Valuable Inventions:

The Scope of Technological Mix and Match

Ghosh, A, (Wharton School)  Martin, X., (Tilburg U),
Pennings, J.M (Wharton School) and  &  Wezel F.C. (Lugano U)*

DO NOT CITE
*(Names are listed alphabetically)

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ABSTRACT
Firms stand to create value when they combine different and divergent strands of technology in their corporate R&D. Depending on the breadth or scope of inventions, as anchored in their historical platform, they might create some breakthrough from their innovative efforts depending on the focus of search and their stock of experience with recombining within and across disparate domains of technological knowledge. Yet, the exploration comes at great risk as it brings the firm into uncharted territory. Using a longitudinal dataset of patents in the photographic imaging industry, we show that the stock of specific recombination experience has an inverted U-shaped relationship with the value of an innovation as measured by forward citations. Dilutive search comparatively scattered and across more remote knowledge domains diminishes the benefits of recombination. The worst possible scenario involves firm with extensive recombination histories, which dilute their efforts in searching for the next breakthrough as manifest by inventions having a broad scope.

Keywords:
Recombination, Innovation, Knowledge, Imaging, Patents, Organizational