Journal of Business Venturing 32 (2017) 1–17

Contents lists available at ScienceDirect

Journal of Business Venturing

How prior investments of time, money, and employee hires influence time to exit a distressed venture, and the extent to which contingency planning helps

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ARTICLE INFO

Article history:
Received 25 October 2015
Received in revised form 7 October 2016
Accepted 10 October 2016
Available online xxxx

Keywords:
Exit
Escalation of commitment
Failure
Planning
Japan

ABSTRACT

Unfortunately, for many entrepreneurs there comes a time when they must exit their firms due to economic distress. While some exit quickly once they perceive the need to do so, others delay, and there are benefits and costs to both approaches. Using an escalation of commitment framework, we explore variation in exit speed, and find that time to exit after the firm experiences distress depends on the types and extent of investments made prior to that distress. Further, our data indicate that contingency planning moderates the relationships between certain types of investments and time to exit.

Executive summary

Prior research on exit in entrepreneurship has examined factors that cause firms to fail or succeed (e.g., Bruderl et al., 1992; Cumming, 2008; Ghemawat and Nalebuff, 1985), factors that lead to different methods and routes of exit (e.g., Dehlen et al., 2014; Wennberg and DeTienne, 2014; Wennberg et al., 2010), and factors that affect the timing of exit (Garud and Van de Ven, 1992; Mitchell et al., 2008; Shepherd et al., 2009), but there are very few studies of the factors that influence the duration of the exit process (e.g., how long it takes entrepreneurs to exit). We focus our study on time to exit a distressed venture to add to this nascent literature. A distressed venture is defined here as one that is underperforming based on the threshold the entrepreneur has for his or her own venture (Cope, 2011; DeTienne and Cardon, 2012; Gimeno et al., 1997; Ucbasaran et al., 2013). Our focus is on firms that experience economic distress, both objectively and subjectively as determined by the entrepreneur, and ultimately exit through a "distress liquidation" path (Wennberg et al., 2010) rather than firms that are able to bounce back from distress.

Understanding why some entrepreneurs exit quickly and others exit after a longer time after experiencing distress is essential for several reasons. First, when resources are tied up in distressed ventures, they are not available for more productive purposes. Second, delaying exit far beyond the point of distress can lead to firms that are "permanently failing" (Meyer and Zucker, 1989), "living dead" (Ruhnka et al., 1992), and "chronic failures" (van Witteloostuijn, 1998), all of which are simply "unproductive" (Baumol, 1990). In order to better understand the "total cost of failure" (Ucbasaran et al., 2013) including psychological, financial, and societal costs, we need to understand what drives the decision making of individual entrepreneurs concerning exit timing.

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http://dx.doi.org/10.1016/j.jbusvent.2016.10.002
0883-9026/

We explore how three types of resources the firm has at the time of distress influence time to exit the venture: investment of time, investment of money, and investment in employee hiring. Using an escalation of commitment framework, we develop theory concerning why each of these types of investments might lead entrepreneurs to delay the exit of a venture that is in distress. We also want to understand how to prevent or at least mitigate unhealthy escalations of commitment of entrepreneurs to distressed ventures (Khavul et al., 2009), and suggest that one possible method is through contingency planning. We examine our hypotheses using a sample of 93 founding entrepreneurs who experienced venture distress and exit in Japan.

Our results indicate that entrepreneurs vary in the extent to which they delay exit based on the amount of investments they have made in their firm prior to the point of distress, where investments of time and money prior to the point of distress increase time to exit. Surprisingly, investment in employee hiring prior to distress does not lead to delayed time to exit in our sample. Instead it appears that the greater the number of employees at the time the entrepreneur realizes the firm is in distress, the less entrepreneurs are prone to delay that exit, and the more likely they are to quickly make the exit. Our data analyses also indicate that planning for such potential performance problems (contingency planning) helps mitigate escalation of commitment behaviors by decreasing time to exit based on investments of time and money, thereby reducing the total cost of failure for such firms.

Further, although we focused our analyses on 93 firms that were both subjectively and objectively in financial distress (entrepreneurs felt distress and were objectively unprofitable), an additional 96 firms/entrepreneurs indicated that although they were profitable, they felt that their firm was in distress and as a result exited the firm from the market. Despite objective profits, the entrepreneurs felt distress due to some economic downturn, such as a decline in sales or profitability, or profitability being below their own personal threshold. Our results concerning time to exit are remarkably similar for the profitable and non-profitable groups of distressed entrepreneurs, suggesting that regardless of the objective data that indicate whether or not these firms were profitable, the mechanisms for time to exit and contingency planning were based on the perception that one's firm was under distress and the behavioral reactions to that realization of distress, not based upon the objective indicator of distress.

1. Introduction

Venture failure is a fundamental element in entrepreneurship not only because it is common, but also because it can be a precursor of another emergence and future success (Aldrich, 1999; Knott and Posen, 2005; Learned, 1999; McGrath, 1999; Shane, 2001). Indeed, there is evidence that some (but not all) entrepreneurs come back from a failure and start new businesses even after being unsuccessful in their previous entrepreneurial efforts (Flores and Blackburn, 2006; Hayward et al., 2006; Hessels et al., 2011; Schutjens and Stam, 2006). Scholars have suggested that such failure recovery, including learning from failure, can be influenced by how quickly an entrepreneur exits a failed business (Jenkins, 2012; Shepherd et al., 2009; Yamakawa and Cardon, 2015). Thus the timeliness of exit is a relevant concern, yet is quite understudied (Balcaen et al., 2011).

Prior research on exit in entrepreneurship has examined factors that cause firms to fail or succeed (e.g., Bruderl et al., 1992; Cumming, 2008; Ghemawat and Nalebuff, 1985), factors that lead to different methods and routes of exit (e.g., Dehlen et al., 2014; Wennberg and DeTienne, 2014; Wennberg et al., 2010), and factors that affect the timing of exit (Garud and Van de Ven, 1992; Mitchell et al., 2008; Shepherd et al., 2009), but there are very few studies of the factors that influence the duration of the exit process (e.g., how long it takes entrepreneurs to exit). In one prominent study in this area, Balcaen et al. (2011: 408) argued "there are no studies explicitly investigating the time from a first sign of economic distress to firm exit. However, the time to exit is an important characteristic of the exit process, and warrants separate analysis." Understanding why some entrepreneurs exit quickly and others exit after a longer time after experiencing distress is essential for several reasons. First, when resources are tied up in distressed ventures, they are not available for more productive purposes. Second, delaying exit far beyond the point of distress can lead to firms that are "permanently failing" (Meyer and Zucker, 1989), "living dead" (Ruhnka et al., 1992), and "chronic failures" (van Witteloostuijn, 1998), all of which are simply "unproductive" (Baumol, 1990) at the individual, firm, and societal levels. This suggests that in order to better understand the "total cost of failure" (Ucbasaran et al., 2013) including psychological, financial, and societal costs, we need to understand what drives the decision making of individual entrepreneurs concerning exit timing.

We focus our study on time to exit a distressed venture to add to this nascent literature. A distressed venture is defined here as one that is underperforming based on the threshold the entrepreneur has for his or her own venture (Cope, 2011; DeTienne and Cardon, 2012; Gimeno et al., 1997; Ucbasaran et al., 2013). Our focus is on firms that experience economic distress, and ultimately exit through a "distress liquidation" path (Wennberg et al., 2010) rather than firms that are able to bounce back from distress.[1] For many scholars and practitioners, exit by distress liquidation may well be considered a failure. Indeed, Justo et al. (2015) argue that firms in which the exits are due to poor performance can be referred to as failures, since failure includes "the cessation of involvement in a venture because it has not met a minimum threshold for economic viability as stipulated by the entrepreneur" (Ucbasaran et al., 2013: 175). Consistent with Balcaen et al. (2011), we use the term exit throughout our paper, given our focus on better understanding the time to exit a distressed firm.

We use an escalation of commitment framework to examine time to exit a distressed venture, and how it might be impacted by resource investments of time, money, and employee hiring prior to the point of financial distress. Escalation of commitment occurs when individuals continue to invest resources in a project that has produced negative financial outcomes in the past (Staw, 1976). The critical point with escalation of commitment is the decision whether (and to what extent) to allocate resources

[1] We include exits by both liquidation and bankruptcy, as long as the firm was under distress at the time of exit, and was closed down instead of sold (see Wennberg et al., 2010).

further once the project has been determined a failure (Garland and Conlon, 1998; Moon, 2001; Staw, 1976). In our context such escalation occurs in the form of spending additional time trying to turn the distressed firm around, or at least maintaining ongoing operations, rather than exiting the venture immediately. We also want to understand how to prevent or at least mitigate unhealthy escalations of commitment of entrepreneurs to distressed ventures (Khavul et al., 2009), and suggest that one possible method is through contingency planning. By setting specific contingency plans in place prior to firms succeeding or failing, and sticking to such plans, entrepreneurs may give themselves a fail-safe that guides their behavior when their firms experience poor performance, which should help them to exit quickly rather than in a delayed manner. We examine our hypotheses using a sample of 93 founding entrepreneurs who experienced venture distress and exit in Japan.

Our study contributes to the literature on entrepreneurial exit by focusing on cognitive mechanisms that may impact the exit decision and timing. Research on exit has focused on the types of exit that can occur (e.g., DeTienne and Cardon, 2012; Wennberg et al., 2010), as well as economic barriers and strategic factors that affect market exit decisions (e.g., Covin and Slevin, 1990; Harrigan, 1980; Mattias, 2004), but have not fully unpacked behavioral or cognitive factors that influence exit (Khavul et al., 2009; Shepherd et al., 2015), or the timing of such exits (Balcaen et al., 2011; Shepherd et al., 2009). The one study in this area by Balcaen et al. (2011) examined how slack resources and stakeholder dependence at the time of distress influenced time to exit. We add to this work by looking at three additional factors that may influence time to exit, and the processes through which entrepreneurs may delay or accelerate time to exit due to these factors.

Our study also contributes to the literature on escalation of commitment in entrepreneurship. DeTienne et al. (2008) previously found a positive relationship between "personal investment of time, money, and energy" and the decision to persist with a venture in a conjoint study. We add to their work by examining such investments separately rather than collectively, examining how they impact escalation of commitment after a realization of distress rather than at any point, and by testing our theoretical model using a sample of entrepreneurs concerning their own ventures, rather than in a conjoint experiment. This is important because different types of investments, and those made at different points in the entrepreneurial process, may lead to different escalation behaviors, and we theoretically and empirically examine that possibility.

Finally, our study speaks to the debate concerning whether business planning is important (e.g., Delmar and Shane, 2003) or not very worthwhile (e.g., Allinson et al., 2000), specifically as a potentially productive strategy to hasten exit from a distressed venture. We also add empirical evidence and practical implications concerning the processes that occur during business exit in Japan where entrepreneurship is needed (Kawakami, 2007).

