OUTLIER ANTECEDENTS, PROCESSES, AND CONSEQUENCES IN THE EMERGENCE OF NEW VENTURES

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ABSTRACT

We investigate whether differences in individual opportunity cost influence the choice of a new venture's strategy and, subsequently, how that strategy effects venture outcomes. Analyzing longitudinal data from a representative sample of nascent ventures with fuzzy-set Qualitative Comparative Analysis techniques, we identify six distinct strategy configurations, of which two are exclusive to outlier entrepreneurs (those individuals with the highest opportunity costs). Our findings demonstrate that global strategies focused on internationalization and innovation are central to the emergence and growth of outlier entrepreneurs, whereas those with much lower opportunity costs improve their chance for successful emergence with more local strategies.

THEORY DEVELOPMENT

When an individual with exceptional abilities begins to pursue a new venture idea, she must eventually make a strategic choice between the safety of current employment and the uncertainty of self-employment. Certainly, there is significant opportunity cost in the choice to be an entrepreneur. Considering opportunity costs as "the foregone benefit of the next available alternative as a consequence of making a choice" (Cassar, 2006, p. 612), extant literature has determined that a founder's opportunity costs are a significant determinant of both nascent activity and opportunity exploitation (Arora & Nandkumar, 2011). Fairlie & Chatterji (2008), for example, found that the rates of firm establishment in Silicon Valley during the boom in the 1990s was significantly reduced, relative to the post-boom period, due to the high salaries paid to employees. In a similar line of research, Douglas & Shepherd (2000) and Amit et al. (1995) study the positive relationship between individual ability and the decision to enter self-employment. Though high-ability individuals are more likely engage in self-employment and reach successful entrepreneurial outcomes, many will

still not make the switch from paid employment given the perceived stability and relatively high rewards. Conversely, low-ability individuals (who likely have lower salaries and, subsequently, lower opportunity costs) may decide to launch their own venture, even when future payoffs are uncertain (Shepherd, Williams, & Patzelt, 2014). As well, Cassar (2006) demonstrates that entrepreneurs with high current household income plan to be involved in ventures with the expectation of higher revenues, as they have high opportunity costs. In sum, these finding suggest that a founder's initial conditions influence both actions and expectations for future outcomes.

Much of related research has focused to date on the relationship between individual opportunity costs related to human capital, social capital, or financial capital, as well as a specific final outcome, whether that is the decision to enter a business (Levie & Autio, 2011), the decision to exit (Bater, 2005), or the potential growth of the business itself (Cassar, 2006). In other words, extant studies suggest that people with high opportunity costs are more likely to select high-potential opportunities in order to compensate for their high opportunity costs. Thus, as a consequence, this implies a strong correlation between a founder's opportunity cost and the "quality" of the venture being established (Arora & Nandkumar, 2011).

In the case of a nascent entrepreneur, opportunity costs usually represent the accumulated income that can be earned from other forms of employment rather than through venturing activity. Even more, opportunity costs represent all potential employer-paid benefits—like health insurance or retirement funds—that would be foregone as a consequence of starting a particular business (Cassar, 2006). We know that heterogeneity in individual characteristics (such as human capital, attitudes, and emotions) can affect and explain an entrepreneur's assessment of the attractiveness of potential opportunities and, even, the venture's outcome (Block & Wagner, 2010). It stands to reason, then, that differences in individuals' opportunity costs can predict variance in the way entrepreneurs strategically behave while launching, managing, and growing a new venture.

Similarly, this heterogeneity in opportunity costs explains why some individuals choose to become entrepreneurs and why others opt for paid employment (Amit, Muller, & Cockburn, 1995; Cassar, 2006), and it informs about entrepreneurial performance in terms of venture disbanding (Arora & Nandkumar, 2011). In general terms, we can assess that exit takes place when profits fall below some minimal threshold (Gimeno, Folta, Cooper, & Woo, 1997). More specifically, it is possible to say that entrepreneurial opportunity costs influence the threshold of acceptable performance, where extremely high opportunity cost (from, for example, a biomechanical engineer with an annual salary of $250,000) leads to extremely high expectations for venture growth which, subsequently, can affect exit or termination, even if performance is "above average." We classify those entrepreneurs with extremely high opportunity costs as outliers.

