**Role of Generalists in Reconciling Dissimilarity within Inventor Teams**

Innovation is important in firms’ success.

Specialist/generalist inventors and their innovative performances have been discussed in the literature, but rarely within the context of collaboration between multiple inventors. Prior literature has focused on the individual success and the characteristics of inventions of specialist and generalist inventors. I propose to examine how different types of inventors perform in collaboration with other inventors, and on what conditions the innovative outcome is contingent.

**Literature Review**

* diversified inventors are better at exploration (Nagle & Teodoridis, 2019)
* Firms with more specialized inventors create narrower scope technologies (Toh, 2014)
* Presence of generalist inventor in a team affects the economic relevance of innovation, contingent on level of domain uncertainty (Melero & Palomeras, 2015)
* The breadth and depth of expertise can influence innovation (Boh, Evaristo & Ouderkirk, 2014)
* Dissimilarity between team inventors have an inverted U-shaped effect on the impact of invention (Huo, Motohashi & Gong, 2019)

**Hypothesis**

The presence of generalist inventor has both upsides and downsides. On one hand,

* Generalists will be better at exploring new domains and recognizing technological opportunities that arise.
* Generalists will be better at seeing the ‘bigger picture’, and facilitate efficient knowledge recombination
* Generalists will enhance teamwork by mitigating communication, conflict, and free-rider problems that may arise from knowledge variety.

On the other hand:

* Generalists will usually lack expertise and experience in a domain compared to a specialized inventor in that domain.
* Generalists will be less efficient than specialized inventors.

Considering this, I hypothesize that the innovative performance of a team will increase with the presence of generalist inventors until the proportion of generalists reaches a certain level, and fall after that point.

**H1: The proportion of generalist inventors in a team of inventors will have an inverted U-shaped effect on the innovative performance of the team.**

Ideas for moderator variables:

In situations where there is more need for exploration or coordination, the effect of generalist inventors will be more positive.

* Collaborating with people with little knowledge overlap

When the technological distance between inventors is big, the cost of bringing the diverse knowledge together will be higher. Generalist inventors can help mitigate this cost by enhancing coordination and communication within the team.

Hypothesis: The effect of the proportion of generalist inventors on the impact of the patent will be positively moderated by the average technological distance within a collaboration network.

* Patenting in new, or less familiar, domain

Exploring new domains requires exploring skills which generalist inventors are better at.

Hypothesis: When patenting in a new, or less familiar, domain, the presence of generalist inventors will have a more positive effect on the impact of the patent than when patenting in a familiar domain.

On the contrary, in situations where there are alternative methods of coordination or knowledge exploration, the effect of generalist inventors will be more negative.

* Repeated collaboration

When inventors in a team has previous experience of working with each other, the cost of coordination and communication will be lower. Thus, the benefits of having generalists on the board will diminish.

Hypothesis: The effect of generalist inventors on patent impact will be negatively moderated by previous collaboration experience between inventors.