2. Literature review and hypothesis development

2.1. Firm distress and time to exit

Exit due to distress liquidation is unfortunately quite common in entrepreneurship (Wennberg et al., 2010). A business is considered as under distress at the point when the entrepreneur decides that the venture is failing based on its performance compared to his or her own thresholds for its performance (Cope, 2011; DeTienne and Cardon, 2012; Gimeno et al., 1997; Ucbasaran et al., 2013). While Balcaen et al. (2011) operationalize distress based on purely economic indicators, we suggest that the determination that a business is under distress can also be a subjective judgment made by the entrepreneur him or herself (Singh et al., 2007), including initiatives that have "fallen short of… goals" (McGrath, 1999: 14), or when there is substantial "deviation from expected and desired results" (Cannon and Edmondson, 2001: 162). Thus we distinguish between the point of distress (when the entrepreneur recognizes that their firm is failing, meaning underperforming based on their own thresholds for its performance) and actual exit of the firm (when the firm is closed, assets sold, bankruptcy filed, the firm is no longer a going concern).[2]

Many entrepreneurs struggle with the decision to close down their firms and delay firm exit, even after they recognize that the firm is in financial distress (Jenkins, 2012; Shepherd et al., 2009). For example, DeTienne et al. (2008) found that entrepreneurs persist longer with firms where they perceive they will have a higher perceived probability of success in the future, have had higher organizational success in the past, and have greater previous personal investment of time, money, and energy. Khavul et al. (2009) report similar findings that entrepreneurs generally experience a bias to persist with their ventures, as well as psychological barriers to exit. Prior research has also argued that entrepreneurs in loss situations are more likely to delay exit (Wennberg et al., 2010), and that such exit is often preceded by a failure-avoidance strategy (Van Witteloostuijn, 1998; Wennberg et al., 2010). Entrepreneurs may attempt to rationalize their continued investments in a failing course of action in order to psychologically defend themselves against feeling like they had made an error in judgment or other mistakes (Whyte, 1991) that led them to the point of distress, and convince themselves that by delaying the exit they just might save the venture. This failure-avoidance strategy is more likely to occur in distressed exit situations than in other exit situations (Wennberg et al., 2010).

Further, while this work offers important insights into our understanding of why entrepreneurs persist with their firms, in general, it does not explain why entrepreneurs who know their firm will likely fail sometimes delay that firm exit, or why individual variation in such delays occur. Building on this line of work, as well as that incorporated below, we explore the time it takes an entrepreneur to exit their firm from the market after they have determined that the firm is under distress.

[2] We note again that we do not consider all forms of exit but only exits by distress liquidation (Wennberg et al., 2010), which can be equated to firm failures (Justo et al., 2015).

Understanding resource investments made prior to realizing the firm is in distress and their relationship with exit delays may help us better understand the timing of exit behavior of entrepreneurs, as well as the correlates and consequences of that behavior (Ajzen, 1987). Our study is therefore situated in the literature between work that focuses on the exit itself (e.g., Wennberg et al., 2010) such as the form of exit, its causes, or how it is prevented, and studies that focus on what happens after an exit (e.g., Jenkins, 2012; Shepherd, 2003; Yamakawa and Cardon, 2015; Yamakawa et al., 2015) such as the extent to which an entrepreneur feels grief, or how their attributions of failure impact the extent to which they learn from the failure, or experience better firm performance such as growth in a subsequent venture. We focus on the pre-exit stage, the twilight period after the founder has determined the firm is under distress until the venture is actually closed down. We try to shed more light on this process of letting go (Shepherd et al., 2009), or the converse, the process of *not* letting go as evidenced by escalation of commitment to the failed venture, an area previously identified as in need of further inquiry (Jenkins, 2012).

2.2. Escalation of commitment, resource investments, and time to exit

Our model (presented in Fig. 1) portrays our study of the resource investments made prior to the point of distress and how these influence the amount of time it takes the entrepreneur to exit the firm from the market. We draw from literature on escalation of commitment as a theoretical framework to explain this model.

Escalation of commitment is defined as the tendency to overly commit, and thus to devote additional resources, to a failing course of action, and persisting with this action with high hopes of achieving success in the future (Brockner, 1992; Staw, 1997). This is often associated with an increasing commitment to the same course of action that resulted in negative outcomes (Karlsson et al., 2005a, 2005b). It is human nature that decision-makers find it difficult to discontinue a failing course of action because discontinuation will indicate that their initial endeavors, which entailed psychological, mental, emotional, and physical commitment, had failed. The concept has been widely studied in the management literature (McNamara et al., 2002) to explain financial investment decisions including those in information technology projects, public investments, and venture capital investments (Guler, 2007; Keil et al., 1995; Ross and Staw, 1986, 1993), the decision to continue with outdated technology (Tang, 1988), and to close a failing department (Drummond, 1994), among others.

In the context of entrepreneurship, while persistence can be associated with success (Shaver and Scott, 1991), escalation of commitment can be highly problematic, especially when trying to exit a distressed business. The critical point with escalation of commitment is the decision whether (and to what extent) to allocate resources further once the project has been determined a failure (Garland and Conlon, 1998; Moon, 2001; Staw, 1976). In our case, this point is when the entrepreneur realized that their firm was distressed, and therefore failing. Even after an entrepreneur realizes that they should exit the distressed venture, many struggle with following through on that exit behaviorally, for reasons we discuss above and below. This continuation of firm operations beyond those necessary for normal liquidation processes (which we control for empirically) can be considered escalation of commitment of time and potentially also resources to the distressed firm. While some entrepreneurs quickly exit from a failing course of action in unprofitable markets, many others do so only after incurring substantial losses (Khavul et al., 2009), due in part to such escalation of commitment (Brockner, 1992; Staw, 1997).

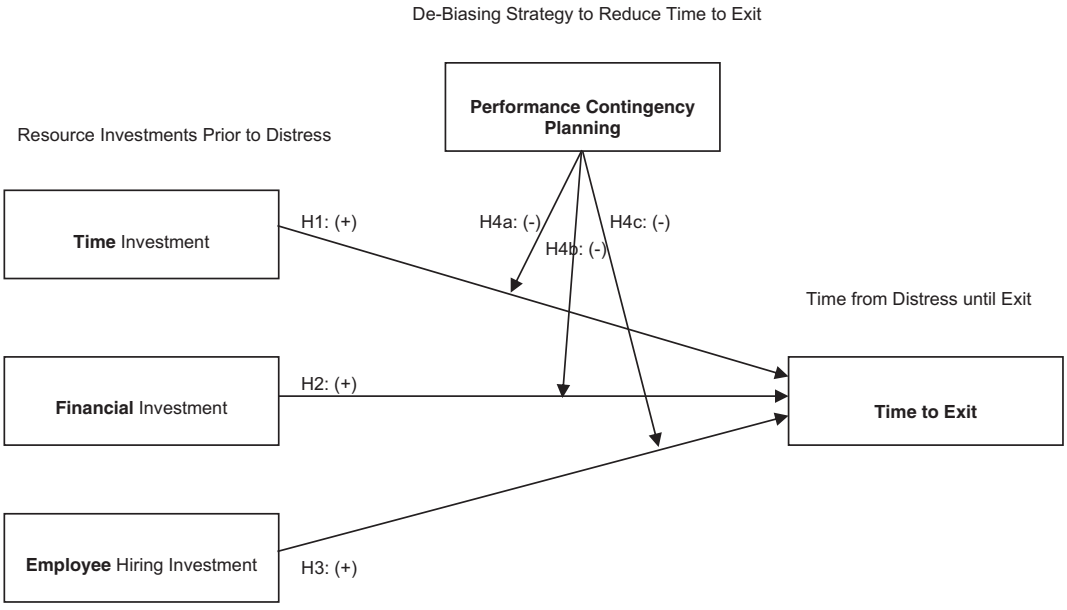


Fig. 1. Conceptual model.

Rationally, an orderly and timely exit is important since the time to exit determines the level of sunk cost and ultimately the total cost of failure (Lee et al., 2007; Lee et al., 2011). Rapid recovery from a failure is more likely to help entrepreneurs learn from the exit experience such that proximity from one startup to another can be less distant (less diminishing effect of time to learn), knowledge of business and market can be more up-to-date, relevant and applicable (Jenkins, 2012; Shepherd et al., 2009; Yamakawa and Cardon, 2015), and to rebound from the lost opportunity costs associated with the failed business so that they can redeploy their resources in a new venture instead (McGrath, 1999). It also carries critical implications for how entrepreneurs recover from their failures for future entrepreneurship (Yamakawa et al., 2015). Yet some entrepreneurs wait, despite the costly consequences of delaying the exit action, and despite diminishing the potentially lucrative future allocation of resources at the societal level (McGrath, 1999). Even when almost all is lost and future business is bleak, many entrepreneurs do not file for bankruptcy (White, 2001).

In an attempt to explain why some entrepreneurs delay exit once firm failure is imminent, scholars have suggested that delaying exit helps entrepreneurs cope with the anticipated grief they will experience from losing a venture they have personally developed (Shepherd et al., 2009). Perhaps entrepreneurs are also in disbelief concerning the failure or want to hold out hope that they can prevent or at least delay the stigma often associated with venture failure (Vallant and Lafuente, 2007; Wennberg et al., 2010). Such escalation may also occur because entrepreneurs believe that their likelihood of experiencing positive outcomes is much higher than what objective data might otherwise suggest (Baron, 2004; DeTienne et al., 2008). Optimistic overconfidence, in particular, allows entrepreneurs to act with certainty in uncertain situations (Busenitz and Barney, 1997) and to start and re-start businesses (Hayward et al., 2006; Hayward et al., 2010). Entrepreneurs don't give up that easily; instead they tend to be overly optimistic that they can turn the situation around (Tom et al., 2007).

Clearly, some entrepreneurs do not automatically exit even after they determine the need for such exit, despite evidence that quicker exits are better for lowering costs (e.g., Lee et al., 2007, 2011), increasing learning (Jenkins, 2012; Yamakawa and Cardon, 2015), and redeploying resources into new firms (McGrath, 1999). In order to shed light on variation between entrepreneurs in their time to exit, we examine how three specific types of resource investments made prior to the realization of distress influence the extent of continued commitment through prolonging the time to exit, specifically: (1) investment of time, (2) investment of money, and (3) investment in employee hiring.

2.2.1. Investment of time and time to exit

We posit that greater investments of time into the venture will make entrepreneurs delay exit after determining that the venture is in distress. Entrepreneurs tend to get emotionally attached to their ventures, with their self-identity and firm identity intertwined (Cardon et al., 2005). This identity overlap is likely to become stronger over time as the entrepreneur and venture grow together (DeTienne et al., 2008). Entrepreneurs may also experience increasing levels of psychological ownership (Pierce et al., 2001) of their firms over time as the individual's belonging, self-efficacy, and self-identity become more and more aligned with their venture (DeTienne et al., 2008). Further, entrepreneurs may experience the endowment effect (Kahneman et al., 1990; Zellweger and Astrachan, 2008), wherein they place greater value on their firms because of their emotional investment in the firm, and emotional investment that likely increases with greater time they have invested into their ventures. Research on the endowment effect suggests that emotional investment can make it harder to let go of the firm, despite evidence that it is failing.