It is important to note that the relationship between individual opportunity cost and venture outcome is shaped by a founder's specific strategies. Thus, opportunity costs may explain why some entrepreneurs appear to implement strategies that are riskier than others. Indeed, an entrepreneur's opportunity cost is likely correlated with business idea's relative risk: when "available alternatives" are more plentiful, behavioural and psychological barriers are reduced, which leads to a wider range of potential strategic options. Strategy is about choosing between possible future states and conceiving a way of getting to the future state (Porter, 1996; Levie & Autio, 2011). This is the exactly the case where different opportunity costs affect the choice to enter self-employment. High- versus low-opportunity-cost entrepreneurs perceive opportunities in very different manners. Thus, whether the establishment of a new venture could be necessity-driven for founders with low opportunity costs, entry into self-employment may be a form of strategic choice for outlier entrepreneurs with a greater amount of opportunities among which to select (Bosma, Acs, Autio,

Coduras, & Levie, 2009). The entry of low-opportunity-cost entrepreneurs is most likely an attempt to maintain individual autonomy or a viable source of income (i.e., an attempt to survive), as opposed to entry for strategic reasons. It is different to the case of outliers, who typically have access to attractive alternative employment choices in the labour market (Autio, 2007). Their decision to start a business really represents a strategic choice between the financial rewards of paid work and self-employment (Minniti & Bygrave, 1999). Accordingly, the strategies put in place by outliers are likely to be substantively different when compared to those of necessity-based entrepreneurs.

However, given the arguments above, the relationships between individual opportunity cost, strategic venture choices, and venture outcomes over time have largely been overlooked in the domain. This is an important omission that could lend insight into the antecedents, processes, and consequences of outlier entrepreneurs (those who have the potential to instigate Schumpeterian destruction on existing markets). In our study, we are particularly interested in empirically exploring to what extent different opportunity costs lead to different strategies and how those strategies lead to different venture outcomes. Specifically, we ask: *In the process of new venture creation, compared to entrepreneurs with low opportunity costs, to what extent do outliers undertake different strategies and, subsequently, do these strategies lead to a more/less successful venturing outcome?*

METHOD

To answer our research question and enhance the generalizability of our findings, our data, measures, and analytical techniques must be consistent. We need data that is collected at the nascent venture stage; it must be large enough to include an adequate amount of outliers (Andriani & McKelvey, 2009); the data should include information about a founder's initial resource endowments, as well as the actions taken over time and subsequent venture outcomes. Measures and analyses should allow robust comparison among a full range of data, including multiple combinations or activities. Since these data are not likely to be normally distributed, and likely to include an abundance of outliers, we must use either semi- or non-parametric analysis techniques (Crawford, Aguinis, Lichtenstein, Davidsson, & McKelvey, 2015).

Data and Measures

All data for this study were obtained from the Panel Study of Entrepreneurial Dynamics II (PSED), a representative longitudinal database of individuals in the United States who were in the process of starting a business (Reynolds et al., 2004; Reynolds & Curtin, 2008). The advantage of using this data set for our study is the representative character of the survey, the wide range of demographic and perceptual measures, and the avoidance of a negative influence of survivorship or recall biases. In addition, in the first wave of data collection, the PSED provides detailed information about the initial financial situation of founders (which we used to identify outliers) and, in all waves, we are able to analyze venture strategies and outcomes.

We used interquartile range (IQR) technique on each founder's annual income in PSED Wave A, calculating an outlier (OUT) opportunity cost entrepreneur as 1.5×IQR above the third quartile. The group with above-average income (AAI) consists of entrepreneurs with median to upper quartile income, while the group with below-average income (BAI), i.e., low opportunity cost entrepreneurs, consists of entrepreneurs with below median to lower quartile income. After deleting cases with missing data, we calculated thresholds for membership in the OUT group above $171,250 USD (N=72), for the AAI group $55,000 to $171,249 (N=502), and for the BAI group $0.00 to $54,999 (N=520), for a total representative sample of 1,074 entrepreneurs.

Our dependent variable is a binary variable for start-up, with respect to firm disbanding within the first five years (reversed coded). We coded '1' for those still in business after three years ('0' elsewise). We also track the annual revenue, number of employees, and the growth rate of both. We build on Mintzberg's (1978) description of *entrepreneurial mode* of strategy, understood as the process in which a founder makes decisions to achieve the personal vision of the new venture's future, and conceptualized seven strategic options: innovation, niche, international, alliances, planning, growth, and protection. Consistent with Barney (1991) and Porter (1996), the effective coordination of two more activities increases inimitability and enhances the potential to build a successful strategy. Our strategic options are independent variables. We include innovation ("INNO") to evaluate the extent to which the new business offers new or modified products or services. These products or services may be intended to serve demands in niches ("NICH") locally or internationally ("INTE"). Further conceptualizing strategic choices to facilitate organizing efforts, we assessed how extensively the new business relies on a network of helpers ("HELP") and to what degree structuring and planning ("PLAN") the start-up process are seen as important to achieving success. Finally, we assessed growth intention ("GROW") and protection ("PROT") of innovative output as two additional strategic options to organize the future enterprise.

