

A Study on Patent Trust in China

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Abstract

Although China is a big country for patent applications, the level of patent conversion is still low. The patent trust is an important form of patent operation. With the advantages of the trust, it is rapidly developing worldwide. By learning from the development of patent trusts both at home and abroad, concludes that there are plenty of problems of patent trusts in China, such as unclear ownership, imperfect valuation mechanism, unreasonable investment portfolio, week distribution mechanism of benefit, and incomplete risk security mechanism. On the basis of the contents discussed above, giving suggestions to patentee, trust company and the government.

Keywords: Patent trust, Patent right, China patent status

1. Introduction

Innovation is crucial to the development of a country, and intellectual property is an important part of it. Since 1982, because of the "Trademark Law of the People's Republic of China", China has systematically established a modern intellectual property legal system. In June 2008, the State Council promulgated the "Outline of the National Intellectual Property Strategy". Just 30 years, China has become a major intellectual property country, and its application volume has performed outstandingly all over the world. The World Intellectual Property Organization released the "2016 World Intellectual Property Indicators" on December 6, 2017. China has the highest number of applications in the following fields: patents, trademarks and industrial design. Although the number of applications has been impressive, China's patent utilization remains low. Trust, which is the second asset of the asset management industry in China, will become an important breakthrough in patent management operations.

2. The status of Chinese patent

The total number of patent applications filed by the State Intellectual Property Office of China from April 1985 to December 2016 was 21,728,105, of which 7,669,363 were inventions, accounting for 35.4%; utility model was 8,101,960, accounting for 37.3%; 59,1982 were exterior designs, accounting for 27.3%; 19,802,035 were domestic applications, accounting for 91.2%; 19,160,070 were foreign applications, accounting for 8.8%. In 2016, accumulatively authorized patents were 12,200,652, inventions were 2,315,411, accounting for 19.0%; utility models were 5,872,756, accounting for 48.1%; designs were 4,012,485, accounting for 32.9%; domestic authorizations were 11,095,232, accounting for 90.9%; foreign authorizations were 1,105,420, accounting for 9.1%. In 2016, there were 6,285,238 valid patents, 1,772,203 inventions, accounting for 28.2%; 3,154,485 utility models, accounting for 50.2%; 1,358,550 exterior designs, accounting for 21.6%; and 5,527,183 domestic effective patents, accounting for 87.9%, and foreign effective patents were 758,055. accounting for 12.1%. The basic status of Chinese patents is shown in the figure. (The effective amount in the table refers to the number of case files that are in the state of maintaining the patent right at the end of the reporting period, which is the stock data.)

Table 1 Basic Status of Chinese Patents (as of December 2016)

	Total	Invention	Domestic	Domestic Invention
Application	21728105	7696363	19802035	6058575
Grant	12200652	2315411	11095232	1464115
In force	6285238	1772203	5527183	1158203

By analyzing statistical data, we can conclude that the development of Chinese patents has the following characteristics:

First, the overall trend of patent applications is on the rise. Taking the invention patent as an example, the cumulative amount of invention patents from 1985 to 2011 was 2,849,906, and there were 1,338,503 invention patent applications in 2016. The number of applications for foreign invention patents does not increase much each year, and the main increase is in domestic invention patent applications.

Table 2. The inventions in total, domestic, foreign (from 1985-2016)

	Total	Domestic	Foreign
1985-2011	2849906	1843959	1005947
2012	652777	535313	117464
2013	825136	704936	120200
2014	928177	801135	127042
2015	1101864	968251	133613
2016	1338503	1204981	133522

