REVITALIZING AND LEARNING FROM FAILURE FOR FUTURE ENTREPRENEURIAL GROWTH

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ABSTRACT

Under what conditions do entrepreneurs learn from their previous failures and do better in the next round? Drawing on the cognitive literature in attribution and motivation, we shed light on the process of entrepreneurs’ recovery from failure. Amassing a database of new-venture founders with previous business failure experience, we investigate how their number of previous failures, their attribution of the cause of failure, and their motivation to start up another business upon failure impact the growth of their subsequent ventures.

INTRODUCTION

Business failure is common. Failure is a critical and fundamental element in entrepreneurship (Lee, Peng, & Barney, 2007; McGrath, 1999; Shane, 2001). Indeed, it is intriguing that some (but not all) entrepreneurs come back from failure, and start up another business (Hayward et al., 2006). However, the impact of prior failure on future entrepreneurship has not received significant attention in the literature (Cardon & McGrath, 1999; Cardon et al., 2005; Shepherd, 2003). Shepherd et al. (2009a) posit that from a theoretical standpoint, the role of failure experiences on the performance of subsequent projects is uncertain. Under what conditions do entrepreneurs’ previous failures lead to better venture performance in the future?

In this study, we explore the conditions of entrepreneurial failure and recovery such as the number of previous failures, attribution of the cause of failure, motivation to start up another business upon failure, and the overall impact on the growth of subsequent ventures. The actual influences that lead entrepreneurs to fail can be internal, external, or both (Cardon et al., 2008). Moreover, how entrepreneurs perceive and attribute the cause of their failures, and how they are motivated to start up another business upon failure varies significantly in determining the extent to which they make sense of their previous failure, learn, revitalize, and achieve success in the next round. We attempt to capture these factors, and investigate the link between previous failure and future entrepreneurship.

MAIN HYPOTHESES

How do individuals develop entrepreneurial capabilities from their experience of failure? Studies have capitalized on the notion of “combination of knowledge” that enables greater learning from failure. Minniti and Bygrave (2001) argue that it is the combination of positive and negative experiences that determines the sequence of entrepreneurs’ choices such as the development and deployment of resources. In other words, entrepreneurs learn by updating a subjective stock of knowledge accumulated on the basis of combining past successes and failures.
Imagination of new combinations of resources and value-creating activities is at the heart of entrepreneurial creativity and the development of dynamic capabilities that enable entrepreneurs to achieve superior performance (Teece, 2007; Zahra et al., 2006).

In sum, it is a widely held belief that entrepreneurs may profit from their past failure, and through the process of learning from failures, they may be able to augment their initial endowment of entrepreneurial capabilities along the way (Baron, 2004; Stam et al., 2006). Failure may provide critical learning opportunities that act as a catalyst for further business development, and initiative for future entrepreneurial growth and renewal (Cardon et al., 2008; Green et al., 2003; McGrath, 1999; McGrath et al., 1996). Therefore, we predict a positive relationship between entrepreneurs’ number of previous failure experiences and the growth of their subsequent ventures. However, beyond a certain threshold, further increase in the number of failures may not be positively associated with learning and subsequent performance. As each failure will take its toll on the morale and sanity of the entrepreneur, the loss of a business can generate a negative emotional response (e.g., grief) that can interfere with individuals’ ability to learn from the loss (Shepherd, 2003). In sum, numerous failure experiences are less likely to be associated with effective learning from failure. Overall, we argue for an inverted U-shape relationship:

**Hypothesis 1:** The number of entrepreneurs’ previous failure(s) will be positively associated with the growth of their subsequent ventures, up until a threshold point where it will be negatively associated with the growth of their subsequent ventures.

When entrepreneurs fail, different causal explanations are employed to account for what went wrong. Understanding of events is structured through interpretation and sensemaking, which involves retrospectively linking events to possible causes and attributing the causes (Ford, 1985). Given entrepreneurs’ varying levels of reactions over failure, there is also heterogeneity in their ability to maximize the learning from failure (Shepherd & Cardon, 2008). An important aspect of the entrepreneurs’ attribution of failure is the locus of causality, whether an event is due to reasons internal to the person experiencing the event or to reasons outside their control (Cardon et al., 2008; Weiner, 1985). Using this framework, we posit that entrepreneurs’ learning from failure and their subsequent venture performance will depend upon their attribution of the locus of causality for their previous failures—internal versus external attribution of blame.

