

### **Navigating The Post-AIA Era**

*Shu Deng, University of Texas at Dallas, USA*

The patent race is a high-stakes competition. In a patent race, participating firms invest in innovative activities aiming to be the first to win patent protection, which entitles the winning firms to exclude other entities from making, using, selling, or importing the invention for a given span of time. Winning the patent race is critical to firms because patents can serve as an isolating mechanism for preventing competitors from replicating valuable firm-specific assets and a value capture mechanism allowing firms to reap profits from their innovation. Obtaining patent protection will allow firms to defend and sustain their competitive advantage in both the technology field and the product market. Meanwhile, making a discovery demands massive R&D investments, and the lengthy and experiment-intensive development process usually involves significant risk. Thus, losing a patent race incurs enormous costs.

The Leahy-Smith America Invents Act of 2011 (AIA) overhauled the US patent system. The AIA brought two major changes: 1) it induces a shift from a “first to invent” (FTI) to a “first-to-file” (FTF) system; and 2) it facilitates post-grant validity challenges by introducing multiple types of post-grant proceedings (i.e., inter partes review, post-grant review, covered business methods review). The AIA redefined the rule of the game and exacerbated patent racing. Faced with the heightened technological competition and more significant risks of losing inventions, managers and entrepreneurs need to reevaluate opportunities and challenges in a new arena and take strategic moves to navigate the post-AIA era.

How do the competitive dynamics after the AIA affect firm actions in the patent race? My study answers this question by examining actions taken by firms in technology-intensive sectors before and after the patent reform. Specifically, the study considers two types of actions across firms differentially exposed to patent interferences before the AIA. They are defensive actions (i.e., R&D investment and patent application) and offensive actions (i.e., technology blockings and product-market expansions). These actions reside in multiple stages across the new product development process, and they are related either in an intratemporal or intertemporal manner. Therefore, firms tend to consider these decisions jointly.

I examined strategic reactions taken by publicly traded firms affected by the AIA. The preliminary findings suggest that firms reallocate resources from defensive to offensive actions. Particularly, firms with higher exposure to the AIA will reduce their R&D investment and patent application to a greater degree. In the meantime, they initiate more technology blockings and product-market expansions. This pattern might be driven by the reevaluation carried out by firms in the post-AIA era. As the AIA impose time pressure in the patent race, firms would get stuck in a dilemma of quality vs. speed if they escalated innovation investment. Also, due to the Red Queen effect in the patent race, firms would expect their rivals to adapt faster. Therefore, the defensive actions intended to build up technology strength may yield fewer marginal profits.

In comparison, firms may perceive more benefits from offensive actions such as attacking others’ patents or grabbing more market share. By engaging in litigations, re-examinations, or oppositions, firms can attack their rivals or potential competitors and free ride on knowledge spillover during the process. Also, product-market expansion moves enable firms to obtain greater

market share to commercialize their inventions, which generate profits that can be reinvested back to innovation when the technological uncertainty becomes resolved.

Knowing how these incumbent firms act is critical for entrepreneurs and individual innovators to strategize how to deal with the new situation. To achieve survival and growth in the post-AIA era, small businesses need to avoid the risk of being targeted. They must cautiously scrutinize dispute risks associated with their innovation and evaluate the commercial potential of innovation much earlier and thoroughly. They may also consider trade secrets as an alternative to patents. Lastly, they can try to deter potential challengers by forming alliances.

**CONTACT:** Shu (Sue) Deng; shu.deng@utdallas.edu; (T): +1 469-578-1693; University of Texas at Dallas; 800 W. Campbell Road, SM43, Richardson, TX 75080, USA.