Feelings of emotional attachment, emotional value, and psychological ownership developed and maintained over longer periods of time can make it more difficult for entrepreneurs to let go of their firms, even when they are failing, due to the loss of self-identity and blow to one's self-esteem associated with such failure (Shepherd, 2003). Entrepreneurs may delay the actual exit in order to delay the negative emotions involved (Anderson, 2003) and to soften the grief they experience during the letting go period (Shepherd et al., 2009). They may also delay exit to allow themselves time to find other outlets for their self-esteem and belonging needs, as well as to redefine their self-identity. Accordingly:

Hypothesis 1. Greater investment of time prior to distress will increase time to exit.

2.2.2. Investment of money and time to exit

Financial investment into a venture may also lead to longer time delays between distress and exit of the entrepreneur from the venture. Scholars have long argued that the more “skin in the game” an entrepreneur has, the more likely they will be to persist with the venture (Benjamin and Margulis, 2000; Sudek, 2006; Zott and Huy, 2007), even when the venture is underperforming (DeTienne et al., 2008). Indeed, a majority of the literature on escalation of commitment talks about greater investments of one's own resources leading to irrational escalations and continued resource investments (Staw, 1981). These resource investments could be absolute levels of money invested, and could also include investments of money relative to one's budget (Garland and Newport, 1991), both of which we suggest will cause entrepreneurs to delay exit longer. For entrepreneurs faced with a failing firm, they may delay exit hoping that something will change in their financial situation, whether the firm will get a new sale or the economy will improve, despite their self-recognition that the firm is in financial distress. Their economic rationale may be that the costs they face are already sunk costs, and maintenance costs are minor in comparison, so delaying exit allows for more opportunity for the poor performance of the firm to improve. Accordingly:

Hypothesis 2. Greater investment of money prior to distress will increase time to exit.

2.2.3. Investment in employee hiring and time to exit

Finally, we posit that greater investments in employee hiring, specifically having hired more employees, will also lead to longer delays between the distress determination and actual exit. Avey et al. (2009) have argued that psychological ownership includes feelings of accountability, and we suggest that such accountability can be for the employees of the firm. Entrepreneurs may feel responsible for the employees they have hired, and therefore feel badly about taking away the livelihoods of these employees when the firm closes (Shepherd, 2003). The psychological cost of shutting down the firm with more employees is larger because of the economic loss that will be experienced not just by the entrepreneur, but by the employees of the organization as well. Therefore, entrepreneurs may delay exit, hoping the firm's performance will improve or trying to ensure more time for employees to find alternative jobs before the firm is completely shut down. Accordingly:

Hypothesis 3. Greater investment in employee hiring prior to distress will increase time to exit.

2.3. Contingency planning for potential failure as moderator

If delaying exit can entail further costly consequences (especially when the failure is inevitable) what can be done to reduce (de-bias) the escalation of commitment? Prior studies have explored factors that reduce escalation of commitment such as the role of making explicit budgets (Heath, 1995), the role of predetermined stopping rules (Boulding et al., 1997), and the role of monitoring (Kirby and Davis, 1998; McNamara et al., 2002) among other pre-commitment measures designed by a person to control their future potential behavior (Schelling, 1978, 1984; Kivetz and Simonson, 2002). Extending this line of thinking, we suggest that performance contingency planning (i.e., planning for potential performance challenges) is an effective de-biasing strategy that moderates one's escalation of commitment in the context of exit.

Prior studies have long debated the importance of business planning as an essential element of new venture creation and successful entrepreneurship (Brinckmann et al., 2010; Delmar and Shane, 2003; Lange et al., 2007; Shane and Delmar, 2004). Business planning includes the processes of gathering and analyzing information, evaluating required tasks, identifying risks and strategy, projecting financial developments, and documenting these things in written planning form (Delmar and Shane, 2003). On the one hand, scholars have criticized business planning because it offers little advantage to entrepreneurs—arguing that it interferes with their efforts to undertake more valuable actions to develop their ventures (Bhide, 2000; Carter et al., 1996) and may not create any real performance differences (Lange et al., 2007), so entrepreneurs are better off relying on intuition (Allinson et al., 2000). On the other hand, however, scholars have challenged this negative view of business planning, instead arguing that it is indeed an important precursor to action in new ventures (Matthews and Scott, 1995; McGrath and MacMillan, 2000). Delmar and Shane (2003), for example, argue that business planning helps entrepreneurs make decisions, to balance resource supply and demand, and to turn abstract goals into concrete operational steps, thereby reducing the likelihood of disbanding their ventures, and accelerating their product development activities. Despite these mixed results (Castrogiovanni, 1996), a meta-analysis suggests that planning before and during venture activities can lead to better business performance (Brinckmann et al., 2010).

While studies have debated the negative and positive roles of general business planning, little has been explored regarding the role of "performance contingency planning" within the context of exit, despite an identified need to examine specific planning areas such as exit planning (Brinckmann et al., 2010: 37). Performance contingency planning involves developing specific action steps to take if the venture reaches certain undesirable performance thresholds, such as reducing employee working hours, focusing on accounts receivable collection, selling of certain assets, etc. Instead of asking whether or not business planning facilitates successful entrepreneurship such as the creation of a new firm or its organizational performance, we are interested in understanding the focus of planning, specifically whether or not planning for the potential contingency of poor venture performance helps reduce the amount of time it takes an entrepreneur to exit a distressed venture.

We suggest that performance contingency planning will help entrepreneurs act more quickly, and therefore will reduce their time to exit after a venture is in distress, for several reasons. First, contingency planning facilitates exit decisions by allowing entrepreneurs to make quick decisions with the necessary information (Ansoff, 1991); in this case, the information on what, where, when, and how they should act when things go wrong. Organizational theories posit that planning before taking action helps improve the quality of action because if offers a framework within which subsequent action takes place, and thus, supporting the achievement of individual and organizational goals (Ansoff, 1991; Locke and Latham, 1980). Planning is considered most effective when the time span between planning and feedback is short (Locke and Latham, 1980). By planning for potential performance challenges, entrepreneurs can identify very quickly when performance is indicative of distress, and take appropriate actions in response to this, because they have already determined what they would do in such a circumstance. This helps them to make the right decision in a quick and appropriate manner without going through a time-and-effort-consuming process of deliberating what to do when the firm is underperforming. They can also make such decisions in a rational manner ahead of time, rather than in the heat of the moment when decision-making is often made more emotionally than rationally.

Second, contingency planning helps entrepreneurs to develop specific procedural steps in alignment with the extent of their achievement of goals in a systematic way (Brews and Hunt, 1999; Shrader et al., 1989). This in turn, facilitates entrepreneurial action once the point of distress has been reached, since a specific procedure has already been determined for what to do if or when the venture underperforms to a certain extent. Most importantly, when entrepreneurs start deviating from their targeted

goals, contingency planning facilitates the identification of the source of deviation as well as tells the entrepreneur "exactly what to do" under the circumstance. This can help them make their decision and take action step-by-step. In other words, contingency planning helps entrepreneurs identify where and how to put feedback and corrective action within their framework about their (failing) course of action when there is deviation from their objectives (Smith et al., 1990).

Contingency planning can also work to reduce (de-bias) escalation of commitment in the form of not delaying the decision to exit. When escalation occurs, individuals are often driven by an unjustified optimism toward future outcomes (Moon, 2001) and overconfident about their own abilities to turn things around (Hiller and Hambrick, 2005; Hayward et al., 2006). More fundamentally, individuals refuse to acknowledge the deterioration of the situation (McNamara et al., 2002), and are in most cases, reluctant to face negative feedback (Staw, 1976). However, the purpose of contingency planning, to begin with, is exactly the opposite—trying to directly face these situations and address the problems strategically. It pays to plan ahead; not considering an exit strategy early may indeed limit entrepreneurs' options in the future. "It is not a matter of whether you will sell, or otherwise dispose of, your interest in this business. Your only decisions are when and how (Payne, 2006: 186)."

Finally, contingency planning may serve as a form of self-control, where an entrepreneur sets predetermined performance benchmarks and plans for what to do if they are not met in order to constrain their later behavior should that situation occur. The pre-commitment literature suggests that individuals concerned that they may not be able to make appropriate decisions later, such as sticking to a diet, not drinking alcohol, or restricting their gambling behavior, set pre-determined stopping rules or safe-guards to constrain their future behavior (Kivetz and Simonson, 2002). For example, people who have trouble waking up in the morning can set their alarm clocks on the opposite side of the room in order to force themselves to get out of bed. This line of thinking suggests that entrepreneurs who establish a plan for what they will do if their firm underperforms may be better able to disengage from the psychological and cognitive entanglements they have with that firm when they determine it has reached that point of distress because they made an agreement with themselves when they first created those plans, and they created those plans when they were in a rational state rather than when they are caught up in the emotions involved with failure. Contingency planning therefore can be an effective de-biasing strategy that will reduce time to exit after realization of firm distress. Its fundamental purpose is to help entrepreneurs take action when something (that must go right) goes wrong. Contingency planning involves entrepreneurs providing predetermined stopping rules (Boulding et al., 1997) such as explicit guidelines for budget control (Heath, 1995), helping them measure the degree of achievement towards specific goals (Khavul et al., 2009), and making estimates for future returns (Parks and Conlon, 1990; Tan and Yates, 1995), as well as action plans based upon those guidelines.

In sum, we expect that performance contingency planning, the degree to which entrepreneurs plan for potential poor performance, will negatively moderate the relationship between resource investments made prior to distress and the time it takes to actually exit. Accordingly:

Hypothesis 4a. Specific planning for the contingency of poor performance will weaken the relationship between time investment and time to exit.

Hypothesis 4b. Specific planning for the contingency of poor performance will weaken the relationship between financial investment and time to exit.

Hypothesis 4c. Specific planning for the contingency of poor performance will weaken the relationship between employee-hire investment and time to exit.

3. Methods

3.1. Context: entrepreneurship environment in Japan

Institutional and cultural forces can shape and form entrepreneurial behaviors (Baumol, 1993) including attitudes and anticipatory mechanisms toward failure (Ucbasaran et al., 2013). In Japan, it is reported that "society rarely lets people bounce back from the perceived shame of failure or bankruptcy" (Economist, 2008), and that "entrepreneurs who fail often commit suicide" (Time, 1999). In such an environment where tolerance of failure is significantly low, and stigma associated with failure is significantly high, it can be challenging for entrepreneurs to accept failure, and take steps to closing down a business despite an exit being inevitable.

However, even in this hostile environment, some Japanese entrepreneurs do accept their failures, try to learn from them, and re-emerge to start up a successful venture (Kawakami, 2007; Yamakawa and Cardon, 2015; Yamakawa et al., 2015). If entrepreneurs in Japan were to understand that a recovery from failure is indeed possible, then the significant anticipatory stigma for failure would be less daunting for them to start up a venture, and could also help inspire entrepreneurs to execute a timely exit in order to reallocate their resources to a more productive use. Therefore, we believe that a sample of Japanese entrepreneurs with failure experience offers a meaningful opportunity to investigate the drivers of escalation of commitment behaviors to delay exit after distress, and the potential means to de-bias this escalation to reduce the total cost of failure.

