

INSIGHTS FROM ACADEMIC PUBLICATIONS

The scientists that matter the most for biotechnology patents are the 'non-star' scientists. Although firms may believe there is a need to hire star scientists; it is the numbers of non-star scientists that help the firm attain new patents. This doesn't mean that star scientists do not play a valuable role for firms. The researchers suggest that star scientists impact patent activity by helping to direct the firm's direction.

High and increasing levels of R&D expenditures can result in diminishing and even negative effects on the firm's patent rates. This suggests that R&D productivity is not a simple function between expenditures and outcomes. The numbers show that despite ever increasing investments in R&D, the recent trends are a reduction in new drug applications and biotechnology patents.

Alliances can act as a substitute for in-house scientists' contribution to patenting activities, while acquisitions complement the internal efforts of the firm. In fact, acquisitions can increase patent output above a simple additive effect that comes from merging the two companies.

Rothaermel, F.T., Hess, A. (2007). Building dynamic capabilities: Innovation driven by individual, firm, and network-level effects. *Organization Science*, 18 in press.