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ACE Research Vignette: Benefits and drawbacks of start-up team heterogeneity

This series of research vignettes is aimed at sharing current and interesting research findings from our team of international Entrepreneurship researchers. In this vignette, post-doctoral research fellow Michael Stuetzer considers some of the benefits and drawbacks associated with team start-up.

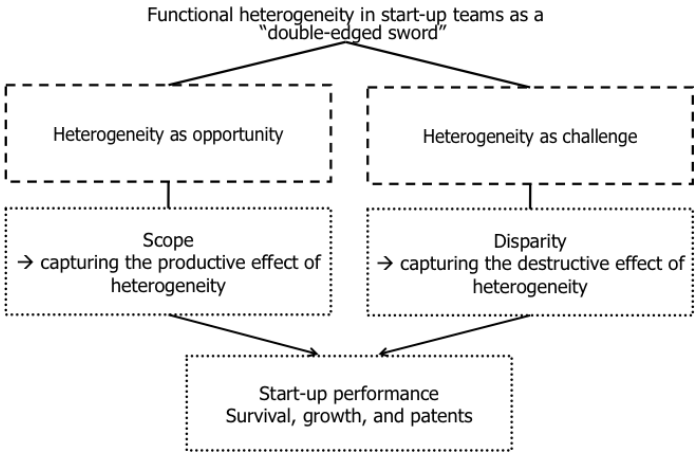
Background and Research Question

Start-ups in innovative industries are often created by teams rather than individual entrepreneurs. Furthermore team started ventures seem to outperform solo started ventures. The overt success of entrepreneurial teams can be attributed to the logic that particularly innovative industries might require more skills and knowledge than an individual would be likely to posses, necessitating that individuals combine their abilities in teams in order to start-up successfully. But how build a successful start-up team?

Academic research usually portrays functional heterogeneity in a start-up team as a good thing. A range of arguments related to the *scope* of team member's functional background (e.g. more knowledge, pooling of resources, higher creativity) support this view. However, business history is full of shocking stories about heterogeneous start-up teams who dissolved in bitter fights stemming from communication problems and internal conflicts.

So when we are assessing the effects of functional heterogeneity we have to consider that functional heterogeneity offers an opportunity but also a challenge to start-up teams.

Figure 1: Model of start-up teams functional heterogeneity



The research described in this note is an important step in this direction as we acknowledge this fundamental difference and try to solve this apparent paradox by separating the productive dimension from the destructive dimension of heterogeneity. Our starting point is the pattern of start-up team members experience in six different functional categories such as management, marketing, and R&D. As a next step we developed two sets of indicators. The first set of indicators

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(such as the number of fields in which the team overall had prior work experience) was created to capture the *scope* and thus the productive effects of the team's functional background. In contrast, the second set of indicators (such as the dissimilarity of the team member's prior functional experiences) intends to capture the *disparity* of the team's functional background, which is assumed to have negative consequences for team performance. We then asked the following two research questions:

1) Are scope and disparity of a team's functional background separable?
2) Which effects do start-up team's scope and disparity have on start-up performance?

How we investigate this

In order to investigate these questions we used a cross-sectional data set on 639 innovative start-ups in the German state Thuringia. We conducted face-to-face interviews with the founders of the start-ups.

What we found

The results are striking. There was no relationship between the two sets of indicators meaning that scope and disparity as shown in Figure 1 are distinct from each other. Scope and disparity are present at the same time in every start-up team, though to different degrees. What do we learn from this simple exercise? Functional heterogeneity is manageable!
Regarding the performance effects of scope and disparity, we found that teams with higher disparity are more likely to fail and apply for fewer patents. We interpret this as suggesting that these teams suffer from a lack of cohesion and a common language leading to internal conflicts. In contrast teams with high level of scope were found to have a higher employment growth. These teams are likely to leverage the benefits of a diverse knowledge stock.

Business and policy advice

The results clearly show that scope is in general a good and disparity in general bad for start-up teams. However, the actual effect of scope and disparity seems to be task-specific. To attain short term goals like surviving a start-up team needs cohesion and trust. To achieve more ambitious goals such as growth and patenting the start-up team might be better off if staffed with individuals from different functional areas. For would-be entrepreneurs, this suggests that, when forming a start-up team, a fit between team goals and team structure should be considered first. As the start-up evolves into a fledging young firm and firms' goals are changing, changes in the team composition might also be appropriate.

Regarding policy advice, this study speaks in favour of including elements of interdisciplinary cooperation in entrepreneurship education and training. In this way prospective entrepreneurs would be better prepare for engaging in functionally heterogeneous start-up teams.

This research vignette was written by: Michael Stuetzer, Post-doctoral research fellow in ACE
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