

Ownership Issue Regarding the Intellectual Property Rights in the Collaborative Innovation Alliance in China

Zhang Xihua^{1,2,3}, Li Bingxiang², Jing Kaidong², Yen-Chiang Chang^{2,3,4*}

¹School of Management, Shandong University, Jinan, 250100, China

²School of Law, Shandong University, Jinan, 250100, China

³Collaborative Innovation Center for Global Energy Interconnection (Shandong), Jinan, 250061, China

⁴School of Law, Dalian Maritime University, Dalian, 116026, China

*Corresponding Author: Yen-Chiang Chang, School of Law, Dalian Maritime University, Liaoning, 116026, China.

ABSTRACT

Collaborative innovation is the key option for China to build an innovative country. The collaborative innovation alliance as an upgraded version of traditional Industry-University-Institute alliance is an important method to achieve collaborative innovation. The collaborative innovation has also shown its own characteristics and advantages in the process of generation and development. At the same time, the ownership issue regarding the intellectual property rights in the collaborative innovation alliance has become a key factor affecting the long-term and sustainable development of the alliance. This paper reviewed the status quo collaborative innovation alliance with reference to the current Chinese law and policy. The issues regarding intellectual property rights in the collaborative innovation alliance are also discussed. This paper commences with an overview of the origin and characteristics of the concept of collaborative innovation alliance, together with its ownership issue regarding the intellectual property rights. The paper, then, deals with the ownership issue from three aspects including realistic demand, relevant laws and the attribution of the intellectual property rights. It is suggested that the current law of China mainly adopts the co-ownership patterns for the intellectual property ownership of collaborative innovation alliance, unless otherwise agreed by the collaborative innovation body. However, law does not stipulate how to distribute the profits of intellectual property in the cooperative innovation subject, which can easily lead to disputes. At the same time, the contradiction between the proprietary characteristics of intellectual property and the sharing characteristics of the collaborative innovation alliance leads to the distrust between the collaborative innovation subjects, this leads to the disputes on the ownership of intellectual property. Finally, this paper puts forward the relevant suggestions and countermeasures as to how to clarify the ownership issue regarding the intellectual property rights in the collaborative innovation alliance.

Keywords: Collaborative innovation alliance; intellectual property; ownership; technological innovation cooperation; China

INTRODUCTION

In the new era of globalization, both scholars and policy makers have been looking towards the country's unrivaled investment in research and knowledge to generate economic growth, employment and competitiveness in internationally linked markets for continued prosperity (Aldridge & Audretsch, 2011). In 2011, the Chinese President Hu Jintao, delivered an important speech at the Tsinghua University Centenary Celebration regarding the establishment of the collaborative innovation alliance (Hu, 2011). At the same year, the

Ministry of Education launched the "Promotion Plan for Higher School Innovation Capability" (hereinafter the "2011 Plan") and subject to implementation since 2012, with a period of four years. The initiative was aimed at establishing a number of "2011 Collaborative Innovation Centers" and vigorously promoting the in-depth cooperation between colleges and universities, research institutes, industries and enterprises, local governments and foreign research institutions (Ministry of Education, 2012). With the rapid development of collaborative innovation alliance, the ownership issue regarding the intellectual property rights of

Ownership Issue Regarding the Intellectual Property Rights in the Collaborative Innovation Alliance in China

numerous bodies has been gradually emerged during cooperation and subsequent collaborative innovation (Li, 2010). Patent ownership is seen as a way to encourage the additional and often substantial investment necessary for generating new goods and services (Schacht, 2009). If the ownership issue regarding the intellectual property rights is disposed improperly, it will be bound to affect the actual results of the collaborative innovation.

