

Research on the Relations Between Intellectual Property Management in College and Transformation of Sci-Tech Achievements of Higher Institutions

Zhang Zhengping, Zhao Hengping

Institute of Higher Education, Wuhan University of Technology, Wuhan, P.R. China, 430070
(E-mail: zhangzp0926@sina.com, whut_edu2009@163.com)

Abstract To clarify the relationship between University intellectual property management and university scientific and technological achievement transformation is an important guarantee of effectively realizing the transformation of sci-tech achievements. There is an interactive relationship between the University intellectual property management and the transformation of sci-tech achievements, handling the relationship between the two scientifically and properly would help to strengthen IPR management. This paper aims to analyze the factors constraining the transformation of sci-tech achievements of higher institutions through three stages of the process of intellectual property management that including the formation of intellectual property stage, the effective use of stage and phase of the use of intellectual property strategy, and then tries to put forward some helpful measures to strengthen the intellectual property management and enhance the ability of university technology transformation.

Key words Intellectual property management; Transformation of sci-tech achievements; Constraints; Countermeasures

1 Introduction

There is an interactive relationship between the university intellectual property management and the transformation of scientific and technological achievements, handling the relationship between the two scientifically and properly would help to strengthen Intellectual property protection management. University as one of the largest producer, the issue of the protection of its intellectual property rights has caused the practical and theoretical circles of great concern. Researching on the protection of intellectual property and technology transfer, domestic scholars have carried out more in-depth research, and have achieved some results. Some scholars, from the perspective of college's science research management, have a research on intellectual property protection, such as Wang Shiheng think that the unbalanced phenomenon existing in patents with other results in the management efforts is prevalent in the work of University intellectual property protection and management, what's more he believes that the weak awareness of protection of researchers is a reason to cause great loss of intellectual property. From the perspective of technological innovation, Song Huiling studied the interaction between technological innovation and come up with some suggestions on intellectual property protection. However, the article researches on university intellectual property management and scientific and technological achievements transformation from the perspective of management, aims to analyze the factors constraining the transformation of sci-tech achievements of higher institutions, and then tries to put forward some helpful measures to strengthen the intellectual property management and enhance the ability of university technology transformation.

2 The Dialectical Relationship Between University Intellectual Property Management and University Scientific and Technological Achievement Transformation

University intellectual property management is a kind of management activities and process, which university administrators utilize, create, transfer and use resources in knowledge through the use of policy-making, planning, organization and control by the development of knowledge and innovation ability, to create wealth increase competitiveness and promoting the development of the organization. Intellectual property management institutions mainly include intellectual property rights promotion and intellectual property market supervision, intellectual property rights and contract management and intellectual property legal affairs and handle the disputes. The process of university intellectual property management can be divided into three stages, which including the formative stages of intellectual property, Effective use of intellectual property and using intellectual property strategy.

University scientific and technological achievements transformation is college, by digging their own resources and exploiting their own technological advantages to enhance levels of productivity,

conduct scientific and technological achievements which is practical value generated by scientific research and technological development, in the subsequent trial and development, application and promotion to form the new products and new technologies and materials, to develop new industries. It has some characteristics such as the diversity of forms, function and value of integrated and multi-tasks, its essence is integration of production, academia, and research, and its ultimate purpose is to enhance competitiveness and the overall national strength and strengthen institutions of higher technology radiation and social services functional (Xu Ping, 2008).

Scientific and technological achievements transformation is kind of integrated innovation through technical means to achieve market value and commercial purposes, which combined technology and economy, for guidance and standards of market effects. Putting intellectual property into real productivity is not a spontaneous, but by the people managing and coordinating intellectual property to achieve. Intellectual property management and scientific and technological achievement transformation contact with each other, complementally and mutually reinforcing, both jointly promote technological progress and economic development through Integration with each other and the coordinated development. Protection of intellectual property is the basis and guarantee of achieving scientific and technological achievement transformation.