Analytic Techniques

We assess the extent to which outliers utilize unique strategies to start their new venture by applying a set-theoretic approach, which allows the identification of different strategy configurations. Following our understanding of a strategy as the combination of two or more antecedent conditions, we applied fuzzy-set Qualitative Comparative Analysis (fs/QCA) (Ragin, 2000, 2008). This method allows us to investigate how strategic decisions (e.g., the degree of "internationalization" or the orientation towards "niches") contribute to an outcome of interest (i.e., entrepreneurial success). The fs/QCA technique has several important advantages for our research, most important of which is its underlying assumption of cause and effect: where causes of an outcome rarely operate in isolation from each other. Thus, fs/QCA allows us to analyze how several strategic choices have the potential to build a coherent and successful strategy. Finally, this robust non-parametric technique enables us to claim a causal connection between different levels of founder opportunity cost and different configurations of strategies.

The configurational analysis of strategic actions requires assigning cases to different sets. The fuzzy-set calibration makes use of external information on the degree to which cases satisfy membership criteria and which do not inductively demand deletion. In order to justify the membership values for fuzzy sets, we followed a both a direct method and an indirect method, both grounded in theory and prior research. The sample consists of two crisp sets and six fuzzy sets, which are defined from the aggregated variables (Coduras, Clemente, & Ruiz, 2015). For all variables, we identified three key measures: the inflexion point (the median value of the original variable, corresponding to the score 0.5 of the fuzzy set), as well as the upper and the lower bounds of belonging, which are defined as the first and ninth deciles of the original variable. The outcome variable is calibrated as crisp set, with the dimension of new venture survival "yes" or "no", which results from the dichotomous character of the variable.

RESULTS

As a configurational analysis, we used the combination of various antecedent conditions to derive alternative causal conditions that lead to set membership (i.e., result in the sustained emergence of a new venture). The overall solution only involves configurations that exceed the threshold of .75 for the constancy (SCcon) and coverage (SCov) (OUT: SCov=.328, SCon=.894; AAI: SCov=.139, SCon=.795; BAI: SCo=.194, SCon=.780); taken together, these figures indicate that each causal combination is robust and informative to set membership (Velilla & Ortega, 2017).

Our findings indicate seven distinct pathway configurations (i.e., strategies) to new venture survival: two for OUT founders, three for AAI founders, and two for BAI founders. For each group, we present the pattern of each configuration in a notation where capital letters indicate the presence of an antecedent condition (i.e., "INNO" stands for a strategy emphasizing innovation) while lowercase letters indicate the absence of the condition (i.e., "inno" stands for a start-up *without* innovative products or services). In addition, we present the statistics for each individual configuration (raw coverage (RCov), unique coverage (UCov), consistency (CON)). Each individual configuration reached the critical thresholds (Ragin, 2008).

Both *outlier configurations* (I) INNO • nich • INTE • help • PLAN • GROW • PROT → PERF (RCov=.186, UCov=.158, Cons=1.00) and (II) inno • nich • INTE • help • plan • GROW • prot → PERF (RCov=.169, UCov=.141, Cons=.813) show that rich founders put special emphasis on internationalization and growth (SCov=.328, SCon=.894). Therefore, these founders do not use strategies focused on market niches, nor do they pursue strategies which rely on partner networks. Of primary interest to our study, we see that the strategic configurations by OUT entrepreneurs are substantially different from the three strategies pursued by AAI founders: (III) INNO • nich • inte • help • plan • grow • PROT → PERF (RCov=.093, UCov=.040, Cons=.886), (IV) inno • NICH • inte • HELP • plan • GROW • prot → PERF (RCov=.127, UCov=.066, Cons=.801), and (V) inno • NICH • inte • HELP • plan • grow • prot → PERF (RCov=.072, UCov=.066, Cons=.861). Our findings show that AAI founders mostly rely on networks of supporters and helpers to build their business. Further, these founders target smaller niche markets with a local focus. In addition, only one configuration was found where AAIs build their business on an innovative product or service.

