [13]. Which is close to the proportion of enterprise nature classification of overall enterprise users. It is still a private enterprise with certain technical research and development activities, and a limited share (limited liability) company is the primary user using the patent database.

#### 4.6 Analysis of the scale of active enterprises

Among the active enterprise users, according to the scale of enterprises, large enterprises accounted for 12%, and small and medium-sized micro-enterprises accounted for 88%. It can be seen that technology-based micro, small and medium-sized enterprises account for the majority of active users.

#### 4.7 Analysis of the national economic sector of active enterprises

Among the active enterprise users, according to the classification of national economic industries, the manufacturing industry still accounts for the most significant proportion of 74.29%, the information transmission, software and information technology service industry accounts for 8.57%, the scientific research and technical service industry account for 8.57%. Other industries together account for the proportion of 57%. It can be seen that the use of patent databases in the technology-based manufacturing industry is the most active.

### 5 . IMPROVE THE PROMOTION AND APPLICATION OF PATENT INFORMATION IN ENTERPRISES

#### 5.1 Strengthen the publicity of the application of patent information

Strengthen the importance of patent information to the technological innovation of enterprises in areas with dense scientific and technological enterprises, such as economic development zones and parks, and improve their awareness of intellectual property rights. According to the characteristics of enterprises in economic development zones and parks, it is targeted to register patent information resource systems for enterprises. Improve the function of the patent information resource database, establish corresponding WeChat public accounts, enterprises can obtain the use of patent information resource system, patent basic knowledge and other related content on the WeChat public account, and at the same time regularly push scientific and technological news, research data, and cutting-edge information on intellectual property rights to enterprises [5].

#### 5.2 Strengthen training on the application of patents

With science and technology enterprises, independent innovation enterprises and other enterprises with patent and intellectual property rights need as the main body, industrial engineers, patent staff, and relevant responsible persons of enterprises as the key groups, and the local science and technology bureau, intellectual property office, and development zone management committee jointly carry out intellectual property and patent training, so that enterprises realize the importance of patents, so that enterpriseS R & D engineers and patent

staff can master more patent business knowledge and skills. Enhance the ability of enterprises to use patent information for scientific and technological innovation [12].

### 5.3 Strengthen counselling for patent work

Invite experts in related fields to visit enterprises on the spot to help enterprises solve intellectual property problems encountered in actual research and development and production so that enterpriseS R&D personnel can master the skills of the patent application, patent drafting, patent application, patent layout, etc., so that enterprises can truly realize the benefits brought by intellectual property protection, patent application transformation, patent layout, etc., [10] enhance the awareness of the patent application of enterprises, let enterprises save funds and time costs, and improve scientific research and innovation capabilities.

### 5.4 Cultivate typical cases of application of patent information in enterprises

Based on the broad application of the patent information resource system in enterprises, track the application of enterprises, analyze the effectiveness of enterprise innovation, collect and refine the results, cultivate typical cases of enterprise patent information application, and give certain rewards to typical cases enterprises.[11] Through accurate service, enterprises improve project output and effectiveness.

## 6 . CONCLUSION

In recent years, the level of intellectual property development in China has continued to improve, but enterprise intellectual property rights management needs to be further enhanced. The patent information resource system can be used as a scientific and technological research and development resource database for enterprises, helping enterprises to grasp the technological development trend of foreign enterprises, reduce the legal risk of using and borrowing foreign patents, and improving the ability and level of enterprises to use patent information and protect the intellectual property rights of their technological innovation achievements, avoiding repeated research and development investment to the greatest extent, saving funds and time costs, and improving scientific research and innovation capabilities. [20] This article analyzes the activity, patent search volume and patent selection volume of enterprise users of the registered patent information resource system.[14] The number of patent searches of registered enterprises is 22 454, the number of patent selections is 11 938, and the number of patent searches is 46 for users with more than 100 searches <home, accounting for 2.5%, the number of patent searches in 10 to 99 times is 436, accounting for 23.68% The number of users with patent searches in 1-9 times is 745, accounting for 40.47%, and the number of users with patent search volume is 0 614 accounted for 33.35%. Many enterprises rarely use or do not use the patent information resource system after registration, mainly because the company's awareness of patent application and layout needs to be further enhanced, and the attention to patents is not great; Some enterprises entrust patent agencies to help enterprises complete patent-related work, and enterprises themselves are less involved in patent work; Lack of capacity of enterprise technicians and patent workers in the transformation of IP and patent applications; It is not accurate enough for enterprise users who push the patent information resource system; Insufficient publicity was done to disseminate corporate intellectual property rights and patent work. Through the analysis of the nature of the registered enterprise, the scale of the enterprise, the distribution of the industry, etc., it can be seen that private enterprises and limited ( limited liability) companies have specific innovation

capabilities and attach importance to intellectual property work are the main force of the registered patent information resource system; Dynamic MSMEs account for the majority of the registered patent information resource system; According to the classification of national economic industries, manufacturing and information transmission, software and information technology service industries account for most of the proportion of registered patent information resource systems.[19] The article also puts forward suggestions on how to promote the application of patent information in enterprises and promotes the promotion and application of patent information in enterprises by strengthening the publicity of patent information application, strengthening patent application training, strengthening the counselling of enterprise patent work, and cultivating typical cases of enterprise patent information application, to meet the needs of enterprise scientific and technological development and enhance the independent innovation ability of enterprises.

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