

Standardized Management of Intellectual Property Rights in Colleges and Universities Under the Background of Intellectual Property Power Strategy

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Abstract

Currently the intellectual property management in Chinese universities faces problems such as the lack of specialized agencies and professionals. In this paper, based on the university intellectual property management practice, we have constructed the intellectual property management standardization tree system in order to standardize the management of university intellectual property. It is hoped that this work can help to guide the standardization and development of the university intellectual property management.

Key words: Intellectual property; Management; Standardization; University

1. INTRODUCTION

Colleges and universities have a large innovative research and development personnel, including teachers and doctoral students, graduate students, undergraduates and various levels of students, which are an important subject of science and technology and knowledge production. They have many copyright, patent rights and trademarks and other intellectual property rights. As one of the most important part of innovation system, colleges and universities are also the base to carry out the national strategy of intellectual property rights.

Since the 18th CPC National Congress of the Communist Party of China, the number of university patents has increased from 69,000 to 308,000 in 2021, with an increase

of 346.4%, and the authorization rate increased from 65.1% to 83.9%; the number of patent transfer and licensing contracts has increased from 2,000 to 15,000, and the amount of patent transformation has increased from 820 million yuan to 8.89 billion yuan, an increase of nearly ten times, which has not only achieved quantitative growth, but also achieved qualitative improvement, transforming more scientific and technological achievements into real productivity. The supply force and transformation efficiency of scientific and technological achievements in universities have been significantly improved [1]. The transformation of scientific and technological achievements in China annual report 2022 (universities) revealed that in 2021, the total contract amount/number of transfer, licensing, investment and technology development, consulting and service increased significantly in universities. A variety of ways of achievements of scientific and technological contracts are on the rise, the total amount for transfer, licensing and investment contract is 12.98 billion yuan, with a year-on-year growth of 13.6%. As an important part of the scientific and technological achievements of universities, the transfer and transformation of patent is increasingly active, but the situation of patent transformation is not optimistic. According to the state intellectual property office of the Chinese patent survey report, the industrialization rate of invention patent in our country is 36.7% in 2022, among which the industrialization rate of enterprise invention patent is 48.1%, the industrialization rate of invention patent from scientific institutes is 13.3%, while the industrialization rate of invention patent from university is only 3.9%. Therefore, most of the patents in universities are actually in the sleep as compared with enterprises.

In the process of national intellectual property strategy implementation, the State Council have issued “About the opinions of several policies and measures on promoting the mass entrepreneurship and innovation”, “About several opinions of the new situation to accelerate the construction of intellectual property power” and “The national innovation driven development strategy outline”. Various measures have been encouraged to promote the creation, application and protection of intellectual property rights. To improve the intellectual property management ability and level, in 1999 the Ministry of Education issued “The regulations of the protection of intellectual property rights of universities”. In 2016 “National standards of intellectual property management” was further issued. In 2020 the Ministry of Education, the

state intellectual property office, Ministry of Science and Technology issued “Several opinions on promoting the quality of the patent transformation”. Based on these policies, colleges and universities have carried out the long-term exploration and practice to strengthen the management and promote the protection of intellectual property rights. In September 2021, the CPC Central Committee and The State Council issued “The Outline for Building a Strong Intellectual Property Country (2021-2035)”, which put forward the development goals of building a strong intellectual property country and started a new journey of building a strong country with intellectual property rights. As an important subject of intellectual property output, it is urgent to improve the standardized management of university intellectual property under the background of high quality creation, high benefit application, high standard protection and high level management of intellectual property under the strategy of intellectual property power.

2. THE MISSION OF UNIVERSITIES UNDER THE STRATEGY OF INTELLECTUAL PROPERTY POWER

2.1 Lead innovation, improve the quality of patents, and cultivate major intellectual property achievements

The role as the source of knowledge innovation in colleges and universities is becoming increasingly prominent. According to statistics, universities have more than 60% of the state key laboratories, and gather more than 60% of the national high-level talents. Academicians of the Chinese Academy of Science and the Chinese Academy of Engineering account for more than 40% of the total number of national academicians, and universities undertake more than 80% of the National Natural Science Foundation projects. From 2016 to 2019, the total expenditure on science and technology in universities reached 782.08 billion yuan, and the full-time equivalent of R&D personnel in science, industry, agriculture and medicine increased from 235,000 to 289,000, an increase of 23%. The convergence of innovation resources has laid a solid foundation for the improvement of the original innovation ability of universities and the breakthrough of key core technologies. Since the 13th Five-Year Plan, universities have won more than 70% of the State Natural Science Awards and State Technological Invention Awards, nearly 60% of the State Science and Technology

Progress Awards, and led the completion of 50% of the "Ten Scientific advances in China", and high-level research results have emerged [2].

