**What Does it Take to Pivot? Leveraging Intangible Resources for Pivoting**

**Abstract**

The resource-based view is widely regarded as an efficacious framework for predicting strategic behaviors in large and small organizations. However, examinations at the earliest stages of creative development – wherein resources are scarce or nonexistent and uncertainty is high – have oft been eschewed by resource-based view scholars (identity, self-efficacy, and motivation frameworks are more commonly used to investigate nascent entrepreneurship and organizational inception). In this research, we leverage the resource-based view to explore the role of intangible resources on nascent entrepreneurship and early-stage post-failure pivoting. Empirically, we match two complimentary data sources; 1474 project-failures (Kickstarter.com), and data on post-failure market pivots (Amazon.com). Our findings contribute to the emerging literature on strategic pivoting and extend the resource-based view by considering the role of resources at the earliest stages of creative development.

**INTRODUCTION**

Strategic decision makers in highly uncertain or ambiguous contexts often require quick and decisive adjustments in strategy in response to external conditions (Helfat and Martin, 2015; Eisenhardt, 1989). These individuals often have to change direction, or what has been termed “pivot” on some key aspect of the venture often times in response to failure (Eggers and Kaul, 2018;Eggers and Song, 2015). A pivot is a change in a firm’s strategy, technology, product, or market that reorients the firm’s direction without a change in vision (Contigiani and Levinthal, 2019; Grimes, 2018; Reis, 2011). Two core elements of pivots are that they (1) require a reorientation of firm direction and (2) that they must be supported by resource commitments (Kirtley and Mahoney, forthcoming).

The term “entrepreneurial pivot” was originally coined by Reis (2011) who argues that strategic decision making in early stages of venture development consists mostly of forming and testing business hypotheses with little or no tangible resources, instead relying on lean methods and intangible resource stocks. A key aspect of this conceptualization is that entrepreneurs leverage whatever they have while building their venture, making fundamental shifts in strategy to adjust to environmental circumstances as they arise. When disconfirming information comes to light, strategic decision makers are encouraged to “pivot” or make “a structured course correction” that takes the firm in a new direction (Ries, 2011). Despite widespread acceptance by practitioners of the value of this approach, little scholarly work has focused on this important entrepreneurial action (for exceptions see Grimes, 2018 and Kirtley and Mahony, *forthcoming*).
 Given that failure is a common occurrence in early-stage venture development (Headd, 2003; Wiklund, Baker, and Shepherd, 2010), pivoting might be especially important for entrepreneurs dealing with failures in real-time. Failure can lead to a variety of strategic responses, often arising from differences in individual characteristics (e.g., Cardon, *et al*., 2005; Cope, 2011; Eggers and Song, 2015; Politis, 2008). Yet, because the concept of pivoting is not well established in the strategic management or entrepreneurship literature, little is known about the role that intangible resources (e.g., human, social, or psychological resources) play in pivoting, despite their importance at this stage of development. The literature on managerial capabilities and RBV has focused on “a set of underlying managerial resources, namely managerial cognition, managerial social capital, and managerial human capital” (Helfat and Martin, 2015,p. 1285). We argue that given the difficulty of dealing with failure, individuals who have certain intangible resources may be more likely to pivot post-failure than those that do not. Importantly, pivoting has been theorized to unfold over time, yet it is unclear how certain resources influence the temporal dynamics of pivoting. While theoretically discussed in prior research, our investigation is the first (to our knowledge) to empirical to consider *pivoting speed* as a variable of interest. Formally, we seek to answer the following research question: *How do intangible human, social, and psychological resources influence post-failure pivoting decisions and pivoting speed?*

To approach this research question, we integrate the resource-based view (RBV) and the strategic change perspectives. We leverage these perspectives to explain how distinct intangible resources influence strategic pivoting (pivoting behavior and pivoting speed). For creative actors in the earliest stages of venture development, tangible resource scarcity tends to be commonplace (Starr and MacMillan, 1990; Molloy *et al.*, 2011). Thus, assessing how intangible resource stocks influence early-stage pivoting decisions is appropriate given that these organizational actors often must make do with what little resources they have (Baker and Nelson, 2005; Khaire, 2010). The present research focuses on three well-established intangible resources (human, social, and psychological resources) that have previously been studied at the strategic decision maker level and linked to early-stage venture outcomes (e.g., Anglin *et al*., 2018; Campbell, 2013; Chatain and Meyer-Doyle, 2017; Davidsson and Honig, 2003; Helfat and Peteraf, 2015; Khaire, 2010; Morris *et al.,* 2017; Williams and Shepherd; 2016).

We investigate early-stage pivoting in the context of failed crowdfunding campaigns. Crowdfunding provides an ideal context to study pivoting in response to failure for several reasons. First, although there are many successes on crowdfunding, approximately 60 percent of crowdfunding projects fail (Kuppuswamy and Bayus, 2017). These failed campaigns offer conditions under which creative actors have a reason to pivot – i.e., to make an adjustment in strategy based on feedback they received during their failed campaign. Second, failed crowdfunding campaigns have clearly documented start and completion (failure) dates, providing discrete information on how long the project creator was seeking funding before failing. This setting thus provides a precise way to measure the temporal aspects of pivoting. Finally, project creators provide critical strategic information on crowdfunding portals about themselves and their firms, which offers insights into characteristics of the project creator including measurable information about the intangible resources they possess.

This study makes several contributions. First, we contribute to the RBV literature by considering the value of intangible resources on strategic decisions at the micro-level. Extant RBV research has primarily focused on how tangible firm resources impact strategic decision-making and firm performance in established organizations. The RBV suggests that resources – including intangible resources – play an important role in understanding change (Helfat and Martin, 2015; Penrose, 1957; Wenerfelt, 1984), yet the extent to which resources are good or bad for change is often debated (Miller and Shamsie, 1996; Morris *et al*., 2017; Priem and Butler, 2001). Moreover, the value and usefulness of resources is thought to be contingent on the context in which they are deployed (Chatain and Meyer-Doyle, 2017; Katila and Shane, 2005; Mishina, Pollock, and Porac, 2004; Sirmon, Hitt, and Ireland, 2007). Thus, it is not clear if resources, intangible or otherwise, are predictive of strategic pivoting decisions in the earliest stages of creative development. We consider if intangible resources possessed by individual actors predict post-failure pivoting decisions, allowing us to contribute to the literature concerned with understanding the extent to which resources influences strategic entrepreneurial decisions (e.g., Unger *et al*. 2011; Wiklund and Shepherd 2009).

Second, we contribute to the emerging literature on pivoting. This literature stream is severely underdeveloped despite the practical significance of pivoting. Prior research on pivoting has primarily taken a process-view, considering the importance of identity (Grimes, 2018). Likewise, Kirtley and Mahony (*forthcoming*) present a qualitative model of information processing that identifies how firms deal with new information that conflicts or expands their prior beliefs. Yet, what is less understood is how strategic decision-maker differences related to existing stocks of resources that they possess influence pivoting decisions. With the recent scholarly emphasis on the importance of pivoting, understanding these antecedents and the different aspects of pivoting offers an important advancement for both theory and practice. Our paper is the first to quantitatively test the temporal aspects of pivoting, offering a more nuanced view of what it means to pivot. Kirtley and Mahony (*forthcoming*) exploratory work revealed that pivots tend to unfold over time via multiple incremental decisions. Extending this work, we conduct a quantitative temporal assessment of pivoting, uncovering important differential effects of intangible resources (human, social, and psychological resources) on the probability of pivoting and pivoting speed. Speed has been shown to be a key source of competitive advantage for ventures (Chen, Lin, and Michel, 2010; Katila, Chen, and Piezunka, 2012), thus understanding not only whether pivoting occurs, but also the time it takes to pivot, has important implications for performance research.

Finally, we contribute to the emerging body of research that considers entrepreneurial resourcefulness in response to failure (e.g., Cardon *et al*., 2005; Cope, 2011; Williams and Shepherd, 2016). Prior work has shown that the possession of intangible resources (i.e. human capital) appears to enable effective responses to failures and other unexpected adverse circumstances (Delmar and Shane, 2006; Dimov, 2010; Shepherd and Williams, 2014) despite possessing few, if any, tangible resources (Williams and Shepherd, 2016). Recently work has also distinguished between the motivation and ability to make strategic change in the face of unsatisfactory performance or failure (Eggers and Song, 2015; Eggers and Kaul, 2018). We extend this work by illustrating that human intangible resources in terms of ability and motivation (e.g. Helfat and Peteraf, 2015; Morris *et al*., 2017) affect pivot decisions related to a key aspect of their venture (e.g. market platform) and to the speed of that decision, and that social resources can strengthen these relationships. Further, resourceful entrepreneurs believe in their ability to influence the outcome of situations in which they find themselves in ([Powell and Baker, 2011](https://www.sciencedirect.com/science/article/pii/S0167487014000063#b0285)). In contrast with this and in contrast with our a priori expectations, we find that psychological resources interact with social and human resources to negatively influence pivoting behaviors and pivoting speed. We provide post-hoc discussions to explain these somewhat surprising findings and motivate future research directions to extend our understanding of the role of psychological resources on pivoting.