We argue that this is more likely to occur in the case of internal (as opposed to external) attribution of blame. In other words, while individuals are more prone to attribute negative outcomes to the external environment (therefore, unstable and uncontrollable) from their sensemaking mechanism (Clapham & Schwenk, 1991; Crant & Bateman, 1993; Wagner & Gooding, 1997), entrepreneurs who blame their failure internally are more likely to look back upon what they might have done wrong and consider how they might do better next time. Engaging in such counterfactual thinking allows entrepreneurs to consider past failures in the process of constructing more effective strategies that generate positive outcomes in the future. In sum, successful entrepreneurs who recover effectively from failure are those who engage in counterfactual thinking, those who attribute the cause of their failure internally, and become adept at using such thinking to develop enhanced strategies in their subsequent endeavors. This way, entrepreneurs with previous failure experience may profit more from past mistakes (Baron, 2004; Sitkin, 1992).

**Hypothesis 2:** Entrepreneurs’ internal (as opposed to external) attribution of blame for their previous entrepreneurial failure will be positively associated with the growth of their subsequent ventures.
Learning can not only be influenced by individuals’ efficacy and ability, but also by motivation and vision (Greenberger & Sexton, 1988; Herron & Sapienza, 1992; Lorenzet et al., 2005). Baum et al. (2001) empirically support this argument by finding that CEO’s visions and motivations are direct predictors of venture growth. Entrepreneurial motivations are often times associated with “intentionality” (Katz & Gartner, 1988). The founding entrepreneurs’ intentions determine the direction of an organization at its inception; subsequent growth of the organization is based on these intentions (Bird, 1988). Extending this line of work, we argue that entrepreneurs’ motivation is an integral part of their efforts to start up another business after initial failure.

Within the motivation literature, scholars have long discussed the usefulness of intrinsic versus extrinsic motivation, the distinctive characteristics of each, and the inter-relationship between the two (Brief & Aldag, 1977; Dyer & Parker, 1975; Kuratko et al., 1997; Naffziger et al., 1994). Intrinsic motivation, such as passion for entrepreneurship, ensures that the entrepreneur persists in the face of difficulties and keeps enthusiasm high during the pursuit (Cardon et al., 2005). Intrinsically motivated entrepreneurs are more likely to sacrifice their own personal needs to meet the needs of their ventures, persisting, delaying gratification, and investing huge amounts of effort, emotion, and resources to the ventures. Confident enactment based on intrinsic motivation may help create a positive reality as resource providers are persuaded by the confidence and as the entrepreneur puts in more effort, feeling more certain it will be rewarded (Gartner et al., 1992). In sum, intrinsic motivation “concerns active engagement with tasks that people find interesting and that in turn promote growth” (Deci & Ryan, 2000: 233). On the other hand, extrinsic motivation often in the form of financial rewards can have a negative effect on intrinsic motivation (Daniel & Esser, 1980; Sherman & Smith, 1984; Staw et al., 1980). Extrinsic rewards can infect intrinsic motivation by negatively affecting feelings of competence or self-determination (Deci, 1976). In sum, we argue that,

Hypothesis 3: Entrepreneurs’ intrinsic (as opposed to extrinsic) motivation to start up another business upon pervious entrepreneurial failure will be positively associated with the growth of their subsequent ventures.

While internal attribution of blame allows entrepreneurs to learn effectively, the condition under which they preserve self-esteem is important for future entrepreneurial endeavors. Too many failures and too much internal blame can reduce an entrepreneur’s sense of competency—in other words, self-efficacy. Self-efficacy refers to individuals’ conscious beliefs in their own abilities to accomplish desirable task performance (Bandura, 1997; Baron, 2004). Scholars in entrepreneurship have further specified the scope of self-efficacy by introducing the concept of entrepreneurial self-efficacy (Forbes, 2005). Entrepreneurial self-efficacy has been defined in terms of the degree to which individuals believe they are capable of performing the roles and tasks associated with pursuing an entrepreneurial career, starting businesses, managing new ventures, and confidence in growing the venture (Baum & Locke, 2004; Boyd & Vozikis, 1994; Chen et al., 1998; Forbes, 2005).

