

(双语版)

专利诊断 与策略

张文德 著

Patent Diagnosis And
Strategies

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Patent Diagnosis
and Strategies
(English Edition)

Summary

As part of intellectual property, patents are booster for talent.

This book is a bilingual version in both Chinese and English. It stresses theories and practices of intellectual property based on analysis on patent rights and cases. For practical cases involving patent issues, emphases are put on key diagnostic points and strategies. The whole book is an innovational guide to readers.

About the Author

Professor Wende Zhang was born in October 1962, Fujian. Besides serving as dean of Library of Fuzhou University, he acts as professor and supervisor of students of doctor's program. After he gained his PhD in Management from Huazhong University of Science and Technology, he did his postdoctoral research in Institute of Scientific & Technical Information of China. He also owns Master's Degree in Business Administration and Bachelor's Degree in Engineering. With experience of handling with more than 300 patent cases, he serves as a patent agent. Owing to his outstanding contributions to information science, he got two exceptional promotions in advanced professional titles. Presently, he also serves actively under the following professional organizations: Social Science and Information Association of China, China Library Association, Intellectual Property Association of Fujian Province, Scientific Information Association of Fujian Province, etc. Up to now, Professor Wende Zhang has successfully completed about 20 research projects at or above provincial level as primary member. He owns four patents. Besides, he is also a prolific author of more than 130 articles and 13 books. His research focuses on the following two fields: Information Management and Intellectual Property, Information Processing and Computer Application. Professor Zhang has received awards and honors including 25 first grade prizes of excellent paper at provincial or national levels, and numerous other academic prizes.

Preface

With the rapid development of economic globalization, the role of intellectual property (IP) has become more and more prominent in international competitions, especially in arenas of science, economy, and trade. IP has gradually turned into one of the strategic indicators of the comprehensive and core competency of a nation. Patent is an important component of IP. The infringement of patent is one of the crucial factors related to the survival and competitiveness of enterprises; therefore, the diagnosis and management of patent seem more important.

Due to the internationalism and modernity of IP, the application of English has proved to be the must-have ability for a high level IP professional. The eleventh five-year plan of IP personnel by SIPO (State Intellectual Property Office of the People's Republic of China) stated the following: Neither the quantity or the quality neither the structure or the ability of IP personnel in China meets the social and economic developments of China. The development of IP undertaking faces an acute shortage of high-level professionals, so the multi-competent talent equipped with both professional and English knowledge is badly needed in China, who is one of the important goals of higher education of China at current stage.

The master's program of Information Science in Fuzhou University Library aims to foster the above talents.

Patent Diagnosis and Strategy (the bilingual version) is one of the project results of the excellent courses of master's program in Fujian province. The publication of this book provides strong support to the bilingual course teaching. Based on a plenty of practical cases, the author clearly explained the diagnosis and strategies concerning enterprise patents. Many cases are illustrated under the special social and legal circumstance of China, which aims to help readers to further distinguish the different rules and applications between China and other countries. It demonstrates new concepts to graduate students and brings innovative thoughts to patent managements as well.

Again, *Patent Diagnosis and Strategy* (the bilingual version) is the first bilingual publication of patent in China. It is a suitable bilingual course book for any non-law major students and a good reference book for the general scientific and management personals.

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1 IPR-Promoting Innovation and Development

1.1 General Message

Why is IP Important?

Promoting and protecting intellectual property (IP) serves every country's national interest. IP is a vehicle for the creation, dissemination and management of knowledge and protecting IP allows countries to protect their intellectual assets. Intellectual property rights (IPR) are the universal currency of today's global innovation economy. Effective protection and enforcement of intellectual property rights is essential for economic growth in the developing world.

Intellectual property provides a safe environment for technology transfer and an indispensable foundation for the growth of Hi-tech industries in all nations. IP protection enables growth of software and biotechnology industries, Hi-tech manufacturing and thriving culture-based industries.