Firstly, intellectual property system effectively promote scientific and technological achievement transformation in a free market economy and it is also an important means to manage and protect intellectual property, the protective functions not only endow the people who created knowledge and innovated achievement with the legal rights but also prevent the other without the sanction of the owner from using the results and getting profits with lawless actions, so that can provide legal indemnification of protecting the legitimate rights and interests of creators of knowledge and encouraging innovation and action. Thus, strengthening intellectual property management and in-depth implementation of the intellectual property system have an important function of safeguarding, encouraging and promoting to boost technological innovation and accelerate the industrialization of scientific and technological achievements and enhance scientific and technological competitiveness.

Secondly, the development of scientific and technological achievement transformation plays a positive role in raising the level of intellectual property management. Scientific and technological achievement transformation boom that gives birth to a growing number of independent intellectual property rights, creates new demands on intellectual property management, and then promotes continuous improvement and development of the intellectual property system. University is an important place of science and technology innovation system in China, and is also the growing point and the radiant sources of high-tech. In the mist of innovation in scientific and technological achievements, reforming the existing management system, establishing a healthy interest guarantee mechanism, reducing the loss of intellectual property and exploring the new era of technological transformation of the results of successful experiences and operation mode, all of them have irreplaceable important role in improving the level of the intellectual property management (Xu Ping, 2008).

Thirdly, there is an interactive relationship between development of scientific and technological achievement transformation and level of intellectual property management. The function of scientific and technological progress and economic development comes true primarily through the innovation and transformation of university scientific and technological achievements. If no protection of intellectual property rights, there could be no fair and just competition environment and system security, not to mention motivate a large number of invention and innovation and technology achievements. Universities as a source of national scientific and technological innovation, only regarding the slogan ,in a strategic height, that “enhance the ability of independent innovation and building an innovative country,” as a jumping-off place, carefully studying the theory and practice of intellectual property management issues, can we create the environment to encourage innovation, promote scientific and technological achievements into practical productive forces ,better ensure that the promotion of scientific and technological achievement transformation and promote national economic development and enterprise development in a steady stream of power.

3 Analysis on Constraints of Scientific and Technological Achievement Transformation in the Process of University Intellectual Property Management

Scientific and Technological Achievements have increasingly become the new driving force of promoting the institutions, enterprises and socio-economic development. The transformation efficiency has a direct impact on the progress of human science and technology and socio-economic sustainable

development. However, there are so many problems in the process of university intellectual property management, for instance, awareness of intellectual property protection is weak, the shortage of funds and administration and management system are not sound, which have seriously hampered and impeded the efficiency and capacity of scientific and technological achievement transformation .

3.1 During the stage of the formation of intellectual property rights

Because of the shorter time that our colleges carrying out the work of IPR, a common issue exist in institutions is that the awareness of intellectual property protection was not strong. For a long time, Chinese universities has been the number of published papers, several research projects, research funding number, identification number and the outcome of such award-winning technology as the main aspects of work requirements, and often take these indices as a professional titles, promotion incentives, an important indicator of performance appraisal. In the “results-light patent” policy orientation, the teachers have poor sensitivity for patent protection, lack of market values and sense of competition, emphasis on the assessment of academic standards, despise the exertion of economic benefits. The root cause leading to this undesirable situation is due to the intellectual property rights protection system was established late, it is the propaganda that intellectual property protection and implementation and the principal influences of intellectual property strategy do not work well. Management system is still imperfect, tendency exist for a long time in focusing on results-oriented incentives and a long paper published and looking down on patents and trade secrets (Yang Fang, 2009). On the other hand, objectively owing to a long time of patent grand licensing, while the return of the papers and rewards is much faster, which has become one of the leading reasons of teachers are not positive in patent application.

