Reputation Building to Reduce Risk of IP Litigation and Infringement Allegation

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This paper explores why Chinese firms are easily subject to litigation and accusation of IP infringement, and how they can reduce these associated risks. The finding suggests that the negative reputation of IP abuses, penetration in high value-added area in terms of branding and R&D, entry in developed countries with sophisticated products, and passive response to litigation and allegation, are important reasons. Accordingly, a framework is proposed to stress well-intended reputation building for avoidance of litigation and allegation. Three strategies are recommended to build reputation: getting technology and IP with joint venture and acquisition, getting technology and IP with R&D and patent application, and toughness against litigation. Five Chinese case firms are used to illustrate these strategies. It seems to be the first study to incorporate reputation into IP defensive strategies, and therefore has great implications for firms from emerging economies which attempt to upgrade from labour-intensive to R&D and brand intensive enterprises.

Keywords: Intellectual property, reputation, IP infringement, infringement allegation, litigation

IP is often used as a tactic to block the international expansion of latecomer firms. For instance, till 2008, Chinese firms had paid 1 billion US$ for IP compensation and penalty, many well-known Chinese firms, such as, Lenovo, Huawei, and ZTE have encountered IP lawsuits. Besides IP lawsuits, multinationals, especially patent trolls, use temporary injunction in the exhibition and employ customs to obtain the products of Chinese firms which are suspicious to infringe IP in Europe and US.

Patents involved in litigation are a small part among large number of granted patents. For instance, only around 1.5 lawsuits are filed per 100 patents in the US.\(^2\)\(^3\) Allegation and complaint of IP infringement by managers of multinationals, western officials and media happen more frequently. For example, in July 2012, ‘Handelsblatt’, an influential German business newspaper, reported that FAW (First Automobile Works), one of the largest automobile manufacturers in China and the joint venture partner of FAW-Volkswagen, steals Volkswagen patents. This message has been reprinted by several English media and Chinese media, such as ‘The Economic Observer’, an important weekly newspaper with the positioning ‘sensibly, constructive’. Although these allegations and complaints cannot influence the business of Chinese firms directly, they do depict a negative image of Chinese firms which in turn may have an impact on the decision making with regard to the custom’s seizure, lawsuit and injunction. Especially, infringement allegation means tacit or overt IP enforcement per litigation. Almost all Chinese firms aiming to internationalize with their own IP and brands face these problems.

Prior research has paid attention to the actual patent litigation, while the solutions are limited at the concrete technical level, for example, more investment in R&D and IP, courage to respond to IP lawsuit, patent map and search, selecting markets where competitors have no patent or their patents are invalid.\(^5\) Avoiding IP infringement is also an important topic among multinationals, there are many studies in this area, typically including patent infringement clearance practice and inventing around the competitors.\(^7\) Samaya and Lo et al.\(^9\) summarized extensive patent defensive strategies. However, little attention has been paid on the allegation and complaint of IP infringement. Different than the solutions above, it is argued that one of the important reasons that Chinese firms more often become the target of IP lawsuit and infringement allegation, lies in their overall and collective reputation until now in terms of imitation, re-engineering, counterfeiting.\(^10\)\(^15\)
This negative reputation biases the perception of multinationals on Chinese firms under imperfect information conditions. This reason is different from the reason of IP conflicts between innovative competitors, such as IT giants Apple vs Samsung, and Apple vs Microsoft. They fight against each other mainly for markets. In this paper, the authors have tried to explore the possible answers to the two questions what reputations should Chinese firms build to reduce possibility of IP lawsuit and infringement allegation? How to build such reputations?

The authors first reviewed the literature about reputation building and strategy and proposed a framework regarding relationship between reputation building and infringement lawsuit and allegation, illustrated it with several cases.

**Literature Review and Conceptual Framework**

**Review of the Literature on Reputation Effects and Strategies**

Reputation has been studied in several areas. Management, marketing and economics scholars tend to define corporate reputation as a set of attributes that are ascribed to a firm and inferred from the firm’s past actions, use reputation to predict future behaviour and performance. Reputations can be helpful to offset lack of information when dealing with decision making with incomplete information in the game theoretic models. Bearing this in mind, firms could build their reputation to influence the decision making of consumers or competitors. For example, reputation of good quality increases customer’s confidence in purchasing decisions, reduces perceived risks. Furthermore, superior quality and excellent user experience produce loyal fans around world; the typical example is Apple Inc and its branded products. Facing strong imperfection in the markets for knowledge, firms may increase their performance in licensing out technology by initiating market pull effects due to the reputation of being a valuable knowledge provider.