OVERVIEW OF COLLABORATIVE INNOVATION ALLIANCE AND ITS INTELLECTUAL PROPERTY ISSUES

Discussion on the Concept And Characteristics of Collaborative Innovation Alliance

The collaborative innovation alliance refers to the technological innovation cooperation organization formed by the companies, universities, research institutions or other organizations on the basis of corporate development demands and mutual interests of all parties. The aim is to enhance the industry technological innovation capacity, taking the legally binding contract for the protection, with the character of joint development, complementary advantages, benefit and risk-sharing (Ministry of Science and Technology, 2009). The collaboration between universities and the industry is increasingly perceived as a vehicle to enhance innovation through knowledge exchange (Ankrah & Al-Tabbaa, 2015). In recent years, a lot of the influential collaborative innovation alliances have been established in China, such as Jiangsu Information Industry Collaborative Innovation Alliance (hereinafter JICIA), Beijing Collaborative Innovation Service League, Technology Innovation Alliance of Wood and Bamboo Industry and so on. It can be found that the collaborative innovation organizations have the following basic characteristics:

Firstly, the gregariousness, namely, the collaborative innovation organization is the collection of innovation bodies with the numerous quantity and high quality. Taking JICIA as an example, the first members of the alliance are made up of 30 joint R & D innovation centers, with a total of more than 100 enterprises, more than 20 universities and research institutes, almost all the backbone enterprises of information industry in Jiangsu

Province, colleges and universities within the 985 and 211 projects as well as the well known research institutes, was honored as “the aircraft carrier fleet of information industry in Jiangsu Province” (JICIA, 2014).

Secondly, the collaboration. The wording "collaboration" indicating that there should be consistent collaborative pace between individuals to accomplish something or to achieve a goal. Within the collaborative innovation organization, the multi-level innovative structure of combined point-line-surface could often be constructed by a single enterprise R & D center, joint research and innovation centers, innovation public service platform.

Thirdly, the complementarities. Each body achieves the complementary advantages through the establishment of the innovation platform. While the governmental body has a natural advantage in appealing and developing policies universities and research institutes often have strong innovative talents and knowledge reserves. It is also perceived that the enterprises have obvious advantages in resources using and market development.

Overview of Ownership Issue Regarding the Intellectual Property Rights in Collaborative Innovation Alliance

The protective system of intellectual property rights is an important legal system protecting the productions of science technology and culture art, and an important means of policy by which the government promotes technical innovation of corporation as well (Hoejmoser Brammer & Millington, 2008). In collaborative innovation strategy, the allocation mechanism of intellectual property ownership includes consultations sharing and mandatory sharing. The consultations sharing mainly refer to the allocation mechanism that collaborative innovation members can mutually share or assign intellectual property ownership and use it on the basis of contract reciprocity. The alternative is to vest ownership with the inventor, who could choose the commercialization path for the invention (Kenney & Patton, 2009). The mandatory sharing mainly refers to the allocation mechanism that the community can share

Ownership Issue Regarding the Intellectual Property Rights in the Collaborative Innovation Alliance in China

intellectual property rights as mandatorily stipulated by law in the public domain (Li & Zhou, 2013).

Corresponding to the basic principles of party autonomy in civil law, the provision regarding ownership issue of the intellectual property rights in the collaborative innovation emphasizes the importance of contracts, namely, the sharing mechanism. For example, Article 340 of the Contract Law stipulates that "Except as otherwise provided in the parties, the right to apply for patent of inventions completed through cooperative development belongs to the parties' therein jointly cooperative development." Some scholars advocate that the ownership of the intellectual property alliance in the collaborative innovation alliance should enhance the intellectual property ownership mechanism through the form of developing the constitution inside the alliance, and guarantee through the use of legal means (Li & Dong, 2014).

