

# Research on Discrepancy of Business Model in Intellectual Venture Capital Firms under Chinese and American Patent System

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**Abstract:** Intellectual venture capital firms such as Intellectual Ventures are arising in America. These firms focus their business on a special asset—patents. They never engage in the actual production and sales, but collect variety of advanced patent ownerships and licensing rights around the world, and then package and monetize them through Patent Concentrating Strategy. But the implementations of the Patent Concentrating Strategic are different between America and China. America is not only the place where the company collects patents but also the place where the company gains interest, while China is only the place where the company collects patents. Our study shows that the causation is the different patent systems between the two countries. U.S. patent acquisition rules, validity examination rules and infringement rules are important reasons which made the United States as the birthplace of this kind of company, and also the profits making marketplace. The Chinese patent system provides convenience for companies to access to patents.

**Keywords:** Patent system; Intellectual venture capital; Business model

## 1 Introduction

Invention represents a vital part in a commercial value chain. Invention leads the product design, which in turn guides the product development, manufacturing, marketing and service. Any company in the world choose their own focus areas in the business value chain, with little companies can engage in all aspects of the value chain and be successful. And intellectual venture capital firms focus precisely on the part of the invention. They buy and develop a large patent portfolio and then license these patents to the companies who need them, or more controversially, potentially filing lawsuits against these companies if they refuse to take a license. IV is an intellectual venture capital firm based on the Patent Concentrating Strategy. However, under the overall operation strategy, the specific business model choices of IV in the U.S. and China are different. The causation of this selection of business models may be due to many aspects, this paper try to explore answers from the Sino-US differences in patent systems.

The present research of the U.S. patent-related issues in China focused on the introducing, analyzing and drawing on of its system, the local study related to patent emphasized on the building of the system, but the research on the impact of patent system on the business model are relatively rare. Even abroad, research on business model choice of enterprise starting from the patent system are also very little, the horizontal comparison of the impacts of two systems on business operations is even blank. This paper attempts to compare the patent system and business model in China and America, explore the causal relationship between them, in order to predict the further action of intellectual venture capital firm in China, and provide advice for Chinese companies to deal with them.

## 2 Comparison of Operation Models

The goal of IV is to develop a more efficient and dynamic invention economy and establish an invention capital system. It builds, buys, and collaborates to create inventions. Then it supplies those inventions to innovative companies through a variety of licensing and partnering programs. IV mainly invested in information technology, bio-medical and new materials, new energy, and several other core areas. It is creating an active market for invention that connects buyers, sellers, and inventors by: employing talented inventors who work on new inventions to help solve some of the world's biggest problems; purchasing inventions from individual inventors and businesses and combining them into market-specific portfolios, which then been licensed broadly; partnering with international network of inventors and helping them to monetize their inventions.

### 2.1 American model

#### 2.1.1 Patents acquisition

The company operates three primary investment funds: Investment Science Fund (ISF), Invention Development Fund (IDF) and Invention Investment Fund (IIF). ISF's run-time covered ideas generating, R&D and patented three stages, focuses on its own R&D-oriented, obtain financial profit by licensing, sales, etc. after access to intellectual property.

The IDF is running in this way: First, find the appropriate inventor, and then negotiate to acquire the technical information of the invention to be examined by experts for its prospects and quality, after approval. IV funds the inventor and develops his invention idea into patent and gain the operating right. At last, IV License the patent to the needed companies and share profits with inventors in the agreed ratio, or fund new company based on the invention.<sup>[1]</sup>

IIF is mainly used to purchase a number of inventions and patents endowing market potential, develop and integrate them into patent Portfolio, then licensing, transferring and making profits. The invention collecting channels of IV include: large & small companies, government, academia, individual inventors and so on. High majority of the collected patents are kept secret.

### 2.1.2 Monetizing of patents

IV profits by patents licensing, sale and special companies setting up. Different to the traditional patent licensing, IV gathers patents gained by the three funds above together, packages them into a comprehensive patents portfolio in its own library. What it supplies to the customer is not an only patent, but a complementary patents portfolio, which is growing with the time and can supply a reliable and sustainable technical resource.