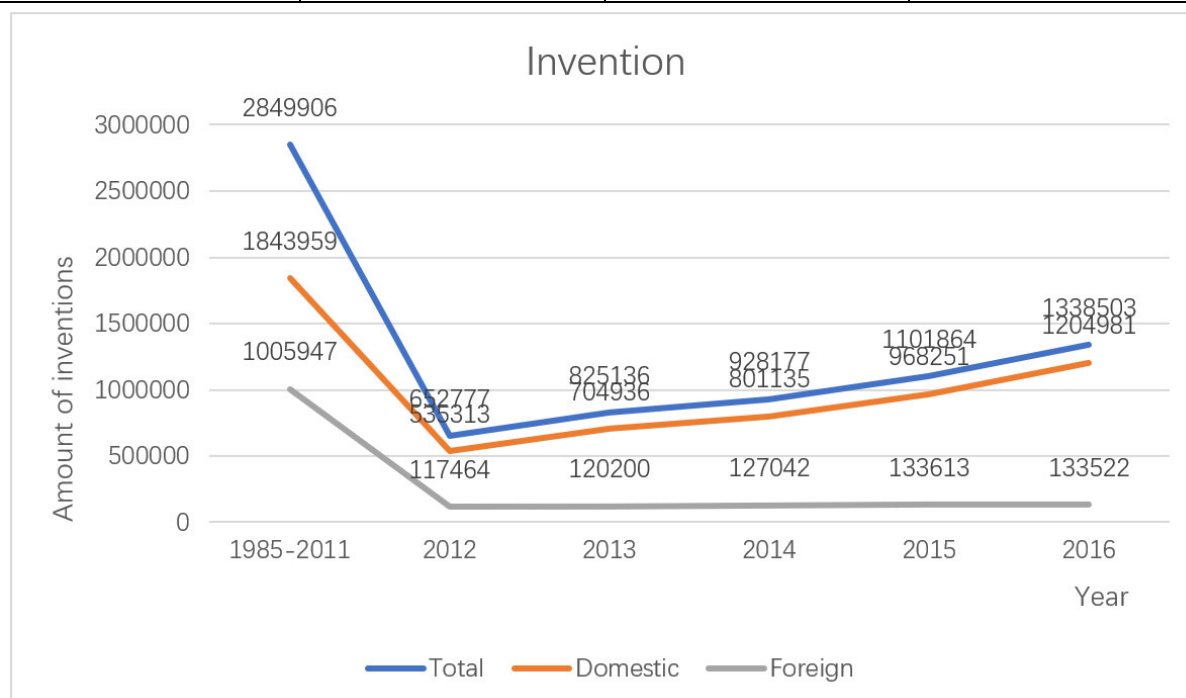


Figure 1. The Trend of Inventions
 Description for the above figure

Second, the main application for patents is enterprises. According to the distribution of patent applicant types, it can be concluded that in recent years the main force of Chinese invention patent applications is enterprises, which had 3414209 pieces, accounting for 72.2%. In addition, universities and research institutes also have partial invention patents. Most of the patents accepted for service inventions are 12538282, account for 63.3%, and 7263753 were non-service inventions, accounting for 36.7%.

Table 3. Distribution of Domestic Patent Applicants (as of December 2016)

	Inventions	Utility models	Designs
Universities	864203	478405	119331
Institutes	329607	148577	18139
Enterprises	3414209	4389154	2533059
Organizations	83144	120660	39694

Third, the effective patent stock is less. As of December 2016, the effective amount of patents was 6,285,238, and the cumulative number of applications for patents was 21,728,105. The cumulative number of applications for patents was 21,728,105, and the effective amount of patents only accounted for 28.93% of the cumulative applications for patents.

Fourth, among the types of patent applications, enterprises and institutions have the highest percentage of utility model applications, and universities and research institutes have the highest proportion of invention patents.

Based on the above characteristics, it is clear to see that China has a huge enthusiasm for intellectual property applications worldwide. However, the problem is also very significant. China's intellectual property rights are large but not strong, and the applications of scientific research workers are actively applying but are not good at operating, so many outstanding patents have to sleep in the laboratory and could not be used in real life. It was necessary to promote patent transformation through effective operations to obtain maximum benefits.