What determines one’s level of self-efficacy? Self-efficacy levels are based on individuals’ causal attribution for past experiences (Bandura, 1997). “Appraisal of personal efficacy is enhanced by selective recall of past successes and diminished by recall of failures” (Bandura, 1997: 111). Indeed, how individuals identify the cause of their failure can affect the development of self-efficacy (Gist & Mitchell, 1992; Gundlach et al., 2003). While overcoming a failure can allow entrepreneurs to move on and make new commitments leading to resiliency and a sense of self-efficacy (Benight & Bandura, 2003; Wood & Bandura, 1989), too many failures attributed
internally can be harmful in reducing the same self-efficacy (Gundlach et al., 2003). Accumulation of internal attribution of failure can further relate to affective reactions such as depression and self-reproach (Martinko & Gartner, 1987).

Whether or not reduced self-efficacy leads to functional or dysfunctional learning and to better or worse entrepreneurial outcome remains to be tested (Shepherd, 2003; Baron, 2004). However, both greater self-efficacy and entrepreneurial self-efficacy are generally associated with better outcomes (Bandura, 1997; Lee & Klein, 2002; Prussia & Kinicki, 1996; Tierney & Farmer, 2002; Wood & Bandura, 1989). In sum, while we suggest that internal attribution of blame is associated with effective learning and subsequent growth, we predict that, after a certain threshold, too much failure attributed internally will actually dampen the effectiveness of learning.

Hypothesis 4a: Entrepreneurs’ internal attribution of blame for their failures will moderate the relationship between their number of previous failures and the growth of their subsequent ventures. The greater their internal attribution of blame, the greater their number of previous failures will be positively associated with the growth of their subsequent ventures—up until a threshold point where the greater their internal attribution of blame, the greater their number of previous failures will be negatively associated with the growth of their subsequent ventures.

The knowledge assets gained through failure interacts with the evolving vision of entrepreneurs to create values (Penrose, 1959). Even though entrepreneurs may fail several times, their intrinsic motivation often in the form of passion for entrepreneurship may keep them going forward. Perseverance, in the shape of greater commitment, can rise even higher. Individuals highly committed to a cause not only prefer more challenging activities, but also display greater staying power in those pursuits (Bandura, 1997). Indeed, many serial entrepreneurs repeatedly engage in the founding of unsuccessful ventures continuing the process until successful (Cardon et al., 2008). However, the continuing intrinsically motivated endeavors in the form of persistence can be both functional and dysfunctional depending on the context.

We argue that intrinsic motivation also entails greater psychological importance (as compared to materialistic importance for extrinsic motivation), and that continuous failures of intrinsically motivated endeavors is likely to generate a greater sense of grief that interferes with entrepreneurs’ ability to overcome and learn from the failure. An increasing number of failures of intrinsically motivated endeavors (greater levels of psychological ownership and personal engagement) are likely to result in a stronger negative emotional response that hinders learning, recovering, and starting up successful business (Shepherd & Cardon, 2008). In sum, we argue for another interaction effect that intrinsic motivation to start up another business after previous entrepreneurial failure will steepen the inverted-U-shaped relationship between the number of previous failures and subsequent venture growth. Accordingly,

Hypothesis 4b: Entrepreneurs’ intrinsic motivation behind their venturing upon failure will moderate the relationship between their number of previous failures and the growth of their subsequent ventures. The greater their intrinsic motivation, the greater their number of previous failures will be positively associated with the growth of their subsequent ventures—up until a threshold point where the greater their intrinsic motivation, the greater their number of previous failures will be negatively associated with the growth of their subsequent ventures.