Not too surprisingly, AAI founders show significant differences from BAI founders in their strategic choices. Our analysis identified two distinct configurations for founders in the group with the lowest income: (VI) inno • nich • inte • HELP • PLAN • grow • prot → PERF (RCov=.115, UCov=.037, Cons=.842), and (VII) inno • NICH • inte • HELP • plan • grow • prot → PERF (RCov=.102, UCov=.024, Cons=.795). Most strikingly, both BAI configurations indicate that their choices of venture strategy are focused very differently than OUT entrepreneurs. Here, BAI founders have a very local focus, with strategies centered around small market niches and relying on the help of small support networks; in contrast, OUT founders have a much more global focus, with strategies centered around innovation and internationalization, strategies that have a much greater potential to disrupt the market. Interestingly, when comparing across all three entrepreneur types, there is very little variation in the propensity of any type survive more than another. And, while we find OUT entrepreneurs *have more many more instances of high growth* over five years than the other two types, the OUT entrepreneurs also *have many more instances of disbanding* earlier in the venturing process. This finding is significant, suggesting that given the high opportunity cost of venturing, founders with outlier initial conditions may expect growth and pursue strategies that have greater probability of achieving growth, but, up to certain thresholds of underperformance, *outlier entrepreneurs are unwilling to accept survival given non-growth.*

DISCUSSION

Our findings and our methods make interesting and insightful contributions to the domain of entrepreneurship research. Our core findings stress two important issues. First, outlier founders start their business with quantitatively different endowments and qualitatively different strategies than other founders. In this regard, outliers are a distinct subgroup, with unique initial conditions, expectations, and strategic actions. Second, the heterogeneity in the opportunity costs of venturing significantly affects strategic choice. As a consequence, our findings demonstrate how individuals' opportunity costs can predict variance in the way entrepreneurs strategically behave during launching and managing a new venture—where expectations drive actions and actions drive outcomes. Most interestingly, we find that the expectations of outlier entrepreneurs drive *extreme* outcomes: outlier founders are more likely to experience both exponential growth and disbanding.

In conjunction with these findings, we acknowledge seminal population ecology research which proposes that an individual's intentions are not a good guide to organizational outcomes (c.f., Aldrich, McKelvey, & Ulrich, 1984). As is common with evolutionary perspective research, this proposition is based on theoretical conjectures and not empirical analysis (which usually exclude outliers from the analysis). It is also worth noting that several studies have found weak or no relationships between expectations and growth (see review from Davidsson & Gordon (2012) for examples). Though these studies use data from the same PSED II source as ours, all of their analyses used Gaussian statistical methods, which are based on the assumptions of linear relationships among constructs, independent observations, and the normalization or deletion of outliers. Given that the Crawford et al. (2015) study of PSED II data found power law distributions (and an over-abundance of outliers) in all theoretically relevant input and outcome variables, it is not too surprising that the non-parametric techniques we used here provided contrary results. Indeed, when Gaussian statistics are used on outlier-laden data, it changes the "substantive conclusions including the presence or absence, direction, and size of effect or relationship (Aguinis, Gottfredson, & Joo, 2013: p. 272)."

Our findings also contribute to entrepreneurship's growing theoretical, methodological, and social interest in studying outliers—those individuals and teams and ventures that create disproportionate change in the environment. In most research domains, outliers are often viewed as "freak" observations, data points far outside the normal that skew the behavioral and statistical properties of the system under study. They are often viewed as "mistakes," substantively different than the whole of the population, and consequently, do not play a role in the explanation of the phenomena under study (Rasmussen, 1988). Troublingly, even with the many non-parametric techniques available, coupled with the ubiquitous fact that outliers and power law distributions have been discussed for nearly a century (c.f., Jeffreys & Wrinch, 1921 or Simon, 1955), scholars continue to simply delete outliers from their analysis as a means of gaining statistical significance and publication (see, for example, Chakrabarti & Mitchell's (2016: p. 679) *Strategic Management Journal* article or Pfeffer & Carney's (2017: p. 8) *Academy of Management Learning & Education* article). In the current state of social dissention, where the "1%ers" are persecuted by the other 99% of the population, it is important to note that—in entrepreneurship, most especially—these outliers are the ones who create and innovate and push our society forward. Undeniably, outliers *are* different: in our analysis, we show that outliers *think* differently and *act* differently and *grow* differently than the rest of the population. Our research demonstrates that, in many ways, outliers enrich entrepreneurship theory by helping us understand phenomena like opportunity recognition and strategic choice in a deeper, more nuanced manner. Indeed, outliers are vital in providing scholars with a complete understanding the entrepreneurial process. Indeed, we need more freaks.

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