Institutional scholars characterize reputation as global impression, which represents how people collectively perceive a firm or their knowledge and emotions about a firm and its products. Both economics and institutional perspectives prove beneficial effects of reputation on performance. Reputation is built among stakeholders or public. Most important stakeholder is the customer. Reputation among customer has two dimensions, namely production of quality goods and organizations’ prominence in the minds of stakeholders. Reputation among public and media consists of three components: visibility (strategic character), favorability and esteem. Favorability and esteem are rare but valuable, but have to be accumulated over a long period of time.

Actions alone of the focal firms may not build reputation, which must be transmitted to the stakeholders or media. The joint efforts of firm’s actions and media coverage build reputation. Among them, media exposure contributes to reputation building through attracting attention to the firms. Patterns of media coverage reflect and affect the process of reputation establishment. Media first form their own perceptions and opinion, thereby reflect the process of reputation accumulation, and then disseminate these perceptions and opinions to the public, and influence the perceptions and opinions of other stockholder audiences. Stakeholder build reputation based on previous interaction. High-status institutions are likely to have a particular influence on reputation building, because they specialize in disseminating information about firms and in evaluating their outputs. Advertising and statements are proactive and manageable measures to reputation building.

Reputation building is a long and costly process. However, sometimes firms need good reputation within short time, for example, small firms which want to be Initial Public Offering (IPO) need reputation based on financial performance in several years. In this case, they can borrow reputation from established venture capital firms. Cooperation with well-known firms can enhance reputation, and thereby, improve performance.

Firms can also build a reputation which has a deterrence effect. Incumbent firms deter entry by establishing a reputation of toughness or aggression which leads future entrants to predict that they are likely to meet predation. Deterrence effect is also used in the IP area. Extant research in this area focuses more on protecting proprietary IP with reputation of being litigious; for example, developing reputation for being tough in patent enforcement significantly reduces knowledge spillovers via inventor mobility. Big patent portfolios are often used as means of deterring the development of similar products by competitors.

In summary, the questions of this study, which reputation can be used to avoid being litigated, and...
especially being accused of infringing IP, how to build such reputation, seems not to be answered.

Impact of Reputation on Litigation and Infringement Allegation

The reasons why Chinese firms are likely to be litigated or accused from the reputation perspective were analysed and authors constructed a framework to propose relevant strategies.

Firstly, national reputation plays a role. US, Germany and Japan and their representative firms have accumulated favorability and esteem component of their reputation. Technologies and products labeling modern life styles originated from multinationals from western countries, for example, automobile by Daimler Benz, high way by Germany, airplane by Boeing and Airbus, PC and the operating system by Intel, IBM and Microsoft, electronic appliances by Japanese firms such as Sony and Panasonic, smart phone by Apple etc. Also the IP system came from western. Therefore, US, German, Japan and other western nations have acquired a reputation of innovative nations. Firms from these countries have made contributions to this reputation, and benefit from this good reputation. As a result, the innovative capabilities, tradition and culture of US, German and Japanese firms are not doubted. Such positive reputation of US, German, Japan and their firms make them unlikely to be litigated or accused of infringing IP.

In contrast to western nations and the multinationals, China and Chinese firms have not accumulated esteem and favorability, but only visibility and unfavorable characters of imitating, counterfeiting, piracy. In addition, in the recent decades and hundreds, Chinese firms have not made considerable contributions, which changed and improved the life of human beings. The economic success and technology progress in the past decades come mostly from catching up, learning, imitating. The R&D capabilities of Chinese firms are not recognized by multinationals, since Chinese firms have not the history and tradition to develop sophisticated products independently with their own competence. Such negative reputation is important factor that may make Chinese firms likely to be litigated or accused of infringing IP by multinationals when their products are launched.

Emerging of Chinese firms as competitor of multinationals in high value-added area is the second reason. An increasing number of Chinese firms have been penetrating into the traditional value chain and developed market, which consequently increases competition and causes litigation. In 1980’s, the beginning of open door policy, Chinese firms generally lacked capital and technology and found the chance of industry upgrade and resource deployment in developed countries. They decided to take advantages of labors and nature resources, and to actively participate in the value chain specializing in production, and export to developed economies. This policy has contributed substantially to the economic growth of China in the past three decades. Since ten years, the drawbacks of this development model have emerged, such as pollution, shortage of land, labors and others resources, and trade disputes because of trade surplus. In this background, the Chinese government has changed the above policy and launched a new policy in terms of innovation-driven and ‘go out’ economy. With the encouragement of this policy, Chinese firms invest much more in R&D, IP and branding, and also export products into developed countries with their own IP and brand. For example, the sports ware brands, Qiaodan, Peak, Anta were initially Original Equipment Manufacturer (OEM) of global brands based on the manufacturing technology and know-how, they developed their own brands gradually and started internationalizing their operations, demonstrated by sponsoring Beijing 2008 and London 2012 Olympic Games. Something similar happened in other industries, for example, in automotive industry, FAW intends to export cars with its own brand ‘Besturn’ to Russia, and may compete with VW and Skoda.

