The Innovative Impact and Chinese Response to Patent Troll

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Abstract. This paper analyzes the innovative influence of patent troll and the strategy for coping with patent troll. Most of the scholars propose the opposing view and believe that patent troll causes the increasingly rising social costs, make the return on investment in science and technology decline, and bring adverse effects to the entire innovation environment. The government should implement patent concentration strategy, perfect the patent trading market to achieve the full flow and rapid transformation, and enhance the level of patent examination to reduce the probability of problem patent. The enterprises should strengthen the patent search and application awareness, enhance the level of patent management, strengthen the ability to respond and analyze. Domestic universities and R & D institutions should strengthen their awareness of protecting state-owned assets and strengthen the internal management of patents. In addition, industry associations should strengthen the industry self-discipline, avoid the collusion behavior within the industrial enterprise and overseas patent troll, avoid selling the key patent technology to patent troll and the formation of mutual dismantling.

Introduction

Driven by the Chinese government international strategy, Chinese enterprises actively enter the overseas market. However, lacking of sufficient patent operating experience makes the Chinese enterprises frequently encounter the blocking of patent troll[1]. As of December 11, 2014, India’s Delhi high court rules that Xiaomi phone infringes the patent of Ericsson, and issues a ban on Xiaomi phone sales in India market. In addition, Huawei and ZTE also encounter frequent patent litigation troll in overseas markets, and suffer heavy losses. In December 2014, a British court supports Vringo’s infringement lawsuit and orders ZTE to pay US $ 938000 in litigation costs. Patent short board will be the biggest challenge to the international expansion of Chinese enterprises[2].

Although there are not many patent infringement cases in our country, these cases show a gradual increasing trend. As China’s patent market development has just started, and all aspects of which are not very mature. Except that, the patent protection awareness of corporates is not strong. So China is gradually becoming the ideal target market in the eyes of patent troll.

The Innovative Influence of Patent Troll

The abuse of patent system by patent troll has challenged existing patent system and patent policy, which has caused great adverse impact on commercial operation. This phenomenon has aroused great concern in academia. Many scholars have proposed different views on this issue from different aspects. The mainstream view of academia is against patent troll. The opposing view of the scholars believes that patent troll causes the increasingly rising social costs, making the return on investment in science and technology decline, fighting against the enthusiasm of innovation, and bringing adverse effects to the entire innovation environment. Neutral view of the scholars believes that we should conduct specific analysis to the specific cases of patent troll, which has both positive and negative impact on innovation. There are fewer scholars who agree that patent troll promotes patent transfers, sometimes increases efficiency and promotes market expansion.
Negative Influence

Opposing viewers argue that the impact of patent troll on business operations, social welfare, and innovation environments is completely unfavorable. Keith and Williams [3], for example, argue that patent trolls do not produce products and that there is no risk of litigation of themselves, while defendants do not have the opportunity to fight back and will incur significant risks and costs. Jeff [4] find that between 1990 and 2010, patent troll-related cases cost the defendant $ 500 billion, especially in the next four years, the defendant lost an average of $ 80 billion annually. The majority of these defendants are science and technology enterprises devoting large-scale investment in research and development. So the lawsuit makes the cost of science and technology enterprise litigation increase, the technology investment income decline, which indicates that the litigation initiated by patent troll greatly reduces the enthusiasm of technological innovation.

Fischer and Henkel [5] find that patent troll causes losses of up to $ 29 billion to the respondent in 2011. Patent troll litigation increases the burden of corporate R & D innovation, and most of which fell on small and medium enterprises. Keith and William [3], after analyzing the secondary market for patent rights, find that participation of patent troll is detrimental to the social goals of technological innovation that the patent system wants to achieve. Veer and Jell [6] find that litigation initiated by patent troll reduces medical imaging technology sales by one-third, largely because of a lack of product innovation during litigation. John [7] argues that when more technology is in the hands of patent troll, the phenomenon of patent jungles spreads and social welfare declines. Small businesses and start-ups are more likely to lose their claims in patent litigation than large firms because of the lack of technology that allowed them to balance their interests. Other researchers argue that patent troll are suing companies for patent royalties that are often four times higher than the average negotiated royalties, seriously damaging the company’s innovation initiative. Patent troll do not contribute any substantial production to the society, but do harm to the innovation of productive enterprises.