Strong enforcement of intellectual property rights protects countries from counterfeit products and nurtures creative artists and entrepreneurs who are engines of domestic economic growth.

What is IP?

Examples of IPR Laws and how they achieve their aims:

Patent laws encourage the discovery and development of new products and improve the craft processes of products, while promoting public disclosure of information regarding those new products and processes.

Trademark laws encourage the development and maintenance of high-quality products and services, and help companies promote customer loyalty.

Copyright laws encourage the creation of literary works, computer programs, artistic works, and expressions of national culture.

There are other types of IPR laws as well, such as trade law, trademark law, and trade name law, original mark law.

Why Should We Protect IP?

IPR is a cornerstone for protecting knowledge-based industries. And the development of economy will enhance prosperity in a country's business, investment, and artistic environment.

Protecting IPR will stimulate innovation. It rewards creators and encourages the development of more efficient methods of production and distribution. It introduces new products, new brands, new technology and new services, and stimulates domestic market by improving existing products and technology. Policies that protect intellectual property help to establish a diverse and competitive marketplace.

Protecting IPR will encourage the transfer of technology, and will help promote innova-

tion in primary and supporting industries. It will also create a more highly skilled labor force through the on-the-job training related to legal transfers of technology. Protecting IPR is crucial for attracting investment in knowledge-based industries.

Protecting IPR concerns national competitiveness. In the World Economic Forum (WEF) 2004, it was reported that 20 countries of top 27 in their competitiveness growth index were regarded as having the most robust intellectual property protection. Conversely, 20 countries among the bottom 36 in their index were regarded as having the weakest intellectual property regimes.

Protecting IPR creates advances that can benefit the entire world in the form of technology, products and processes that which will benefit the whole world.

Inadequate IPR protection causes job losses for citizens, income losses for companies, and revenue losses for governments. IP infringement will cause losses in economy and society.

IP infringement will do harm to consumers who waste their money and may also put themselves and others at risk by purchasing fake goods. It jeopardizes the interests of countries by decreasing tax revenues and deterring investment.

Intellectual Property is a foundation of development of knowledge-based economy, and is also a part of knowledge-based society. While a comprehensive and effective legal framework for the protection of intellectual property rights may seem to be "intangible," it is as important a component of national infrastructure-building as transportation or banking networks.

Intellectual property was a vital spark that ignited economic development in the last century. Thanks to the patented inventions of their founders, companies like Toyota, Matsushita, Sony and Honda became the modern industrial giants and pillars of the global economy from start-up ventures in late 19th century and early 20th century of Japan.

Intellectual property rights were an equally important catalyst for the development of local know-how in Korea. It helped to drive a spectacular forty-year transformation of that country from poor farming economy to highly industrialized nation.

1.2 Creating Diversity in Innovation

It is increasingly clear that the relationship between innovation and economic development is strengthening. Local businesses in dynamic knowledge economies like China are increasingly capitalizing on their own intellectual property systems.

During 1995 to 2008, there was a significant increase in the number of patent applications by residents of developing countries, including Korea, China, India and Brazil. Patent filings by residents increased by three times as that in Korea and five times as that in China during 1994 to 2008.

It is not just industrial giants benefit from intellectual property that many small and medium sized enterprises in developing countries rely heavily on intellectual property rights. In India, not only large firms and software industries but also small businesses count on IPR. For example, IPR used in India to protect innovation-based business model has given fast-

food a privilege to stand firm.

As the global economy evolves, knowledge-based enterprises will be the future developing direction. Innovation, creativity, cultural diversity and knowledge-based industries rely on an improved system of intellectual property.

IP is important for the growth of small and medium-sized enterprises (SMEs). Compared with the size, market position or financial strength of a large company, a patent may be the only advantage for a small company. Almost more than 500 SMEs and independent inventors said that intellectual property rights were important for SMEs. Some of the inventors have replied to a survey which is carried out by the confederation of Swedish Enterprises in 2005. They pointed out that large companies have other competitive advantages (such as size, market position and financial strength), while a small company may only have the advantage of patent.