The ambition of Chinese firms to obtain IP and core technologies alerts multinationals. The multinationals possess high value-added positions of R&D and branding/marketing. If Chinese firms are satisfied with the low value-added production position, there possibly will be a peace between multinationals and Chinese firms. However, if Chinese firms attempt to move up to upper position of value chain, the conventional role of multinationals, the later will consider this behaviour as real threats and may take preventive measures.

Based on literature review and background analysis above, a conceptual framework is proposed in Fig. 1.
of Chinese firms among partners or competitors. The reputation can be built with joint efforts of actions of firms and information from high-status institutions, research scholars and influential media (Fig. 1 left). Because of overall reputation of Chinese firms and reputation of nation, the individual Chinese firms need take more efforts to neutralize the negatively overall reputation to make them distinctive from the general reputation and to build positive component of reputation. The important construct of the new reputation should answer where the technology, know-how and IP come from. It means a clear declaration about the source of technology and IP (Fig. 1 middle). This construct builds the first level of reputation pyramid. They could come from either internal or external sources. Internal ones may include their own investment in R&D, patent application worldwide, especially in US, Europe and Japan, so called triadic patent family, as output of R&D. The external ones may cover several channels, for example, joint venture, so called ‘market for technology’, acquisition of firms, or only IP assets (Fig. 1 left). The reputation based on these efforts ‘prove themselves innocent’, has an explanation effect about the formal accesses of the technology, know-how and IP, and thereby eliminates the basis of IP infringement doubt (Fig. 1 right).

Sometimes, litigation or allegation of infringement is only tactic of multinationals to preclude Chinese firms from strategic markets. If Chinese firms do not respond to the lawsuit and infringement allegation, and disappear from the market quietly as multinationals expect, the multinationals reach the target. But this behaviour pattern and reputation will induce multinationals to use this tactic more often and aggressively. From this perspective, an appropriate behaviour is being tough against lawsuit and infringement allegation (Fig. 1 middle), this construct builds the second level of reputation pyramid. Toughness may have a deterrence effect to the potential initiation of lawsuit and infringement allegation (Fig. 1 right). These efforts and actions are perceived by cooperation partner and competitors, recorded in the publications of high-status institutions such as WIPO and SIPO and research articles.

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**Fig. 1—Conceptual framework reputation building and risk of patent litigation and IP infringement allegation**
Based on the framework above, the authors deduced three strategies to reduce the risk of being litigated and accused. First, getting technology and IP with joint venture and/or acquisition; second, investment in R&D and patenting; third, being tough against lawsuit. These three strategies are depicted with five case firms.

**Methods**

**Case Selection**

The purpose of this study is to extend theory, and not to test it. Therefore, theoretical sampling (not random or stratified) seems more appropriate.\textsuperscript{38,39} A multiple-case approach has been used, as it provides a strong base for theory extension\textsuperscript{38}, and multiple cases allow us to achieve a comparison among cases, and clarify whether an emergent finding is simply idiosyncratic to a single case or consistently replicated by several cases.\textsuperscript{40} Well-directed case selection would allow to conduct cross-case analysis.

SAIC was chosen to depict the first strategy. SAIC is one of the four biggest indigenous automotive manufacturers in China, and other three are FAW, Dongfeng and Changan. SAIC has joint ventures and cooperation projects with Volkswagen and General Motor. SAIC has the biggest market share in China. Until now, SAIC has not been involved in serious IP litigation or infringement allegation. It was argued that reputation of SAIC has contributed to its success. Huawei and ZTE were selected to depict the second strategy. Huawei is the most well-known Chinese high-tech firm for its innovation and rapid growth, the reputation of innovation and aggressiveness makes Huawei less likely to be litigated or accused. Sany and Hanvon are selected to portray the third strategy. Both of them are sued by industry leader, Sany for trademark similarity with Mercedes Benz and Hanvon for patent infringement. Both cases are sued abroad and influential, Sany in UK and Hanvon in US. Finally both of them have won the lawsuit after long and costly process. These firms are described in Table 1.

