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SUMMARY OF THE STUDY ON PATENT'S ROLE IN BUSINESS STRATEGIES: RESEARCH ON CHINESE COMPANIES' PATENTING MOTIVES, PATENT IMPLEMENTATION AND PATENT INDUSTRIALIZATION

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1. The Annex to this document contains a summary of the Study on Patent's Role in Business Strategies: Research on Chinese Companies' Patenting Motives, Patent Implementation and Patent Industrialization, prepared under the Project on Intellectual Property and Socio-Economic Development (CDIP/5/7 Rev.).

2. *The CDIP is invited to take note of the information contained in the Annex to this document.*

[Annex follows]

¹ The views expressed in this Study are those of the authors and do not necessarily reflect those of the WIPO Secretariat or any of the Organization's Member States.

Executive Summary

Based on the patent surveys in China from 2008 to 2012, this research examines the role patents play in Chinese companies' business strategies and operations and attempts to identify the factors affecting patent application, implementation and industrialization. The research finds that Chinese companies continue to focus on patent implementation and industrialization in their business strategies, but have begun to develop other motives.

In terms of current practice, Chinese companies apply for patents mainly for two reasons: to gain profits through patent implementation and to gain strategic advantage through patent use other than direct implementation. In the first category, applicants intend to use patents (in the form of patent transfer, licensing and industrialization) and profit from product sales and market transactions. In business strategies, such action aims to "prevent imitation of proprietary technologies" and to "secure market share and expand the market". In the second category (also known as strategic use of patents), applications seek to block their competitors from R&D or innovation; increase bargaining power; reserve technologies; use patents as capital contributions or pledges; build up reputation; and showcase technological strength. In terms of trend, the traditional motives, such as protection and monopoly profits, are increasingly supplemented with strategic motives, such as technological blockade, negotiation, image, royalties and competition. And the strategic motives are becoming increasingly relevant.

1. Patent's Role in Business Strategies

Chinese companies apply for patents mainly for implementation, but start to explore their strategic use. According to the latest survey in 2012, both of the top two motives were related to protection and implementation. In 2011, 62.4% of the applicants aimed to prevent imitation; and 60.8% sought to secure market share and expand the market. In contrast, 49.9%, 48.6% and 36.0% aimed respectively to stockpile technologies, build product image, and set standards. In addition, 12.4% intended to use patents as assets for exchange or bargaining chips; and 17.6% wanted to constrain or block competitors. A considerable share of strategic use began to emerge.

The patent implementation rate in China remains high, largely matching the international standard. Statistics show that the rate fluctuated slightly from 2005 to 2011 but remained above 80%. Patent industrialization rate in China was 39.9% in 2011. Research shows that, in the United States of America (US), 48.9% of the patents granted to private companies were commercialized in 2001. A 2004 survey in 6 European Union (EU) countries shows 50.5% of the patents were used for the rights holder's own industrial and commercial purposes. In Japan, 51.5% of the patents were used according to the 2009 survey of Japan Patent Office. In the Republic of Korea, 82.4% of the patents were used and 56.5% commercialized. Considering the differences in the definitions of "patent industrialization" and "patent commercialization" between China and foreign countries, the patent implementation rate in China is similar to the international level.

Strategic motives are diversifying, but they are different across companies and technologies. Chinese companies apply and use patents for more and more sophisticated strategies, such as technology stockpile, incorporation into standards or patent pool, corporate image and cross-licensing. Compared with Small- and Medium-sized Enterprises (SMEs), large enterprises have more and stronger strategic motives. For example, the percentage of large companies (including central government-owned enterprises) whose patented technologies are adopted into standards or patent pools is notably higher than that of SMEs. Strategic motives also vary across technologies. The differences across companies and technologies are significant.

In China, the market value of patents and profits from industrialization remain low. Although comparison reveals similar patent implementation rates between China, Europe, the US, Japan and the Republic of Korea, Chinese companies are facing problems, including the low market value and profitability of patents. In 2011, among patents implemented by rights holders themselves, a large number failed to realize any profit. Only 8.4% generated revenue of over 1 million yuan (154,800 USD²) and 0.1% over 50 million yuan (7,739,900 USD). In the same year, 64.0% of the Chinese companies received less than 500,000 yuan (77,400 USD) of royalties from patent transfer or licensing; 76.6% paid royalties in this bracket. In both cases, most companies fell within the below-50,000 yuan bracket. Apparently, high patent implementation rate does not mean high market value and profitability.