**THEORY AND HYPOTHESES**

**Brief background on the resource-based view**

To develop our hypotheses, we leverage the RBV. The RBV assumes that firms can be conceptualized as bundles of resources (Amit and Schoemaker, 1993; Mahoney and Pandian, 1992; Penrose, 1959; Wernerfelt, 1984) and can consist of tangible (e.g. financial) or intangible (e.g. social networks) resources (Molloy *et al.*, 2011; Wernerfelt, 1984). Barney & colleagues (2001) emphasized that strategic management in general, and RBV in particular, can make progress by adopting a more consistent micro-focus.

The RBV also recognizes that entrepreneurship is an important context for the resource-based framework (Connor, 1991; Rumelt, 1987). While resources are widely acknowledged to play a crucial role in entrepreneurship (Penrose, 1959), entrepreneurial ventures often require different types of resources to survive and prosper compared with larger, more established organizations (Alvarez and Busenitz, 2001; Unger *et al*. 2011; Wiklund and Shepherd 2009). Given that entrepreneurs often act under tangible resource scarcity (Baker and Nelson, 2005), researchers attach particular importance to intangible “soft” resources that are important for early stages ventures (Lichtenstein and Brush, 2001; Mosey and Wright, 2007; Wiklund and Shepherd, 2003). Having little else to rely upon, entrepreneurs and creative workers initially make do with their own intangible resources, including their psychological attributes (Alvarez and Busenitz, 2001), prior experience (Wiklund and Shepherd, 2003) and social networks (Mosey and Wright, 2007; Ozgen and Baron, 2007). Due to the high level of decision-making autonomy inherently held by creative actors or entrepreneurs (Hambrick and Abrahamson, 1995), the role of intangible resources is arguably greater in entrepreneurial or creative contexts than it is in large organizational contexts (Staw, 1991).

**Pivoting and organizational change**

***Pivoting***. A pivot can be conceptualized as “*a structured course correction”* in response to environmental feedback (Reis, 2011, p. 149). Contigiani and Levinthal (2019) characterize pivoting as a change in strategic direction without a change in vision. Despite wide-scale adoption in practice, scholarly research on entrepreneurial pivoting is scant (McMullen, 2017). There are a few exceptions. Grimes (2018) used a qualitative field study to consider how identity influences the likelihood of pivoting in two entrepreneurial incubators. Kirtley and colleagues (*forthcoming*) conducted an exploratory qualitative field study with seven firms and found that decision makers chose to pivot only when new information conflicted with or expanded their prior beliefs. Moreover, they argue that pivots unfold over time, indicating the need for future research to take a time-based approach to studying pivoting. One limitation of the qualitative field setting was it did not allow the authors to make conclusions about the individual-level antecedents that ultimately caused some entrepreneurs to pivot and others to not.

Given the paucity of research on pivoting there are several opportunities for researchers. Grimes (2018) called for more research on pivoting, specifically noting that future research on pivoting should examine how entrepreneur resource stocks influence pivoting. Contigiani and Levinthal (2019) indicate that the field needs more conceptual and empirical work to understanding of pivoting, and lean startup practices more broadly. Kirtley and Mahony, (*forthcoming)* call for future research on founder differences and how informal interactions between entrepreneurs and external stakeholders shape pivoting decisions. The focus of our study is on whether different intangible human, social, and psychological resources influence pivoting decisions and pivoting speed.

***Organizational change***. The organizational change literature reveals two distinct aspects of change that offer a more nuanced understanding of pivoting. First, research has discovered that the pace of change is an important factor in organizational change processes (Aaker and Macarenhas, 1984; Evans 1991; Fredrickson and Iaquinto, 1989), with most research focusing on the set of abilities that enable firms to lead or respond to change (Evans, 1991; Sanchez, 1995). Second, organizational resources are assumed to be available during the process of strategic change (Hofer and Schendel, 1978: 25), and the value and usefulness of resources is thought to be contingent on the context to which they are deployed (Katila and Shane, 2005; Mishina *et al*., 2004). Given the crucial role that resources play in the success of entrepreneurial firms, especially during the early phases of development (Baum, Calabrese, and Silverman, 2000; Cooper, Gimeno-Gascon, and Woo, 1994; Zimmerman and Zeitz, 2002), and that much of what we could consider pivoting decisions are related to resource concerns (Baker and Nelson, 2005), we rely on the resource-based view to further develop our conceptual model.

**A resource-based view of pivoting**

In this research, we consider how three types of intangible resources relate to pivoting. Specifically we consider intangible human resources – defined as the knowledge, skills, and abilities that individuals acquire through schooling, job experience, and various types of training (Becker, 1964, Wright *et al*., 2007), intangible social resources – defined as assets or value that individuals extract from their social networks (Adler and Kwon, 2002; Lin, 2017), and intangible psychological resources – an individual’s psychological capacity to shape and motivate changes in attitudes and behaviors (includes an individual’s capacity for hope, efficacy, resilience, and optimism; see Luthans *et al*., 2007; Luthans, Luthans and Avey, 2014).

***Intangible human resources and post-failure pivoting***. Intangible human resources enable individuals to develop capabilities important for entrepreneurship (Morris *et al*., 2017; Alvarez *et al*., 2002). Some argue that they are the most critical resource for new ventures seeking to act entrepreneurially (Florin, Lubatkin, and Schulze, 2003; Ireland, Hitt, and Sirmon, 2003; Pfeffer and Villeneuve, 1994), particularly during the start-up stage of venture development (Davidson and Hong, 2003). Scholars suggest that intangible human resources such as previous knowledge (Shane, 2000), business planning (Delmar and Shane, 2003), and the use of heuristics (Busenitz and Barney, 1997) influence entrepreneurs’ ability to respond to a variety of circumstances, of which pivoting could be included. It has been suggested that prior new venture experience increases entrepreneurial abilities important for understanding the entrepreneurial process (Wright, Westhead, and Sohl, 1998). While intangible resources have not been linked to post-failure pivoting, scholars have found direct links between intangible human resources and change within established organizations (e.g. Chatain and Meyer-Doyle, 2017; Goodstein, Gautam, and Boeker, 1994; Virany, Tushman, and Romanelli, 1992; Tushman and Rosenkopf, 1996).

We suggest that human resources developed from previous experience will enable organizational actors to detect information stemming from failed experiences that indicate a pivot is necessary and to therefore decide to pivot. Failure provides a clear signal that something went wrong, and consequently reveals valuable information that can help individuals makes sense of the failure experience ([Cardon, Stevens, and Potter, 2011](https://www.sciencedirect.com/science/article/pii/S2352673415300093#bib3): [Cope, 2011](https://www.sciencedirect.com/science/article/pii/S2352673415300093#bib4)). Knowledge gained from previous experience enables entrepreneurs to detect novel signals (e.g. failure) that others without such experience might not detect (Baron and Ensley, 2006), and to process and integrate information derived from new situations (Weick, 1996). Previous experience also provides the necessary cognitive skills to enact change (Davidsson and Honig, 2003; Hatch and Dyer, 2004; Helfat and Peteraf, 2015). Entrepreneurs with previous experience might therefore be better able to recognize, process, and act upon information stemming from failure.