3.2. Data source

We use the survey data collected by the National Life Finance Corporation (NLFC: *Kokumin-seikatsu-kinyuu-kouko*) provided by the Social Science Japan Data Archive at the Information Center for Social Science Research on Japan, Institute of Social Science,

University of Tokyo. Since 1969, NLFC has carried out a questionnaire-based survey of new ventures every summer, and has published results and findings annually by the name of "White Paper on Business Start-ups" (*Shiki-kaigyo-hakusho*). As the largest dataset on new ventures in Japan, scholars have identified a number of advantages associated with using the data such as demographic information of entrepreneurs, their previous industry experiences, initial capital and its sources to start up, and detailed venture performance (e.g., Harada, 2003; Masuda, 2006).

In summer 2001, NLFC conducted an additional survey by the name of "Survey of Entrepreneurs Starting their Businesses for the 2nd-time" (*Nidomeno-kaigyounikansuru-anketo*) in the hopes of gathering information on entrepreneurs' failure experiences.[3] We use the aggregated result of this survey to test our hypotheses. Since the purpose of the additional survey was to learn about entrepreneurs and their failure experience, the dataset, which includes various factors that affected entrepreneurs' decision to exit, timing of exit, and the detailed information on the condition of the firm both pre- and post-exit, is ideal to address our research questions. While there might have been changes in the socioeconomic environment since the point of data collection, the phenomenon of new venture exit still remains. The core construct and the cognitive mechanism we investigate—the impact of various resource investments on entrepreneur's escalation of commitment prior to exit—should not be time sensitive, therefore, our analysis and findings are relevant.

3.3. Measures

3.3.1. Time to exit

Our dependent variable is calculated by the amount of time (in months) from when entrepreneurs perceived the venture was under distress until they actually exited their business – as self-reported by respondents. In other words, it is operationalized by the length of time entrepreneurs continued to operate their venture after recognizing a strong signal that their ventures might fail (Khavul et al., 2009), which we label the point of distress, consistent with terminology from Balcaen et al. (2011). Balcaen and colleagues use an objective measure of distress, a firm year with negative recurring profit after taxes; they also note that "in the literature there is no consensus yet on the most appropriate distress criterion." Therefore, we measure distress from both objective *and* subjective levels. To assess distress subjectively, a series of questions was asked to identify when (year and month) entrepreneurs determined that their firms were in distress (as well as the sources of distress and factors that affected performance downturns), the status of their businesses at the time of distress (e.g., financial performance, whether or not they were still making profit), as well as when they actually exited the firm. Our data include only firms that indicated objective distress in terms of struggling financial performance (e.g., declining sales with no profit), and that eventually failed and exited the market due to distress liquidation. Our measure of distress is thus based on both individuals' own threshold for success and distress of their firm (self-report that they were in distress) as well as objective financial performance indicating distress.[4] The time to exit variable is calculated by the amount of time (in months) from when the entrepreneur perceived the venture as under distress until they exited their businesses, as reported by respondents.

3.3.2. Time investment

This variable represents the length of time (in months) from when respondents founded their businesses until the point of distress.

3.3.3. Financial investment

To measure the total amount of financial investments at the time of respondents' initial determination of venture distress, we use an aggregate of various types of financial investments made prior to their decision to exit (in million Japanese Yen) including: personal savings to start up their ventures, amount of money borrowed from friends, relatives, and banks as well as funded from the government, and equity raised from private institutions (e.g., venture capital).

3.3.4. Employee hire investment

This variable is based on the number of employees the firm had at the time when respondents determined the firm was in distress (Khavul et al., 2009).

[3] Approximately 5000 surveys were mailed out to new venture founders, and a total of 236 were returned. The most conservative estimate of 4.7% response rate (236/5000) is likely to be much higher, since respondents were asked to complete and return *only* if they had prior failure experience. Studies on NLFC venture surveys (e.g., Higuchi et al., 2007; Suzuki, 2012) report that only a little >10% of respondents are serial/portfolio entrepreneurs who have multiple founding experiences (including those with prior failure experiences). Therefore, the actual response rate would be roughly close to 50% (236/500) since many of the recipients would be first-time entrepreneurs who have had no failure experience, therefore disqualifying themselves from completing and returning the surveys.

[4] We note here that our sample size (N = 189) was reduced from all returned samples (N = 236) due to missing data from our three main variables, financial performance variable, and controls such as remaining debt at exit. In addition, we removed two outlier cases based on standardized and studentized residuals and Cook's distance that were beyond the threshold. Furthermore, we only use sample of firms that were not making profit at the time of financial distress (N = 93). Meanwhile, despite the fact that remaining 51% of firms indicated they were still profitable at the time of making the decision to exit due to financial distress, 100% of them indicated they perceived the firm as under distress and impending failure. Therefore, as a robustness check, we tested all firms in our sample (N = 189) controlling for financial performance (dummy variable of 1 if still making profit, and 0 otherwise). The results are remarkably similar. The models with results from all firms are included as an Appendix.

3.3.5. Performance contingency planning

This variable is based on respondents' degree of planning for contingencies, including whether or not and to what extent respondents had planned and prepared for what to do in the event of performance downturns and possibly business failure. In the survey, respondents were asked to what extent they planned in response to the contingency of potential performance downturns and business failures. Answer choices ranged from "did not think about contingency planning at all" to "thought about it, but did not plan or prepare for contingencies" to "have greatly planned and prepared for contingencies" on a scale of 1–5.

3.3.6. Control variables

We included four major sets of control variables that could impact entrepreneurs' time to exit. First, we control for *industry effects* (Covin and Slevin, 1990) by creating dummy variables for each industry grouping.[5] Studies have shown that industries vary in their characteristics and environment (e.g., Dess and Beard, 1984) that affect formal/informal obligations and procedures to close a business, which in turn, influence time to exit. Second, we control for organizational characteristics such as the legal form of business by coding for organizational types (dummy variable of 1 if *corporation*, and 0 otherwise) that impact the regulatory/administrative processes necessary to close a business. Third, we control for individual characteristics of the entrepreneur (Baum and Locke, 2004; Chen et al., 1998; Fischer et al., 1993; Justo et al., 2015) that are likely to affect the future outlook/expectancy, such as *gender* (dummy variable of 1 if male, and 0 otherwise), *age at new start-up*, *extent of failure* experiences measured by previous number of failures, and *growth orientation* based on a survey question regarding prospects for future growth of their current ventures (dummy variable of 1 if expansion oriented, and 0 otherwise). Fourth, we control for the conditions of failure that may impact the decision, procedures and obligations that affect the actual time to exit. We include *remaining debt* at the time of making the exit decision (dummy variable of 1 if there was still outstanding debt, and 0 otherwise) and the type of exit (Lee et al., 2007, 2011; Shepherd et al., 2009) specifically whether it is *voluntary liquidation* (dummy variable of 1 if voluntary liquidation, and 0 otherwise). These are important controls since exit can be impeded (prevented or slowed down) by exit barriers such as high levels of capital investment or high levels of intangible assets such as tacit knowledge (Leroy et al., 2008; Porter, 1976).

3.4. Models

We use linear regression analysis to test our hypotheses. Regression models enable us to examine the added explanatory variance of each independent variable by controlling for the other main effects. Interaction terms among the variables of interest are utilized to investigate the moderation effects, and are tested for significance after all first-order effects have been entered into the regression equation (Steensma et al., 2000). Control variables, main variables, moderator variable, and interaction terms are thus entered sequentially.

4. Results

4.1. Findings

Table 1 presents the descriptive statistics and correlations among variables. In order to capture any possible multicollinearity problems among study variables, we checked all variance-inflation factors (VIFs) and condition indexes. Individual VIFs >10 and the average >6 are generally seen as indicative of severe multicollinearity (Kleinbaum et al., 1988). The maximum VIF among the variables in our study was 1.55, and the mean VIF was 1.28, suggesting little problem with multicollinearity.

We find that entrepreneurs in our sample took on average 4 months to actually exit their businesses after distress (ranging from less than a month to 24 months). Approximately 89% of our respondents were male, the average age at startup was 49 (ranging from 25 to 65), and 34% of them had incorporated their businesses. Approximately 51% of them still had remaining debt, and 80% of them filed for voluntary liquidation. Time spent on the business until the distress point averaged 91 months (ranging from 3 to 404 months), financial investment made until distress averaged 4 million Yen (ranging from less than a million to 65 million Yen), and hires made until distress averaged 6 employees (range from 0 to 108 employees).

Table 2 depicts the estimates (regression models) on time to exit (length of time in months from distress until exit). Model 1 is the base model, containing only the control variables. Model 2 represents the effects of the main variables. Model 3 includes the moderator variable. Model 4 includes the interaction terms. The comparison of explanatory power of models are depicted by the adjusted R-squared terms.

Hypothesis 1 examines the effect of time investment on time to exit. Based on the significant and positive result ($p < 0.001$, $B = 3.57$ in Model 2; $p < 0.01$, $B = 2.79$ in Model 4), Hypothesis 1 is supported. In Hypothesis 2, we predict that financial investment is positively associated with time to exit. The result is significant and positive ($p < 0.05$, $B = 1.12$ in Model 2; $p < 0.001$, $B = 5.52$ in Model 4), thus Hypothesis 2 is also supported. Similarly, in Hypothesis 3, we suggest that investment in employee hiring is positively associated with time to exit. The result is negative and not significant in both Models 2 and 4, thus Hypothesis 3 is not supported. We also tested for a curvilinear effect for each of the three main variables of the study but did not find significant results.

[5] The industry categories are: (1) manufacturing, (2) wholesale, (3) retail, (4) restaurant, (5) construction, (6) transportation, (7) consumer service, (8) governmental service, (9) real estate, (10) real estate, and (11) others.

Table 1
Descriptive statistics and Pearson correlation coefficients.

Variable	Mean	S.D.	Min	Max	1	2	3	4	5	6	7	8	9	10	11
1. Time to exit (months)	3.77	4.28	0	24											
2. Organizational type (corp.)	0.34	0.48	0	1	−0.04										
3. Gender (male)	0.89	0.31	0	1	0.09	0.18^{+}									
4. Age at new start-up	48.95	7.77	25	65	0.01	0.32**	−0.06								
5. Extent of failure	1.17	0.43	1	3	0.10	0.12	0.05	0.17^{+}							
6. Growth orientation	0.58	0.52	0	1	0.03	0.14	0.05	−0.08	0.08						
7. Remaining debt	0.51	0.50	0	1	−0.22*	0.13	0.21*	0.18+	−0.10	0.03					
8. Voluntary liquidation	0.80	0.40	0	1	−0.05	−0.11	0.16	−0.10	−0.04	−0.02	0.11				
9. Time investment (months)	90.47	87.27	3	404	0.32**	0.23*	0.10	0.39**	−0.02	−0.01	0.12	0.02			
10. Financial investment (Mil. JPY)	9.26	19.84	0	65	0.29**	−0.05	0.08	−0.08	−0.10	0.03	0.03	−0.12	0.26		
11. Employee hire investment	6.15	12.75	0	108	−0.06	0.13	0.09	−0.03	0.01	0.10	0.16	0.01	−0.07	0.19^{+}	
12. Contingency planning	2.96	1.57	1	5	−0.20*	−0.21*	0.01	−0.06	0.01	−0.04	−0.05	0.06	−0.17^{+}	−0.21*	0.10

Note. N = 93. Industry dummies are not listed here.
$^{+}$ $p < 0.10$.
* $p < 0.05$.
** $p < 0.01$.
*** $p < 0.001$.

