

DO PATENT ASSERTION ENTITIES INHIBIT OR CATALYZE FIRMS' COLLABORATIVE BEHAVIOR? – THE CASE OF SOFTWARE INDUSTRY

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BACKGROUND

With the growth of markets for technology, intellectual property rights, particularly patents and licenses have evolved from exclusionary rights to transactional goods (Agrawal, Bhattacharya, & Hasija, 2016). That is to say, now technologies can be exchanged more easily between inventors (sellers) and potential users (buyers) in markets for technology. In these markets, non-practicing entities (NPEs) have emerged as intermediaries between technology inventors and technology users. Indeed, they provide a credible threat of litigation in case of opportunistic behavior from manufacturing firms (Fischer & Henkel, 2012). Nonetheless, some NPE's, referred to as patent assertion entities (PAEs), do not play a genuine role as market mediators within markets for technology. Instead, PAEs acquire the ownership of a patent seeking exaggerated damage awards by suing manufacturers which inadvertently infringed their IPR (Reitzig, Henkel, & Schneider, 2010). To do so, these agents hide their patents and wait for others to infringe them (Reitzig, Henkel, & Heath, 2007). In particular, this pernicious use of patent rights calls into question the way formal appropriability mechanisms work since patents were originally designed to protect inventors from the opportunistic behavior of external agents.

The presence of these agents (PAEs) affects manufacturing firms' innovative behavior in many ways. For instance, they may reduce firms investments in R&D activities, and decrease their invention rate (Bessen, Ford, & Meurer, 2011; Turner, 2015). Nonetheless, how the activity of PAEs influence on the engagement of firms in collaboration activities has not been studied yet. This is relevant because more and more companies use cooperative interorganizational relationships to improve their efficiency, their innovation - producing capabilities (West & Borges, 2014) and to cope with uncertainty (Hoffman, 2007). All in all, open innovation is clearly a tool to maintain the firm's competitive advantage.

Thus, the current study aims to shed light on the relationship between opportunistic litigation and open innovation. In this regard, the activity of PAEs could have two potential effects on firms' collaborative behavior. They could be external actors that inhibit alliance formation by enforcing their intellectual property rights against alliance partners. However, it might also be possible to argue that PAE activity contributes to alliance formation.

A negative effect is justified by two factors: fear and loss of interest. On the one hand, companies which are litigated by PAEs could find it harder to attract partners since these potential partners may be frightened of what we have called "*a contagious effect*". That means that they may be afraid of becoming a targeted company due to sharing resources and technology with a litigated firm. On the other hand, it would be possible that potential partners lose interest in the targeted firm since a potential attack may entail a delay on innovation.

A less obvious effect is that the PAE's activities could have a positive impact on open innovation. Anecdotal evidence suggests that manufacturing firms band together in order to reduce patent PAE activity. For instance, in January 2014 Google and Samsung Electronics signed an important agreement which main purpose was to prevent litigation from PAEs. In the words of Allen

Lo, deputy general counsel for patents at Google: *“By working together on agreements like this, companies can reduce the potential for litigation and focus instead on innovation”*¹. Similarly, some companies, particularly IT companies, have formed a lobby, Coalition for Patent Fairness², to curb patent troll activity. All these initiatives are in line with Henkel & Reitzig's (2008a) approach. These authors suggest that firms must foster cooperation in the presence of PAEs. In this regard, interorganizational agreements can provide complementary resources for both firms. Within this context, alliance agreements are understood as a way to access to complementary resources - which is in line with resource-based view (Barney, 1991) approach.

These two conflicting views reveal a gap in the prior literature since, to the best of our knowledge, there is no study to date that answers the following question: do patent assertion entities inhibit or catalyze manufacturing firms' collaborative behavior?

PURPOSES

In light of the conflicting views discussed above, the purpose of this research is to determine the impact of PAE activities on manufacturing firms' collaborative behavior. Firstly, we aim to develop a theoretical framework that clarifies whether and to what extent PAE activity exerts a positive or negative influence on firms' incentives to establish R&D alliances.

Secondly, we propose to undertake an empirical research to estimate the effects of PAEs on manufacturing firms' collaborative behavior and on firms' portfolio configuration. Understanding this relationship (PAEs-alliances) would have remarkable significance for conversations on open innovation and IPR.

RESEARCH DESIGN

To empirically estimate the effects of PAEs on firms' collaborative behavior, three different data sources have been used. We have integrated litigation data from the Stanford NPE Litigation Dataset with information on alliances agreements from SDC Platinum and with financial data from Compustat.

The dataset compiles information of firms operating in the software industry (identified by four-digit SIC categories). A general consensus exists in delimiting technology industry as the main target of PAEs (Allison, Lemley, & Walker, 2009; Henkel & Reitzig, 2008a; Pénin, 2012; Reitzig et al., 2007), especially being prominent in software (Pénin, 2012; Reitzig et al., 2007). Eventually, we aim to include pharmaceutical industry taking into account the study of Feldman & Nicholson Price II (2014) who point out that PAEs are beginning to move into this industry.

IMPLICATIONS

Our study aims to extend research at least from three different perspectives. First, we will contribute to the literature on alliance formation and IPR management. Second, deeper insights into how PAEs can inhibit or catalyze collaborative behavior provide an important guideline for managers – who could design suitable alliance portfolios. Third, we expect to add our results to the law and policy literatures about the efficacy of the US. patent system and the effectiveness of the Leahy-Smith America Invents Act (AIA).

¹ See <http://www.nytimes.com/2014/01/28/technology/google-and-samsung-sign-broad-cross-licensing-agreement.html> (accessed 11.22.16)

² See <http://www.patentfairness.org/>

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