3. Patent trust

The trust originated from the transfer of assets(land). With the diversification of financial asset portfolios, modern trust has highlighted its financial management functions, and its characteristics make it more flexible than other asset management tools. As an important intangible asset, patents have an important role in promoting the economic and social development of all countries.

3.1 The concept of patent trust

When Chinese scholars came to understand patent trusts, they mainly defined the concept from the perspective of trust law, the transfer of patentees' dispensation rights, and the transfer of ownership of patentees. In this article, the patent trust is based on the trust of the trustee and transfers its patent rights to the trustee. The trustee manages, uses or administers the patent rights in his own name in order to achieve effective protection against risks. And ensure the preservation and appreciation of patents. The client is often a patentee with light assets, low credit, and need continuous funding. However, if he uses his qualifications in the valuation negotiation, he will spend longer periods of time.

3.2 Patent trust functions

Patent trusts are special compared to other trusts. The trust has the functions of rights transfer, asset division, financing function, and centralized management.

3.2.1 Rights transfer

The right conversion of a patent trust is the conversion of the main body of patent rights and also the conversion of the nature of patent rights. The transformation of the patent right entity means that the patentee transfers its patent and its derivative rights to the trustee. This is a management model in which the patent management mode is transformed from internal changes to external ones, and patents are changed from autonomous management to external professional management. On the other hand, the nature of the conversion is reflected in the patent trust. The patent right in a patent trust where the patent is a trust property will become a revenue right, and which uses the patent license fee as a trust property, turns the creditor's rights into income rights.

3.2.2 Asset division

The beneficiaries of patent trusts are often scientific researchers in enterprises and universities who have financing needs. Funds are required for patent transformation and further research. Asset division can effectively ensure the independence of patent and their own assets, and ensure that beneficiaries have more time, energy, and funds for innovation.

3.2.3 Financing function

The patent trust's financing function solves the difficult-to-flow problems caused by the highly proprietary nature of patent through securitization. The patentee enjoys exclusive patent rights granted by law within a certain period of time, and the patent's risk and difficulty in the division of ownership make it difficult to trade. Patents also exhibit the attributes of financial assets. Patent rights are a series of rights that can be realized as future cash flows.

3.2.4 Centralized management

The centralized management function of the patent trust made the patent trust portfolio highly monopolistic and increased its bargaining power. Traditional patent holders tend to decentralize the management of patents. Therefore, they are more in line with the protection of patents by the intellectual property system and the "preservation" of patents. Patent trusts are more emphasis on the value-added of patents. Through commercialization and industrialization of patents, the company will make up for the lack of complementary assets and high transaction costs under the model.

3.3 The value of patent trust

A patent trust is an economic activity that facilitates all participations. In the patent trust process, the trust company obtains the trust business fee, the patentee obtains financing through transferring part of the equity and maintains the patent status, and the investor obtains a portion of the proceeds by purchasing the combined equity securities. As an intangible asset, a patent does not bring about specific real gains when the patent trust is run, but all parties have expectations of the ultimate gains from the patent and may generate cash value in the future. Japan's Mitsubishi Trust Bank believes that "the sales of famous series of products are easier to predict and can encourage investors to invest". The value of a patent is essentially the value of future possible cash flows of various benefits discounted in probability-weighted instalments up to the present moment. After the patent trust, the value depends not only on the above value but also depends on various types of information owned by the trust company and the industry's advantages, and feedbacks on the benefits of the patent to each party on schedule. Therefore, the implementation of a patent trust is conducive to the conduct of all parties. The implementation of a patent trust is conducive to the conduct of all parties.

4. Domestic and foreign patent trust development experience

4.1 *The United States*

The United States promotes the development of patent trusts mainly through the form of securitization. The U.S. securitization and patent trust relied mainly on an important intermediate organization, the Special Purpose Vehicle (SPV). The advantages of SPV are obvious. First, the patent rights were stripped from the client and formed a pool of assets as a basic asset. Second, there is a comprehensive internal securitization structure, through which the parties sign contracts to define the rights and obligations and to assess the risk and securitization structure through the evaluation agencies. Third, the securities are listed and traded. Fourth, the tax advantages.