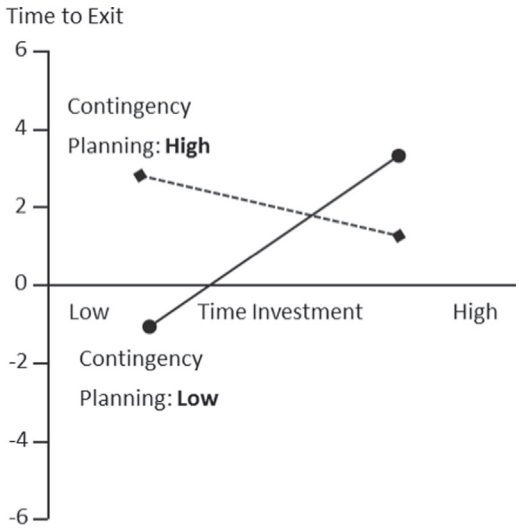
Hypotheses 4a, 4b, and 4c explore the moderating influence of contingency planning on the relationships between time investment and time to exit, financial investment and time to exit, and investment in employee hiring and time to exit, respectively. The significant and negative results of the interaction terms ($p < 0.05$, $B = -0.81$; $p < 0.001$, $B = -1.78$) in Model 4 provide support for both Hypotheses 4a and 4b, respectively, but Hypothesis 4c is not supported. The results suggest that contingency planning negatively moderates the relationship between time investment and time to exit, as well as financial investment and time to exit, but not the relationship between employee hiring and time to exit. These significant interaction effects of Hypotheses 4a and 4b are presented in Figs. 2(a) and (b). To add robustness, we conducted a simple slopes analysis to confirm the moderation effects (Aiken and West, 1991). We constructed equations that represent the relationships between time investment and time to exit (as well as financial investment and time to exit) when contingency planning is below and above average, and checked whether the gradients differ from zero by computing standard error as well as t values of the slope. We reconfirm the moderating effects as a result.

Table 2
OLS estimates of time to exit.

Variable	Model 1	Model 2	Model 3	Model 4
Control variables				
Organizational type (corp.)	−0.87 (1.96)	−1.30 (1.65)	−2.27 (1.68)	−1.61 (1.38)
Gender (male)	3.82 (2.62)	2.29 (2.14)	2.57 (2.09)	1.88 (1.72)
Age at new start-up	0.43 (0.91)	−0.90 (0.82)	−0.78 (0.80)	−0.59 (0.70)
Extent of failure	−0.03 (1.13)	0.43 (0.92)	0.36 (0.90)	0.81 (0.77)
Growth orientation	−0.06 (1.42)	−0.39 (1.15)	−0.36 (1.13)	0.14 (0.94)
Remaining debt	−3.15^{+} (1.59)	−3.16* 1.30	−3.37* (1.28)	−2.68* (1.08)
Voluntary liquidation	−2.76 (1.81)	−3.06* (1.49)	−2.99* (1.45)	−1.47 (1.26)
Main variables				
Time investment (H1)		3.57*** (0.68)	3.47*** (0.66)	2.79** (1.04)
Financial investment (H2)		1.12* (0.51)	0.93^{+} (0.51)	5.52*** (1.10)
Employee hire investment (H3)		−0.30 (0.62)	−0.05 (0.62)	−1.41 (1.77)
Contingency planning			−0.85* (0.40)	−0.28 (0.33)
Interaction variables				
Time × cont. planning (H4a)				−0.81* (0.33)
Financial × cont. planning (H4b)				−1.78*** (0.41)
Employee × cont. planning (H4c)				0.36 (0.39)
Interaction variables				
Constant	10.76^{+}	2.54	5.16	3.84
Model R-squared	0.20	0.49	0.52	0.69
Adjusted R-squared	0.04	0.37	0.40	0.60
N	93	93	93	93

Note. industry dummies are not listed here. Standard errors in parentheses.
$^{+}$ $p < 0.10$.
* $p < 0.05$.
** $p < 0.01$.
*** $p < 0.001$.

(a) Time Investment and Contingency Planning



(b) Financial Investment and Contingency Planning

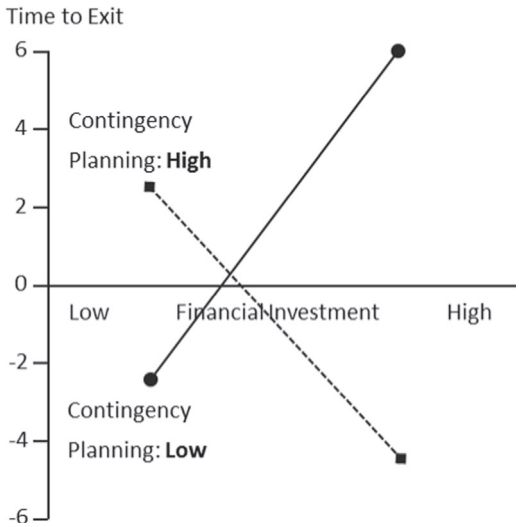


Fig. 2. Interaction effects. (a) Time Investment and Contingency Planning. (b) Financial Investment and Contingency Planning.

4.2. Robustness tests

We ran series of additional robustness tests including: (1) using sub-samples of corporations (N = 32) and non-corporations (N = 61), (2) separating internal sources of financial investment (e.g., personal savings) from external sources of financial investment (e.g., venture capital) to examine their effects on time to exit, as well as whether or not contingency planning affects the results differently when written mainly for one's self (N = 31) versus for external investors (N = 62), and (3) including the main variables one by one instead of all at once to see their individual effect without the other variables. We find that (1) the results are qualitatively similar while significance levels are higher in the non-corporation sample. We also find that (2) there are no significant statistical differences in the main or moderated relationships of interest based on whether the sources of funds invested are internal and external. Finally, (3) when the main effects are analyzed separately, the results are essentially similar and consistent with that of our final model. In these analyses, the significance levels are higher for investment of time and money, and the effect of investment in employee hiring remains statistically insignificant. These robustness tests provide further support for our final model and results.

5. Discussion

In this paper we sought to understand how resource investments entrepreneurs make prior to experiencing venture distress influence the time it takes between that distress and exit of the firm. While other scholars have examined why permanently failing organizations exist in the first place, we add to this work by examining one set of reasons for why some entrepreneurs are more likely to endure and even prolong the existence of such firms while others are more likely to close them down quickly and move on. While scholars have looked at this from the perspective of characteristics of entrepreneurs, such as hubris (Hayward et al., 2006), overconfidence (Busenitz and Barney, 1997; Hayward et al., 2010), or anticipated grief (e.g., Shepherd et al., 2009) we look at this from the perspective of resource investments made prior to the realization of distress.

5.1. Contributions

Overall, four contributions emerge from our study. First, by drawing on insights from the cognitive literature on escalation of commitment, we are able to better understand the mechanisms underlying entrepreneurs' timing of exit from their distressed firms. While much attention is devoted to studying market entry decisions such as starting up a business, very little is known about market exit decisions (Khavul et al., 2009; Treichel and Deeds, 2009; Wennberg and DeTienne, 2014). To the extent that such exit research exists, studies have traditionally and primarily focused on economic barriers and strategic factors that affect market exit (e.g., Covin and Slevin, 1990; Harrigan, 1980; Mattias, 2004) or the types of exit that can occur (e.g., DeTienne and Cardon, 2012; Wennberg et al., 2010). Less attention has been paid to the role of behavioral or cognitive factors that affect market exit in an entrepreneurial context (Khavul et al., 2009; Shepherd et al., 2015). In response to the call for a better understanding of the entrepreneurial process, especially a more nuanced view of failure and its implications (Jenkins, 2012) we bring the cognitive dimensions to the foreground in understanding the mechanism of exit. In particular, our results indicate that entrepreneurs vary in the extent to which they delay exit based on the amount of investments they have made in their firm prior to the point of distress, where investments of time and money increase time to exit, while investments in employee hiring decrease time to exit. This suggests that exit decisions and actions are not fully rationally or economically driven.

We also shed light on the subjective nature of entrepreneurial failure (Justo et al., 2015) by operationalizing distress as the subjective realization on the part of the entrepreneur that their venture is in trouble and likely failing. Prior work has suggested that entrepreneurs have different performance thresholds for their ventures (Cannon and Edmondson, 2001; Justo et al., 2015; McGrath, 1999; Singh et al., 2007), so that what appears to be successful to an outsider (e.g., the firm is profitable) may not be perceived to be a success to the entrepreneur themselves. Indeed, although we focused our analyses on 93 firms that were both subjectively and objectively in financial distress (felt distress and objectively unprofitable), within our larger sample, an additional 96 firm entrepreneurs indicated that although they were profitable, they felt that their firm was in distress and as a result they exited the firm from the market. Despite objective profits, the entrepreneurs felt distress due to some economic downturn, such as a decline in sales or profitability, or profitability being below their own personal threshold. Our results concerning escalation of commitment via time to exit are remarkably similar for the profitable and non-profitable groups of distressed entrepreneurs (see the Appendix A), suggesting that regardless of the objective data that indicate whether or not these firms were profitable, the mechanisms for time to exit and contingency planning were based on the perception that one's firm was under distress and the behavioral reactions to that realization of distress, not based upon the objective indicator of distress.

Second, our study may also contribute to the escalation of commitment literature. Our findings suggest that in the entrepreneurial exit context, escalation of commitment in terms of continuing to operate a failing venture depends on the specific prior resource investments in that not all prior investment types lead to further escalation behaviors. In particular, greater investments of time and money lead to greater escalation behaviors in terms of the entrepreneur delaying the actual closure of the firm. We add to the work of Devigne et al. (2016) that greater emotional involvement, in this case from greater investment of time and personal funds, can lead to escalation of commitment. This extended time to exit involves greater investments of resources necessary to keep the firm operating. Surprisingly to us, it appears that investment in employee hiring prior to distress does not lead to delayed time to exit. Instead it appears that the greater the number of employees at the time the entrepreneur realizes they need to exit, the less entrepreneurs are prone to delay that exit, and the more likely they are to quickly make the exit. These conflicting findings suggest that within the types of sunk cost, on one hand, investment of time and money encourage more time investment, while on the other hand, the level of employment does not, at least in our sample. Perhaps this indicates the sense of responsibility that entrepreneurs feel at the time of realizing their firm is in distress. Or, greater investment in employee hiring may lead to a faster time to exit because labor costs are often some of the highest costs businesses face, and entrepreneurs may seek to restrict their investment by exiting quickly rather than sinking more funds into these labor costs, once they realize that their firm is under distress and not likely to recover. More broadly, our results extend the work of DeTienne et al. (2008) who found a positive relationship between “personal investment of time, money, and energy” and the decision to persist with a venture, in that we were able to tease apart the effects of investment of time, investment of money, and investment in employee hiring to determine which specific resource investment lead to the decision to persist longer, or delay exit longer, for distressed entrepreneurs. This is important, because it indicates that not all resource investments have the same impact on exit behaviors, and future research should consider specific investments rather than investment in a broad category of factors.