Nowadays, a high-tech product may use hundreds of patents. Some companies engaged in production may accidentally fall into the scope of other person's patent and suffer patent litigations, which will expend superfluous time and huge financial resources. In 2002, when IV financing the first time, its slogan is clear and explicit: its patent portfolios will help large technology companies to protect themselves from the interference of intellectual property infringement.<sup>[2]</sup>

Of course, the IV is not only offering anti-infringement, but more importantly, it also offering variety of patents and technology for customers one-stop shop in the form of licensing, which reduces information costs in searching and connects patent demanders with a large network of inventors. Intel, Sony, Microsoft, Apple, Nokia, Google and eBay are all customers of IV. In addition, the IV is also monetizing patents as the core to form a new company. For example, in 2008 the company Terrapower was established, it committed to developing and producing cheap, safe and carbon-free nuclear energy to save the conventional uranium nuclear waste problem. To May 2011, IV has made about \$ 2 billion in revenue for investors.

### 2.1.3 Patents Litigation

Although the IV claimed that it will never use its patents to file an action, but we can not exclude the possibility of filing an action for compensation and other expenses. In fact, IV has already begun its patent infringement litigations. Generally, IV is not directly involved in the litigation, but with more than 1110 shell companies sued for it. But in December 8, 2010, IV submitted its first petition, IV complaint for patent infringement against Check Point, McAfee, Symantec, Trend Micro, Elpida, Hynix, Altera, Lattice and Microsemi.

Of course, IV also may face lawsuits from other companies, become a defendant in court. In connection with the declaratory judgment action filed against IV by Xilinx in February 2011, the local rules of court in the Northern District of California required IV to disclose its investors. IV complied with the rule of court and filed the mandatory disclosure on May 16, 2011.

## 2.2 Chinese model

Activities of IV in China focused on business concepts spreading and patents acquiring, and haven't seen its patents licensing, sale, or litigation in China yet.

### 2.2.1 Spreading of concepts

IV, the giant in intellectual venture capital firms entered onto the Chinese market in 2008, and introduced the advanced investment model into China. Meanwhile, it brought in an investment fund focused on inventions' development, by which cooperate with the excellent inventors to search and filter inventions with great market prospect, then monetizing them and sharing profits. The registered business scope covers industrial investment consulting, technical consulting, and economic information consultation. IV was very active in China. The senior leaders of IV have visited the State Intellectual Property Office, Beijing, Guangdong, Hangzhou and other local intellectual property offices and get interviewed. And went to Peking University, University of Electronic Science and Technology and other universities to lecture, disseminate its creating and business model. In addition, it helped Beijing

Association of inventions and The Beijing Worker's Technical Association to organize an innovation competition.

### 2.2.2 Patents acquisition

IV actively sought to cooperate with the top 20 colleges and universities of patent applications in China, and had established the partnership with some units. In March 2010 IV and Shanghai Jiaotong University signed a memorandum of cooperation, as the implementation of bilateral cooperation, a "Joint Innovation Fund" was set to encourage school faculty to innovate according to forefront demand; IV carried on a program named "HuaLi-IV Asia cooperation program" with East China University of Science, and had applied two U.S. patents in 2010. In other words, at present, IV actively explores China as external resource provider under the aid of business concepts spreading. China has become a part of IV's strategic layout. As Figure 1 shows:

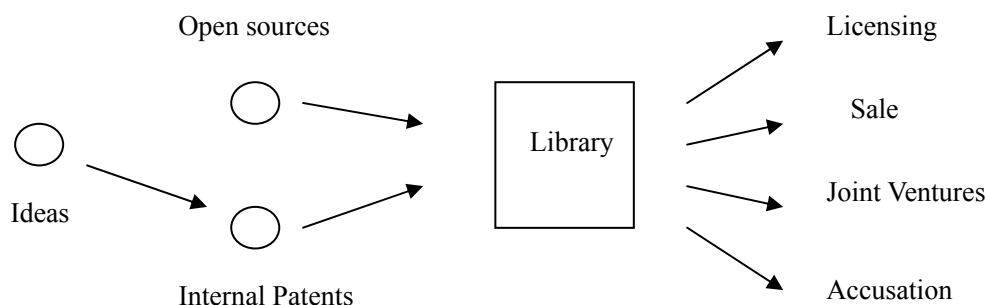


Figure 1 Business Model of IV

## 3. Comparison of the Patent System

### 3.1 Patent acquisition rules

There are two different patent acquisition principles: "first-to-file principle" and "first-to-invention principle". Most countries in the world, including China, adopt the "first-to-file principle". It means if two or more applicants apply for the same patent, the patent will be granted to the first filing person in order to encourage inventors to apply for patents and disclose their inventions. But America adopts "first-to-invention principle" for a long time, according to which the first filing person does not necessarily gain the patent.<sup>[3]</sup> If other people made the same or similar invention previously, even if the person did not apply before others, he still has the chance to apply to Patent Office for the patent by Interference Program. This principle will help to protect the interests of the first inventor, however makes the patentee's patent more uncertain either.

In America, each application for a patent shall be published promptly after the expiration of a period of 18 months from the earliest filing date. However, with the request of the applicant, an application may be published earlier than the end of such 18-month period. It is different from Chinese "publishing early, examination later" system. In China, the Patent Office can publish patent information as soon as a formal examination of the patent application is made. The patent information public system in America causes to lots of "submarine" patent, the user of the innovation are more likely to fall into patent infringement in future.<sup>[4]</sup>

### 3.2 Patent validity examination rules

Patent validity examination rules in China and the United States both include two aspects: one is judicial process, and the other is administrative procedures. There are not many differences in judicial process, that is, only when the patent holder has sued or threaten to suing has the user of patent the right to challenge the validity of the patent, which is only a defensive strategy for the applicant.

But in administrative procedures, the patent validity examination system in China is more aggressive; applicant can request to confirm any invalid patent which cannot meet the standard of novelty, creativity and practicality. The administrative procedures of United States is called the patent reexamination system, there is no restrictions on the applicants, but the reexamination must be based on the premise of substantial new question of patentability which can be found on

publication or in the form of patent information. Even if significant errors such as creativity or practicality problems existed in the original approval authority, which cannot be found in public information, the approval cannot be canceled either.<sup>[5]</sup>

### **3.3 Patent infringement rules**

In America the adequate compensation for patent infringement would be no less than reasonable royalty of the invention by the infringer. Article 284 of U.S. Patent Law provides “When the damages are not found by a jury, the court shall assess them. In either event the court may increase the damages up to three times the amount found or assessed.” Differ from America, in China the punitive damages are not implemented in patent infringement, and the interest is usually not included in the compensation.

Meanwhile, the infringement statute of limitations is different between the U.S. and China. According to the general provisions of the Civil Procedure Law, Chinese patent infringement statute of limitations is limited to 2 years. The infringement statute of limitations in the U.S. can be as long as 6 years, Section 286 of The U.S. Patent Law provides “except as otherwise provided by law, no recovery shall be had for any infringement committed more than six years prior to the filing of the complaint or counterclaim for infringement in the action. In the case of claims against the United States Government for use of a patented invention, the period before bringing suit, up to six years, between the date of receipt of a written claim for compensation by the department or agency of the Government having authority to settle such claim, and the date of mailing by the Government of a notice to the claimant that his claim has been denied shall not be counted as a part of the period referred to in the preceding paragraph”.

### **3.4 Patent ownership rules**

Patent ownership has a huge impact on business practices of intellectual venture capital firms, especially the ownership of government-funded patent. Intellectual venture capital firms pay more attention on the cooperation with universities and research institutes in the acquisition of patents. But most of their inventions are completed with financial assistance of government.