4.2 *Japan*

Intellectual property strategy is one of the national strategies of Japan. The biggest feature of Japan's patent trust is that the trustee is a trust bank rather than a pure trust company, so it has many advantages. First, the trust bank has customer resources worldwide, compared to the general trust company, there will be wider range of sources of investors. Second, the trust bank is highly specialized in university patent trusts. When the trust bank has just entered the field of patent trust, the main partner is the universities, and the trust bank gradually expands its own business. Accumulate experience in practice and clearly master the essentials of university patent trusts. Third, trust banks have rich experience in assets appraisal and profit sharing. Fourth, trust banks have a high degree of credit and are easier to securitize.

4.3 *China*

In China, the prototype of a patent trust was created as early as 1992. The China Music Copyright Society and the National Copyright Administration collectively managed the copyright of musical works in mainland China. The China Copyright Protection Center, which was established later, collectively managed the literary works and photographic works.

In 2000, Wuhan International Trust and Investment Corporation conducted the first attempt of a Chinese patent trust. The Wuhan Intellectual Property Office, Wuhan International Trust and Investment Corporation and Wuhan Evening News signed the agreement. The trust and investment company designed the "Patent Trust Scheme Design" and wrote the "Patent Trust Business Charter" and "Introduction to the Patent Trust Business" to explain relevant concepts and specific models.

Wuhan Trust and Investment Corporation regards the achievement of patents as the most important purpose, and the business nature of trusts is strong. Trust companies package, excavate, publicize, and evaluate patents, and then they must split income options, raise funds for investors, and finally share revenues when gains are made. The public is very concerned about this. The Wuhan Intellectual Property Office, as a government agency, is responsible for communicating with relevant authorities in the lower and upper levels of intellectual property. Wuhan Evening News was responsible for the promotion and selection. Eight final patents were selected in the trust plan, and the patentee Yu Baichao's outstanding patent for invention, "No inverter uninterruptible power supply patent," obtained 7 million yuan for the transferee. On the other hand, the trust company splits the income right and issues a certificate of income with a value of 6 yuan, raising a total of 13,200 yuan.

In terms of income distribution, the trust company stipulates in Article 2 of Chapter 6 of the Patent Trust Business Statute "Distribution Methods: The parties involved in the patent trust business and the income of each partner shall be allocated proportionately from the amount of the subject matter of patent transformation. The proportion of distribution is 60% of the client and 40% of the trustee. The interests of other relevant partners and investors are distributed by the trustee from 40% of the proceeds. The specific distribution ratio is agreed in the form of an agreement". It ended in failure, but its significance was huge.

4.4 *Reason for failure of Wuhan*

There are plenty of problems of patent trusts in China, such as unclear ownership, imperfect valuation mechanism, unreasonable investment portfolio, weak distribution mechanism of benefit, and incomplete risk security mechanism.

4.4.1 *Unclear ownership*

At the beginning of the patent trust, there was no trust law in China and there was no relevant law to restrict and protect it. China's trust law came into effect on October 1, 2001, and the Wuhan Patent Trust began to be launched on October 25, 2000. It lacks the law when they began. When the trust begins to be launched, the public was willing to have a wait-and-see attitude towards it. Once disputes arise, it is difficult for the participants to safeguard their rights. In Article 10 of the Trust Law, "the establishment of a trust, for trust property, the relevant laws and administrative regulations shall go through the registration formalities shall be handled in accordance with the law." And the Patent Law clearly stipulates that the transfer of a patent right requires the registration of the State Council's patent administrative department. Since the registration takes

effect, the patent trust shall be registered. The China Banking Regulatory Commission promulgated the “Trust Registration Management Measures” on August 25, 2017. It was formally implemented on September 1 and formulated specific rules for the scope of the assets, registration authorities, registration procedures, supervision and management, at the time, the Wuhan Patent Trust had no perfect legal system regulation.