Promoting Technology Transfer The protection of intellectual property rights will promote a sound development of creativity and innovation, because under the protection of patent, the information contained in the patent will become public during the bargain of an invention. Patent applicants are required to publish the details of their inventions, and their submissions will become a fertile source of technical and scientific information. All these information will be made accessible in the databases of patent offices all through the world. The net result is that transfer of technology on a global scale will stimulate further research and development.

IP Infringement Infringement causes losses in the developing countries.

Weak enforcement and growth of global trade in counterfeit and pirated goods are undermining the growth of dynamic knowledge-based economies in the developing world, threatening public health and safety, incomes of musicians and manufacturers, the health of national economies and effective governance.

The owners of intellectual property in underdeveloped areas of the world are all eager for stronger intellectual property enforcement and tougher prosecution for infringement.

According to the poll which is held by the members of International Chamber of Commerce and Industry and academic economists, more than 70% of respondents from Asia, Latin America and Africa agreed that counterfeit products and infringement of intellectual property have become one of the most pressing problems for business in their countries today. More than 80% of participants from the same regions thought their governments should do more to enforce intellectual property rights and punish the pirates and counterfeiters.

Tax Revenue, Investment and Governance The negative effect of software piracy on government revenue is very serious. For example, if there are 1.1 million businesses in the world, the IT industry would contribute nearly US\$ 1.7 trillion a year to global economic prosperity. Globally, 10% of reduction in software piracy could generate US\$ 67 billion of tax revenues.

Foreign investors are reluctant to bring innovative technologies into developing markets if there is no way to effectively protect and enforce their rights. Even companies that are not directly dependent on intellectual property regard the way of intellectual property protection as a critical indicator of respect for the rule of law and a determining factor in their invest-

ment decisions.

According to a report of the World Intellectual Property Organization, foreign direct investment (FDI) is directly linked to a IP system. An increase in FDI in India has been evident ever since patent and trademark reform was introduced in the early 1900s. Brazil enacted a new IP law in 1996 and FDI jumped from \$4.4 billion in 1995 to \$32.8 billion in 2000.

Governments and their citizens do not just lose tax revenues when infringement industries and infringement economic transactions thrive. Once connivance for such practices become common, more challenges to the laws and domestic stability will be encountered.

1.3 It's Everyone's Responsibility to Protect Intellectual Property

When intellectual property rights protections fail, it will cause fatal result. During a meningitis epidemic in Niger in 1995, more than 50000 people were inoculated with fake vaccines, resulting in 2500 deaths. 30 infants died in India in 1998 and 89 Haitian children died in 1995 from cough syrup prepared with a toxic chemical for antifreeze. The crash of a Norwegian aircraft in 1989 was blamed on a fake bolt in its assembly, which had left fifty-five people dead.

It's not any more appropriate to state products' responsibility, obligation and the protection of human creativity by IPR. It's the legal mechanism, through copyright, patents and trademark that ensures that the products we buy are genuine, and that nobody can gain without labour. Intellectual property rights don't just protect inventors; they protect citizens whose securities depend on product reliability and safty in the world.

The protection of intellectual property rights enhances countries' development, and promotes their business and culture prosperity. Such protections stimulate advances in technology, medicine and other industries, which benefit the entire world in consequens. So protecting intellectual property is crucial to protect public security across the globe.

Why should we care about protecting intellectual property? At the dawn of the 21st century, 70% of global economic output is generated by services, most of which depend on new and Hi-tech. Global GDP grew twenty-fold in the last century, from \$2 trillion to \$41 trillion and most of this increase was due to innovation. It was reported by world Economic Forum 2004 that 20 countries of top 27 were aware that the urgent need to protect IPR in the sense of competitive economic growth. In contrast, 20 countries of bottom 36 thought intellectual property protection was least of all importance.