Three groups of cases together are used to delineate the core problem of the concept in fig.1 clearly, the approved and convincing origin of technology and IP as well as toughness against litigation. In addition, these case firms have exemplary role for other Chinese firms.

**Data Collection**

In this study, the high-status institutions are SIPO (State Intellectual Property Office) and WIPO (World Intellectual Property Organization). Both publish statistics of patent application and patent grants etc, and maintain database. This data has influence to build reputation of Chinese firms among multinationals. The recognized management research articles influence the manager of multinationals too. Therefore, SSCI database was chosen to find articles about Huawei/ZTE. The media coverage of influential business media influence reputation building of firms, so the authors mainly analysed the articles of influential German business media ‘Handelsblatt’ about case firms above.

The data is from the long term observation of authors; secondary data is from media, annual reports. Patent data of Huawei and ZTE is from publication and database of WIPO, as well as Derwent Innovation Index. Litigation information about Sany is from media reports and the analysis. Litigation information about Hanvon is from extant research of authors, secondary data and interviews. The conceptual framework and three strategies are validated by interviews in SAIC and Hanvon and a German IP law

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Source: SAIC Motor, Huawei, ZTE, Sany and Hanvon annual reports 2011
firm. The feedback from interviewed firms did not play a role in the development of ideas, but provided validation from the practice side.

Case Analyses
Strategies to Challenge Litigation and Allegation
Strategy 1: SAIC Strategy–Joint Venture and Acquisition Solution
In order to get proprietary technology, SAIC experienced three stages: joint venture, acquiring shares, buying IPR. First stages: SAIC founded joint ventures with Volkswagen and GM successively. In 1984, SAIC founded joint venture with Volkswagen, and this was the first joint venture in the automobile industry in China. With this approach, the technology of the model Santana was obtained in the beginning, later on for the model Polo, Passat, Touran, Lavida, Tiguan Skoda etc. \(^{41}\) In 1997, SAIC founded joint venture with GM, thus obtaining the technology of model Buick, Chevrolet etc. \(^ {42}\) Besides joint ventures with car manufacturers, SAIC established joint ventures with other market and technology leaders of key automotive components, for example, brake system with Continental, power transmission with ZF. Although the technology and know-how of Volkswagen and GM are officially limited in the joint ventures, but SAIC benefits indirectly, for example, through improvement of employees’ R&D and management capabilities, and then mobility of the employees within SAIC.

Recently, Chinese government wanted more indigenous innovation and own brands, but R&D and production of the models above are under control of joint ventures, or more in the hand of foreign partners. In order to improve its vehicle development capabilities, SAIC tried to get control in Korean automobile firm Ssangyong. Although this acquisition was unsuccessful and SAIC had paid totally $618 million from 2004 to 2009 \(^{43}\), but SAIC has got the reputation to get technology through acquisition. One reason of the failure of acquisition of Ssangsong lies in the strong labour union. Having learned from this failure, SAIC acquired only intellectual property of MG Rover for £67 million in 2004, including Rover 25, Rover 75 and the Rover power train K-series engine. Based on these technology and IP, SAIC reached its goals: own brand ‘Roewe’, independent vehicle development, and no risk of any IP litigation. In 2009, SAIC acquired IPR of LDV (Leyland DAF Van Co, Ltd) including brand ‘Maxus’ and ‘LDV’. This acquisition diminishes the risk of IP litigation not only in China, but more importantly in oversea markets. \(^ {44}\) Thereby, SAIC can use the previous brand recognition and distribution network, and enter the markets of commercial vehicle both in China and abroad. In order to supply new energy vehicles, such as Roewe 750 Sedan and a plug-in version of the Roewe 550, SAIC built a joint venture with A123 in 2009, called ATBS (Shanghai Advanced Tracton Battery Systems Co. Ltd). A123 systems, develops and manufactures advanced lithium ion batteries and battery systems for the transportation, electric grid service and consumer markets. A123 systems’ proprietary nanoscale electrode technology is built on initial developments from the Massachusetts Institute of Technology. \(^ {45}\) There is a doubt that acquisition of IP of MG Rover and joint venture with A124 clear the way to world market of new energy cars.

Not only SAIC, private firms also use this approach to build their reputation after their rapid growth. Ningbo Huaxiang, a fast-growing private-owned automotive interior parts firms, acquired Lawrence Automotive Interiors Limited, a UK firm in 2006, and German Automotive Interiors firm Sellner GmbH in 2011. \(^ {46}\) Sany, one of the leading construction machine firms in China, bought the leading German concrete machine manufacturer Putzmeister in 2012. \(^ {47}\) Zoomlion, another leading Chinese construction machine manufacturer from the same city, Changsha, Hunang province, acquired leading Italian concrete machine manufacturer CIFA in 2008. \(^ {48}\) Another well-known case is acquisition of IBM PC division by Lenovo.