Intellectual property strategy is of great significance to cultivating the core competitiveness of university scientific research in China. Universities take the national intellectual property strategy as the guide for their scientific research activities, which is equivalent to indirectly participating in the formulation of the "game rules" of international science and technology from many aspects such as technological innovation and technology market share, so as to fundamentally reduce the risk of being eliminated and improve the core competitiveness of China's scientific research. Carrying out scientific research activities in accordance with the intellectual property strategy makes universities start their scientific research higher, more close to the needs of the development of modern science and technology, and at the same time avoid the detours of repeated research, wasting manpower and material resources. With the guidance of the "patent strategy", we can better avoid the scientific research ship of universities from deviating from the trajectory of national science and technology development [3]. In order to improve the core competitiveness, universities should aim at the forefront of the world's scientific and technological development, seize the commanding heights, adhere to the pursuit of academic value and major theoretical innovation, and at the same time promote the implementation of intellectual property strategy, and organically combine technological innovation with intellectual property. In scientific and technological innovation, the strategic thought of intellectual property rights should be fully reflected, and more intellectual property rights should be continuously formed, and major intellectual property rights achievements should be formed by constantly adhering to and promoting technological innovation.

2.2 Giving prominence to the protection and application of intellectual property rights to serve the local economic development

Serving the regional economic development is an important mission entrusted to the universities by the development of social economy and science and technology at a certain stage. It is also an important way for universities to comply with the internal development laws and requirements of their development and obtain external

resources to meet their own development. In order to serve the local economic development and give full play to the role of intellectual property rights, universities need to highlight the protection and application of intellectual property rights. "Industry-university-research" cooperation is an effective way for the interactive development between universities and regional economy, and "application" is the fundamental purpose of "industry-university-research-application". Therefore, colleges and universities should adapt to the requirements of the economic circle and industry, close to the market, accelerate the transformation of scientific and technological achievements, solve the major technical problems in the industrial development, so as to promote the construction of innovative regions and innovative countries [4].

2.3 Accelerate the construction of intellectual property disciplines and train intellectual property talents

According to statistics, during the 13th Five-Year Plan period, university research supported the training of 2.8 million master's and 300,000 doctoral students. According to the Notice of the Ministry of Education on the Announcement of the Filing and Approval Results of Undergraduate Majors in Regular Institutions of Higher Learning in 2021 (No.14,2021), by 2022, 105 universities nationwide have set up intellectual property undergraduate majors. Different from the previous training of intellectual property postgraduates in management, law, library and information majors, in July 2023, the National Steering Committee for Intellectual Property Degree Postgraduate Education was established in China, the training of intellectual property degree graduate students has been put on the agenda, and the intellectual property talent training system has been constantly improved. In the training of intellectual property personnel, we should also pay attention to the training of intellectual property international affairs personnel, strive for China to play a more important role in the relevant intellectual property international organizations, and enhance the international voice of intellectual property [5].

3. CONSTRUCTION OF TREE SYSTEM FOR STANDARDIZED MANAGEMENT OF INTELLECTUAL PROPERTY IN UNIVERSITIES

3.1 Overview of the standardized tree system of intellectual property management in colleges and universities

Combined with the mission of intellectual property in colleges and universities under the strategy of intellectual property power, the standardization of intellectual property management in colleges and universities has a new connotation. On the basis of research and analysis of the practice of intellectual property management in Jiangsu University in the new period, the author starts from the three modules of intellectual property management in universities: daily management, education and training, and professional service, and constructs the tree system of intellectual property management in universities as shown in Figure 1.

The tree system includes the various aspects of the intellectual property management in colleges and universities. Given that the individual differences of intellectual property management in colleges and universities, each specific management could involve different scope. Accordingly, deeper work content can be added to the tree system according to the current target in colleges and universities. The tree system is described in detail below.

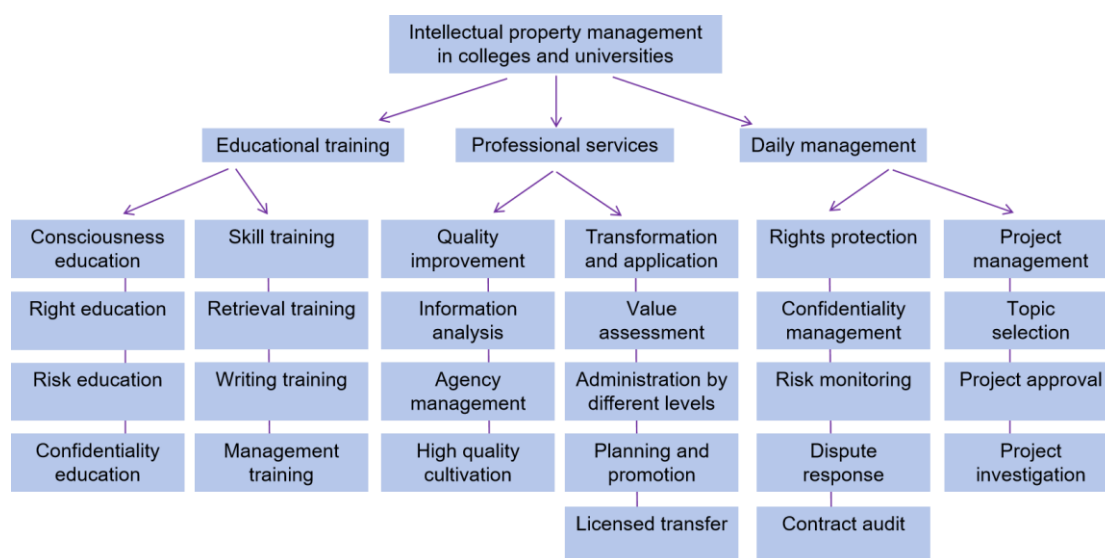


Figure 1 Tree system of intellectual property management in universities.