Third, our findings that contingency planning helps mitigate escalation behaviors, at least those based on investments of time and money, suggests boundary conditions for escalation of commitment effects in the entrepreneurship context. Echoing Delmar and Shane (2003) and Shane and Delmar (2004), we further offset the bias present in the literature that suggests that business

planning may not be a worthwhile activity for entrepreneurs (Allinson et al., 2000; Bhide, 2000; Carter et al., 1996; Lange et al., 2007). Prior studies have long debated the importance of business planning as an essential element of successful entrepreneurship (Delmar and Shane, 2003; Lange et al., 2007; Shane and Delmar, 2004) but little has been explored in the context of specific areas of planning, such as for exit (Brinckmann et al., 2010). While the main compelling reason for writing a plan has been identified as an external purpose to raise funds (Lange et al., 2007; Shuman et al., 1985; Zacharakis and Meyer, 2000), and others have argued that entrepreneurs are better off relying on intuition than engaging in planning (Allinson et al., 2000; Bird, 1988), we find that undertaking contingency planning for potential failure can also be useful for internal purposes for the entrepreneurs as a de-biasing strategy to reduce their time investment when determining how long to delay a distress liquidation exit. Thus we suggest that it is not the importance of business planning in and of itself that matters, but instead the content of such planning that matters. We specifically examine the extent to which an entrepreneur created contingency plans for what they would do if their firm started performing poorly, and perhaps establishing their own benchmarks for what performance standards they wanted to uphold. Our data analysis indicates that such planning moderates the relationships between some resource investments and time to exit, thereby reducing the total cost of failure for such firms.

Our fourth contribution is in testing our hypotheses utilizing a survey database of 93 new-venture founders with business failure experience—to the best of our knowledge, one of few such endeavors in the literature—in Japan, a country where entrepreneurship is desperately needed (Bruton and Lau, 2008; Kawakami, 2007; Yamakawa and Cardon, 2015; Yamakawa et al., 2015). As we mentioned earlier, if entrepreneurs in Japan's hostile environment can positively react to failure then the significant anticipatory stigma associated with failure would be less daunting for them to start and re-start ventures. We believe that our findings (e.g., drivers of behaviors to delay exit after distress as well as potential means to di-bias the escalation of commitment) offer meaningful lessons and opportunities for entrepreneurs in Japan. This is a novel contribution because if we can understand the mechanisms of exit (especially an orderly and timely exit) in a specific country context, it would allow for a reallocation of resources to more productive use (Baumol, 1990; McGrath, 1999), and a reduction of the total cost of failure, including psychological and financial costs, and ranging from the individual to the societal level (Ucbasaran et al., 2013), that affect entrepreneurship development within a country (Lee et al., 2007, 2011).

5.2. Practical implications

5.2.1. For entrepreneurs

On its surface, failure is something to be avoided (Cardon et al., 2011). Failures can be "painful and costly, can generate vicious cycles of discouragement and decline, and can obviously be mismanaged" (McGrath, 1999: 16). Therefore, on one hand, persisting in order to recover from a failing course of action is critical. On the other hand; however, it is also critical that a failing course of action be stopped so that further negative consequences (and costs) may be saved (Staw, 1981).

Our findings deliver an explicit message that entrepreneurs can improve their strategic decision-making by developing contingency plans that include potential performance downturns and financial distress of their ventures. We find that while time and money invested in the venture leads to delaying time to exit (main effects), de-biasing such escalation is indeed possible through contingency planning. Our findings indicate that contingency planning is an important activity in which entrepreneurs should engage. While how to undertake business planning (i.e., planning to develop new businesses) is one aspect of successful entrepreneurship, how to undertake contingency planning (i.e., planning in anticipation of potential underperformance and failure) appears to also be important.

However, contingency planning does not guarantee success. While contingency planning appears to help entrepreneurs mitigate the downside of the tendency to escalate commitment once the venture experiences distress, such planning is not sufficient to ensure entrepreneurial success. Nevertheless, we show that undertaking contingency planning matters in offering implications for practitioners. Entrepreneurs should definitely *not* "burn that business plan" or "forget about business plans" (Gumpert, 2003), but instead should capitalize on the contingency planning section and plan specific thresholds of performance and associated appropriate actions at those points as a way to avoid escalating behavior.

5.2.2. For educators

"Writing a business plan is probably the most widely used teaching tool in entrepreneurship education and training" (Lange et al., 2007: 237). Universities and business schools take much pride in winning business plan competitions; however, teaching people how to craft business plans has not been justified by theoretical literature or empirical analysis (Honig, 2004). Research on business planning and teaching business plan writing has yielded mixed results regarding its positive and negative influences. In this study, our findings indicate that it pays to plan for performance contingencies, and thus when teaching entrepreneurs how to write business plans, much more attention should be devoted to the contingency plan section, in particular, because of the important role it plays in the exit process. Rather than criticizing that university business plan competitions are being overdone (Lange et al., 2007), perhaps more attention should be put on the content of the business plans, especially the existence and quality of contingency planning.

5.3. Limitations

This study, just like all others, has limitations. First, our sample includes only entrepreneurs who have exited a business through a distress liquidation (Wennberg et al., 2010) and who have re-started another venture that was still in operation at

the time data was collected. Due to this, our arguments and findings cannot be extended to those who exited and never came back to start another venture. Similarly, we are unable to assess whether increasing time to exit after distress enabled an entrepreneurial recovery, since our sample does not include entrepreneurs who experienced distress but did not end up exiting. Second, our study does not determine whether the value of contingency planning lies in the process of planning or in the quality of the actual plans themselves or their implementation. Due to availability and accessibility, we were constrained to a single item measure for contingency planning, and were also unable to measure the exact content of the information contained in the business plans. Third, while our focus allows us to add empirical evidence concerning entrepreneurs in Japan (a source of contribution), and controlling for the context is a strength of our design, our data come from a specific institutional context and country, and this limits the generalizability of our results to other contexts. One can argue that in other countries, different cultural norms exist that may affect the relationships between investments prior to the distressed exit decision and the time taken to actually exit, or in the utility of contingency planning (e.g., Brinckmann et al., 2010). Future research will need to embrace a comparative, cross-country research design to identify the extent to which our results are universal. Finally, while we used escalation of commitment as a theoretical framework to help explain the relationships of interest, we did not measure escalation of commitment directly, but instead used a proxy of time, arguing that continued time spent on the venture after distress is commitment of one form of resource. As such, our dependent variable was measured by calculating the difference between two self-reported times, from when entrepreneurs perceived distress to when they actually exited. Although we also captured distress with an objective measure, future research can benefit from measuring escalation of commitment more directly, such as by measuring increased investment of resources such as hiring more employees or investing more funds after the point of distress.

5.4. Avenues for future research

One fruitful avenue for future research would be to look at the nature and timing of contingency planning. Brinckmann et al. (2010) argue that planning is most effective when it is done prior to venture founding and when those plans are revised through experiences and learning that occurs while the venture is operating. Our study did not examine when entrepreneurs did their contingency planning, whether prior to venture founding or during the course of venture operations, or both, for what purpose and how. Future research should examine the timing of contingency planning and how that timing impacts the nature of the plans (how detailed, for example), as well as the impact of that planning on outcomes such as escalation of commitment through delayed exit after distress.

Another potential extension of our work concerns the relationship between the time to exit a failing venture and the potential learning and recovery from that failure. Does quickly getting out of a failing entrepreneurial endeavor allow for quickly coming back to a successful entrepreneurial endeavor? Future studies can explore the implications of escalation of commitment for learning from failure, subsequent re-entry timing, and performance of post-failure firms. While entrepreneurial failures represent great potential for learning opportunities (Green et al., 2003), there is also heterogeneity in individuals' ability to maximize learning from failure (Shepherd and Cardon, 2008). Yet, few studies have explored how entrepreneurs make sense of their own failures, and the implications of such sensemaking for continued entrepreneurship (Cardon et al., 2011; Yamakawa and Cardon, 2015). Failure has been identified as an important source for the development of knowledge, skills, and entrepreneurial capabilities useful in subsequent venturing activities (McGrath, 1999; Minniti and Bygrave, 2001; Sitkin, 1992). The creative use of firm resources depends upon the unused productive services of resources as well as past "failed" use of resources that shape the scope and direction of the search for knowledge that fuel firm growth (Penrose, 1959). Thus learning from failure can play a critical role in directing the path of the firms' resource development, and in turn, the firm's strategy, competitive stance, and future performance. Our study suggests that one interesting avenue for future research might be to examine how resource investments made prior to failure (either the point of distress or the actual exit) impact the timing and extent to which one learns from that failure. Does learning occur after the realization of distress and prior to the actual exit? Or does an entrepreneur need to experience venture closure (exit) and distance themselves from the failure to at least some extent in order to learn from the experience (Cope, 2011; Cope and Cave, 2008; Jenkins, 2012; Shepherd, 2003)?

Lastly, given the number of entrepreneurial ventures that are run by individuals other than the founders, future research could examine whether there are differences in the timing of exit as well as learning from failure for founder versus non-founder run firms. It may be relevant to compare differences based on the psychological as well as financial ownership of ventures that are failing.

6. Conclusion

As a first step toward a better understanding of how resource investments influence entrepreneurs' perseverance and time to exit, and the de-biasing role of contingency planning, this study has barely scratched the surface of examining time to exit from a behavioral perspective. Our findings support the view that under uncertain situations, it pays to plan for contingencies. Planning for potential failure helps entrepreneurs to devote fewer additional resources to a failing course of action. Our findings also suggest that absent such planning, greater investments of resources of time and money lead to longer delays between distress of the venture and the actual exit of the firm from the market, while greater investments in employee hiring lead to quicker exit of the firm from the market. We encourage additional research on venture exit and the process of letting go.

Appendix A. OLS estimates of time to exit: all firms inclusive – controlling for financial performance at decision to exit

Variable	Model 1	Model 2	Model 3	Model 4
Control variables				
Organizational type (corp.)	2.39 (1.51)	2.74^{+} (1.48)	2.96^{+} (1.50)	2.51^{+} (1.39)
Gender (male)	3.94* (1.91)	3.24^{+} (1.84)	3.25^{+} (1.84)	3.18^{+} (1.71)
Age at new start-up	0.74 (0.63)	0.05 (0.69)	0.08 (0.69)	0.11 (0.64)
Extent of failure	0.10 (0.59)	0.37 (0.57)	0.34 (0.57)	0.23 (0.54)
Growth orientation	−0.89 (1.14)	−1.57 (1.11)	−1.61 (1.11)	−0.96 (1.03)
Remaining debt	0.65 (1.29)	0.43 (1.24)	0.28 (1.25)	1.16 (1.17)
Voluntary liquidation	−2.73^{+} (1.52)	−2.50^{+} (1.46)	−2.49^{+} (1.46)	−1.87 (1.35)
Financial performance	1.88 (1.27)	1.74 (1.22)	1.91 (1.24)	2.37* (1.16)
Main variables				
Time investment (H1)		1.49* (0.69)	1.43* (0.70)	1.93^{+} (1.04)
Financial investment (H2)		1.91** (0.62)	2.00** (0.63)	6.81*** (1.23)
Employee hire investment (H3)		−1.24^{+} (0.65)	−1.31* (0.65)	-0.95 (1.27)
Contingency planning			0.30 (0.34)	0.22 (0.32)
Interaction variables				
Time × cont. planning (H4a)				−0.50^{+} (0.30)
Financial × cont. planning (H4b)				−2.15*** (0.45)
Employee × cont. planning (H4c)				−0.01 (0.33)
Constant	−2.85	−1.52	−2.42	−4.42
Model R-squared	0.12	0.21	0.21	0.35
Adjusted R-squared	0.03	0.11	0.11	0.25
N	189	189	189	189

Note. Industry dummies are not listed here. Standard errors in parentheses.
$^{+}$ $p < 0.10$.
* $p < 0.05$.
** $p < 0.01$.
*** $p < 0.001$.