We also expect that human resources will accelerate the speed of pivoting. As decision-makers increase their knowledge and competence, they are willing to accept greater risk and are more confident in their decisions (Heath and Tversky, 1991; Mullins and Forlani, 2005), especially those associated with change (Allinson, Chell, and Hayes, 2000). Human resources are also considered a key factor for enabling future action (Haynie and Shepherd, 2009). For decision makers dealing with failure, the increased confidence, ability to accept risk and ability to act could accelerate the decision to pivot. In support our expectation, decision-makers confidence (Eisenhardt, 1989; Hepler and Feltz, 2012), risk tolerance (Deakin *et al*., 2004), and propensity to act (Forbes, 2005) are all thought to increase decision making speed, and experience related to human resources has been shown to have a direct effect on decision speed (Forbes, 2005). Together, we hypothesize:

***Hypothesis 1: There is a positive relationship between intangible human resources and (a) post-failure pivoting decisions and (b) post-failure pivoting speed.***

***Interaction of intangible human and social resources and post-failure pivoting.*** While we expect human resources to influence both pivoting decisions and pivoting speed, there is reason to believe that this relationship will be stronger for decision makers that also possess social resources. Due to their restricted resources and smaller firm size compared to large organizations (Liberman-Yaconi, Hooper, and Hutchings, 2010), decision makers in smaller entrepreneurial or creative organizations must rely heavily on informal social resources. Prior research demonstrates that decision-makers often base their decisions on a combination of their experience, knowledge and variety of social ties (Westhead, Ucbasaran, and Wright, 2009), highlighting how information derived from social resources can interact with human resources to effect decisions. For example, social resources can affect the development of intangible human resources through the information that decision makers obtain from their social relationships (Castanias & Helfat, 2001; Coleman, 1988; Leitch, McMullan, and Harrison, 2013) which can in turn affect decision makers beliefs (i.e., Adner, 2002). Social resources have also been shown to interact with human resources to affect change decisions (e.g., Bordia *et al*., 2004; Gopinath and Becker, 2000; Rafferty and Restubog, 2010; Schweiger and DeNisi, 1991).

Because intangible social resources are known to interact with human resources to affect decision making, we suggest that social resources will strengthen the effect of human resources on pivoting decisions. Specifically, social resources will strengthen decision-maker’s initial belief (based on intangible human resources) that a change is necessary following failure, which will increase the probability that decision makers decide to pivot. Thus, we expect that the interaction of human and social resources will accelerate decisions to pivot compared to human resources alone. As discussed earlier, when decision-makers increase their knowledge and competence, they are willing to accept greater risk and are more confident in their decisions. Social resources provide additional information for decision makers to utilize, which will further increase their confidence and result in faster decisions to pivot compared to human resources alone. Indeed, human and social resources have been shown to interact to effect decision makers, leaving them better equipped to act quickly in the decision situation (Eisenhardt, 1989). Formally, we hypothesize:

***Hypothesis 2: Intangible social resources will strengthen the positive relationship between intangible human resources and (a) post-failure pivoting decisions and (b) post-failure pivoting speed.***

***Interaction of intangible human, social, and psychological resources and pivoting.*** Utilizing intangible human and social resources could be more difficult for entrepreneurs with lower levels of psychological resources. Experiencing failure can hamper motivation by inducing a sense of “helplessness,” which reduces an individuals’ belief in their ability to produce successful future outcomes (Bandura, 1991; Cardon and McGrath, 1999; Diener and Dweck, 1978) and is linked to poor entrepreneurial decision making (Eggers and Song, 2015; Shepherd, Covin, and Kuratko, 2009). Decision makers might therefore have a tough time utilizing extant human and social resources if they are experiencing motivational issues related to failure.

Psychological resources are multi-dimensional, and consist of resilience, optimism, hope, and self-efficacy, and reﬂects the cognitive, behavioral, and emotional resources that individuals possess (Helfat and Peteraf, 2015; Luthans *et al*., 2007). Taken together, these components act jointly as an empowering resource that motivates individuals to work harder to overcome obstacles (Avey *et al*., 2011) and permits individuals to manage tasks under challenging conditions (Csikszentmihalyi and Hunter, 2003)1. Psychological resources are often conceptualized as a motivational resource (Newman *et al*., 2014), with the potential to amplify other antecedents or factors (Baron, Franklin, and Hmieleski, 2016; Roberts, Scherer, and Bowyer, 2011). Psychological resources enable decision makers to overcome the motivational challenges inherent in failure, which could lead to better utilization of their intangible human and social resources. Specifically, intangible psychological resources could provide decision makers dealing with failure the motivation to engage effectively with their social networks, as well as the confidence to rely on their past experience when making decisions.

Given our expectation that social and human intangible resources will interact to encourage pivoting, and that psychological resources are a motivational resource that entrepreneurs can utilize when deploying other resources (i.e. human and social), we expect intangible human, social and psychological resources will act together to increase the probability of pivot decisions and will further accelerate pivoting speed following failure. Formally,

***Hypothesis 3: There will be a three-way interaction between intangible psychological resources, intangible human resources, and intangible social resource, such that in conjunction these resources will jointly strengthen (a) post-failure pivoting decisions and (b) post-failure pivoting speed.***

**METHODS**

**Empirical setting and sample**

To study how decision makers pivot after failure, we turned to Kickstarter.com to develop an applicable empirical sample. Kickstarter has an all-or-nothing funding policy (Oo *et al*., 2019); if a project does not reach its funding goal, the project creator does not receive any financial resources, which allows us to clearly demarcate project failures from successes. To remove prior performance bias from model, we excluded successful Kickstarter projects and focused exclusively on failed campaigns in this research. Our final sample consists of 1474 failed projects from the same Kickstarter category between 2011 and 2013. We chose this time period because, in accordance with the goals of our study, we wanted to assess *pivoting decisions* and *pivoting speed* after failure had occurred. We use the time period 2014 to 2016 as our post-failure period. We collected the pivot data in January, 2017 from Amazon (more details below).
 We focused our empirical analysis only on one Kickstarter category for our study following prior crowdfunding research (e.g., Josefy *et al*., 2016; Mollick and Nanda, 2016; Stevenson *et al*., 2019b). We took this approach for two primary reasons. First, one advantage of using only one category from Kickstarter is that this approach removes industry biases which have been observed in crowdfunding data (Stevenson, Kuratko, and Eutsler, 2019). Second, given that our goal in this paper was to systematically track and match project failures with post-failure market pivots, we selected the publishing category (consists of book publishing projects) so that we could clearly observe and quantify post-failure pivoting that project creators engaged in. The publishing category was suitable for our study because the product presented in each Kickstarter pitch was uniform (i.e., a book) and these pitches could subsequently be matched to marketplace data from Amazon.com.[[1]](#footnote-1) Thus, the publishing category was an optimal category for our study because it allowed for direct comparability between failed projects (from Kickstarter.com) with post-failure pivots to a new marketplace (Amazon.com).

 Recall, a pivot is defined as a change in a firm’s strategy, technology, product, or market that reorients the firm’s direction without a change in vision (Contigiani and Levinthal, 2019; Grimes, 2018; Reis, 2011). This implies redirecting the firm *from* one direction *to* another and is often the result of hitting a “dead end” (e.g. crowdfunding failure) (Gruber & Tal, 2017: 6). In line with this definition, there are several reasons to consider a post-failure move from Kickstarter to Amazon as representative of a *marketplace redirection (i.e. pivot).* First, Kickstarter is a pre-sales portal that provides entrepreneurs and creative workers an opportunity to raise funding for work-in-process projects. In contrast, Amazon is a commercial platform that allows entrepreneurs and creative workers to sell finished products direct to customers. Importantly, those that fail on Kickstarter have the option of re-launching their project on Kickstarter and to make necessary *within* *market* adjustments (e.g. lower their Kickstarter funding goal, increase pledging rewards) to achieve their fundraising goals. Thus, moving from Kickstarter to Amazon post-failure signifies a redirection fromacrowdfunding-based market to sales-based market. Second, Kickstarter is a relatively low cost, low-risk market wherein little to no financial costs are incurred. Starting a Kickstarter campaign requires almost no upfront

financial investment and projects that reach their fundraising goal pay a nominal commission to Kickstarter.[[2]](#footnote-2) Conversely, in order to successfully promote and sell their products on Amazon, entrepreneurs and creative workers often invest significant personal capital to purchase ads on Facebook and Amazon.[[3]](#footnote-3) Such self-funding entails financial risks that are not guaranteed to generate a return in the form of sales. Further, Amazon charges a commission for each book sold that can increase costs significantly.[[4]](#footnote-4) Consequently, moving from Kickstarter to Amazon indicates a shift from a low-cost, low-risk market to a relatively higher-cost, higher-risk market. Finally, Kickstarter is a highly social marketplace comprised of entrepreneurs and creative workers that engage in active, real-time information sharing with project backers. While many individuals participate in crowdfunding to access funding sources, they also are concerned with receiving feedback about the potential of their unfinished products (e.g. Mollick and Nanda 2016; Xu 2017). As previously stated, Amazon is simply a platform for entrepreneurs and creative workers to commercialize their products and therefore moving from Kickstarter to Amazon denotes a redirection from a feedback-based platform to a purely profit-orientated platform. Taken together, entrepreneurs and creative workers that move from Kickstarter to Amazon post-failure are pivoting *from* a low-cost, low-risk, crowdfunding and feedback-based market *to* a higher-cost, higher-risk, sales-based market.[[5]](#footnote-5)

**MEASURES**

**Dependent Variables**

We measured pivoting in two ways: (1) *Post-failure pivoting* and (2) *Pivot speed.*

*Post-failure pivoting*. We assessed pivoting decisions by considering whether or not products were subsequently launched on a new marketplace after their initial Kickstarter project failure. We analyzed the Amazon database to find matches using publicly disclosed information from each failed Kickstarter campaign. To ensure completeness of our data, we searched the Amazon database several ways including via book title, author name, social media accounts, project name, etc. We searched all 1474 project failures in our sample, and in total we identified 277 subsequent commercial offerings on Amazon.com that could be traced directly to the failed crowdfunding campaigns. This represented 18 percent of the cases in our sample.