The joint ventures and acquisitions etc. explain that the technology and know-how are acquired with legal and official channels, based on the accumulation of innovation and manufacturing. These efforts and actions have been perceived by the cooperation partner. These acquisition cases are also widely reported in the media, especially in the countries of acquired firms. For example, acquisition of Putzmeister by Sany has been reported with long text in ‘Handelsblatt’. \(^ {49}\) The media reports build positive reputation for the Chinese acquirers. The explanation effect reduces the risk of potential IP infringement lawsuit. In addition, these acquisitions also create a strong local partner, for example, SAIC in England or US, Sany in Germany, the partnership has deterrence effect against potential litigation.

Huawei and ZTE belong to the most R&D intensive Chinese firms worldwide. As compared to other Chinese firms, Huawei and ZTE depend on their own R&D capabilities and invest a high percentage of their turnover in R&D (Table 2).

Huawei and ZTE have achieved a good R&D performance. The high-ranking of R&D investment and patent application worldwide have been widely reported by SIPO and WIPO. In the statistics of WIPO, among the top 50 PCT applicants from 1978 to 2011, Huawei is listed in the 9th position, ZTE in 224th. Its competitors Qualcomm, Motorola, Nokia have each the position 8th, 10th and 11th (ref.50) As depicted in Table 3, in terms of PCT, in 2011, 2010, 2009, and 2008, Huawei lies in the position 3rd, 4th, 2nd and 1st and ZTE in the position 1st, 2nd, 22nd, 38th respectively (refs. 50,51).

Accordingly, the patent applications of Huawei and ZTE in US, Japan, and Europe increased rapidly (Table 4). From 2000 to 2011, Huawei had 4022 patent applications in US, 487 patent applications in Japan, 3472 patent applications in Europe, and 31266 patent applications in China. ZTE had 951 patent applications in US, 145 patent applications in Japan, 1124 patent applications in Europe, 27626 patent applications in China. 50,51

Especially, according to the number of PCT, Huawei has overtaken the competitors in the new technology field, such as packet switching system, LTE (Long Term Evolution), WiMax (Worldwide Interoperability for Microwave Access), NGN (Next Generation Network). 52

The successful case of Huawei became hot point in the international management research community. The R&D capabilities, market and financial performance of Huawei have been recognized by the management researcher. The search ‘Huawei’ in SSCI database, gave 9 articles (Table 5).

The data in the table includes well-known journal *Harvard Business Review*. The title of these article indicate positive key words about Huawei: ‘globalization’, ‘innovation’, ‘catch-up of latecomers’, ‘entrepreneurial pioneer’, ‘lead ship

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role’, ‘own proprietary soft-switch’, ‘innovation-oriented strategies’, ‘good-enough market’, ‘local dominance’, ‘global challenge’, ‘technology catch-up’. In these articles, there are not any negative words, such as ‘copy’, ‘imitate’, ‘re-engineering’, ‘counterfeiter’ and ‘piracy’. These articles build a positive reputation for Huawei as innovator or pioneer. These articles also indicate that not only Chinese (including oversea Chinese) scholars, but also international scholars pay attention to Huawei.

Comparatively, ZTE did not get so much attention like Huawei. With same data collection approach, only three articles with topic ‘ZTE’ were obtained, two among them are same like the article about Huawei. In addition, although Huawei is not a public listed firm, but it publishes annual report in Chinese and English since 2006, and makes it transparent. R&D investment is published, and acquired IP, such as patents, trademarks and software are also listed as intangible capital.

Table 4—Patent applications of Huawei and ZTE in important countries

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Source: Derwent Innovation Index, (23 August 2012)