On July 1, 1981, the implementation of “Bayh-Dole Act” in America unified the federal patent policy, which granted universities and small businesses the ownership of government-funded patent. In China, the ownership system of government-funded patent completed by universities and research institutions has experienced dramatic changes. From 1984 to 1994, the ownership of Chinese government-funded patent belonged to the state. It means the state controlled most of the patents in universities. From 1994 to 2000, the ownership of Chinese government-funded patent depended on the agreement between the state and the contractor. After 2000, administrative made provision that the government-funded patent belongs to contractors in principle.<sup>[6]</sup>

## **4. Relativity Between Patent System and Intellectual Venture Capital Model**

### **4.1 Why intellectual venture capital birth in America**

At first, the purpose of intellectual venture capital firms is to deal with patent litigation, perhaps it was the U.S. intellectual property system gave birth to the intellectual venture capital firms. In the U.S., companies are more vulnerable to patent infringement problems. Specifically, there are several reasons as follows: First, the U.S. companies’ patent rights are more uncertain compared to China due to the adoption of “first-to-invention principle”, and its “applying early, publishing and examination later” system makes the public can not acquire patent information and easy to sink into a patent infringement. Second, the one who uses the patented technology actually has no good defense means to apply the patent to be invalid, he usually raises objection only when the patentee sues him. Third, the compensation of the U.S. patent infringement can amount to three times the damages discretionary when the infringer is intentionally, and its statute of limitations can be as long as six years, which is undoubtedly a huge incentive for the patentee to sue to court. As for the infringer, he may pay a huge cost or even bankruptcy for this. All of these lead to strong market demand for patent licensing, which can effectively reduce and defend tort by extensive licensing. The intellectual venture capital firms can just meet this demand.

### **4.2 Why rarely licensing and suing in China**

In China, the impact of patent litigation may not be as serious as the United States. First, because China adopts “first-to-file principle”, the patent right is more certainty than it in United States. Second, anyone can apply the patent which may affect the operations of their own to be invalid by the

administrative procedures at any time. Third, the calculation of compensation in Chinese patent tort damage is more conservative. Specifically, there are four ways for calculation. The first is to calculate by the interests obtained by the infringer. The second is to calculate by the losses suffered by patentee. The third is to calculate based on a multiple of royalties. The fourth is a statutory compensation. It is very difficult to prove the amount of damage in the first three ways, and in the fourth way the court will determine the compensation of no more than 1 million. Therefore, the patentee, may not gain as much as the U.S. in litigation.

#### **4.3 Why choose China as resource provider**

Chinese government-funded patent ownership system in history has undergone several phases, firstly the ownership belonged to the state, then it depended on the agreement between the state and the contractor, at last it belonged to the contractors. And the relevant provisions are government regulations, which are lack of necessary stability. Article 20 of Chinese Science and Technology Progress law which implemented since 2008 clearly states that except where national security and interests and vital public interests are involved, the relative rights should be granted to the authorized undertakers of projects according to law, which identified the ownership of government-funded patent in a high degree by law. The ownership has supplied more incentive for universities and research institutions to develop patents and offered more autonomy for them to do patent trading. All these give the intellectual venture capital firms access to rich technical and patent resources combined with reasons of costly patent applications and maintenance and monetizing difficult.

### **5 Conclusion**

Patent system provides a framework and behavior motivate for the patent-enterprise to select a business model, the China and the U.S. patent systems make the intellectual venture capital firms chose different business model. The patent acquisition rules, patent validity examination rules and patent infringement rules make U.S. companies more vulnerable to be threatened by patent infringement, which are more likely to become customers and source of profit for intellectual venture capital firms. Chinese patent ownership rules endow universities and research institutions with a high autonomy to deal with the government-funded inventions which provide a large number of potential resources for the intellectual venture capital firms. But it can be expected that the business model differences will not be absolute, the Chinese market will become a profits source for intellectual venture capital firms if the chance is mature.

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