METHODS
Data were obtained from the “Survey of Entrepreneurs Starting their Businesses for the 2nd time” (Nidomeno-kaigyounikansuru-anketo)—a questionnaire-based survey of new-venture founders who have business failure experience, conducted in 2001 by the National Life Finance Corporation (NLFC: Kokumin-seikatsu-kinyuu-kouko), a government financial institution. As the largest survey of new ventures in Japan, a number of advantages associated with using the data have been identified (Harada, 2003; Masuda, 2006). In 2001, NLFC conducted a follow-up study of entrepreneurs who have failure experience (as opposed to first-time founders) identified from previous surveys. Our dataset is based on the aggregated result of this additional survey. Since the additional questionnaires include the various cognitive factors that affect entrepreneurs' recovery from their failure as well as financial data before and after failure, the survey data are ideal to address our research questions.

New venture growth. Our dependent variable, new venture growth, is measured by the growth rate of employees—the ratio of the increased number of employees (total number of employees at the time of the survey minus the total number of employees at the time of start-up) to the initial number of employees at the time of start-up. More specifically, we measure the increase in size, and divide it by age to obtain the average growth rate over the venture’s life.

Number of failures. This variable is based on respondents’ answer regarding their previous start-up experiences. We use the number of failures they have experienced prior to starting their current venture. In order to test for the curvilinear relationship, we use the variable centered by the mean and in square terms.

Attribution of blame. Based on what respondents identify as the three major reasons for their failures, we created a percentage variable, “internal attribution of blame” derived from respondents’ answers to the survey. This variable equals 1 if all three choices are associated with internal attribution of blame (3/3), equals .66 if two of their three choices are associated with internal attribution of blame (2/3), equals .33 if one of their three choices is associated with internal attribution of blame (1/3), and 0 otherwise (0/3). We acknowledge that essentially, given that individuals see different aspects of failures (Shaver, 1985), the true cause of failure is difficult to assess (Cardon et al., 2008). Entrepreneurs are also likely to perceive both internal and external attributes of blame for each failure. Therefore, in order to begin our exploration of attribution of blame, we use the percentage as a proxy for determining the general tendency whether the blame is internalized or externalized for subsequent learning.

Motivation to start again. Similarly to attribution, we created a variable, “intrinsic motivation” based on what respondents identify as the two major reasons for their starting up another venture upon previous failure. This variable equals 1 if both their choices are associated with intrinsic motivation (2/2), .5 if one of their choices is intrinsic motivation (1/2), and 0 otherwise (0/2). Brief and Aldag (1977: 498) suggest that “It is not possible to classify objectively an individual as intrinsically or extrinsically motivated. Rather, it is necessary to assess self-attribute of motivation.” We do just that and capture respondents’ self-attribution of their motivation to start another venture. Just as in coding the attribution of blame, we determine whether or not motivation was primarily intrinsic or extrinsic by weighing what respondents identify as their most critical driver for their entrepreneurial action.

Control variables. We control for four sets of factors. First, we control for industry effects by creating dummy variables. We also created a dummy variable, domain abandonment, to control for the learning impact of failure-related experience (Kawakami, 2007; Kim & Miner, 2007). Second, we control for the nature of failure (Shepherd et al., 2009a) by coding for the conditions.
under which entrepreneurs exited their previously failed businesses—voluntary liquidation and bankruptcy filing (Lee et al., 2007). Third, we control for organizational characteristics such as venture age and venture size (Song et al., 2008). Fourth, we control for individual characteristics such as gender and age at new start-up (Fischer et al., 1993), industry experience as proxy for entrepreneurs’ knowledge, skills, and capabilities (Minniti & Bygrave, 2001), amount of start-up financial capital raised for the venture (Forbes, 2005; Tyebjee & Bruno, 1984), the length of time (in months) from when entrepreneurs exited their previous businesses until they founded their current venture, and finally for entrepreneurs’ orientation for growth (Chandler & Hanks, 1998) by creating a dummy variable based on a survey question regarding their aspiration for growth.

We use robust regression analysis to test our hypotheses (Starbuck, 2005; Zaman, Rousseeuw, & Orhan, 2001). This in turn, will allow us to account for the pull-effect of outliers (i.e., high-growth gazelles), and will produce more efficient standard errors than OLS regression. Further, hierarchical and moderated regression models will be utilized. By controlling for main effects, hierarchical regression models enable us to examine the added explanatory variance of each independent variable. In sequence, we enter control variables, main variables, and interaction terms. For testing interactions among the variables of interest, the technique of moderation is useful (Dess et al., 1997). Since the interaction term is tested for significance after all first-order effects have been entered into the regression equation, it is considered a relatively conservative method for examining interaction effects (Steenisma et al., 2000).