Neutral Influence

The neutral view of the scholars believes that we should use specific cases to analyze its positive and negative effects, and can’t simply praise or criticize the patent troll, the impact is certainly mixed. Tim and Marieke [8] argue that the definition and analysis of patent troll should be tailored to the specific behavior and there is no general pattern. In general, different patent troll have both positive and negative effects on innovation. The patent owned by patent troll is not always valid, but the patent chosen by the patent troll to prosecute must be used by the enterprise, and the social impact of the behavior of the patent troll is uncertain.

Positive Influence

There are fewer scholars and literatures in favor of patent troll. Few researchers argue that the emergence of patent troll means social progress, efficiency and market development. The dominant view argues that patent troll can be viewed as a patent distributor that increases the circulation of patents, promotes effective pricing, and increases economic efficiency. Watanabe [9] argues that patent troll promotes the development of patent licensing firms, which solves the problem of patent market failure to a certain extent. Christopher [10] finds that patent troll with research and development capability has the ability to integrate knowledge from both innovative market and product market. This allows a number of patent troll to develop useful technologies, to create valuable patents, and to promote effective technology transfer.
Chinese Countermeasures for Patent Troll

Countermeasures at the Governmental Level

Implementing Patent Concentration Strategy. China should intensify the establishment of patent defense funds, such as South Korea’s knowledge exploration fund, while establishing links with foreign universities and other research institutions, signing intellectual property contracts, agreeing to buy patent technology to protect its international market strategic security. Conducting timely purchase of the core technology from domestic universities, research and development institutions can prevent the region’s loss in technology and human resources[11].

The government can also lead the companies to form patent operating companies like RPX (Rational Patent Exchange) through the combination of policy incentives and market competition, and implement the patent concentration strategy for certain patent technologies. Specifically, companies with financial support can jointly set up patent management companies under the initiative of the government, and the government encourages and guides them through preferential policies such as taxation and finance. Some experts also suggest that we should establish patent management company such as the Chinese Academy of Sciences Alliance, according to the characteristics of China.

Perfecting the Patent Trading Market. Because of the low degree of patent commercialization in China, there are a large number of idle patents in universities, scientific research institutes and enterprises, which provides patent troll with the opportunity to gather patent resources and conduct patent litigation. Therefore, the Chinese government should divert to improve the patent trading market, build patent trading platform, reach the full realization of the rapid commercialization of patents and reduce the risk of patent speculation. For example, the government can consider setting up an on-line intellectual property trading and service platform, attracting representatives from enterprises, universities and research institutes to participate in real-time dissemination of patent technology information and difficult issues to achieve the full docking of social technical resources.

Enhancing the Level of Patent Examination. According to the US patent troll investigation, the patent troll lawsuit mainly concentrates in the field of computer software and business methods. The reason for this phenomenon is that the scope of patent claims in these areas is rather vague, and the current patent examination does not give an appropriate standard of judgment. In other words, an important reason of patent troll being able to arbitrarily initiate litigation in the United States is that the patent troll has a large number of patent with vague claims which can help patent troll initiate litigation against related technology companies in the largest range.

Therefore, the fundamental starting point to solve the current patent troll chaos is to control the quality of patent examination, to avoid a large number of patents being authorized. The IP Office shall establish detailed and clear standards and norms for patent examination to enhance the professional standards of patent examiners and avoid ambiguous and broad interpretation of patent claims. In the specific implementation process, you can focus on remediation of industries with frequent emergence of patent troll, paying enough attention to patent applications for these industries to increase scrutiny, reduce the probability of problems of patents. On the one hand, patent protection for patents that are too broad in scope should be carefully mandated. On the other hand, we should strengthen the management and training of patent examiners, reduce the number of low-quality patents granted, and gradually raise the standards for the design and control of utility models and designs.