Table 5—Articles with topic ‘Huawei’ in SSCI database

<table>
<thead>
<tr>
<th>Title</th>
<th>Journal</th>
<th>Time of publication</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>The globalization of Chinese telecom corporations: strategy, challenges and HR implications for the MNCs and host countries</td>
<td>International Journal of Human Resource Management</td>
<td>2010</td>
<td>Cooke Fang Lee</td>
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<td>Innovation, globalization, and catch-up of latecomers: cases of Chinese telecom firms</td>
<td>Environment and Planning</td>
<td>2011</td>
<td>Fan Peilei</td>
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<td>Entrepreneurial pioneer of international venturing: The case of Huawei</td>
<td>Organizational Dynamics</td>
<td>2010</td>
<td>Luo Yadong, Cacchione Max, Junkunc Marc et al.</td>
</tr>
<tr>
<td>Huawei's leadership role in IMS standards development and in its own 3.proprietary Soft-switch</td>
<td>Chinese Management Studies</td>
<td>2010</td>
<td>Foster William Abbott, Reinsch Russell C</td>
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<td>Huawei Technologies Corporation: from local dominance to global challenge?</td>
<td>Journal of Business &amp; Industrial Marketing</td>
<td>2007</td>
<td>Low Brian</td>
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<td>Knowledge diffusion, market segmentation and technological catch-up: The case of the telecommunication industry in China</td>
<td>Conference of the European Summer School of Industrial Dynamics</td>
<td>2003</td>
<td>Mu Q and Lee K</td>
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<td>Huawei - Mystery man</td>
<td>FORBES</td>
<td>2004</td>
<td>Flannery R</td>
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</table>

Source: Social Sciences Citation Index (05 September 2012)
The R&D input and large number of patent applications signalize that Huawei and ZTE are R&D intensive firms, have a strong R&D capabilities, their development depends mainly on their own innovation. These actions have been reported and analysed in professional fields. Such reputation has both explanation and deterrence effect against potential IP litigation and infringement allegation.

**Strategy 3: Sany/Hanvon Strategy—Toughness against Litigation**

Sany began its international expansion in 2002, and applied for trademark registration in the expansion process. Daimler AG has accused Sany of copying its Mercedes-Benz Star logo in UK (Fig. 2 shows comparison of two logos in combination with ‘Sany’ and ‘Mercedes-Benz’). Sany won the trademark lawsuit filed by Daimler AG in UK in October 2009, after one-and-a-half-year litigation.

Before the litigation in UK, both firms had same controversy in other countries such as Germany, France and China. Sany emphasized its confidence about its trademark distinctiveness and decision to develop into a global firm with own brand, and protect its IP against any global giants, in spite of high costs, limited knowledge of foreign legal systems, and lawsuit experience abroad.\(^5\)

Especially because Daimler AG is famous global firm, the star logo of Mercedes-Benz is well-known; this case not only built the reputation of Sany: being tough against lawsuit, but also signalized the innovation of Sany in the trademark design, and improved reputation of Sany.

Hanvon is a pioneer and market leader of Chinese handwriting recognition and input, geographically focusing on Great China (including mainland China, Taiwan, Hong Kong) and Singapore since its foundation. After the establishment of its market position in China, Hanvon began to enter the international market with graphic tablet. After Hanvon introduced graphic tablet in China, US and other countries, Wacom sued Hanvon for patent infringement in November 2006 in China and December 2006 in US respectively. Wacom started its business in 1983 in Japan, and became the world market leader of graphic pen tablet. Compared to Wacom, Hanvon is clearly a follower. Despite high cost and unpredictable outcomes, Hanvon actively countered the process in China and US. On 8 April 2008, Wacom and Hanvon reached a settlement. Based on the agreement, Hanvon virtually obtained its strategic goal, namely entering in graphic tablet market where Wacom dominates.\(^5\)

In the IP litigations with established multinationals, most Chinese firms traditionally do not actively respond to IP lawsuits initiated by multinationals, or often lose the litigation. Therefore, positive results of Sany and Hanvon have been widely reported in the Chinese, German and English media. They have also become well-known and received recognition among stockholders, such as patent attorneys and law firms and customers. Such reputation reduces the possibility and risk of IP lawsuit and allegation in the future.

**Implication and Comparison of the Strategies**

The first-hand information from SAIC confirmed the research results above, namely good reputation of SAIC has reduced risk of litigation and infringement allegation. The manager of division for Merger & Acquisition said in an interview, ‘As a big firm, SAIC respects the IP of partners, in the contract we define very exactly in which subsidiaries, in which products the IP of partner should be and can be used, then we abide by the contracts. But during the negotiation we insist on the right of further development, the IP of partner should be and can be used, then we abide by the contracts. But during the negotiation we insist on the right of further development, the IP of further development belongs to joint-venture or SAIC. In the license production, SAIC pays the licence fee according to number of pieces, we report the number of pieces not only to licensor, but also the statistics bureau Shanghai, and therefore our data is transparent and credible. Until 2006, SAIC maintained more than 80 cooperation projects in different forms such as joint-venture, licence, buying IP, but we have not gotten serious IP dispute or complain, we have won the trust from the partners.’ About reputation vision of SAIC worldwide in the future she said, ‘SAIC should become a firm with own vehicle development capabilities, until now, the profit of SAIC come mainly from two joint ventures, each with Volkswagen and General Motor’. This confirms that consumer is willing to pay premium price for high
quality products. Volkswagen and General Motor have a reputation of high quality, which contributes to the good performance.