CLARIFY NECESSITY ANALYSIS OF OWNERSHIP ISSUE REGARDING THE INTELLECTUAL PROPERTY RIGHTS IN THE COLLABORATIVE INNOVATION ALLIANCE

Realistic Needs: The Solution to The Problem is Significant

The existence of collaborative innovation alliance has realistic significance for the contracting parties. Although the literature on university-industry links has begun to uncover the reasons for, and types of, collaboration between universities and businesses, it offers relatively little explanation of ways to reduce the barriers in these collaborations (Este & Salter, 2010). For colleges and universities, it can improve the conversion rate of scientific research results. Data have shown that there is an increasing trend of patent applications and granting in colleges and universities in China every year. However, the number of patents truly transferred into the productivity is still low, the conversion rate of college research results is generally lower than 5% (Wang, 2011). The situation of the research institutes is also somewhat similar to that of colleges and universities. For enterprises, due to the shackles of traditional research system as well as the limitations of many factors such as their own

innovation desire is not strong, resulting in the generally weak of their innovation ability. The emergence of these phenomena is related to different value focuses among various bodies. For example, the universities focus on the basic studies and teaching capacity regarding science and technology as well as publishing research papers. Companies focus more on transforming the theoretical science into applied technology. Therefore, the greatest significance of the existence of the collaborative innovation cooperation is that it has integrated the advantageous resources of various parties and achieved the interest integration among parties.

For example, China's largest intelligent speech technology provider--IFLYTEK, the enterprise has a long term accumulation of research in the field of intelligent speech technology. It has international leading achievements in Chinese speech synthesis, speech recognition, oral evaluation and many other technologies. In the second year of its inception, IFLYTEK built laboratory through the cooperation with University of Science and Technology of China, Chinese Academy of Social Sciences, and the integration strategy of core source of technology resources made initial achievements. In the third year of its development, the company had more than 100 intelligent speech platform vendors, the national status team was also initially established, which was the success story of collaborative innovation (Liu, Yu, Xu, & Feng, 2013). It can be seen that the emergence of the form of the collaborative innovation alliance incorporate universities, research institutes and enterprises and the parties with community interests, getting through the cooperation channels among them. In addition, making intellectual property quantity and quality of new technology and technique have been greatly improved.

Legal Level: China Lacks Specific Legislation

The ownership issue regarding the intellectual property rights in the collaborative innovation alliance is broadly divided into two levels, namely the ownership issue of intellectual property rights between alliance members and the ownership issue of intellectual property rights between innovative subject and internal members, this paper only discusses the first issue since it is considered as a key factor

driving toward better cooperation. The ownership issue regarding the intellectual property rights in the collaborative innovation alliance is broadly divided into two levels, namely the macroscopically level of ownership issue regarding the intellectual property rights between alliance members, and the micro level of ownership issue regarding the intellectual property rights between innovation subject (that is, alliance members) and their internal staff. The ownership issue regarding the intellectual property rights between innovation subject and their internal staff refers mainly to the on-duty invention. Simply, the ownership issue of intellectual property rights among alliance members is regulated by the Contract Law and Patent Law, and China adopts "convention priority, co-ownership is for legal supplement" on the legislation model of this issue. The relevant legal provisions such as Article 340 of the Contract Law indicates that "Except as otherwise provided in the parties, the right to apply for patent of inventions completed through cooperative development belongs to the parties' therein jointly cooperative development." Also, Article 8 of the Patent Law states that "The inventions completed by two or more entities or individuals in collaboration, except as otherwise provided in the parties, the rights of applying for patent belong to units or individuals completing the study together; and after the application is approved, the unit or individual applying for the patent is called as the patent holder." The patent laws are intended to promote the labors that lead to innovation (Thomas, 2016).

In addition, for the implementation of the co-ownership right, both the Contract Law and Patent Law adopt "convention priority" principle. The difference is that the implementation path of co-ownership right stipulated in the Contract Law is about the convention, supplemental agreement, the terms and trading habits, self-imposing whereas Article 15 of the Patent Law has a more detailed division regarding the implementation of co-ownership patent right. The latter stated that "If there's no convention, the co-owners may implement individually or allow others to implement the patent through the way of common permission; if others are allowed to implement the patent, the user fees charged shall

be distributed among the co-owners. Except as otherwise provided in the preceding article, the consent of all co-owners shall be obtained for the implementation of co-owned patent application right or a patent right." As for the co-ownership system of intellectual property provided by legislation, it receives wide academic discussion. Firstly, under what circumstances the co-owners can prevent other co-owners from self-imposing. If the law does not specify such a valid reason, it is likely to harm the interests of other co-owners or the third person (Li, 2007). Secondly, the legislation lacks the operability requirements as for how to distribute the user fee charged among the co-owners.