3.2 Standardized management of intellectual property rights in colleges and universities

The daily management of intellectual property in colleges and universities mainly includes ownership management, performance evaluation, rights protection and project intellectual property management. More detailedly, including the definition of intellectual property, job achievements, determination of intellectual property work target and task decomposition, intellectual property in personnel performance evaluation, post evaluation, intellectual property transfer ownership confirmation and contract audit, intellectual property management in the process of project research. The daily management aims to realize the whole process management of creation, maintenance, protection and basic use of the university intellectual property. Under the background of strong country strategy, the concept of quality control should be adopted in the intellectual property management of universities, and quality improvement should be regarded as an important control point of the current intellectual property work. The main ways to improve the quality are to strengthen information analysis and utilization, fully analyze and utilize the existing intellectual property information, which can help scientific researchers to master the commanding point of research, is the premise and basis for improving the quality of intellectual property; During the principal agent, take measures to control the quality of scientific research innovation achievements and carry out patent application evaluation.

Intellectual property education and training in colleges and universities includes two aspects. One is the training of intellectual property talents in campus. Different from the previous training of intellectual property postgraduates in management, law, library and information majors, in July 2023, the National Steering Committee for Intellectual Property Degree Postgraduate Education was established in China, the training of intellectual property degree graduate students has been put on the agenda, and the intellectual property talent training system has been constantly improved. Second, short-term training on intellectual property rights. It is an important aspect of the intellectual property work of improving the teachers and students in colleges and universities, and it is also a very meaningful and far-reaching work. Colleges and universities should conduct intellectual property education and talent training through various courses, lectures and training, and can also use campus radio, campus news, school newspaper, associations, forums and other ways to study and publicize the

intellectual property legal system to strengthen the awareness of intellectual property protection. Make teachers and students understand the importance of intellectual property rights through publicity, and encourage them to innovate and create.

Professional services in colleges and universities. Intellectual property rights as a kind of legal, rights is a kind of science and technology to participate in the market protection weapon, is also a kind of offensive. Of course, in order to better make use of the value of intellectual property in colleges and universities, more professional knowledge of intellectual property guidance and services are needed. So, in the tree structure of intellectual property management standardization, the professional services includes high value patent cultivation and transformation and application.

1) High-value patent cultivation. Connecting with the market and industrial needs, carrying out high value patent cultivation in a planned way, and integrating high value patent cultivation into the whole process of scientific research, it can give better play to the role of intellectual property in promoting disciplines and research in universities. The main links include patent retrieval analysis, patent application and layout in the research process, prospect analysis of patent industry, quality tracking of patent examination and reply, intellectual property protection and application promotion after the formation of patents, etc. In July 2022, the local standard of Jiangsu Province “Work Specification for High-value Patent Cultivation” was released, forming a standardized operating procedure in the field of high-value patent cultivation.

2) Transformation and application. First of all, colleges and universities should strengthen patent screening and evaluation, and promote the transformation of patented technology through licensing transfer. Secondly, colleges and universities should actively explore the work of patent technology transfer, improve the patent project evaluation and tracking mechanism, strengthen the contact with intellectual property rights and innovation service intermediaries and technology transfer intermediaries, and provide in-depth and active patent application and technology transfer services for school teachers. In addition, the cooperation with enterprises should be strengthened to promote the direct application and transformation of patented technology through joint patent application. Finally, colleges and universities should actively explore the patent transformation mode at different levels to create conditions for promoting the direct implementation and transformation of patented

technology in enterprises.

CONCLUSION

Intellectual property management in universities is an important part of the management functions of universities. The realization of the standardization of intellectual property management in universities depends on two changes of the internal management institutions. The first change is the management consciousness, should change the concept of passive management into the active service consciousness, also change the concept of patent declaration quantity into the improvement of patent quality and patent transformation. Intellectual property management should be services for intellectual property. Intellectual property work should be carried out throughout the whole process of scientific research activities and innovative talent training. The second change is the study of professional knowledge. Due to the professionalism of intellectual property work, the intellectual property management institutions in colleges and universities should strengthen professional learning and the training of specialized management talents, learn the general laws and legal attributes of intellectual property, and master the rules of intellectual property system, so as to carry out intellectual property management in a better and more standardized way.

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