*Pivot speed* was measured as the number of days between the failure date on Kickstarter and the date the same book was published on Amazon. We matched each Kickstarter campaign with the initial launch date that appeared on the Amazon database to determine the length of time between the failed crowdfunding campaign and the appearance of the product on Amazon. Note, because this variable measures time in days, higher values indicate that it took the project creator a longer time to pivot (i.e. slower pivoting speed).

**Independent Variables**

*Intangible psychological resources*: We used a previously validated computer-aided text analysis (CATA) measure of psychological resources (psychological capital; Luthans *et al*., 2007) on crowdfunding platforms (Anglin *et al*., 2018) as our operationalization for intangible psychological resources. CATA is a form of content analysis, a well-established measurement method that offers users the ability to conduct quantitative analyses based on the content of a given text (Krippendorff, 2004; Weber, 1990). Following prior work (Anglin *et al*., 2018) we used the campaign section of the Kickstarter project to compute our measure.

*Intangible human resources:* Intangible human resources accumulate from highly specific prior experiences, including industry experience (Dimov, 2010). Thus, as our operationalization of this variable, we assessed whether the project creator had previous experience on Kickstarter and specified 1 for this variable if yes, and 0 otherwise.

*Intangible social resources:* We operationalized intangible social resources by analyzing whether or not social information was conveyed from Kickstarter backers to the project creator during the failed crowdfunding campaign. For this purpose, we used the comments section of the Kickstarter campaign and coded the social resource variable as 1 if there is any backer’s comments and 0 otherwise. The comments section of a crowdfunding campaign provides an opportunity to potential backers to provide social information to project creators about the products or services featured in the campaign (Ciuchta *et al*., 2016), which could be used by creators to determine post-failure pivoting decisions.

*Controls.* We controlled for several project-level variables that have previously been linked to entrepreneurial success on crowdfunding platforms (Allison *et al*., 2017; Buttice, Colombo, and Wright, 2017; Calic and Mosakowski, 2016; Mollick, 2014; Parhankangas and Renko, 2017), including total funding pledged, campaign duration, rewards levels offered, and campaign length. To account for theoretically related personality dimensions that could influence post-failure action, we controlled for risk-taking orientation (Short *et al*., 2010), promotion focus (Gamache *et al*., 2015), and exploration orientation (Uotila *et al*., 2009) using established and previously validated CATA measures. We also controlled for the *gender* of the project creator as significant gender effects have been observed on crowdfunding platforms (see Johnson, Stevenson, and Letwin, 2018; Marom, Robb, and Sade, 2014).

**RESULTS**

Two separate analyses were conducted for this study. First, given that pivoting decision was measured as a binary variable, logistic regression was used to test the relationship between the predictors and interactions with the decision to pivot. Next, given pivoting speed was measured in daysstarting from the date of Kickstarter failure, we used a Cox survival model. The Cox model has the advantage of not making strong assumptions about the baseline hazard function. This characteristic of the Cox model is important because incorrect parametric assumptions may yield biased estimates of the effects of covariates on the hazard rate. The data is analyzed using the Cox regression model (Cox, 1972), a common choice for analyzing time-to-event data in analogous settings. The basic model is defined as:

Log hi (t; Xi) = λ0 (t) + Xi β

hi (t; Xi) is the hazard rate for book i at time t (odds that book i would appear on Amazon at time t given that it has “survived” (i.e., not pivoted) until time t-1. λ0(t) is the base hazard rate. Xi is the vector of covariates. And β is the vector of regression coefficients. Cox proportional models allow us to estimate β without specifying or estimating the baseline hazard λ0 (t). The cox regression analyses were performed using the SAS PHREG procedure (Piao & Zajac 2016; Xia, Tan, & Tan, 2008). In Figure 1, we can see that the probability of surviving 500 days or fewer after the failure at Kickstarter is near 60%. Thus, by 500 days, a book has accumulated quite a bit of risk (i.e., hazard of appearing in Amazon), which accumulates more slowly after this point. Descriptive statistics and intercorrelations are reported in Table 1.

<< Insert Figure 1 and Table 1 here >>

**Tests of Hypotheses**

The results of the logistic regression and Cox models are displayed in Tables 2 and 3. Hypothesis 1 stated that there would be a positive relationship between intangible human resources and post-failure pivoting and pivoting speed. As shown in Table 2, model 2, there was a significant relationship between intangible human resources and post-failure pivoting (β = 0.372, p = 0.02), providing initial support for H1based on the likelihood of pivoting. Table 3, model 2 also shows that there was a significant relationship between intangible human resources and the hazard rate of post-failure pivoting event (β = 0.339, p = 0.01), providing additional support for Hypotheses 1 based on pivoting speed.

Hypothesis 2 stated that intangible social resources would strengthen the relationship between intangible human resources and both post-failure pivoting and pivoting speed. As shown in Table 2, model 3, there was a significant interaction between intangible social resources and human resources in predicting post-failure pivoting decisions (β =1.066, p = 0.04) thus providing initial support for H2. In Table 3, model 3 shows a significant relationship between intangible human resources and the hazard rate of post-failure pivoting event (β = 0.943, p = 0.04) providing additional support for Hypotheses 2.

Hypothesis 3 stated that there would be a three-way interaction between intangible psychological resources, intangible human resources, and intangible social resources in predicting both post-failure pivoting and pivoting speed. Table 2, model 3 illustrates a three-way interaction at the level of p=*.06* on post-failure pivoting decision. However, in contrast to our hypothesis, the three-way relationship is negative (β = -0.752, p = 0.06). In addition, Table 3, model 3 illustrates a significant three-way interaction on post-failure pivoting speed. Again, in contrast to our hypothesis, the relationship is again negative (β = -0.666, p = 0.05),therefore findings from both sets of analyses do not support Hypotheses 3.

<< Insert Table 2 and Table 3 here >>

**DISCUSSION**

Research on pivoting is scant, and the research that does exist has yet to address both the important resources that can drive pivoting decisions, as well as different possible aspects of pivoting. The findings of this study reveal the importance of intangible resources as drivers of post-failure pivoting and the time it takes to pivot. Results indicate that intangible human resources increase the likelihood and speed of post-failure pivoting, and that intangible social resources strengthen these effects. Finally, and in contrast with our initial hypothesis, our research revealed that intangible psychological resources interact with human and social resources in a negative fashion, effectively decreasing pivoting behaviors and speed. While this result is unexpected, it is not completely unexplainable. We explain our post-hoc assessment of this result below and identify opportunities for additional research.

 We argue that intangible human and social resources provide valuable information for decision makers to utilize when deciding whether to pivot, and for those that pivot, aid in making quicker decisions. We had anticipated that given the difficulties in dealing with failure, decision makers could draw on their psychological resources when deciding to pivot, and thus better utilize their experience and information derived from social resources. However, we did not expect psychological resources to have a negative interaction with human and social resources in predicting pivoting decisions and speed.

One possible explanation is that individuals with high levels of psychological resources are overconfident and therefore less responsive to information stemming from their failed campaigns. Prior work has shown that inflated levels of self-efficacy (a component of psychological resources) can lead to reduced effort, resulting in sub-optimal decision-making (Stevenson *et al*., 2019b; Vancouver and Purl, 2017). In addition, overconfidence, which is often equated to optimism (one of the four dimensions of psychological capital), refers to the extent to which individuals tend to overestimate the accuracy of their knowledge and judgments (Griffin and Tversky, 1992; Klayman *et al*., 1999). Overconfident individuals confronted with socially derived feedback indicating a failure has occurred will often attribute the cause of the problem to external sources and thus disregard the social feedback (Chen, Crossland, & Luo, 2015). This suggests that overconfidence can negatively interact with both intangible human resources (i.e. knowledge and judgments) and intangible social resources (i.e. social feedback) to reduce the probability of future actions and decrease the speed of decision making.