SAIC strategy is effective and low risky for getting proprietary technology, know-how and IP within a short term. This strategy assists firms build a reputation: respecting IP of partners and other competitors, and avoid risk of IP litigation and infringement allegation. However, this strategy has also disadvantages. The financial volume required is very big. The suitable target firm must be available; the focal firm must have strong organization in terms of manufacturing and marketing. The integration after acquisition is not easy. Furthermore, currently and in the future, other Chinese firms cannot easily find renowned foreign partner and replicate successful process of SAIC, because the investment environment, such as laws and regulations in 1980s and 1990s were not transparent and accorded with international and WTO regulation in China, foreign partner expected favouring condition from government through Chinese partner, but now the investment environment is improved. The second reason for such change lies in the market knowledge. The multinationals did not know Chinese market in 1980s and 1990s; they depended on Chinese partner in terms of marketing and distribution, now multinationals have many alternatives to know Chinese market. Therefore, the dependence of multinationals on local partner in the knowledge of Chinese market has reduced in the recent years. Facing the changing situation, Chinese firms need new and valuable ‘sales points’ such as capital for getting technology and IP from multinationals with SAIC strategy. The recent acquisition case, for example, Geely vs. Volvo, belongs to this category.

Huawei/ZTE strategy, namely the reputation of large investment in R&D and patent application in important countries, should be the basic solution to get technology and IP. On a related note, the Vice-General Manager who is also the leader of IP department of Huawei explained the survival and success in the fiercely competitive telecommunication industry in an informal interview in Munich in 2006. ‘If you do want to be eaten up by wolf, you should become a wolf.’ However, this solution is subject to several limitations: Firstly, firms must take risk of failure of R&D and thereby loss of investment, it takes long term to get result of R&D; Secondly, more importantly, firms need strict IP protection system and effective, efficient enforcement, otherwise, good R&D results are easily copied by competitors, and the innovator will be demoralized. Zhengfei Ren, founder of Huawei said recently in September 2012 in an intern talk with basic research scientists of Huawei, ‘China has not the soil for innovation, the soil for innovation is IP system.’

Sany/Hanvon strategy, the reputation of toughness against litigation, constrains the possibility of lawsuit or allegation. The leader of the German law firm said in the interview in Germany in April 2012, ‘we have settled the case Hanvon vs Wacom. Hanvon is a good firm’. Such reputation is especially efficacious if the initiators want to mainly deter the firm’s market entry. But alone the reputation is not enough, distinctiveness of trademark design, dissociation from extant inventions or licensing are the basis for reducing risk of litigation or allegation, and winning the IP dispute.

Three strategies above are not mutually exclusive, but complementary. In different phases and situations, firms should select, integrate and optimize the strategies. Firms should choose Huawei/ZTE strategy as the basis of SAIC strategy, since their R&D capabilities ensure further development and adaption of technology from the partner firm. Huawei/ZTE strategy and SAIC strategy provide confidence for Sany/Hanvon strategy, because winning the lawsuit, fighting back the infringement allegation needs convincing evidence from R&D and extensive cooperation with partners.

In the interviews, the founder of Hanvon, Mr Yinjian Liu confirmed that the joint effects of R&D and toughness helped Hanvon win the litigation with Wacom. Firstly, Hanvon has a strong R&D capabilities, tradition and culture, although Hanvon learnt from the competitors, but did not simply copy or imitate the products of competitors, and tried to go around the claims of patents of competitors. Secondly, being tough against the lawsuit, Hanvon invests much money and personals to encounter the lawsuit; if
necessary, Hanvon employs other institutions to investigate the gainful materials for invalidating the patents or narrowing the scope of patents of Wacom.

However, reputation only addresses one necessary aspect. Reputation building alone will not inevitably be effective to the decrease of risk of IP litigations and infringement allegation under any circumstances. But reputation building may not eliminate all the IP litigations and infringement allegations. For instance, Huawei with reputation of strong R&D capability and toughness against litigation (Huawei has reached settlement with CISCO in 2004 in US)\textsuperscript{36}, cannot avoid all potential litigations. But such reputation can help Huawei deter reckless behaviour of litigation and infringement allegation. This means potential litigators must take Huawei seriously as tough firms.