References

Aiken, L.S., West, S.G., 1991. Multiple Regression: Testing and Interpreting Interactions. Sage Publications.
Ajzen, I., 1987. Attitudes, traits, and actions: dispositional prediction of behavior in personality and social psychology. In: Berkowitz, L. (Ed.), Advances in Experimental Social Psychology. 20, pp. 1–63.
Aldrich, H.E., 1999. Organizations Evolving. Sage Publications.
Allinson, C., Chell, E., Hayes, J., 2000. Intuition and entrepreneurial behavior. Eur. J. Work Organ. Psy. 9, 31–43.
Anderson, M.C., 2003. Rethinking interference theory: executive control and the mechanisms of forgetting. J. Mem. Lang. 49, 415–445.
Ansoff, I., 1991. Critique of Henry Mintzberg's 'The design school: reconsidering the basic premises of strategic management'. Strateg. Manag. J. 12, 449–461.
Avey, J.B., Avolio, B.J., Crossley, C.R., Luthans, F., 2009. Psychological ownership: theoretical extensions, measurement, and relation to work outcomes. J. Organ. Behav. 30, 173–191.
Balcaen, S., Manigart, S., Ooghe, H., 2011. From distress to exit: determinants of the time to exit. J. Evol. Econ. 21, 407–446.
Baron, R.A., 2004. The cognitive perspective: a valuable tool for answering entrepreneurship's basic "why" questions. J. Bus. Ventur. 19, 221–239.
Baum, J.R., Locke, E.A., 2004. The relationship of entrepreneurial traits, skills, and motivation to subsequent venture growth. J. Appl. Psychol. 89, 587–598.
Baumol, W.J., 1990. Entrepreneurship: productive, unproductive, and destructive. J. Polit. Econ. 98, 893–921.
Baumol, W.J., 1993. Entrepreneurship, Management, and the Structure of Payoffs. MIT Press, Cambridge, MA.
Benjamin, G.A., Margulis, J., 2000. Angel Financing: How to Find and Invest in Private Equity. John Wiley & Sons, New York.
Bhide, A., 2000. The Origin and Evolution of New Businesses. Oxford University Press, New York.
Bird, B.J., 1988. Implementing entrepreneurial ideas: the case for intention. Acad. Manag. Rev. 13, 442–453.
Boulding, W., Morgan, R., Staelin, R., 1997. Pulling the plug to stop the new product drain. J. Mar. Res. 34, 164–176.
Brews, P.J., Hunt, M.R., 1999. Leaning to plan and planning to learn: resolving the planning school/learning school debate. Strateg. Manag. J. 20, 889–913.
Brinckmann, J., Grichnik, D., Kapsa, D., 2010. Should entrepreneurs plan or just storm the castle? A meta-analysis on contextual factors impacting the business planning-performance relationship in small firms. J. Bus. Ventur. 25, 24–40.
Brockner, J., 1992. The escalation of commitment to a failing course of action: toward theoretical progress. Acad. Manag. Rev. 17, 39–61.
Bruderl, J., Preisendorfer, P., Ziegler, R., 1992. Survival chances of newly founded business organizations. Am. Sociol. Rev. 57 (April), 227–242.
Bruton, G.D., Lau, C.-M., 2008. Asian management research: status today and future outlook. J. Manag. Stud. 45, 636–659.
Busenitz, L.W., Barney, J.B., 1997. Biases and heuristics in strategic decision-making: differences between entrepreneurs and managers in large organizations. J. Bus. Ventur. 12, 9–30.
Cannon, M.D., Edmondson, A.C., 2001. Confronting failure: antecedents and consequences of share beliefs about failure in organizational work groups. J. Organ. Behav. 22, 161–177.
Cardon, M.S., Zietsma, C., Saparito, P., Matherne, B.P., Davis, C., 2005. A tale of passion: new insights into entrepreneurship from a parenthood metaphor. J. Bus. Ventur. 20, 23–45.
Cardon, M.S., Stevens, C., Potter, D.R., 2011. Misfortunes or mistakes? Cultural sensemaking of entrepreneurial failure. J. Bus. Ventur. 26, 79–92.
Carter, N., Gartner, W., Reynolds, P., 1996. Exploring start-up event sequences. J. Bus. Ventur. 11, 151–166.
Castrogiovanni, G., 1996. Pre-startup planning and the survival of new small businesses: theoretical linkages. J. Manag. 22, 801–822.
Chen, C.C., Greene, P.G., Crick, A., 1998. Does entrepreneurial self-efficacy distinguish entrepreneurs from managers? J. Bus. Ventur. 13, 295–316.

Cope, J., 2011. Entrepreneurial learning from failure: an interpretative phenomenological analysis. J. Bus. Ventur. 26, 604–623.
Cope, J., Cave, F., 2008. Examining Venture Failure as a "learning journey": Process and Content Perspectives Working paper Lancaster University Management School, UK.
Covin, J.G., Slevin, D.P., 1990. New venture strategic posture, structure, and performance: an industry life cycle analysis. J. Bus. Ventur. 5, 123–135.
Cumming, D., 2008. Contracts and exit in venture capital finance. Rev. Financ. Stud. 21 (5), 1948–1982.
Dehlen, T., Zellweger, T., Kammerlander, N., Halter, F., 2014. The role of information asymmetry in the choice of entrepreneurial exit routes. J. Bus. Ventur. 29, 193–209.
Delmar, F., Shane, S., 2003. Does business planning facilitate the development of new ventures? Strateg. Manag. J. 24, 1165–1185.
Dess, G.G., Beard, D., 1984. Dimensions of organizational task environments. Adm. Sci. Q. 29, 52–73.
DeTienne, D.R., Cardon, M.S., 2012. The impact of founder experience on the intentions to exit. Small Business Economics: An Entrepreneurship Journal 38, 351–374.
DeTienne, D.R., Shepherd, D.A., DeCastro, J.O., 2008. The fallacy of "only the strong survive": the effects of extrinsic motivation on the persistence decisions for underperforming firms. J. Bus. Ventur. 23, 528–546.
Devigne, D., Manigart, S., Wright, M., 2016. Escalation of commitment in venture capital decision making: differentiating between domestic and international investors. J. Bus. Ventur. 31, 253–271.
Drummond, H., 1994. Too little too late: a case study of escalation in decision making. Organ. Stud. 15, 591–607.
Economist, 2008. Suicide in Japan: Death Be Not Proud (May 1st).
Fischer, E.M., Reuber, A.R., Dyke, L.S., 1993. A theoretical overview and extension of research on sex, gender, and entrepreneurship. J. Bus. Ventur. 8, 151–168.
Flores, M., Blackburn, R., 2006. Is Entrepreneurship More About Sticking With a Firm, or About Running Several of Them? Evidence From Novice and Serial Entrepreneurs. Working Paper, Presented at the Workshop on Firm Exit and Serial Entrepreneurship. Max Planck Institute of Economics, Jena.
Garland, H., Conlon, D.E., 1998. Too close to quit: the role of project completion in maintaining commitment. J. Appl. Soc. Psychol. 28, 2025–2048.
Garland, H., Newport, S., 1991. Effects of absolute and relative sunk costs on the decision to persist with a course of action. Organ. Behav. Hum. Decis. Process. 48, 55–69.
Garud, R., Van de Ven, A.H., 1992. An empirical evaluation of the internal corporate venturing process. Strateg. Manag. J. 13, 93–109.
Ghemawat, P., Nalebuff, B., 1985. Exit. RAND J. Econ. 16 (2), 184–194.
Gimeno, J., Folta, T., Cooper, A., Woo, C., 1997. Survival of the fittest? Entrepreneurial human capital and the persistence of underperforming firms. Adm. Sci. Q. 42, 750–783.
Green, S.G., Welsh, M.A., Dehler, G.E., 2003. Advocacy, performance, and threshold influence on decisions to terminate new product development. Acad. Manag. J. 46, 419–434.
Guler, I., 2007. Throwing good money after bad? Political and institutional influences on sequential decision making in the venture capital industry. Adm. Sci. Q. 52, 248–285.
Gumpert, D.E., 2003. Burn Your Business Plan! What Investors Really Want From Entrepreneurs. Lauson Publishing Co., Needham, MA.
Harada, N., 2003. Who succeeds as an entrepreneur? An analysis of the post-entry performance of new firms in Japan. Jpn. World Econ. 15, 211–222.
Harrigan, K.R., 1980. The effect of exit barriers upon strategic flexibility. Strateg. Manag. J. 1, 165–176.
Hayward, M.L., Shepherd, D.A., Griffin, S., 2006. A hubris theory of entrepreneurship. Manag. Sci. 52, 160–172.
Hayward, M.L., Forster, W.R., Sarasvathy, S.D., Fredrickson, B.L., 2010. Beyond hubris: how highly confident entrepreneurs rebound to venture again. J. Bus. Ventur. 25, 569–578.
Heath, C., 1995. Escalation and de-escalation of commitment in response to sunk cost: the role of budgeting in mental accounting. Organ. Behav. Hum. Decis. Process. 62, 38–54.
Hessels, J., Grilo, I., Thurik, A.R., van der Zwan, P.W., 2011. Entrepreneurial exit and entrepreneurial engagement. J. Evol. Econ. 21, 447–471.
Higuchi, Y., Murakami, Y., Suzuki, M., 2007. Growth and Exit of New Businesses (Shinkikaigyoukigyou-no-seichou-to-tettai). Keiso Shobo.
Hiller, N., Hambrick, D., 2005. Conceptualizing executive hubris: the role of (hyper-) core self-evaluations in strategic decision-making. Strateg. Manag. J. 26, 297–319.
Honig, B., 2004. Entrepreneurship education: toward a model of contingency-based business planning. Acad. Manag. Learn. Educ. 3, 258–273.
Jenkins, A., 2012. After Firm Failure: Emotions, Learning, and Re-entry. Jonkoping International Business School, Jonkoping University (JIBS Dissertation Series No. 084).
Justo, R., DeTienne, D.R., Sieger, P., 2015. Failure of voluntary exit? Reassessing the female underperformance hypothesis. J. Bus. Ventur. 30, 775–792.
Kahneman, D., Knetsch, J.L., Thaler, R.H., 1990. Experimental tests of the endowment effect and the Coase theorem. J. Polit. Econ. 98, 1325–1348.
Karlsson, N., Juliusson, E.A., Garling, T., 2005a. A conceptualization of task dimensions affecting escalation of commitment. Eur. J. Cogn. Psychol. 17, 835–858.
Karlsson, N., Garling, T., Bonini, N., 2005b. Escalation of commitment with transparent future outcomes. Exp. Psychol. 52, 67–73.
Kawakami, A., 2007. Nidomeno kaigyousha ga seikousuru jyouken (success factors for those starting up their business for the second time: the effect of experience of failure on subsequent performance). Nihon-Roudou-Kenkyuu-Zasshi (Journal of Japanese Labor Research) 559, 41–53 (Feb–March).
Keil, M., Treux, D.P., Mixon, R., 1995. The effects of sunk cost and project completion on information technology project escalation. IEEE Trans. Eng. Manag. 42, 372–381.
Khavul, S., Markoczy, L., Croson, R., Yitshaki, R., 2009. The Moderating Effect of Goal Specificity on Escalation of Commitment in Entrepreneurial Firm Exit. Working Paper. University of Texas at Arlington.
Kirby, S.L., Davis, M.A., 1998. A study of escalating commitment in principle-agent relationships: effect of monitoring and personal responsibility. J. Appl. Psychol. 83, 206–217.
Kivetz, R., Simonson, I., 2002. Self-control for the righteous: toward a theory of precommitment to indulgence. J. Consum. Res. 29, 199–217.
Kleinbaum, D.G., Kupper, L.L., Muller, K.E., 1988. Applied Regression Analysis and Other Multivariate Methods. 2nd ed. PWS-Kent, Boston, MA.
Knott, A.M., Posen, H.E., 2005. Is failure good? Strateg. Manag. J. 26, 617–641.
Lange, J.E., Mollov, A., Pearlmutter, M., Singh, S., Bygrave, W.D., 2007. Pre-start-up formal business plans and post-start-up performance: a study of 116 new ventures. Ventur. Cap. 9, 237–256.
Learned, K.E., 1999. What happened before the organization? A mode of organizational formation. Entrepreneurship Theory and Practice 17, 39–48.
Lee, S.-H., Peng, M.W., Barney, J.B., 2007. Bankruptcy law and entrepreneurship development: a real options perspective. Acad. Manag. Rev. 32, 257–272.
Lee, S.-H., Yamakawa, Y., Peng, M.W., Barney, J.B., 2011. How do bankruptcy laws affect entrepreneurship development around the world? J. Bus. Ventur. 26, 505–520.
Leroy, H., Manigart, S., Meuleman, M., 2008. The Planned Decision to Transfer an Entrepreneurial Company. Paper Presented at the Academy of Management Conference, Anaheim, CA.
Locke, E., Latham, G., 1980. A theory of Goal Setting and Task Performance. Prentice-Hall, Englewood Cliffs, NJ.
Masuda, T., 2006. The determinants of latent entrepreneurship in Japan. Small Bus. Econ. 26, 227–240.
Matthews, C., Scott, S., 1995. Uncertainty and planning in small and entrepreneurial firms: an empirical assessment. J. Small Bus. Manag. 33, 34–52.
Mattias, A., 2004. The shadow of death—an empirical analysis of the pre-exit performance of new German firms. Small Bus. Econ. 23, 189–201.
McGrath, R.G., 1999. Falling forward: real options reasoning and entrepreneurial failure. Acad. Manag. J. 24, 13–30.
McGrath, R.G., MacMillan, I., 2000. Discovery Driven Planning. Harvard Business School Press, Boston, MA.
McNamara, G., Moon, H., Bromiley, P., 2002. Banking on commitment: intended and unintended consequences of an organization's attempt to attenuate escalation of commitment. Acad. Manag. J. 45, 443–452.
Meyer, M.W., Zucker, L.G., 1989. Permanently Failing Organizations. Sage Publications, Newbury Park, CA.
Minniti, M., Bygrave, W., 2001. A dynamic model of entrepreneurial learning. Entrep. Theory Pract. 25, 5–16.
Mitchell, R.K., Mitchell, J.R., Smith, J.B., 2008. Inside opportunity formation: enterprise failure, cognition, and the creation of opportunities. Strateg. Entrep. J. 2, 225–242.
Moon, H., 2001. Looking forward and looking back: Integrating completion and sunk-cost effect within an escalation-of-commitment progress decision. J. Appl. Psychol. 86, 104–113.
Parks, J., Conlon, E.J., 1990. Justification and the processing of information. J. Appl. Soc. Psychol. 20, 703–723.
Payne, W.H., 2006. Choosing your exit strategy. In: Price, R.W. (Ed.), Entrepreneurship, 5th ed. McGraw-Hill, Dushkin, Dubuque, IA, pp. 186–187.
Penrose, E.T., 1959. The Theory of the Growth of the Firm. John Wiley and Sons, New York.