Under economic globalization, intellectual property piracy will erode a country's economy and its culture.

Patent laws encourage inventions of new products and improvement of old products, while ensuring the freest public access to information regarding those products. Trademark laws encourage the development and maintenance of high-quality products and services, and help companies promote customer loyalty. Copyright laws encourage the creation of literary works, computer programs, creations of artistic works, and inheritance of national culture.

Information and communication technologies, safe medicines, and the other innovations

form the backbone of today's economy because of their intellectual property rights. The hopes we all have for a better future depend on those inventors and innovators who will make the world more beautiful, if their creative efforts and hard work are protected.

1.4 Patent

The English word *patent* means open or disclosure, which derives from *Letter Patent*, which was a kind of document often used by a king for appointing officials or executing certain privileges in British history. It was said that anybody could read the document without sealing; therefore, *Letter Patent* was considered to be a kind of document open to the public.

In the later feudalistic European society, with the emergence of the handicraft industry, the technique blockader of feudalism property was broken. Protecting inventions became a social need. At that time, some monarchs of states started to give businessmen or craftsmen the privilege of making or selling certain kinds of merchandise. This kind of monopoly included the components of the modern patent system.

In 1474, the first patent law promulgated in Venice, started the history of patent. Patent law was the total of law rules to regulate different social relationships resulting from the identification of ownership of inventions-creations and use of inventions and creations. The establishment of Chinese patent system began from 1979 and the Chinese Patent Law was promulgated on March 12, 1984. The patent law was implemented on April 1, 1985, which was revised firstly in Sept. 1992, and secondly in Aug. 2000. China finished the course of patent development in aspects of patent legislation, review, system construction etc. in less than ten years, for which developed countries spent several decades or even more than hundred years. Although compared with developed countries, there are still big lags, through the effort of more than ten years, China has her own patent law, which fits Chinese society and matches international patent protection standards.

The National Intellectual Property Bureau is an organization to accept and investigate patent applications. It has become one of the influential patent bureaus in the world. After the implementation of the Patent Law, the annual number of patent applications have increased significantly, particularly foreign invention patent applications obviously, up to 60% of the total number in recent years. It is not exaggerating to say the patent system and the company system are two pillars of the economic development in the capitalist society. One of the characteristics of the patent system is full open of technologies, which speeds up dissemination of technologies and avoids wasting human, material, and financial resources for the same technology exploration. On the other hand, the patent system adequately protects the inventor's monopoly right and let them benefit from it.

There are three kinds of meanings of the word *Patent in China*. The first meaning is patent right, the second meaning is inventions-creations that aquired patent right, and the last meaning is patent documents. According to the patent law, the patent right is an exclusive right within certain period, owned by the patent applicant or the inheritor of the patentee, which is awarded by the National Intellectual Property Bureau. Patent right is not an auto output after practise of the inventions-creations. The applicant should submit an application

toward the patent bureau according to the patent law, only after examination, the patent bureau may grant patent right to qualified applications. Patent right is protected by the national law, except as otherwise provided for by the law. Anyone must get the patentee's permission and pay certain fees before implementing others' patents; otherwise, it will constitute an infringement and must bearing legal liability.

The patent right has a valid term. After expiration, an invention-creation under protection becomes the common wealth of the whole society. Anyone can use it freely. Article 42 of the Patent Law stipulates the duration of patent right for inventions shall be twenty years, the duration of patent right for utility models and patent right for designs shall be ten years, counted from the date of filing.

Since China implemented the Patent Law, the patent system has become an important role of protecting intellectual property in China.

The first function of a patent system is legalizing the technological examination. During the past long period of state-plan economic system in China, the management of scientific and technological achievements is mainly through the way of assessing them. That kind of evaluation method is limited in the scope of assessment of academic level or inspection of research projects, which is not accepted by international law. If an achievement wants to be patented, it should pass the examination of the patent bureau according to the law. Any patented invention must meet the following three characteristics: novelty, inventiveness and usefulness. Therefore, nature of the mentioned examination lies in legalizing the scientific examination, which can be accepted by the world as well.