3.2 During the stage of effective use

According to relevant provisions, colleges should set up a patent fund and give a person prize, who has gained the patent. But, at present our college is not the case, although some universities with patent fund, it is also seriously inadequate. If the inventor wants to apply for a patent, most expenditure needs discussion group or individuals to pay. In addition, universities of china now is widespread lack of intellectual property management funds, in recent years, the phenomenon that early termination of university patents suspended has happened frequently, which, to some extent, directly related to a serious shortage of maintenance costs. What is more, conversion and transfer of scientific and technological achievements in some Chinese universities is not market-oriented, ignorance the search of patent literature, as a result, unable to understand and grasp the level of domestic and international development trend of the latest technology, contributing to transformation seriously out of line with the market (Dong Jianzhen, 2006). Besides, some university teachers rather pay attention to the number of patent applications than to quality, leading to the ratio that realization of the true sense of scientific and technological achievements transformation and industrialization is relatively low, and poor prospects for application.

3.3 During the stage of the use of intellectual property strategy

3.3.1 Knowledge management institutions are not perfect, scientific and technological achievements transfer protection is missing

According to official statistics, the majority of colleges and universities in China have not improved intellectual property management organizations, and even without special management. Generally science and technology department of colleges took the management of intellectual property matters, that is concurrently in charge of science and technology department, and the management activities are limited to general day to day transactions. The management of intellectual property management work is often limited to the level of scientific research, the scope of intellectual property management, involving mainly patent application, the contract signed for; lack of intellectual property rights protection and implementation of the creativity and the overall management, such management pattern not only abate enthusiasm of researchers and teachers pursuing science and technology innovation but also restrain the further development of innovative. Therefore, this will inevitably lead to management responsibilities are not clear, low management level, management loopholes. On the system aspect, a scientific and normative management system has not yet established, management policies and systems are not strictly or even incomplete. Once this case of intellectual property disputes were happened, university laws, policies, and measures cannot protect the themselves and their teachers interests from suffering or from damaging, that also will inevitably cause a huge loss of intellectual property.

3.3.2 Management regulations imperfect, transformation of sci-tech achievement has no chapter to follow

The current management system of intellectual property in China is mainly imperfect. First, patent management of sci-tech achievements in the innovation process system is imperfect, R & D project yet to be established, it is common to exist a problem that focus more on application less on conversion; second, the lack of funding for special funds to protect intellectual property. Although some of the patent offices established a fund or incentive systems, but lack of funds or funds not in time, serious impact on the applicants to innovation; third, there is no mediating patent disputes and dealing with the establishment of relevant mechanisms, the lack of intellectual property rights disputes and litigation costs and other specialized (Chen Yafen, Chen Yiyuan, 2009).

4 Countermeasures of Strengthening the Intellectual Property Management and Promoting the Transformation of Scientific and Technological Achievements

4.1 To adopt various measures to strengthen awareness of intellectual property rights in its forming process.

The universities' intellectual property managers' attention to laws and regulations relating to intellectual property is closely linked with whether they have fulfilled their duty and effectively implemented the related regulations. Hence, in order to promote the managers' awareness, we need to formulate and implement training program concerning intellectual property rights protection and management to make them well acknowledged of the country's existing laws and rules, to learn from cases home and abroad about intellectual property rights' creation, protection and management, and to effectively enhance the awareness of intellectual property management. Besides, in the process of improving the quality of the staff members, we can enhance the propaganda and education by following their example and working experiences as well as holding seminars and workshops, setting up compulsory courses, popularizing the legal law of patent, copyright, trademark, the anti-unfair competition and knowledge of intellectual property management expertise and education on typical cases to comprehensively improve the university staff members' and workers' intellectual property rights protection and management standards and strengthening its ability to compete with self-protection consciousness.