Pierce, J.L., Kostova, T., Dirks, K.T., 2001. Toward a theory of psychological ownership in organizations. Acad. Manag. Rev. 26, 298–310.
Porter, M., 1976. Please note location of nearest exit: exit barriers and strategic and organizational planning. Calif. Manag. Rev. 19, 21–33.
Ross, J., Staw, B.M., 1986. Expo 86: an escalation prototype. Adm. Sci. Q. 31, 274–297.
Ross, J., Staw, B.M., 1993. Organizational escalation and exit: lessons from the Shoreham nuclear power plant. Acad. Manag. J. 36, 701–732.
Ruhnka, J.C., Feldman, H.D., Dean, T.J., 1992. The living dead phenomenon in venture capital investments. J. Bus. Ventur. 7, 137–155.
Schelling, T.C., 1978. Egonomics, or the art of self-management. Am. Econ. Rev. 68, 290–294.
Schelling, T.C., 1984. Self-command in practice, in policy, and in a theory of rational choice. American Economics Association Proceedings 74, 1–11.
Schutjens, V., Stam, E., 2006. Starting Anew: Entrepreneurial Intentions and Realizations Subsequent to Business Closure. Paper Series on Entrepreneurship, Growth, and Public Policy. Max Planck Institute of Economics, Entrepreneurship, Growth and Public Policy Group.
Shane, S., 2001. Organizational incentives and organizational mortality. Organ. Sci. 12, 136–160.
Shane, S., Delmar, F., 2004. Planning for the market: business planning before marketing and the continuation of organizing efforts. J. Bus. Ventur. 19, 767–785.
Shaver, K.G., Scott, L.R., 1991. Person, process, choice: the psychology of new venture creation. Entrepreneurship Theory and Practice 16, 23–45.
Shepherd, D.A., 2003. Learning from business failure: propositions of grief recovery for the self-employed. Acad. Manag. Rev. 28, 318–328.
Shepherd, D.A., Cardon, M.S., 2008. Negative Emotional Reactions to Project Failure and the Self-compassion to Learn From Failure Experience. Working Paper. Indiana University.
Shepherd, D.A., Wiklund, J., Haynie, J.M., 2009. Moving forward: balancing the financial and emotional costs of business failure. J. Bus. Ventur. 24, 134–148.
Shepherd, D.A., Williams, T.A., Patzelt, H., 2015. Thinking about entrepreneurial decision making: review and research agenda. J. Manag. 41 (1), 11–46.
Shrader, C., Mulford, C., Blackburn, V., 1989. Strategic and operational planning, uncertainty, and performance in small firms. J. Small Bus. Manag. 45–60 (Oct.).
Shuman, J.C., Shaw, J.J., Sussman, G., 1985. Strategic planning in smaller rapid growth companies. Long Range Plan. 18, 48–53.
Singh, S., Corner, P., Pavlovich, K., 2007. Coping with entrepreneurial failure. J. Manag. Organ. 13, 331–344.
Sitkin, S.B., 1992. Learning through failure: the strategy of small losses. Res. Organ. Behav. 14, 231–266.
Smith, K., Locke, E., Barry, D., 1990. Goal setting, planning, and organizational performance: an experimental simulation. Organ. Behav. Hum. Decis. Process. 46, 118–134.
Staw, B.M., 1976. Knee-deep in the big muddy: a study of escalating commitment to a chosen course of action. Organ. Behav. Hum. Perform. 16, 405–433.
Staw, B.M., 1981. The escalation of commitment to a course of action. Acad. Manag. Rev. 6, 577–587.
Staw, B.M., 1997. The escalation of commitment: an update and appraisal. Organizational Decision Making. Cambridge University Press, London, UK.
Steensma, H.K., Marino, L., Weaver, K.M., Dickson, P., 2000. The influence of national cultures on the formation of technology alliances by small manufacturing enterprises. Acad. Manag. J. 43, 951–973.
Sudek, R., 2006. Angel investment criteria. Journal of Small Business Strategy 17, 89–103.
Suzuki, M., 2012. Path of New Businesses: Changes in Performance, Resources, and Perceptions—From Panel Data (Shinkikaigyoukigyou-no-kiseki). Keiso Shobo.
Tan, H.T., Yates, J.F., 1995. Sunk cost effects: the influences of instruction and future return estimates. Organ. Behav. Hum. Decis. Process. 63, 311–319.
Tang, M., 1988. An economic perspective on escalating commitment. Strateg. Manag. J. 9, 79–92.
Time, 1999. The Business Guru's Key Credential: He Went Belly Up February 25 46 (Asia version).
Tom, S., Fox, C., Trepel, C., Poldrack, R., 2007. The neural bias for loss aversion in decision-making under risk. Science 315, 515–518.
Treichel, M.Z., Deeds, D.L., 2009. Entrepreneurial Exit. Working Paper. Temple University.
Ucbasaran, D., Shepherd, D.A., Lockett, A., Lyon, S.J., 2013. Life after business failure: the process and consequences of business failure for entrepreneurs. J. Manag. 39, 163–202.
Vallant, Y., Lafuente, E., 2007. Do different institutional frameworks condition the influence of local fear of failure and entrepreneurial examples over entrepreneurial activity? Entrep. Reg. Dev. 19, 313–337.
Van Witteloostuijn, A., 1998. Bridging behavioral and economic theories of decline: organizational inertia, strategic competition, and chronic failure. Manag. Sci. 44, 501–519.
Wennberg, K., DeTienne, D.R., 2014. What do we really mean when we talk about 'exit'? A critical review of research on entrepreneurial exit. International Small Business Journal 32, 4–16.
Wennberg, K., Wiklund, J., DeTienne, D.R., Cardon, M.S., 2010. Reconceptualizing entrepreneurial exit: divergent exit routes and their drivers. J. Bus. Ventur. 25, 361–375.
White, M., 2001. Bankruptcy and small business. Regulation 24, 18–20.
Whyte, G., 1991. Diffusion of responsibility: effects on the escalation tendency. J. Appl. Psychol. 76, 408–415.
Yamakawa, Y., Cardon, M., 2015. Causal ascriptions and perceived learning from entrepreneurial failure. Small Business Economics: An Entrepreneurship Journal 44 (4), 797–820.
Yamakawa, Y., Peng, M.W., Deeds, D.L., 2015. Rising from the ashes: cognitive determinants of venture growth after entrepreneurial failure. Entrepreneurship Theory and Practice 39 (2), 209–236.
Zacharakis, A.L., Meyer, G.D., 2000. The potential of actuarial decision models. J. Bus. Ventur. 15, 323–346.
Zellweger, T.M., Astrachan, J.H., 2008. On the emotional value of owning a firm. Fam. Bus. Rev. 21, 347–363.
Zott, C., Huy, Q.N., 2007. How entrepreneurs use symbolic management to acquire resources. Adm. Sci. Q. 52, 70–105.