2. Factors Affecting Patent Implementation

Factors affecting patent implementation in China are similar to those in other countries. The major differences are environmental factors. The research finds that factors such as enterprise status, technical features of patents and the external environment influenced implementation. Among these factors, implementation evaluation, strategic positioning of patents, R&D inputs, whether the patent is an invention (as against utility model and industrial design), and maturity of IP management have significant impact. This is consistent with findings of literature review. Factors affecting patent implementation exhibit two main features:

First, both external and internal factors influence patent implementation, reflecting China's current stage of development. External factors (including technology advancement, market competition and flow of information) which provide technological opportunities and resources for R&D and implementation are captured by active market players and used to decide implementation in light of internal factors such as R&D capability and strategic positioning of patents. Meanwhile, such decisions are, again, affected by the external factors such as policy and market environment. The research finds small companies care more about patent implementation while large ones focus on strategic use. The capability to combine the uses of different IP assets also contributes to implementation; but on the other hand, the more a company is mature in patent management, the less likely it will implement its patents.

Second, factors affecting patent industrialization have similarities as well as differences with those affecting patent implementation. In China, industrializing a patent means using the patent for commercial purposes and eventually achieving profits. This process, like patent implementation, is affected by several factors, including company size, R&D capability and patent types. For instance, a company is more likely to both implement and industrialize its patents if it has the capacity to use different IP assets; however, both implementation and industrialization are negatively affected if the patent is an invention patent. But factors beneficial to patent industrialization may not be so to patent implementation. For example, patent management capability reduces patent implementation, but contributes to patent industrialization. Meanwhile, although infringement has no impact on patent implementation, it is an obvious barrier to patent industrialization.

3. Problems and Further Studies

First, we need to further study the effectiveness and profitability of patent implementation in China. As patent implementation and industrialization are interlinked with China's economic growth and innovation prowess, it can be predicted that Chinese companies will make better use of the patent system and adjust patent's role in their business strategies as China's

² Official exchange rate of 6.46 yuan per 1 USD calculated as an annual average based on monthly averages for the year 2011, International Monetary Fund, International Financial Statistics (data available at: <http://data.worldbank.org/indicator/PA.NUS.FCRF>).

economy and innovation capacity develops. How can we identify the patterns in their patenting behavior and gain insights into the level, scale and efficiency of their patent use? To answer this question, we must understand the logic behind patent use, address in both theory and practice the tricky questions on “patent monetization” and “patent value”, carry out basic research, and conduct international comparison and exchanges, based on fundamental attributes of patents.

Second, international comparison and exchange on statistical standards and methods need to be strengthened. In the context of international comparison, patent’s role in Chinese companies’ business strategies demonstrates the same trend as in other countries. However, regarding the forms of implementation and industrialization in specific markets, especially regarding the measurement of relevant proportions, no bases exist for international comparison. What we call patent implementation and industrialization is known as “patent use and commercialization” in many other countries. Patent surveys in Europe and US focus on patenting motives related to profit generation and information on patent licensing and transfer, whereas those in Japan and the Republic of Korea apply the concepts of patent use and defensive patent. Hence Japan collects data on the proportion of patents stockpiled for future use, and the Republic of Korea captures information on patents “licensed and internally used”. For fundamental questions, such as “what is patent implementation”, “what is patent stockpile”, “is stockpiling a way to implement patent”, and “what are the criteria and measurements for patent industrialization”, answers have yet to be found. Due to the absence of international consensus, international comparison lacks common bases.

Third, for further studies, we are interested in the following topics: How the world will be impacted by China’s rapid patent growth and the diverse patenting motives? What are the implications of such impacts on the global IP system, market competition and business models, and state and MNC players? How will patent’s role change in business strategies when Chinese companies can better use their patents? How to identify such changes? How to provide guidance in the change? These will be the major questions for our future study.

[End of Annex and of document]