4.4.2 Imperfect valuation mechanism

The value of the patent is uncertain, and the patent that is authorized may be incorrectly authorized due to the limitations of the evaluation technology and regulation. Such a patent has a poor ability to fight invalid requests. While assessing the value of basic rights, we must consider market prospects, scale, cost, profitability, market size, social recognition, promotion funds and difficulty, and the validity period of patents. What’s more, there are various risk factors. In addition, the inadequacy of valuation appraisal norms and methods also poses difficulties for evaluation and pricing. China has issued such documents as "Asset Assessment Standards - Intangible Assets" and "Guided Opinions on the Evaluation of Patent Assets". However, the lack of detailed implementation rules and quantitative standards makes it difficult to cope with complex and varied assessment issues in practice. In terms of assessment methods, the traditional cost method, income method, and market method sometimes fail to meet the assessment of patent rights, and it is necessary to explore methods of assessment that meet the characteristics of patent evaluation.

4.4.3 Unreasonable investment portfolio

In the case of Wuhan patent trust, Wuhan Patent Trust Company chose the patent transfer method when it operated. However, compared to the one-to-one model of patent right transfer, the patent right was selected through the patent trust and was given to a third party, through the transfer of ownership to obtain financing can quickly obtain a large amount of funds. But if the patent holder repeatedly grants patented use rights will make a higher profit, you can also use the proceeds of the patent right to the securities to bring additional benefits. In the process of transfer, there will be a series of publicity and management costs, and even need to guard legal rights. To make up for the shortage of trust company funds, venture capital investors have also been introduced. Although Wuhan International Trust and Investment Corporation has conducted the practice of securitization of income rights, because of the patent rights as a basic asset, there is a lack of stable cash flow that can be expected, so that the proceeds from the sale of securities did not reach expectations. This is partly related to the high-risk appetite of domestic investors but the conservativeness of asset allocation. And the risk of trust is higher than that of general financial products.

In the “Global Investment Survey 2017” jointly published by Legg Mason Global Asset Management and Standard Chartered Bank on June 20, 2017, over 68% of Chinese respondents’ investments were traditional defensive assets, with cash accounting for 23.8% and fixed income. 27.5%, real estate investment 10.7%, gold or precious metals 6.4%, and stocks only 17.2%. This is the kind of fashion that China’s economy is developing at a high speed and people are looking forward to domestic development. It is not difficult to speculate that the investments made by the public 17 years ago will also favor traditional defense assets. As an important asset investment, trusts are more dangerous than savings, wealth management products, and funds.

4.4.4 Week distribution mechanism of benefit

In relation to the distribution of benefits, the benefits in the case of the Wuhan Patent Trust was divided according to the agreed ratio. Article 2 of Chapter 6 of the Patent Trust Business Statute stipulates “Distribution Methods: The parties involved in the patent trust business and the income of each partner shall be allocated proportionately from the amount of the subject matter of patent transformation. The proportion of distribution is 60% of the client and 40% of the trustee. The interests of other relevant partners and investors are distributed by the trustee from 40% of the proceeds. The specific distribution ratio is agreed in the form of an agreement”. Such an allocation method has satisfied all the parties to the trust, but its rationality remains to be tested. Trust interest distribution activities are a very complicated process involving principals(beneficiaries), trust companies, investors, third-party organizations, etc. How to distribute the benefits to arrange the proportion of benefits need to continue to explore in practice.

