

Innovation in IT Firms: Drivers, Activities and Outcomes

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ABSTRACT

The study of factors that impact the innovation outcome in firms is one of the most keenly studied topics in all areas of innovation research. Researchers in different fields have attempted to look at the factors impacting innovation productivity from different viewpoints and theoretical lenses. The most widely studied factors are firm size, firms' R&D expenses, innovation strategy etc. Some of the less understood factors of innovation generation are the management decisions relating to activities targeting innovation production and their collaborations. Firms are increasingly looking beyond their boundaries for knowledge and skills that complement their capabilities (Becker & Dietz, 2004). In this dissertation, we study the impact of these factors on product and process innovation outcome for IT firms.

IT firms present themselves as a unique and understudied sector in this regard. Though IT has been widely established as one of the primary drivers of innovation in firms (Davenport, 2013; Bharadwaj, 2000), innovation within IT firms has not been extensively studied. Also, IT firms, with a curious geographical distribution of services

and products constitute a unique industry where the impacts of decisions taken in a particular geography may not have the same impact on firms in a different geography.

In our current work, we study IT firms in three diverse geographies i.e. China, India and Europe to answer the questions related to how firms should manage the generation of product and process innovation and which kind of activities and partners have the maximum bearing on eventual innovation productivity. The research questions that we try to answer through this work are:

- a) How does the choice of internal vs. external innovation activity impact the product and process innovation outcome?
- b) Which cooperation partner is most significant for increasing innovation productivity for product innovation and process innovation?
- c) Is the impact of choice of innovation partner on innovation productivity mediated by the mode of such a partnership?
- d) Do the initial drivers for engaging in innovation activity have any bearing on the type of collaboration firms engage in?
- e) How much is the geographical location of the firm a factor in the impact of innovation activities and cooperation decisions?

Our analysis leads us to some interesting and insightful results. Though extant literature suggests that process innovation is pursued less than product innovations; our results suggest that firms should invest more in process innovations as process innovations impact generation of product innovations. Also, the analysis of innovation activities at

the granularity of pure and partial intramural and extramural activities shows that large product innovation is best suited for collaboration. While large firms, with huge assets and R&D budgets, produce a high number of product innovations with intramural activities, the same is not true of most mid and small sized firms that rely on close partnerships with suppliers and clients to innovate. On the other hand, the high amount of firm level understanding required for process innovations makes it a difficult proposition for collaborative innovation.

Our results presented in this thesis have an immense implication for both theory as well as practice. We extend the lifecycle view of technology innovation and strengthen the cross-country understanding of innovation determinants. We fill the gap in Information Systems literature pertaining to how different activities impact innovation generation in IT firms. We do so by adding a more granular level of analysis concerning the pure-partial divide of innovation activities in IS research to better reflect the impact of different activities on product-process innovation outcome. We also extend the understanding of the impact of collaboration on innovation generation by establishing the mediating behavior of mode of partnership on the eventual outcome. From a practitioner's point of view, the results provide a more nuanced understanding of innovation ecosystem enabling them better design the firms' innovation pathway.