**Contributions for theory and practice.**

This study makes several contributions to the RBV and pivoting literatures. In prior work, scholars have suggested that research integrating RBV within entrepreneurship has only offered a “research setting” for empirical work (e.g., Chandler and Hanks, 1994) without providing a significant interface between the two (Alvarez and Busenitz, 2001). Further, some scholars suggest that it is unclear whether “the tenets of the resource-based view are applicable to both entrepreneurial ventures and established firms” (Hitt *et al*. 2002, p. 4). The findings of this study showing that intangible human resources are predictive of both pivoting decisions and pivoting speed, and that intangible social resources enhance these relationships, provides a significant link between the RBV and entrepreneurship. This link is further exemplified given researcher’s emphasis that the importance of intangible resources can be contingent on context (Alvarez and Barney, 2007; Hmieleski, Carr, and Baron, 2015; Sirmon, Hitt, and Ireland, 2007), which the findings of the current study support. We show that intangible resources possessed by individuals are predictive of strategic pivoting decisions in the context of early-stage venture development. Thus, extending the reach of RBV to the context of early-stage pivoting.

Our findings linking the RBV with micro-level entrepreneurial/creative phenomena has important implications for entrepreneurs and other organizational actors contemplating post-failure pivoting. Pivoting is assumed to occur through the utilization of resources, yet studies have primarily focused on the role of tangible resources in pivoting. Because resources play a crucial role in the success of entrepreneurial firms during early phases of development (Baum *et al*., 2000; Cooper *et al*., 1994; Zimmerman and Zeitz, 2002), our findings suggest that decision makers can leverage their experience and social resources when confronted with the need to pivot. Further for pivots that require tangible resources, research shows that decision makers can utilize their own intangible resources, including their business experience (Wiklund and Shepherd, 2003) and social networks (Mosey and Wright, 2007; Ozgen and Baron, 2007) to eventually attain the tangible resources necessary for firm growth (Baker and Nelson, 2005; Khaire, 2010).

In terms of speed, we know from prior work that resources that are useful for bringing about change are not always useful for bringing about change quickly. For example, factors that are suggested to increase the likelihood of change, such as higher levels of communication and information processing (Brown and Eisenhardt, 1997), and slack resources (Nohria and Gulati, 1996), are also thought to decrease the speed of change (Schoonhoven, Eisenhardt, and Lyman, 1990; Mintzberg, 1978; Nutt, 1976). In this study, we consider if intangible resources possessed by individual actors predict the speed at which post-failure pivoting occurs, allowing us to explain strategic actions in the earliest stages of creative development as dependent upon extant resource stocks possessed by creative actors.

This study also offers additional contributions to our understanding of pivoting. While previous research has illustrated the effect of intangible resources on entrepreneurial performance (Hmieleski *et al*., 2015), this is the first study to find effects of intangible resources on pivoting. Resource stocks, we argue, function to increase strategic decision-makers’ ability and wherewithal to engage in strategic change. This conceptualization adds nuance to recently established models of pivoting (see Kirtley and Mahony, *forthcoming).* In particular, Kirtley & Mahony (*forthcoming*) present a multistage process model of pivoting that is contingent on informational triggers, strategic questions, and information conflicts. However, given their qualitative methodological approach, these authors were limited in their ability to quantitatively assess differing intangible resource stocks possessed by strategic decision makers. We extend the conceptual model presented by Kirtley and Mahony (*forthcoming*) by identifying the role that intangible resource stocks play in strategic pivoting. Thus, our research extends prior pivoting work and offers a complimentary advancement for both theory and practice on pivoting. Second, the findings of this study contribute to the recent focus on the importance of pivoting for both theory and practice (Arteaga and Hyland, 2013; Grimes, 2018; Ries, 2011) by offering important insights into the resource-based drivers of pivoting, as well as distinct aspects of pivoting (pivot decision and pivot speed). Specifically, our results showing that intangible resources can accelerate decision speed have important implications for decision makers in early stage ventures. Decision speed can be especially important to early stage ventures, which frequently seek to exploit the agility granted by their relative smallness (Chen and Hambrick, 1995; Katila & Shane, 2005) and that often must make fast decisions in response to environmental conditions (Eisenhardt, 1989; Judge and Miller, 1991). Given that speed is a key source of competitive advantage for ventures (Chen *et al*., 2010; Katila *et al*., 2012), early stage entrepreneurs would do well to utilize their experience and information derived from social ties when enacting fast paced change. Taken together, our study increases the developing understanding of the temporal antecedents of pivoting, building directly on prior work that has argued that pivots tend to unfold over time (Kirtley and Mahony, *forthcoming*).

Finally, because early stage entrepreneurs and creative workers are known to operate under tangible resource constraints, how intangible resources are utilized is especially important in this context. Resourceful entrepreneurs are especially skilled at utilizing intangible resources toward new venture development. While prior work has shown that the possession of intangible resources enable effective responses to failures and other unexpected adverse circumstances (Delmar and Shane, 2006; Dimov, 2010; Shepherd and Williams, 2014), and that resourceful individuals are able to utilize intangible resources to enact creative solutions to the challenges they face (Williams and Shepherd, 2016), prior to this study it was not clear if intangible resources would be useful for strategic decision makers attempting to enact directional change after failure. Given the challenging circumstances resourceful individuals often encounter (e.g. Williams and Shepherd, 2016), our findings suggest that human and social resources can be utilized together for decision makers dealing with failure and adversity. Further, resourcefulness seems especially important in circumstances that require fast, decisive action, such as in natural disasters (e.g. Shepherd & Williams, 2014). Thus, any resources that accelerate decision making could prove vital for reducing negative consequences. Higher levels of experience and social ties might work in tandem to expedite decision making and actions taken following disaster, helping to improve conditions for those who are adversely affected.

Researchers also suggest that an entrepreneur’s belief in their ability to influence outcomes is an important contributor to resourceful behavior ([Powell and Baker, 2011](https://www.sciencedirect.com/science/article/pii/S0167487014000063#b0285)). Our finding that psychological resources negatively interact with social and human resources to decrease the probability of pivoting decisions and decrease pivoting speed adds nuance to prior research on the role of psychological attributes in resourceful behavior. Namely, individuals with higher levels of intangible psychological resources could experience overconfidence and thus struggle to accept information suggesting a pivot is necessary. This, in turn, could reduce the utilization of other intangible resources (i.e. human and social) toward future actions and reduce decision speed on actions that are taken.

**Limitations**

Findings from our study should be understood in the context of the study's limitations. First, we did not account for other possible platforms entrepreneurs could have pivoted to. Moreover, entrepreneurs could have pivoted by staying at Kickstarter and changing some aspect of their campaign strategy. It could be argued that this option is not a “pivot” (at least not pivots at the market-level) because they are examples of re-entering the same type of platform. Pivoting to Amazon offered a discernable and optimally measurable *shift in direction* given the differences between Kickstarter and Amazon. Future research could investigate individuals who chose to pivot or make smaller strategic changes (iterations) within the same market platform to find out if discernable pivots in strategy occur and how these might differ from those that pivot to different platforms. Second, our measure of social resources did not account every type of social resource that individuals could potentially leverage. However, our operationalization was in line with prior empirical approaches and it directly related to specific social resources that individuals derived during their crowdfunding campaigns. Future research could extend our model by considering other types of social resources, including resources that emanate from sources outside of the crowdfunding campaigns. Third, because the sample came from a specific crowdfunding website, generalizability to other entrepreneurial ventures could be an issue. It is not clear if the results from our study would hold in other entrepreneurial contexts. Researchers could investigate the role resources play in pivoting in contexts where pivoting in strategy occurs frequently, such as incubators or other entrepreneurial programs supporting startups.

**Future research and practical implications**

There are several other opportunities for future research on pivoting. For instance, researchers could consider the role that gender might play in pivoting. In our model we controlled for gender based on studies that show women tend to be more successful on crowdfunding platforms than men (Johnson *et al*., 2018; Marom *et al*., 2015), and therefore women in the sample might have been closer to their outcome goals, resulting in higher motivation to continue with their projects by pivoting to Amazon. We did not find that gender played a role in pivoting decisions or pivoting speed, which could be a result of our unique sample (i.e. failed campaigns). Given that women are more likely to experience crowdfunding success, future research could investigate what effect experiencing success might have on the relationship between gender and pivoting.

Entrepreneurs and creative workers often respond to uncertain and changing circumstances by making adjustments in strategy. Nowhere is this more evident than for nascent firms that do not have well established structures or strategies and therefore have the flexibility to make such adjustments (Katila and Shane, 2005). Entrepreneurial incubators and other programs that offer support for individuals seeking to launch new ventures could offer educational programs that provide the knowledge necessary to make appropriate adjustments (pivots) in strategy during venture development. Likewise, Amezcua *et al*. (2013) found that programs offering social resources for entrepreneurs increased overall firm effectiveness during initial stages of firm development. Our findings suggest that incubators could integrate social resources with educational programs designed to assist entrepreneurs to identify pivoting and growth opportunities during the early stages of venture development.

