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PAPER TIGERS OR INNOVATORS? CONTINGENT ROLE OF ACADEMIC ENTREPRENEURS IN ENHANCING VENTURE OUTCOMES

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Principal Topic

In recent years, the contribution of an academic entrepreneur (AE) to venture success has been increasingly called into question. On one hand, an AE could be the key to transmitting tacit knowledge and providing scientific human capital to ventures. On the other hand, scientist's academic human capital may have limited applicability in commercial domains. I propose that the degree of AE's contribution to venture success is contingent on (a) extent of knowledge coupling in the underlying invention (b) the extent of basic science embeddedness in underlying invention. Knowledge coupling refers to difficulty in re-combining individual knowledge components in the underlying invention. Radical innovations are more likely to have higher levels of knowledge coupling. Conversely, incremental innovations are based on innovation routines that can easily combined.

Method

After identifying 6793 unique PIs receiving SBIR awards between 1996-2005, to identify AEs, I match names of PIs with the National Institute of Health (NIH) database on prior recipients of grants from the NIH. The matched sample of the 376 AEs is further matched with USPTO database.

From the basic patent used for SBIR grant, I calculate extent of knowledge coupling by using approach suggested by Fleming and Sorenson (2004). To assess the impact of AE on venture performance, I use (i) whether the venture received Phase II funding and (ii) dollar amount of Phase II funding. Using genetic matching algorithm (GenMatch) to create a comparable sample, the proposed model will be tested using heteroscedasticity corrected panel data logistic regression and censored Tobit regression.

Results and Implications

Despite extensive research on role of basic sciences in enhancing commercialization efforts, role of academic entrepreneur has been increasingly called into question. I propose that mixed findings may be confounded by underlying nature of invention to be commercialized. More radical innovations may require more efforts and therefore efficient search map of the AE can be further leveraged. Incremental innovations may gain less from AE involvement as efficient search maps are available in applied scientific settings as lesser experimentations and ‘flatter’ search terrain could negate advantages of search maps related to basic science.

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