In the operational process of the collaborative innovation alliance mechanism, there's the inevitable situation of co-owned intellectual property rights. Therefore, the defects provided by law will expose in the process of collaborative innovation. In addition, China is still lack of specific legislation for collaborative innovation at the current stage. This is the urgent issue that should be addressed.

Attribute Level of Intellectual Property:

Conflict Between Proprietary and Sharing

The intellectual property is a civil right, subject to govern information regarding intelligence activities, and enjoy its benefits and repel the interference of others in accordance with law. The intellectual property is an intangible asset, and it has the basic features of proprietary, regionalism, and timeliness, etc. Among them, the proprietary nature of the intellectual property is about the exclusiveness and absoluteness, which is mainly reflected in two aspects: (1) the intellectual property is exclusive to rights holders, and the rights holders monopoly the intellectual property and are strictly protected, no one is allowed to use the knowledge products of the rights holders without pre permission from the rights holders. (2) There should be no coexistence of two or more intellectual property rights with the same attribute for the same knowledge product (Wu, 2011). The establishment of intellectual property protection system is to protect the intellectual property owners' rights of possessing, using, disposing, and benefiting. As the protector of intellectual results, the

Ownership Issue Regarding the Intellectual Property Rights in the Collaborative Innovation Alliance in China

intellectual property can play the role of inspiring people to keep on innovation, and technology innovation.

The proprietary, exclusive and absolute properties of the intellectual property rights precisely have a certain value conflicts with the sharing, collaboration emphasized in collaborative innovation. After all, the subject that enjoys ownership of intellectual property can dominate in the cooperation. Interdependency and knowledge complexity, caused by specialization, had an important interacting effect on the relationship between coordination and knowledge sharing (Willem & Buelens, 2009). It can be seen that the attribute of the intellectual property rights to a large extent will affect the distribution of benefits, work efficiency and innovation initiative of the main-bodies inside the collaborative innovation. It is also based on this reason that there have been the issues of unclear intellectual property, inefficient communication, non-uniform attitude and the lack of mutual trust and others emerged among the main-bodies in actual operation of the collaborative innovation alliance (Zhang, 2013). In terms of this context, it's essential to clarify the ownership of intellectual property rights of each new innovation, in order to resolve worries for the followed application conversion.

COUNTERMEASURE RESEARCH ON CLARIFYING OWNERSHIP ISSUE OF INTELLECTUAL PROPERTY RIGHTS IN THE COLLABORATIVE INNOVATION ALLIANCE

Legal Level: Improved Legislation, Specific Legislation

In China, the Law on Progress of Science and Technology, the Patent Law, the Copyright Law, the Regulations for the Protection of Computer Software, the Regulations for the Protection of Layout-design of Integrated Circuits, the Regulations on Protection of New Varieties of Plants and other intellectual property related laws working together to build a complete and systematic ownership system for intellectual property (Guo, 2009). The ownership system of China's intellectual property has made more explicit provisions for all kinds of cases, however, there's no specific law or the administrative regulations adopted to

regulate the intellectual property ownership under the new model of collaborative innovation. It is, therefore, suggested that the legislature should promptly fill up the gap.