**Conclusion**

Adopting a resource-based view offers a promising framework for future research investigating pivoting. Our findings illustrate the importance of intangible resources as drivers of post-failure pivoting decisions and pivoting speed. For entrepreneurship researchers, this suggests that a broader perspective of the role resources play in entrepreneurship should be taken to further explore the relationship between intangible resources and entrepreneurial responses to feedback (i.e. pivoting). This study offers insights into the importance of human, social, and psychological resources in individual strategic decision making during the crucial stages of early stage firm development.

**References**

Aaker, D. A., & Mascarenhas, B. 1984. The need for strategic flexibility. *Journal of Business Strategy* ***5***(2): 74-82.

Adler, P. S., & Kwon, S. W. 2002. Social capital: Prospects for a new concept. *Academy of Management Review* ***27***(1): 17-40.

Adner, R. 2002. When are technologies disruptive? A demand‐based view of the emergence of competition. *Strategic Management Journal* ***23***(8): 667-688.

Adner, R., & Zemsky, P. 2003. A demand-based view of sustainable competitive advantage: the evolution of substitution threats, resource rents and competitive positions. *Strategic Management Journal*.

Aldrich, H., & Zimmer, C. (1986). Entrepreneurship through Social Networks: The Art and Science of Entrepreneurship. *Cambridge, Massachusetts, Ballinger Publ. Company*.

Aldrich, H., Zimmer, C., & Jones, T. (1986). Small business still speaks with the same voice: a replication of ‘the voice of small business and the politics of survival’. *The Sociological Review*, *34*(2), 335-356.

Allinson, C. W., Chell, E., & Hayes, J. 2000. Intuition and entrepreneurial behaviour. *European Journal of Work and Organizational Psychology* ***9***(1): 31-43.

Allison, T. H., Davis, B. C., Webb, J. W., & Short, J. C. 2017. Persuasion in crowdfunding: an elaboration likelihood model of crowdfunding performance. *Journal of Business Venturing* ***32***(6): 707-725.

Alvarez, S. A., & Barney, J. B. 2007. Discovery and creation: alternative theories of entrepreneurial action. *Strategic Entrepreneurship Journal* ***1***(1‐2): 11-26.

Alvarez, S. A., & Busenitz, L. W. 2001. The entrepreneurship of resource-based theory. *Journal of Management* ***27***(6): 755-775.

Alvarez, S., Barney, J. B., Hitt, M. A., Ireland, R. D., Camp, S. M., & Sexton, D. L. 2002. Strategic Entrepreneurship: Creating a new mindset. 89-105

Amezcua, A. S., Grimes, M. G., Bradley, S. W., & Wiklund, J. 2013. Organizational sponsorship and founding environments: a contingency view on the survival of business-incubated firms, 1994–2007. *Academy of Management Journal* ***56***(6): 1628-1654.

Amit, R., & Schoemaker, P. J. (1993). Strategic assets and organizational rent. *Strategic Management Journal* ***14***(1): 33-46.

Anglin, A.H., Short, J. C., Drover, W., McKenny, A. F., Allison, T. H. 2018. The power of positivity? The influence of positive psychological capital language on crowdfunding performance. *Journal of Business Venturing*, ***33***(4): 470–492.

Arteaga, R., & Hyland, J. 2013. *Pivot: How top entrepreneurs adapt and change course to find ultimate success*. John Wiley & Sons: Hoboken, NJ

Avey, J. B., Reichard, R. J., Luthans, F., & Mhatre, K. H. 2011. Meta‐analysis of the impact of positive psychological capital on employee attitudes, behaviors, and performance. *Human Resource Development Quarterly* ***22***(2): 127-152.

Baker, T., & Nelson, R. E. 2005. Creating something from nothing: resource construction through entrepreneurial bricolage. *Administrative Science Quarterly*, ***50***(3): 329-366.

Bandura, A. 1991. Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes* ***50***(2): 248-287.

Baron, R. A., & Ensley, M. D. 2006. Opportunity recognition as the detection of meaningful patterns: evidence from comparisons of novice and experienced entrepreneurs. *Management Science* ***52***(9): 1331-1344.

Baron, R. A., Franklin, R. J., & Hmieleski, K. M. 2016. Why entrepreneurs often experience low, not high, levels of stress: the joint effects of selection and psychological capital. *Journal of Management* ***42***(3): 742-768.

Baum, J. A., Calabrese, T., & Silverman, B. S. 2000. Don't go it alone: alliance network composition and startups' performance in Canadian biotechnology. *Strategic Management Journal* ***21***(3): 267-294.

Becker, G. S. 1964. *Human capital theory*. New York: National Bureau of Economic Research.

Bordia, P., Hobman, E., Jones, E., Gallois, C., & Callan, V. J. 2004. Uncertainty during organizational change: types, consequences, and management strategies. *Journal of Business and Psychology* ***18***(4): 507-532.

Brown, S. L., & Eisenhardt, K. M. 1997. The art of continuous change: linking complexity theory and time-paced evolution in relentlessly shifting organizations. *Administrative Science Quarterly* ***42***(1): 1-34.

Busenitz, L. W., & Barney, J. B. 1997. Differences between entrepreneurs and managers in large organizations: Biases and heuristics in strategic decision-making. *Journal of Business Venturing* ***12***(1): 9-30.

Buttice, V., Colombo, M. G., & Wright, M. 2017. Serial crowdfunding, social capital, and project success. *Entrepreneurship Theory and Practice* ***41***(2): 183-207.

Calic, G., & Mosakowski, E. 2016. Kicking off social entrepreneurship: how a sustainability orientation influences crowdfunding success. *Journal of Management Studies* ***53***(5): 738-767.

Campbell B.A. 2013. Earnings Effects of Entrepreneurial Experience: evidence from the semiconductor industry. *Management Science* **59**(2): 286–304.

Cardon, M. S., & McGrath, R. G. 1999. When the going gets tough... Toward a psychology of entrepreneurial failure and re-motivation. *Frontiers of Entrepreneurship Research* ***29***(4): 58-72.

Cardon, M. S., Stevens, C. E., & Potter, D. R. 2011. Misfortunes or mistakes?: Cultural sensemaking of entrepreneurial failure. *Journal of Business Venturing* ***26***(1): 79-92.

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. *Journal of Business Venturing* ***20***(1): 23-45.

Castanias, R. P., & Helfat, C. E. 2001. The managerial rents model: theory and empirical analysis. *Journal of Management* ***27***(6): 661-678.

Chandler, G. N., & Hanks, S. H. 1994. Market attractiveness, resource-based capabilities, venture strategies, and venture performance. *Journal of Business Venturing* ***9***(4): 331-349.

Chatain, O., & Meyer‐Doyle, P. 2017. Alleviating managerial dilemmas in human‐capital‐intensive firms through incentives: evidence from M&A legal advisors. *Strategic Management Journal* ***38***(2): 232-254.

Chen, G., Crossland, C., & Luo, S. 2015. Making the same mistake all over again: CEO overconfidence and corporate resistance to corrective feedback. *Strategic Management Journal* ***36***(10): 1513-1535.

Chen, M. J., & Hambrick, D. C. 1995. Speed, stealth, and selective attack: how small firms differ from large firms in competitive behavior. *Academy of Management Journal* ***38***(2): 453-482.

Chen, M.-J., Lin, H.-C. & Michel, J. G. 2010. Navigating in a hypercompetitive environment: the roles of action aggressiveness and TMT integration. *Strategic Management Journal* **31**: 1410–30.

Ciuchta, M. P., Letwin, C., Stevenson, R. M., & McMahon, S. R. 2016. Regulatory focus and information cues in a crowdfunding context. *Applied Psychology* ***65***(3): 490-514.

Coleman, J. S. 1988. Social capital in the creation of human capital. *American Journal of Sociology* ***94***: S95-S120.

Connor, K. 1991. A historical comparison of resource-based theory and five schools of thought within industrial organization economics: do we have a new theory of the firm? *Journal of Management* ***17***(1) 121-154.

Contigiani, A., & Levinthal, D. A. 2019. Situating the construct of lean start-up: adjacent conversations and possible future directions. *Industrial and Corporate Change* **28**(3), 551-564.

Cooper, A. C., Gimeno-Gascon, F. J., & Woo, C. Y. 1994. Initial human and financial capital as predictors of new venture performance. *Journal of Business Venturing* ***9***(5): 371-395.

Cope, J. 2011. Entrepreneurial learning from failure: an interpretative phenomenological analysis. *Journal of Business Venturing* ***26***(6): 604-623.

Csikszentmihalyi, M., & Hunter, J. 2003. Happiness in everyday life: the uses of experience sampling. *Journal of Happiness Studies* ***4***(2): 185-199.

