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Variable risk preferences in new firm growth and survival

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ABSTRACT

We outline and test a decision-making theory of new venture growth and survival. Building upon research in entrepreneurship and decision making under risk, we hypothesize that entrepreneurs' attention to survival and aspiration reference points changes based on venture age (experience-based learning), size (differences in decision complexity), and performance decision domain. Examining a panel of 14,760 new ventures in the professional services sector, our findings show how risk preferences change as a venture ages and increases in size. This approach offers a more nuanced view of decision making under risk and provides a theoretical explanation for the common patterns of new ventures' probability of exit and growth diminishing with age and size.

1. Executive summary

We develop and test a model of how entrepreneurs make decisions under risk to explain when and how decisions related to venture exit and growth are made as new ventures evolve. Previous models of new venture growth and exit have tended to focus on differences between ventures, assume that ventures either grow or exit, or that venture growth and exit are triggered by aspirations or performance thresholds that differ between entrepreneurs. We address these gaps by conceptually and empirically linking venture growth and exit to each other and theorizing about the conditions in a venture's evolution where entrepreneurs will prefer growth or exit. Our approach thereby offers a more nuanced view of decision making under risk and provides a theoretical explanation for the common patterns of new ventures' probability of exit and growth diminishing with venture age and size.

Drawing upon theories of decision-making under uncertainty, we hypothesize how entrepreneurs' decisions to grow, exit or not change are based on their venture's age, its size, and the performance decision domain. We look at two performance decision domains: when the venture is facing threats to survival, and when it is performing close to the aspired performance level. Examining a panel of 14,760 new ventures in the professional services sector in Sweden, our findings show how risk preferences change as a venture ages and increases in size.

We find that entrepreneurs whose ventures face threats to survival are more likely to seek growth to restore performance rather than to cut losses and terminate their ventures, especially as the venture ages. When the venture is larger and decision complexity increases, entrepreneurs are also less likely to terminate their ventures when facing threats to survival, but they are

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less likely to seek growth to restore performance. Further, we find that when entrepreneurs operate relatively close to their aspired level of performance, they are less likely to choose growth the older the venture and when it is larger. Growth is a more common option when entrepreneurs perform below aspirations, especially as they age or manage larger, more complex ventures.

2. Introduction

While new venture growth and exit are important themes in the entrepreneurship literature, research about the decision making surrounding these issues remains sparse (Gilbert et al., 2006; Shepherd et al., 2015; Wright and Stigliani, 2013). Economics-inspired models of new venture growth and exit highlight that new ventures follow a "grow or exit" logic (Jovanovic, 1982; Pakes and Ericson, 1998). In these models, entrepreneurs are positioned as "rational" decision makers who, based on previous venture performance, choose to grow their firm if it performs well or to exit if it performs poorly. Such models fail to explain why most ventures never grow but still survive (Coad et al., 2013; Haltiwanger et al., 2012) and why the probability of new venture growth and exit seems to diminish with venture age and size (Bradley et al., 2011; Geroski et al., 2010). Models of growth and exit from social psychology highlight new ventures' decisions to grow or exit as being based not only on actual firm performance but also on firm-specific differences in performance thresholds and aspirations for growth (Baum and Locke, 2004; Gimeno et al., 1997; Wiklund et al., 2003). Such models do not account for how changes in thresholds and aspirations over time may affect growth or how past performance may influence future decision making.

To address the shortcoming of prevailing models of new venture growth and exit, we outline a model of decision making under risk in new ventures derived from managerial decision theory and entrepreneurship research. Our model explains *when* and *how* decisions related to exit and growth are made as new ventures evolve. We build upon March and Shapira's (1992) theory of variable risk preferences, in which risk preferences shift relative to reference points rather than to an absolute value. Such risk preferences are reference dependent such that decisions are evaluated as either gains or losses relative to two repeatedly updated reference points—an aspiration reference point and a survival reference point. In these decisions, decision makers seek to minimize losses rather than maximize gains (Kahneman and Tversky, 1979; March and Shapira, 1987). In the context of new ventures, entrepreneurs' reactions to these two reference points can help explain decisions to exit, continue without changes in size, or grow as well as the ways these decisions might change throughout venture development.

We theorize about how these risk preferences change with increasing venture age and size, approximating experience-based learning and differences in decision complexity (Le Mens et al., 2011) and across two decision domains: the domain of extreme losses and the domain of gains and losses. In the decision domain of extreme losses, we predict how entrepreneurs shift attention between the survival and aspiration reference points and how this affects their decision to exit, persist as is, or grow (Hu et al., 2011). The high likelihood of new venture exit makes the survival reference point especially appropriate in our model and underlines the distinctiveness of the new venture context for studying decision making. In the decision domain of losses and gains, we predict how performance relative only to the aspiration reference point affects decisions to persist or grow (Shimizu, 2007).

Our predictions are tested using detailed matched employee-employer data for 14,760 new ventures in the professional services industry. We follow these firms during their first eight years of existence or until they exited. While most of these firms were founded with fewer than two employees, some firms grew larger over time. We use survival models and fixed-effects panel models to test how entrepreneurs' attention to a survival reference point and a firm-specific aspiration point shapes the likelihood of exit or growth.

In doing so, we provide two contributions to research on new venture survival and growth. First, we contribute to research on the growth and survival of new ventures by offering a novel alternative to the rational decision-making models of new venture exit and growth, which do not consider experience-based learning (Coad et al., 2013; Pakes and Ericson, 1998) and decision complexity. Our model of variable risk preferences in entrepreneurial decision making relative to two distinct reference points extends the literature into a previously unexplored area. The theory explains the erratic patterns of new venture growth and survival (Coad et al., 2013; Delmar et al., 2003; Gilbert et al., 2006) by suggesting they are not "near random" and explaining the conditions under which new ventures might grow, exit, or maintain their same size.

Second, by examining decision making in two domains, we are able to provide novel insights into decision making under risk. In the domain of extreme losses, we extend March and Shapira's (1992) model of shift in reference point attention by adding new explanations for behavior in threatening situations, such as when exit is looming. We explain how entrepreneurs' shifts in attention depend on their venture's age and size. This offers a novel explanation for when and under what conditions entrepreneurs' exit their ventures (Wennberg et al., 2010), what role multiple reference points play in decision making (March and Shapira, 1992; Weber and Johnson, 2009), and what competing views may exist regarding whether threats to survival lead to increased risk taking or to risk aversion and rigidity (Levinthal and March, 1993).

Further, in the decision domain of gains and losses, we argue and find that risk preferences vary with venture size and age. Our findings indicate that entrepreneurs in the youngest and smallest ventures elect to grow when performance is above the aspiration reference point, whereas entrepreneurs in comparably older or larger ventures prefer growth when performance is below the aspiration reference point. This finding highlights the importance of gains over losses in new entrepreneurs' decision making (Shepherd et al., 2015) and also suggests that some of the conflicting evidence regarding the performance-growth relationship in firms (Audia and Greve, 2006; Miller and Chen, 2004) can be explained by contextual differences (e.g., firm size and age). This is important inasmuch as greater theoretical development is needed to explain differences and inconsistencies in new ventures' performance patterns compared to larger and established organizations (Bradley et al., 2011; Busenitz and Barney, 1997).