In the process of improving specific legislation, the experience of other countries can be drawn appropriately. It's essential to combine experience with actual conditions of China, making the experience of adaption to local conditions in order to prevent the acclimatized phenomenon. Such as the Law on Progress of Science and Technology amended and promulgated in 2007, which was known as "China's Bayh-Dole Act" since it drew the legislation design of US "Bayh Dole Act". The Law on Progress of Science and Technology is aimed at stimulating innovation vitality of China's colleges and universities. Like the US, under an extraordinary provision of the Bayh-Dole Act, which governs the commercialization of government-funded technology, a federal agency may "march-in" and license a funding recipient's inventions to a third party in certain circumstances (Arno & Davis, 2001). But there's few effects in actual implementation process due to lack of the institutional environment to be matched accordingly. Even although the Law on Progress of Science and Technology has been implemented for many years, the scientific and technological conversion rate within the colleges and universities have not been improved significantly. The reasons are as the following: Firstly, the United States pursues "the inventor doctrine" for the protection of interests of inventors. Secondly, due to the absence of excessive administrative intervention in American Universities, and those universities enjoy a high degree of autonomy (He & Chen, 2013). In China, it pursues the employer's doctrine as of "protecting employers". At the same time, under the scientific research system of universities in China, the intervention of administrative forces is more common, affected the enthusiasm of scientific research and autonomy to a certain extent. Under the existing background of China, the relationship between the collaborative innovation alliance and the parties, and also the vested interests can be further determined through the mandatory legal provisions. For example, to further determine the relationship between the unit undertaking

the project and project collaboration unit; to clear about the distributing principle and way of the ownership of intellectual property rights between units participating into collaborative innovation (Sun, Guo & Li, 2014). It's also necessary to improve the ownership system of intellectual property represented by the Law on Progress of Science and Technology to ensure the collaborative innovation alliance members who have a higher enthusiasm for innovation.

Government Level: Playing Leadership, Coordinating Role

The government's role in collaborative innovation is often the leading body and organizer in which assumes the important task of platform construction, and resource integration. Taking the Beijing Collaborative Innovation Service League as an example, it is established by the Beijing Technology Exchange and Promotion Center under the support of the Beijing Municipal Committee, municipal government and the Beijing Municipal Science and Technology Commission. During the construction, government itself determines that it should play the role as a good housekeeper to overview the industrial plan upgrading, and to match-up various universities and companies. In the meantime, the government should guide the enterprises and provide sufficient financial support to encourage innovation.

In addition, when there's the ownership dispute regarding intellectual property rights between the contracting parties, the government should carry out the pre-conciliation on a neutral basis. The very purpose is to improve right relief efficiency among alliance members and on the other hand reducing the costs of rights protection. The so-called administrative mediation refers to activities chaired by national administrative authorities in accordance with national laws, regulations and policies on voluntary basis, promoting the parties to have friendly consultations, mutual understanding to reach a settlement agreement through persuasive education and other methods, thus, to resolve the disputes between the parties (Zhuo, 2010). The mediation system is an integral part of the dispute settlement mechanism in China, which is almost accompanies the resolution activities of China's judicial disputes. As a non-litigation

dispute solution, the mediation system is very consistent with China's social philosophy as of "peace is most precious". Specific to the internal collaborative innovation alliance, most of the main-bodies with disputes are with their partnership, and the administrative mediation of disputes on ownership of the intellectual property has a more expansive role. As for the administrative mediation system for patent relief, although it has a flexible character and clearly provided in the second modification of the Patent Law, it has not attracted much attention. The shortage of theoretical research, companied with the absence of practice, making the system became a serious deviation from the normal track, and unable to play its proper function in solving the patent disputes (Li & Liang, 2014). Therefore, it's totally feasible to revive the administrative mediation system in patent disputes among members of the collaborative innovation alliance. This can be perceived as an important opportunity to solve the ownership issue regarding intellectual property rights. Meanwhile, in terms of solving the disputes over ownership in the intellectual property rights, the administrative mediation with advantages of low costs, short cycle and convenient in its natural. Furthermore, the specialized intellectual property agency with well retained staffs, will provide a better solution to the ownership issue regarding the intellectual property rights.

