Better Expertise with Safer Choices: 
Delaying Incentive in Patent Purchases

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Abstract
While companies continue to take over, their timing in patent acquisition differ. This paper examines firm’s incentive in strategically selecting purchase time for outsourced drug patents. Under the theoretical framework, each drug patent has to pass n testing phases before its approval, and the buyer firm can choose to acquire patent at any stage (with k stages left, et al.) and pays a market price that is a decreasing function of the number of phases left. The trial costs are identical across different phases. After purchase, the buyer firm needs to pay for the remaining phase tests in order to make the drug patent marketable. Firms are heterogeneous in trial success rates, and choose their optimal timing of acquisition to maximize profit. Specifically, the number of success trials observed in a unit of time follows Poisson distribution, and the buyer firm needs to pass at least k trials if the patent was acquired with k stages left. Firms with larger scale and R&D expertise have higher success rates for each test phase, and thus, greater number of expected success trials. The results show that the number of remaining stages (when patent is purchased) is a decreasing function of trial success rate. In other words, firms with better expertise benefit from delaying patent purchases and acquiring them at later development stages.

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