**Discussions and Conclusion**

**Findings in Comparison to Prior Works**

Based on the reputation theory and analysis why Chinese firms are more often litigated and accused of infringing IP, the authors proposed a framework to illustrate relationship between purposeful reputation building and anti-litigation and anti-allegation mechanism. They proposed three strategies to reduce risk of being litigated and accused, namely, (1) Cooperation in the form of joint venture and acquisition, (2) own R&D and patent application, (3) toughness against litigation. The first two strategies serve to disclose origin of IP and technologies. The cases of SAIC, Huawei/ZTE, Hanvon/Sany delineate the effectiveness of these strategies.

The above findings assert, enrich prior works. The SAIC strategies assert that cooperation with well-known partners can enhance the reputation and improve the performance.\textsuperscript{24,31} The case SAIC, Huawei/ZTE, and Hanvon/Sany affirm the reputation pyramid: esteem, favorability, visibility.\textsuperscript{26} This pyramid shows different stages of reputation building, Huawei should be in the stage favorability, but has not reached stage esteem. Other Chinese firms are attempting to make them salient and try to make them visible (Fig. 1 middle). Reputation building actions can be enriched, such as marketing.\textsuperscript{24,26}, reputation building actions can be creation of joint ventures, acquisition of other firms and IPs, R&D investment, patent application (Fig. 1 left). They extended reputation of toughness in patent enforcement to reputation for toughness against lawsuit.\textsuperscript{34} The prior works emphasis deterrence effect of reputation\textsuperscript{18,32,34}, the authors extended effect of reputation to explanation effect (Fig. 1 right).

**Contributions**

This paper has contributed to theory extension. Firstly, a unique perspective for reducing risk of litigation and IP infringement allegation was found. To the best knowledge, this study seemingly makes the first attempt to introduce reputation theory to solve IP litigation and IP infringement allegation problem. Concretely, for Chinese firms, reputation explaining clearly the origin of technology, know-how and IP, can reduce the risk of being litigated or accused of infringing IPs of multinationals. Secondly, extant research focus on strategies how to win litigation, how to avoid being litigated or protect own IP with litigation mechanisms\textsuperscript{1,5,6,7}, this research is extended to the preliminary phase: infringement allegation, and correspond reputation to infringement allegation.

The methodological contribution lies in the second part of reputation building, namely media exposure. The data of prior works come mainly from mass media or renown business media, such as Wall Street Journal.\textsuperscript{24,26} In contrast, the authors tried to use high-level management research articles from SSCI database, these articles reflect the cognitions of international scholars about firms. These cognitions influence again the perception and opinion of business and mass media. This data origin is especially important for reputation of manufacturer of investment goods.

**Managerial Implication**

In order to reduce the risk of being litigated or accused of infringing IP by multinationals, firms from China should be aware of their reputation and the reputation of their country. Different firms could have different combination. Large firms with sufficient resources may combine three strategies. Small firms which have not strong R&D or successful litigation records may disclose the origin of their technologies and know-how, in order to avoid to be doubted of IP infringement. Any firm invention should be applied for patents and thereby demonstrated to the competitors and stakeholders.

The finding of this research may be also relevant to establish innovative firms. For example, Google bought Motorola Mobility simply for defensive purpose by increasing its patent portfolios.\textsuperscript{37,38} This strategic tactic of Google has been widely reported in
important media. Therefore, Google builds its reputation through widening patent portfolio. This reputation has both explanation & deterrence effect. The competitors may not take thoughtless IP infringement lawsuit or allegation against Google.

Limitation and Further Research
The Challenge, reducing risk of being litigated and accused of infringing IP, concerns not only Chinese firms, but also other emerging economies. In this study, only selected Chinese firms have been taken, the case firms from other emerging economics can be studied in the future research. The case firms in this study have reached visibility, only Huawei reached favorability, but until now, no Chinese firm has reached the top of reputation pyramid: esteem. How Chinese firms reach esteem in the near future should be interesting. Further empirical survey among partners of the case firms can be interesting to test the effect of these strategies in this study.

Conclusion
Despite overall negative reputation of Chinese firms, such as counterfeiting, piracy, re-engineering, and the national reputation of small contributions to modern science & technology, the individual Chinese firms can take well-directed strategies to build distinctive reputation. This reputation clarified the origin of technology, know-how and IP. Thereby, the risk and possibility of being litigated or accused of infringing IP is reduced. The strategies include cooperation with well-known multinationals in the form of joint venture and acquisition, own R&D and large number of patent application in important countries and region and being tough against lawsuit.

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References