Internal Issues of the Alliance: Improving Internal Norms and Increasing Penalty Clauses

It is well perceived that nothing can be accomplished without norms or standards. Almost all collaborative innovation alliances have formal, comprehensive internal regulations, and have made the relatively complete provisions on ownership issue regarding the intellectual property rights. Example can be found from the Technology Innovation Alliance of Wood and Bamboo Industry, its internal regulations clearly provides that the division principle of the intellectual property ownership is that the investor will be the beneficiary. All kinds of R & D projects implemented by alliance organizations and intellectual property generated from the topics are jointly owned by the specific completion

units and alliances. At present, the cognizance of the input of basic intellectual property rights, personnel, funds and other factors of production are lack of maneuverability and the scope and method of sharing intellectual property among members of the alliance is not specific. It is, therefore, necessary that all assuming units should sign the agreements prior to the declaration of alliance projects, the agreement content are generally specified (Technology Innovation Alliance of Wood and Bamboo Industry, 2010). For the third party alliance involving to the project division of responsibilities is not clear enough. In the face of the complicated situation in practice, this kind of rules needs further inspection. Furthermore, for the execution of the regulations, it is essential to increase the value recognition of the internal regulations to the height that is commonly pursued by all members, so as to avoid the occurrence of dispute over the ownership of intellectual property to the maximum extent.

Regarding to this problem, the ownership issue of intellectual property rights can be treated as the pre-terms must be recognized for accession to collaborative innovation organizations. Also, a set of statutes for ownership of intellectual property results and equal allocation should be developed. It is also important to form the internal rules jointly abide by member units of the collaborative innovation organizations, for the purpose of making up gaps in law. Meanwhile, the penalty clauses for breaching regulations can be introduced into the alliance regulations, in order to enhance the enforceability of regulations. The ideal situation is that the status of alliance regulations is similar to the status of a constitution in a country, namely, all members of alliance have a strong sense of identity and belonging.

Credit Means: Included Into the Social

Integrity Evaluation System

Credibility is the irreplaceable intangible assets of each organization and is considered to be the 'social business card' for the organization to conduct the external activities. For internal members of the collaborative innovation alliance, since the mutual in-depth cooperation between the members is directly related to the ownership of intellectual property, trade secrets

and even the core information have a direct impact on the cooperation quality and success between the main bodies. The China's Social Credit System Construction Plan Outline (2014-2020) has clearly required establishing and improving integrity management system of intellectual property, incorporating the infringements information of intellectual property into bad credit record. Guangdong and Zhejiang Provinces have carried out the exploration of pre-credit system construction of intellectual property and established the special system construction program which has been adopted in field of intellectual property (Xu, 2015). The collaborative innovation alliance may take this opportunity to introduce the credit evaluation system into the interior of collaborative innovation alliance in order to establish a set of mechanisms for ownership issue of intellectual property rights. This is, after all, a measure satisfying the entire society and the collaborative innovation alliance as a whole. Specific to internal alliance, it's essential to establish the special credit monitoring agency and conclude the quantitative criteria with higher operability. Conducting the credit score rating for each cooperation project is also considered crucial. In addition, the alliance credit monitoring institutions may regularly publicize the credit of members in the alliance official website. Warning penalty system, punish poor credit subjects or even elimination measures are also considered.

CONCLUSION

At the current stage, there's still the lack of special legislation in China for ownership issue regarding the intellectual property rights in the collaborative innovation alliance. Meanwhile, the internal regulations of the alliances also mostly focus on the role of agreement and contract. The terms of the contract are not detailed and accurate. Through the above measures, the realistic significance for solving ownership issue of intellectual property of collaborative innovation alliance lies in enhancing law in order to maintain authority and effectiveness of existing laws, internal regulations of the alliance, and the contracts between the cooperation subjects. Moreover, this has a positive effect on promoting cooperation parties to improve the degree of

specification of the contract, reducing unnecessary disputes.

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