4.4.5 Incomplete risk security mechanism

Because the patent has technical risks, legal risks, and economic risks, while the trust itself is a financing method with a higher risk than the risk of general financial management. The patentees’ ability to resist risks is not strong, so they hope to manage it through the trust company. With the advantages of resources, information, and management capabilities of the trust company, patents can effectively manage and dispose of patents, and increase the trust and grade of patent trusts by diversifying risk and insurance. In the practice of patent trusts in China, there was basically no risk guarantee design at the beginning, and various risk protection mode were born, such as operating, funding, guaranteeing, and insuring. Initially, because there is no sound trust risk mechanism, when the patent trust fails, the proceeds of the trust company, trustee, and investor cannot be guaranteed or even result in losses.

5. Countermeasures for China patent trust operation

According to the above issues, our country's patent trust still has a long way to go. The following describes the measures for patent trusts in terms of trust companies, patentees, and governments.

5.1 Trust companies

5.1.1 Implementing patent trust transfer registration

Since China follows the principle of “one thing, one right,” patent trusts must be based on the transfer of rights raised by the trust law, and the law requires that the transfer of rights must be registered. The work of transferring registration of patent rights is the basis and prerequisite for promoting the patent trust. The trust company shall follow the “Trust Registration Management Measures” promulgated by the China Banking Regulatory Commission on September 1, 2017. Trust company should be in accordance with the provisions in the Measures, implement the registration of the trust property and clarify the rights and obligations of the participants to the patent trust.

5.1.2 A reasonable patent trust pricing evaluation system

Because of the strategic, technical, economic, legal, and market factors of patents, the value of each patent is not the same. Trust companies must evaluate the quality and value of patents when they conduct patent trusts. Since there are not many practical experiences of patent trusts in China and there is no large-scale work for patent trusts, trust companies can work with intermediaries such as asset assessment agencies to participate in patent trust valuation work. After the patent trust's acceptance volume reaches a certain scale of operations, and when the operation is relatively mature, the trust company can set an independent patent value division which can be in charge of investigation, evaluation, registration, verification and coordination, to build a transparent and professional patent trust value evaluation system.

5.1.3 Structured management for patent trust

Structured management includes the portfolio of products, the grading of investors and so on. The trust company may exercise reasonable disposal of the patent right according to whether the patent trust is of a management type or financing type, and transfers, licenses, builds patent pools, or conducts pledge financing, securitization, and equity-based patents within the scope of the patent trust agreement to achieve the purpose of the trust. On the other hand, the trust company manages the trust income rights according to the investor's risk preference and qualifications, so that people with different investment willingness and ability to bear risks can obtain differentiated benefits through the hierarchical settings. The general-priority mode is generally set in the trust plan. Social investors have the right to preferential income. Institutional investors enjoy general income rights. The initial trust funds are proportioned by the two. Investors' risk is directly proportional to the income. When the investment income is rich, institutional investors' income will be higher than that of individual investors. When the risk occurs, investors need to take risks. At this time, institutional investors need to assume relatively high limited risks before social investors to protect the funds of individual social investors. The question of cost and effectiveness should be considered when implementing a structured trust.

5.2 Patentees

Before the patent trust, the trustor must complete the patent right application, self-evaluate the value of the patent and choose the trust company. The trustor should pay attention to the contents of the trust contract which he signed when he conducts the patent trust. And patentees should understand the legal rights and obligations of the patent trust beforehand. Trust companies can delimit the scope of patent rights in contracts, such as transfer, licensing, securitization and other forms in the agreement. The term of trust, distribution of benefits, protection of patent rights, etc., need to be detailed in the contract. In addition, patentees must raise awareness of rights protection. When the trust company violated the terms of the trust contract to dispose the patent right, the patentees have right to stop the trust company. When the trust company did not do in accordance with the contract so that cause losses, the trust company may be required to make compensation.

5.3 Government

5.3.1 Improve the legal system

Improve the legal system of patent trust operations and improve the laws and regulations involved in property rights and operations. Patent trusts need a sound property rights system to build a unified market based on equality and fair competition. For infringement, it is necessary to make a careful screening and to correct the violation of the law. In due course, a punitive compensation system for infringement can be used to protect property rights. Improve the procedures for the determination of patents and shorten the period for handling disputes. In the operation of the patent trust, special laws such as patent law, trust law, and company law are involved. The transfer, licensing, patent pool construction, securitization, pledge financing, and other models in operations must involve the implementation of relevant laws and regulations.

