

## DOCTORAL THESIS

### Essays on Nonlinear Processes and Outcomes of New Firm Growth

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## ABSTRACT

Why do most new firms which survive not grow while a handful grow sporadically, and rare outliers grow disproportionately? The prolific multi-disciplinary firm growth literature offers limited, disjointed, and inconclusive explanations of new venture growth. This dissertation, structured in three essays, examines the under-investigated nonlinear processes and outcomes of growth in new firms from different angles.

In the first essay, the notion of new firm growth is explored from a theoretical perspective and a novel overarching conceptualization is proposed that spans across different theoretical lenses and levels of analysis. Reconciling different theoretical approaches is important because no single theory developed so far singlehandedly offers a comprehensive explanation as to why new firm growth is rare, sporadic, and highly skewed. By reframing the Penrose resource logic of firm growth as a system of process-outcome interactions and making use of organizational theories of change to further characterize these interactions, the essay proposes that nonlinear patterns of resource accumulation within and across new firms arise from feedback loops between teleological, evolutionary, and dialectical mechanisms of organizational change. This allows to reconcile three seemingly juxtaposing theoretical perspectives on the causality of firm growth being deterministic, voluntaristic or stochastic.

Firm-level growth nonlinearities are explored empirically in the second essay by testing the assumption of non-linear effects of resources on new firm growth. Emphasis is placed on financial resources, because they are foundational to acquiring other forms of resources, are highly versatile and comparable across industries and settings. Competing hypotheses of a positive linear, negative linear and curvilinear effect of financial resources on early growth outcomes in new firms are tested by aggregating meta-analytic evidence across a sample of published studies. By rejecting the linear positive and linear negative hypotheses and

confirming the curvilinear relationship, the findings indicate more nuanced effects of versatile resources on growth in the uncertain context of new firms than prominently considered in resource-based literature.

In the final essay, population-level nonlinearities of growth are studied by exploring under which conditions a parsimonious process whereby new firms allocate resources to pursue uncertain opportunities may explain the empirical regularities (rare, sporadic, and highly skewed) of new firm growth and result in a heavy-tailed distribution of growth outcomes across a population of new firms. Using an agent-based simulation, we also control for key parameters potentially influencing the process. Closest alignment of the proposed process with empirical regularities is found when (i) founding sizes of new firms are normally distributed, (ii) new firms follow bounded rationality rules to select which uncertain opportunities to pursue rather than randomly pick them, and (iii) the degree of uncertainty affecting opportunities is low to moderate. These findings shed new light on other generative mechanisms of growth and heavy-tailed firm size distributions considered in literature. The essay also introduces novel operationalizations of important theoretical constructs in entrepreneurship literature: opportunity, uncertainty, and product market fit.