

IPE Proposal: **Entrepreneurial Uncertainty and Early-Stage Venture Ideas**
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New companies transform lives, ignite industries, and drive economies. But they also face a high uncertainty of success especially in the very early stages. The uncertainty inherent in pursuing truly original ideas is different from the typical risks associated with financial investments as the distribution of the outcomes for new ideas is often unknown (Knight, 1921). Yet, in order for the commercial viability of an idea to be realized, entrepreneurs must choose to devote considerable time and resources to its development instead of pursuing other more well-established career paths or project types. A non-trivial portion of these commitments are required in the very early stages of the venture, before there is a business plan, a strategy and revenue model, a team, or any funding. Due to data limitations, there has been limited research on the uncertainty faced by entrepreneurs in the idea stages of their business ventures. In this research pipeline, we aim to fill in this gap in the literature by empirically examining three sets of related questions:

1. Can the commercial viability of a new venture be accurately assessed in the idea stage? If so, how does the predictability of whether an idea will become commercially viable depend on the nature of the uncertainty that a new venture faces (e.g., the degree of technological uncertainty)?
2. Are some experts better at evaluating the commercial viability of venture ideas than others? What are the individual characteristics that explain these differences? For instance, does prior entrepreneurial and/or venture-related industry experience matter?
3. How do the implicit assumptions and explicit choices founders make influence the direction and performance of their venture ideas?

Setting

Our empirical context is Massachusetts Institute of Technology's Venture Mentoring Service (VMS), an educational program that assists aspiring MIT-affiliated entrepreneurs in the development of their venture ideas. VMS provides entrepreneurs with a mentor team confidentially and at no cost. The mentors are experts in business formation and operations from the larger New England entrepreneurship and technology community, who have typically founded and grown a new company or led a new business initiative at an established company.

Joint with Roman Lubynsky from VMS, we have collected unique data on the evaluation and evolution of nearly 700 venture ideas founded by MIT-affiliated entrepreneurs between 2005 and 2012 across a wide range of industries. The ventures in our sample have raised over 700 million dollars from venture capitalist and angel investors. Around 37.4% of them generated meaningful economic activities (e.g., hiring employees and investing in physical assets). Around 22.4% ultimately commercialized (defined as generating recurring revenue and expenses associated with the sales of products and/or services related to the business objective of the company).

We have three on-going projects, each addressing the set of research questions listed above. The projects are in various stages in terms of progress. We plan to use the IPE grant primarily for conference presentations and for Erin Scott to travel to work in Boston with VMS and project co-authors.

Project 1: "Evaluating Early-Stage Venture Ideas: Evidence from Entrepreneurship Education"

Our first project examines whether the commercial viability of a new venture can be accurately assessed at all in the idea stage. Clean, well-identified evidence on the efficacy of new venture evaluation is scarce as the predicted probability of success for a venture idea often has a direct impact on its subsequent development through resource allocation (e.g., investors funding ventures that receive positive evaluations) and signaling to key stakeholders (e.g., entrepreneurs altering effort in response to evaluation). Thus, in order to identify the efficacy of evaluation, conceptually one must disentangle the true ex-ante probability of a venture's success from the effect that its early-stage evaluation has on its development.

We overcome the identification challenge by leveraging the unique institutional structure at VMS and its educational nature. When an entrepreneur comes to VMS with a venture idea, all active mentors receive a standardized and objective summary of the proposed venture written by a VMS staff member. Based on that information, mentors have the opportunity to express their interest in joining the venture's mentor team. The mentors express interest independently and do not observe the collective initial interest from other mentors. Expressing interest in a venture is a non-trivial decision that reflects a mentor's willingness to commit their time—one of their most valuable and limited resources—to a venture. From the set of mentors that express

interest, VMS assembles the mentor team based on a variety of factors including scheduling availability and load balancing.

In our setting, aggregate mentor interest measures mentors' evaluation of a venture and, unlike in most other entrepreneurial contexts, is unlikely to influence the access to mentoring resources allocated to a venture or affect entrepreneurs' effort for several institutional reasons. First, the primary objective of VMS is entrepreneurial learning, not commercial performance. As such, VMS provides all entrepreneurs with equal access to their mentoring resources regardless of the ideas' perceived potential. Second, the entrepreneurs themselves determine the extent of mentoring they receive from VMS and have no role in the selection of the mentor team. The entrepreneurs receive no indication of the level of aggregate initial mentor interest, and therefore cannot adjust their interest in VMS mentoring or their venture in light of this information. Finally, only a small, semi-random subset of mentors expressing interest in a venture will ultimately have an opportunity to interact with the venture, with few, if any, mentors becoming heavily involved.

Using data on the characteristics and outcomes of venture ideas, we examine whether a venture idea that receives a higher level of aggregate mentor interest is more likely to be commercialized in the future. In our empirical specification, we include a rich set of venture and entrepreneur characteristics that are captured in the ventures' short summaries prepared by VMS, and we use the venture-mentor meeting records to control for the degree of mentoring at the extensive margin. We also conduct multiple robustness tests to rule out the possibility that aggregate mentor interest may affect the degree or quality of mentoring at the intensive margin. We then investigate how the predictive power of initial mentor interest varies across different types of business propositions (e.g., whether they develop new technologies).

Current status: We presented an earlier version of our working paper at the NBER Entrepreneurship Workshop last December. During 2015-2016, we will be working on converting the working paper into a journal publication.

Project 2: “Are Some Experts Better at Evaluating Venture Ideas Than Others?”

Building on the previous paper, we plan to examine the heterogeneity across mentors in terms of their ability to effectively evaluate the commercial viability of early-stage ventures. We will identify those mentors that are able to consistently identify ex-post successful ventures even when the ventures are in their early stages, and explore the mentor and mentor-venture characteristics that are related to this skill. In particular, we will examine whether prior entrepreneurial and/or venture-related industry experience offers value in evaluating the commercial viability of early-stage ventures.

Current status: We are completing the data collection on mentor backgrounds and will start the preliminary analysis soon. We will work on drafting the working paper in the summer and fall of 2015. We expect to circulate and submit the paper for publication in the spring of 2016.

Project 3: “Evolution of Early-Stage Venture Ideas: Errors at Founding”

The implicit and explicit choices entrepreneurs make while founding their ventures influence the direction and subsequent performance of their venture ideas. Yet, entrepreneurs may be unaware the full set of decisions inherent in their actions, and the pathways those decisions restrict. While the uncertainty inherent in entrepreneurship means that high venture failure rates should be expected, particularly among potential high-growth venture ideas, not all ventures failures are unavoidable. In this research stream, we hope to disentangle entrepreneurial failure due to poor strategy and execution from the inherent uncertainty of new ideas. We will explore the strategic decision entrepreneurs make during the evolution of early-stage venture ideas by leveraging the detailed, historical venture records of VMS—including the venture progress reports conducted as the venture ideas mature. As a first step, we plan to document the common misconceptions entrepreneurs have when they initially found a venture and the subsequent implications on performance. For instance, our field research suggests that inexperienced entrepreneurs may overemphasize the importance of funding and underemphasize the importance of operations. To test whether this is a common phenomenon, we will compare the primary venture needs indicated by founders when they first enroll at VMS to the analysis performed by their mentor team.

Current status: We are in the process of constructing a dataset suitable for statistical analysis from the detailed, descriptive venture records. We expect to perform the analysis in the summer and fall of 2015. We plan to draft and circulate the working paper in the fall of 2015 and spring of 2016.