The second function of patent system is transformation of technology into capital. Once a pure technology is patented, it turns into an industrial property and a kind of intangible asset with value as well. In other words, it becomes an internationally recognized intangible asset after the examination of the patent bureau. That kind of capitalization of intellectual property constitutes the so-called knowledge capital in the knowledge economy, which is different from the traditional capital and plays more important role than the traditional one.

The third function of patent is transformation of technology into right. Once a technology is patented, it is protected by law.

Here the right has two meaning. Firstly, it means the protection of the invention or technology itself. Once a technology is patented, whatever its way to open to the public through publishing thesis, attending academic meetings or any others, it is under the protection of law. Any other people can not use it without permission of the patentee if they are aware of or learn from the above channels. Secondly, it means it occupies market. Once a product is patented, it means an exclusive right on the market. Without permission of the patentee, any other person can not produce or sell the patented product; therefore, patent plays a very important role of occupying and protecting the market.

The fourth function of patent system is transforming technology into information since the system has stipulated a set of measures of informationization of technology. Presently, whether the World Intellectual Property Organization or countries in the world are actively developing the computer system engineering. Many countries make patent information known to public via Internet. That kind of informationization combined with current comput-

er and network technologies greatly promote knowledge sharing and stimulate innovations in science and technology.

The fifth function of patent system is to constitute the foundation of knowledge-based economy. The knowledge-based economy is established on the production, allotment and usage of knowledge. Its core or decisive part is innovative knowledge, with novelty and inventiveness to push development of industries. Generally speaking, this kind of knowledge owning intellectual property right, giving great push to development of new industries and reform of old industries will definitely effect the allocation of manpower, material resources, and financial resources in a society. Therefore, the intellectual property constitutes the core and foundation of knowledge-based economy.

The sixth function of patent system is making the high-tech industries with intellectual property become main pillars of knowledge-based economy. Only strengthening the intellectual property protection of new and high-tech, can China provide more development space to new and high-tech.

The patent system aims to protect intellectual property and the inventor's legitimate rights which can ensure the inventor to open his invention relievedly as soon as possible. People can get enlightenment and make further new invention from the publicly of the invention. Due to the limitation of regional and time, anyone can use a patent after its expiration, so that, patents greatly promote the progress of science and technology, which is mainly practiced by patent documents. Patent documents are products of the patent system. Broadly speaking, they are not only limited to patent specifications, but also including periodical patent gazettes, patent abstract, patent classification, patent index etc. published by different patent authorities in the world. Therefore, through retrieving patent documents, we can know relevant scientific and technological developments both at home and abroad, avoid wasting resources. In 1979, a vacuum flask factory in China found out a technique of magnesium coating instead of silver coating after couples of years researches. However, after retrieving relevant patent documents, they found that a British factory had gotten patent for this technique as early as 1929. Suppose people in that factory had carried on the retrieval before doing researches by themselves, they can get twice the result with the half effort. Actually they can use this technology after the time limit of this patent, and get lots of benefits. For example, if some technologies are only patented abroad or haven't applied for patents in China, we can legally use relevant information in China without having to pay royalties, so that we may save a lot of money. In addition, we can use any patent freely after its expiration.

The patent system is an outcome of the market economy. In order to improve the level and ability of patent protection of Chinese enterprises and state organizations, the basic tasks are to establish a perfect socialist market economic system, to make enterprises become independent legal entities to make their own decisions regarding their operations and be responsible for their own losses and profits. Only in this way, will protection of patents become an inherent demand for enterprises.

Since the very beginning up to the present, Chinese patent system has kept opening to the world. China has joined almost all patent-related international conventions or treaties re-

presented by *the Paris Convention*, and *the Patent Cooperation*. The status of China has continuously risen in the international arena of intellectual property.