5.3.2 Information supervision platform

Establish an open and transparent patent trust information supervision platform. The operation of patent trusts requires the government to coordinate with third party organizations to construct an information platform to supervise them and ensure the healthy operation of patent trusts. Establish a national patent trust information public service platform. Continue to improve the rating of trust companies. Establish a patent trust credit platform. Strengthen the supervision of relevant intermediaries.

5.3.3 Tax policy

Improve the patent trust tax policy. At present, there is no trust law for Chinese patent trusts to comply with, and patent trusts sometimes take double taxation during operation. It is necessary to determine the taxpayers, tax time, and tax types. The types of taxes involved in patent trusts include personal income tax, corporate income tax, business tax, stamp tax, and estate tax and so on. When the trust is established, maintained, or terminated, these taxes above will all be taxed, resulting in double taxation.

5.3.4 Improve risk compensation mechanism

There are risks in the operation of a patent trust, and the government needs to provide support to all parties in the patent trust by perfecting the patent trust risk compensation mechanism. The government can protect the patent trusts by establishing funds, optimizing assessments, shares, guarantees and other measures. Establish the patent trust risk compensation fund. And venture capital and third-party financial, insurance, and guarantee agencies were introduced to support the patent trust project and support the operation of the patent trust.

To optimize patent evaluation and analysis indicators, the relevant provisions of the current patent evaluation are not yet clear, and the government needs to expedite the promotion of the indicator system and guide third-party assessment agencies to optimize evaluation methods. Further standardize the patent evaluation system, explore third-party patent appraisal agencies with public interest nature, reasonably evaluate the value of patents, and reduce the financing risk of the financial sector.

Promote cooperation mechanisms of third parties. Organize local governments, trust agencies, and insurance institutions to carry out propaganda and insurance-trust matching activities to increase the enthusiasm of trust institutions to insure. And encourage insurance institutions to cover such types of insurance as licensing, pledge financing, and infringement insurance. Support companies that provide patent trust advisory services, patent pledge financing, and other services, and introduce capital for patent service areas. Standardize the behaviors of third-party companies in the operation of patent trusts to form a good collaborative atmosphere.

6. Conclusion

Learning from the status of Chinese patent, it's really necessary to apply patent trust to promote the utilization of patents. The United States is mainly based on the securitization of patent trusts. Japan has many management experiences in intellectual property and made its first attempt on intellectual property trusts in universities. The first attempt of the patent trust in China has failed, after which many attempts were made. The important reasons that led to the failure of these patent trusts are the unclear ownership of patent trusts, imperfect value assessment mechanisms, unreasonable financing methods, weak profit distribution mechanisms, and unsound risk protection mechanism. To solve above problems, patentee and the trust company must define their respective ownership, determine the management or financing method of the patent in accordance with the patentee's wishes, conduct a simple patent management or design a financial product. Aggregation can effectively disperse risk. In the distribution of benefits, it requires a more scientific method of distribution and proportion. Establish a convenient third-party information platform, combined with assessment, guarantees, funds and other institutions is also necessary.

In order to better achieve the above-mentioned operating mode, the three principals of the patentee, trust company, and government can improve in some ways. Patentees should complete the application for patent rights, self-assessment of patent rights, and the selection of suitable trust companies. In addition, it is necessary to raise awareness of rights protection and understand the basic laws related to patent trusts in advance. On the trust company side, it is necessary to implement the patent trust transfer registration work, construct a reasonable patent trust evaluation system, and launch a structured management trust product. In terms of government, it should improve the legal system of patent trust operations, establish an open and transparent patent trust information supervision platform, improve patent trust taxation policies, and improve the patent trust risk compensation mechanism.

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