4.2 Establishing incentive mechanism to economize the investment

The government should improve the funds to universities and colleges on their intellectual property rights protection and management, such as setting up special protection fund administration to offer support and investment to the patent application and patent maintenance, intellectual property rights training and disputes dealing. In addition, the various institutions of higher education themselves must actively seek financing channels and procedures for the scientific and technological innovation to effectively improve the output of colleges and universities intellectual property rights. This can not only safely fund the intellectual achievements of teachers in colleges and technical personnel, but provide good material foundation for innovation, protection and management of institutional intellectual property rights. At the same time, we should establish effective incentive mechanisms, such as awarding the patented technological innovation with property rights; attaching more importance to patented technology innovation in the assessment of college teachers and scientific and technical personnel, which means, listing the implementation of patented technology innovation as one important index for their evaluation, promotion, salary increase and special treatment. The guidance of incentive mechanism enables the universities to link their interests with the importance being attached to intellectual property rights and inspire themselves greatly in the protection and management.

4.3 Employing the intellectual property strategy to perfect the intellectual property management system

First, try to establish a unified intellectual property management system and strengthen the team building. The establishment of this unified management institution and its independence and overall regulation becomes the key factor of maintaining management work and promoting the scientific and technological transformation. As a college's intellectual management level and quality has a direct effect on the efficiency and effect of the management, it is necessary to strengthen the building of management team, attach much importance to the staff training, improve their professional level, make sure the duty is clearly distributed and carried out and make mobilize the power of management staff. All these will establish a better environment for the intellectual property management and technological innovation and make sure the two can develop in a balanced and sustainable way.

Second, the scientific and technological achievements system needs to be reformed quickly; besides, the creation and protection of intellectual property must go through every step of the

commercialization of research outputs. We have to establish and gradually perfect the concerning systems of universities' intellectual property's protection and management, such as: patent retrieval system of research & development project approval, supervision and control system of the process, patent application, management system in authorization and commercialization, relevant systems of the intermediation and settlement towards patent disputes, etc. What's more, we should make full play of the universities' key role as the main body of research outputs commercialization, creation and application of intellectual property, strengthen the close cooperation in production, study and research, promote the commercialization of research outputs and improve the technology innovation capacity to make contribution to the establishment of innovation-oriented country.

Third, to regulate the management of scientific and technological achievements through intellectual property regulations, it is also necessary to establish a personnel system that conforms to the university reality and that is conducive to scientific research transformation. For example, to encourage the teachers and researchers to give instructions to the enterprises is one of the methods. Thus, the researchers can catch the latest information and apply it to the transformation of the university scientific and technological achievements and conduct their applied research according to the market needs.

5 Conclusion

Scientific and technological achievements from colleges and universities have increasingly become the new driving force to promote universities, enterprises and socio-economic development and its transformation efficiency has a direct impact on the progress of human science and technology and socio-economic sustainable development. However, the weak awareness of intellectual property protection, lack of management funds, imperfect management system and many other problems have already become an obstacle to the transformation efficiency and power of those scientific and technological achievements. theoretical research and empirical analysis shows that only scientifically and reasonably handle the relationship between intellectual property management and transformation of scientific and technological achievements, to develop a clear strategic goal of intellectual property rights, continue to strengthen IPR awareness, improve intellectual property management system, improving intellectual property management level can help to strengthen management of intellectual property, enhance the ability of results transferring to the university intellectual property rights and can make the work of scientific and technological achievements transformation into a new stage of development.

References

- [1] Xu Ping. Research on the Relations Between Intellectual Property Management in College and Technology Innovation[J]. Liaoning Education Research, 2008,(7):36-37 (In Chinese)
- [2] Yang Fang. On Protection of Intellectual Property Rights in Transformation of Sci-tech Achievements of Higher Institutions[J]. East China Normal University, 2008:10-11 (In Chinese)
- [3] Dong Jianzhen. Eighty Percent Scientific and Technological Achievements of China in the "Sleep"[N]. China Youth Daily, 2006-8-13 (In Chinese)
- [4] Chen Yafen, Chen Yiyuan. Problems and Solutions of Intellectual Property Management[J]. Tribune Humanities and Social Sciences, 2009,(3) (In Chinese)