**FINDINGS**

Hypothesis 1 examines the effect of entrepreneurs’ previous number of failures on the growth of their subsequent ventures. From the non-significant results of both the number of previous failures and its squared terms, Hypothesis 1 is not supported. In Hypothesis 2, we predict that entrepreneurs’ internal attribution (as opposed to external attribution) of blame for their failure is positively associated with the growth of their subsequent ventures. The result is significant ($\beta=1.68; \ p<.05$) and positive, thus Hypothesis 2 is supported. Similarly in Hypothesis 3, we suggest that entrepreneurs’ intrinsic motivation (as opposed to extrinsic motivation) to start up another business upon failure is positively associated with the growth of their subsequent ventures. The result is also significant ($\beta=2.31; \ p<.01$) and positive, indicating support for Hypothesis 3. Hypotheses 4a and 4b explore the interaction effects: (a) internal attribution of blame and the number of previous failures, and (b) intrinsic motivation and the number of previous failures. The significant ($\beta=3.96; \ p<.05$) and positive result of the interaction term provides support for Hypothesis 4a, but the non-significant result of the interaction term indicates that Hypothesis 4b is not supported. Overall, the significance of the moderating influence (Hypotheses 4a) suggests that the main effect of internal attribution of blame is superseded by the interaction effect (with the number of previous failures). In other words, we find that the function of internal attribution of blame is curvilinear, and its effect on new venture growth is affected by the number of failures. By the same token, while the main (curvilinear) effect of the number of previous failures was not supported (Hypothesis 1), the significance of the interaction term (between internal attribution of blame) suggests that under certain conditions, the number of previous failures indeed, has a curvilinear (inverted-U-shaped) relationship with new venture growth.

**DISCUSSION**

Overall, at least three contributions emerge. First, by drawing on insights from the cognitive literature in attribution and motivation, we are able to better understand the mechanism underlying the link between entrepreneurs’ experience of failure, learning, and their subsequent performance.
in the form of new venture growth. Furthermore, the ability of entrepreneurs to recover from failure provides valuable insights into the likelihood of serial entrepreneurship (Shepherd et al., 2009b; Ucbasaran et al., 2006). Second, our study also contributes to both the attribution and motivation literatures. From the results of our analysis, it appears that attribution influences the effectiveness of the learning process. Specifically, internal attribution, under certain conditions, benefits learning (by signaling the importance of the cause of an event), thereby enabling greater performance in the form of new venture growth. We find that the function of internal attribution of blame is contingent on the number of failures experienced. On the one hand, our findings support the view that internal attribution of blame can lead to greater performance (in the form of new venture growth) when entrepreneurs have experienced low number of failures. On the other hand, it can also lead to negative outcomes when entrepreneurs suffer from a high number of failures experiences. Overall, we have identified the role attribution plays behind entrepreneurial activity, that such locus of causality can have performance implications in an entrepreneurial context. In terms of motivation to start up another business after previous failure, our results reveal that intrinsic motivation indeed leads to greater sustainability and organizational growth. Third, we empirically substantiate our arguments through a large-scale survey-based database of Japanese entrepreneurs—to the best of our knowledge, a very first such endeavor in the literature. The nature of the survey has allowed us to examine the conditions under which entrepreneurs experience failures, and how cognitive determinants can be applied to predicting their subsequent entrepreneurial endeavors. In sum, our study adds theoretically and empirically to the literature on entrepreneurial failure. Given the paucity of entrepreneurship research on Japan (Bruton and Lau, 2008), a country where entrepreneurship is desperately needed, our efforts have also expanded the global scope of entrepreneurship research on failure and recovery.

CONCLUSION

Our findings support the view that under certain conditions, previous failures indeed stimulate entrepreneurs to learn, which, in turn, can foster new entrepreneurial growth. Given the pervasiveness of business failures and the paucity of scholarly research on the link between earlier failure and subsequent entrepreneurship (Shepherd, 2009), it seems imperative that our attention be devoted to this important, relevant, and challenging research agenda.

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