Davidsson, P., & Honig, B. 2003. The role of social and human capital among nascent entrepreneurs. *Journal of Business Venturing* ***18***(3): 301-331.

Deakin, J., Aitken, M., Robbins, T., & Sahakian, B. J. 2004. Risk taking during decision-making in normal volunteers changes with age. *Journal of the International Neuropsychological Society* ***10***(4): 590-598.

Delmar, F., & S. Shane. 2006. Does Experience Matter? The effect of founding team experience on the survival and sales of newly founded ventures *Strategic Organization* ***4***(3): 215–247.

Diener, C. I., & Dweck, C. S. 1978. An analysis of learned helplessness: continuous changes in performance, strategy, and achievement cognitions following failure. *Journal of Personality and Social Psychology* ***36***(5): 451.

Dimov, D. 2010. Nascent entrepreneurs and venture emergence: opportunity confidence, human capital, and early planning. *Journal of Management Studies* ***47***(6): 1123-1153.

Eggers, J. P., & Kaul, A. 2018. Motivation and ability? A behavioral perspective on the pursuit of radical invention in multi-technology incumbents. *Academy of Management Journal* ***61***(1): 67-93.

Eggers, J. P., & Song, L. 2015. Dealing with failure: serial entrepreneurs and the costs of changing industries between ventures. *Academy of Management Journal* ***58***(6): 1785-1803.

Eisenhardt, K. M. 1989. Making fast strategic decisions in high-velocity environments. *Academy of Management Journal* ***32***(3): 543-576.

Evans, J. S. 1991. Strategic flexibility for high technology maneuvers: a conceptual framework. *Journal of Management Studies* ***28***(1): 69-89.

Florin, J., Lubatkin, M., & Schulze, W. 2003. A social capital model of high-growth ventures. *Academy of Management Journal* ***46***(3): 374-384.

Forbes, D. P. 2005. Managerial determinants of decision speed in new ventures. *Strategic Management Journal* ***26***(4): 355-366.

Fredrickson, J. W., & Iaquinto, A. L. 1989. Inertia and creeping rationality in strategic decision processes. *Academy of Management Journal* ***32***(3): 516-542.

Gamache, D. L., McNamara, G., Mannor, M. J., & Johnson, R. E. 2015. Motivated to acquire? The impact of CEO regulatory focus on firm acquisitions. *Academy of Management Journal* ***58***(4): 1261-1282.

Goodstein, J., Gautam, K., & Boeker, W. 1994. The effects of board size and diversity on strategic change. *Strategic Management Journal* ***15***(3): 241-250.

Gopinath, C., & Becker, T. E. 2000. Communication, procedural justice, and employee attitudes: relationships under conditions of divestiture. *Journal of Management* ***26***(1): 63-83.

Griffin, D., & Tversky, A. 1992. The weighing of evidence and the determinants of confidence. *Cognitive Psychology* ***24***(3): 411-435.

Grimes, M. 2018. The pivot: how founders respond to feedback through idea and identity work. *Academy of Management Journal* ***61***(5): 1692-1717

Hambrick, D. C., & Abrahamson, E. 1995. Assessing managerial discretion across industries: a multimethod approach. *Academy of Management Journal* ***38***(5): 1427-1441.

Hatch, N. W., & Dyer, J. H. 2004. Human capital and learning as a source of sustainable competitive advantage. *Strategic Management Journal* ***25***(12): 1155-1178.

Haynie, M., & Shepherd, D. A. 2009. A measure of adaptive cognition for entrepreneurship research. *Entrepreneurship Theory and Practice* ***33***(3): 695-714.

Headd, B. 2003. Redefining business success: distinguishing between closure and failure. *Small Business Economics* ***21***(1): 51-61.

Heath, C., & Tversky, A. 1991. Preference and belief: ambiguity and competence in choice under uncertainty. *Journal of Risk and Uncertainty* ***4***(1): 5-28.

Helfat, C. E., & Martin, J. A. 2015. Dynamic managerial capabilities: review and Assessment of Managerial Impact on strategic change. *Journal of Management* ***41***(5): 1281–1312.

Helfat, C. E., & Peteraf, M. A. 2015. Managerial cognitive capabilities and the microfoundations of dynamic capabilities. *Strategic Management Journal* ***36***(6): 831-850.

Hitt, M.A., Ireland, R.D., Camp, S. M., & Sexton, D. L. 2002. Strategic entrepreneurship: integrating entrepreneurial and strategic management perspectives. In M. A. Hitt, R. D. Ireland, S. M. Camp, & D. L.Sexton (Eds.), Strategic entrepreneurship: Creating a new mindset: 1–16. Oxford: Blackwell Publishers.

Hmieleski, K. M., Carr, J. C., & Baron, R. A. 2015. Integrating discovery and creation perspectives of entrepreneurial action: the relative roles of founding CEO human capital, social capital, and psychological capital in contexts of risk versus uncertainty. *Strategic Entrepreneurship Journal* ***9***(4): 289-312.

Hofer, Charles W, & Dan Schendel. 1978. *Strategy formulation: Analytical concepts*. West Publishing

Ireland, R. D., Hitt, M. A., & Sirmon, D. G. 2003. A model of strategic entrepreneurship: The construct and its dimensions. *Journal of Management* ***29***(6): 963-989.

Johnson, M. A., Stevenson, R. M., & Letwin, C. R. 2018. A woman's place is in the startup! Crowdfunder judgments, implicit bias, and the stereotype content model. *Journal of Business Venturing* ***33***(6): 813-831.

Josefy M., Dean T.J., Albert L.S., & Fitza, M.A. 2016. The role of community in crowdfunding success: evidence on cultural attributes in funding campaigns to ‘save the local theater’. *Entrepreneurship Theory and Practice* **41**(2): 161–182.

Judge, W. Q., & Miller, A. 1991. Antecedents and outcomes of decision speed in different environmental context. *Academy of Management Journal* ***34***(2): 449-463.

Katila, R., & Shane, S. 2005. When does lack of resources make new firms innovative?. *Academy of Management Journal* ***48***(5): 814-829.

Katila, R., Chen, E. L., & Piezunka, H. 2012. All the right moves: how entrepreneurial firms compete effectively. *Strategic Entrepreneurship Journal* ***6***(2): 116-132.

Khaire, M. 2010. Young and no money? Never mind: the material impact of social resources on new venture growth. *Organization Science*, ***21***(1): 168-185.

Kirtley J, & Mahony S. 2019. What is a pivot ? Explaining when and how entrepreneurial firms decide to make strategic change and pivot. *Strategic Management Journal*. Forthcoming.

Klayman, J., Soll, J. B., González-Vallejo, C., & Barlas, S. 1999. Overconfidence: it depends on how, what, and whom you ask. *Organizational Behavior and Human Decision Processes* ***79***(3): 216-247.

Krippendorff, K. 2004. Reliability in content analysis: some common misconceptions and recommendations. *Human Communication Research* ***30***(3): 411-433.

Kuppuswamy, V., & Bayus, B. L. 2017. Does my contribution to your crowdfunding project matter?. *Journal of Business Venturing* ***32***(1): 72-89.

Leitch, C. M., McMullan, C., & Harrison, R. T. 2013. The development of entrepreneurial leadership: the role of human, social and institutional capital. *British Journal of Management* ***24***(3): 347-366.

Lichtenstein, B. M. B., & Brush, C. G. 2001. How do “resource bundles” develop and change in new ventures? A dynamic model and longitudinal exploration. *Entrepreneurship Theory and Practice* ***25***(3): 37-58.

Lin, N. 2017. Building a network theory of social capital. In *Social capital* (pp. 3-28). Routledge.

Luthans B.C., Luthans K.W., Avey J.B. 2014. Building the leaders of tomorrow: the development of academic psychological capital. *Journal of Leadership & Organizational Studies* ***21***(2): 191–199.

Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. 2007. Positive psychological capital: measurement and relationship with performance and satisfaction. *Personnel Psychology* ***60*(**3): 541-572.

Mahoney, J. T., & Pandian, J. R. 1992. The resource‐based view within the conversation of strategic management. *Strategic Management Journal* ***13***(5): 363-380.

Marom, D., Robb, A., & Sade, O. 2016\4. Gender dynamics in crowdfunding (Kickstarter): evidence on entrepreneurs, investors, deals and taste-based discrimination. SSRN Research Papers

McMullen, J. S. 2017. Are you pivoting away your passion? The hidden danger of assuming customer sovereignty in entrepreneurial value creation. *Business Horizons* ***60***(4): 427-430.