Countermeasures at the Firm Level

Improving the Quality of Patents. The root cause of the existence of patent troll is that it holds a large number of patent claims, so to improve the quality of declared patent is a better choice to deal with patent troll[12]. On the one hand, Chinese enterprises should strengthen R & D investment,
improve the quality of innovation, while establishing specialized intellectual property management system. For the enterprise with certain strength, it should understand the industries’ patent layout through patent search, strengthen the research and development targeted to the core technology for patent reserves. For the enterprises at the early growth period, it should strengthen the research and development and accumulation of the core technology, and actively do patent applications, while buying relevant patents around the company’s technological innovation and development direction. On the other hand, Chinese enterprises should attach importance to the practice of external work, to cooperation with intellectual property service agencies, to the writing of patent application documents, and expand the scope of protection as far as possible in the scope of claims written clearly. By enhancing the patent search and reporting awareness, improve the quality of patent applications, companies can reduce the probability of being patent troll violations, reduce the loss of business innovation.

**Strengthening the Response Ability.** A lot of patents bought by patent troll are problem patent. Patent troll just uses the broad patent claims to conduct litigation, and the respondent enterprises have to accept the proposed settlement conditions of patent troll due to lack of experience and response ability. In other words, if many of the respondent enterprises have sufficient negotiation skills and ability to respond, in fact, in many cases can deal with the threat of patent troll. Therefore, the respondent enterprises should conduct calmly responding after being prosecuted. If the defendant accused by the patent troll is not only a unit, then the defendant should be combined with each other to form a joint defense team, and ally to exchange coping strategies, finally form a joint response to deal with patent troll. If an enterprise is attacked abroad by a patent troll, the enterprise should conduct a thorough investigation of the local legal environment, including the legal system of the country and the attitude of the responding court.

**Countermeasures at the Universities and Research Institutes Level**

Because of the characteristics of China’s national innovation system, a large part of China’s major R & D resources are concentrated in large-scale scientific research institutions and universities[13]. However, the combination of production, teaching and research in China is not so close, the technology conversion rate is very low, resulting in a large number of idle patents existing in universities and scientific research institutions. Patent troll abroad sees this point and begins the layout of patents in China, starting the acquisition of patents from universities and research institutes. The scientific research funding of China’s universities and research institutes is mainly from the national institutions, so the research results funded by the national financial sector, should be applied domestically, and the transfer of research results overseas needs to be approved by the project management body.

In spite of this, domestic universities and R & D institutions should strengthen their awareness of protecting state-owned assets, especially when undertaking R & D activities under the support of overseas institutions. In addition, universities and research institutions should also strengthen the internal management of patents. On the one hand, universities and research institutions should establish a standardized process of intellectual property transfer, establish a special transfer review department to verify the value of the patent, the assignee’s identity, patent transfer contracts and so on. On the other hand, universities and research institutions should establish specialized intellectual property transformation departments to promote the internal transformation of internal intellectual property rights, while enhancing the amount of patent incentives to mobilize the enthusiasm of inventors in transforming its own research results, and promote China’s scientific and technological progress, rather than become the bag of things for foreign patent troll.

**Countermeasures at the Industry Association Level**

Industry associations should strengthen the industry self-discipline in response to patent troll, avoid the collusion behavior within the industrial enterprise and overseas patent troll, avoid selling the key patent technology to patent troll and the formation of mutual dismantling[13]. Industry associations
can also mobilize the industry-wide relevant resources to protect the success of responding process. For example, the China Battery Industry Association has helped several domestic battery companies in the United States to win the 337 investigation case. Industry associations should act under the guidance of specific assistance, to support enterprises to deal with intellectual property risks.

Conclusions

This chapter analyzes the innovative influence of patent troll and the strategy for coping with patent troll in our country. Most of the scholars propose the opposing view and believe that patent troll causes the increasingly rising social costs, make the return on investment in science and technology decline, and bring adverse effects to the entire innovation environment.

In accordance with the principle of containment and dredge, we should fully mobilize the enthusiasm of government, enterprises, trade associations, universities and scientific research to deal with the patent troll. The government should implement patent concentration strategy, perfect the patent trading market to achieve the full flow and rapid transformation, and enhance the level of patent examination to reduce the probability of problem patent. The enterprises should strengthen the patent search and application awareness, enhance the level of patent management, strengthen the ability to respond and analyze. Domestic universities and R & D institutions should strengthen their awareness of protecting state-owned assets, especially when undertaking R & D activities under the support of overseas institutions, and strengthen the internal management of patents. In addition, industry associations should strengthen the industry self-discipline in response to patent troll, avoid the collusion behavior within the industrial enterprise and overseas patent troll, avoid selling the key patent technology to patent troll and the formation of mutual dismantling.

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