Miller, D., & Shamsie, J. 1996. The resource-based view of the firm in two environments: the Hollywood film studios from 1936 to 1965. *Academy of Management Journal* ***39***(3): 519-543.

Mintzberg, H. 1978. Patterns in strategy formation. *Management Science* ***24***(9): 934-948.

Mishina, Y., Pollock, T. G., & Porac, J. F. 2004. Are more resources always better for growth? Resource stickiness in market and product expansion. *Strategic Management Journal* ***25***(12): 1179-1197.

Mollick E., & Nanda R. 2016. Wisdom or madness? Comparing crowds with expert evaluation in funding the arts. *Management Science* ***62***(6): 1533–1553.

Mollick, E. 2014. The dynamics of crowdfunding: an exploratory study. *Journal of Business Venturing* ***29***(1): 1-16.

Molloy, J. C., Chadwick, C., Ployhart, R. E., & Golden, S. J. 2011. Making intangibles “tangible” in tests of resource-based theory: a multidisciplinary construct validation approach. *Journal of Management* ***37***(5): 1496–1518.

Morris, S. S., Alvarez, S. A., Barney, J. B., & Molloy, J. C. 2017. Firm‐specific human capital investments as a signal of general value: revisiting assumptions about human capital and how it is managed. *Strategic Management Journal* ***38***(4): 912-919.

Mosey, S., & Wright, M. 2007. From human capital to social capital: a longitudinal study of technology–based academic entrepreneurs. *Entrepreneurship Theory and Practice* ***31***(6): 909-935.

Mullins, J. W., & Forlani, D. 2005. Missing the boat or sinking the boat: a study of new venture decision making. *Journal of Business Venturing* ***20***(1): 47-69.

Newman, A., Ucbasaran, D., Zhu, F. E. I., & Hirst, G. 2014. Psychological capital: a review and synthesis. *Journal of Organizational Behavior* ***35***(S1): S120-S138.

Nohria, N., & Gulati, R. 1996. Is slack good or bad for innovation?. *Academy of Management Journal* ***39*(**5): 1245-1264.

Nutt, P. C. 1976. Models for decision making in organizations and some contextual variables which stipulate optimal use. *Academy of Management Review* ***1***(2): 84-98.

Oo, P. P., Allison, T. H., Sahaym, A., & Juasrikul, S. 2019. User entrepreneurs' multiple identities and crowdfunding performance: effects through product innovativeness, perceived passion, and need similarity. *Journal of Business Venturing* ***34***(5): 105895.

Ozgen, E., & Baron, R. A. 2007. Social sources of information in opportunity recognition: effects of mentors, industry networks, and professional forums. *Journal of Business Venturing* ***22***(2): 174-192.

Parhankangas, A., & Renko, M. 2017. Linguistic style and crowdfunding success among social and commercial entrepreneurs. *Journal of Business Venturing* ***32***(2): 215-236.

Penrose, Edith, T. 1959. *The theory of the growth of the firm*. *New York and Oxford*, *53*.

Pfeffer, J., & Villeneuve, F. 1994. *Competitive advantage through people: unleashing the power of the work force* (Vol. 61). Boston, MA: Harvard Business School Press.

Piao, M., & Zajac, E. J. 2016. How exploitation impedes and impels exploration: theory and evidence. *Strategic Management Journal* ***37***(7): 1431-1447.

Politis, D. 2008. Does prior start-up experience matter for entrepreneurs' learning? A comparison between novice and habitual entrepreneurs. *Journal of Small Business and Enterprise Development* ***15***(3), 472-489.

Powell, E. E., & Baker, T. 2011. Beyond making do: toward a theory of entrepreneurial resourcefulness. *Frontiers of Entrepreneurship Research* ***31***(12): 2.

Priem, R. L., & Butler, J. E. 2001. Is the resource-based “view” a useful perspective for strategic management research?. *Academy of Management Review* ***26***(1): 22-40.

Rafferty, A. E., & Restubog, S. L. D. 2010. The impact of change process and context on change reactions and turnover during a merger. *Journal of Management* ***36***(5): 1309-1338.

Ries, E. 2011. *The lean startup: How constant innovation creates radically successful businesses*. New York, NY: Penguin UK.

Roberts, S. J., Scherer, L. L., & Bowyer, C. J. 2011. Job stress and incivility: what role does psychological capital play?. *Journal of Leadership & Organizational Studies* ***18***(4): 449-458.

Rumelt, R. P. 1987. Theory, strategy, and entrepreneurship. *The competitive challenge* 11-32*.*

Sanchez, R. 1995. Strategic flexibility in product competition. *Strategic Management Journal* ***16***(1): 135-159.

Schoonhoven, C. B., Eisenhardt, K. M., & Lyman, K. 1990. Speeding products to market: waiting time to first product introduction in new firms. *Administrative Science Quarterly* ***35***(1): 177-207

Schweiger, D. M., & Denisi, A. S. 1991. Communication with employees following a merger: a longitudinal field experiment. *Academy of Management Journal* ***34*(**1): 110-135.

Shane, S. 2000. Prior knowledge and the discovery of entrepreneurial opportunities. *Organization Science* ***11***(4): 448-469.

Shepherd, D. A., & Williams, T. A. 2014. Local venturing as compassion organizing in the aftermath of a natural disaster: the role of localness and community in reducing suffering. *Journal of Management Studies* ***51***(6): 952-994.

Shepherd, D. A., Covin, J. G., & Kuratko, D. F. 2009. Project failure from corporate entrepreneurship: managing the grief process. *Journal of Business Venturing* ***24***(6): 588-600.

Short, J. C., Broberg, J. C., Cogliser, C. C., & Brigham, K. H. 2010. Construct validation using computer-aided text analysis (CATA) an illustration using entrepreneurial orientation. *Organizational Research Methods* ***13***(2): 320-347.

Sirmon, D. G., & Hitt, M. A. 2009. Contingencies within dynamic managerial capabilities: interdependent effects of resource investment and deployment on firm performance. *Strategic Management Journal* ***30***(13): 1375-1394.

Sirmon, D. G., Hitt, M. A., & Ireland, R. D. 2007. Managing firm resources in dynamic environments to create value: looking inside the black box. *Academy of Management Review* ***32***(1): 273-292.

Starr, J. A., & MacMillan, I. C. 1990. Resource cooptation via social contracting: resource acquisition strategies for new ventures. *Strategic Management Journal*, ***11***: 79-92.

Staw, B. M. 1991. Dressing up like an organization: when psychological theories can explain organizational action. *Journal of Management* ***17***(4): 805-819.

Stevenson, R. M., Ciuchta, M. P., Letwin, C., Dinger, J. M., & Vancouver, J. B. 2019b. Out of control or right on the money? Funder self-efficacy and crowd bias in equity crowdfunding. *Journal of Business Venturing* ***34***(2): 348-367.

Stevenson, R. M., Kuratko, D. F., & Eutsler, J. 2019a. Unleashing main street entrepreneurship: crowdfunding, venture capital, and the democratization of new venture investments. *Small Business Economics* ***52***(2): 375-393.

Tushman, M. L., & Rosenkopf, L. 1996. Executive succession, strategic reorientation and performance growth: a longitudinal study in the US cement industry. *Management Science* ***42***(7): 939-953.

Unger, J. M., Rauch, A., Frese, M., & Rosenbusch, N. 2011. Human capital and entrepreneurial success: a meta-analytical review. *Journal of Business Venturing* ***26***(3): 341-358.

Uotila, J., Maula, M., Keil, T., & Zahra, S. A. 2009. Exploration, exploitation, and financial performance: analysis of S&P 500 corporations. *Strategic Management Journal* ***30***(2): 221-231.

Vancouver, J. B., & Purl, J. D. 2017. A computational model of self-efficacy’s various effects on performance: Moving the debate forward. *Journal of Applied Psychology* ***102***(4), 599-621.

Virany, B., Tushman, M. L., & Romanelli, E. 1992. Executive succession and organization outcomes in turbulent environments: an organization learning approach. *Organization Science* ***3***(1): 72-91.

Weber, R. P. 1990. *Basic Content Analysis* (Vol. 49). Sage: Beverly Hills, CA.

Weick, K. 1996. Enactment, and the boundaryless career: Organizing as we work. In M. B. Arthur & D. M.Rousseau (Eds.),The boundaryless career. Oxford University Press:.New York; 40-57

Wernerfelt, B. 1984. A resource‐based view of the firm. *Strategic Management Journal* ***5***(2): 171-180.

Westhead, P., Ucbasaran, D., & Wright, M. 2009. Information search and opportunity identification: the importance of prior business ownership experience. *International Small Business Journal* ***27***(6): 659-680.

Wiklund & Shepherd. 2009. The effectiveness of alliances and acquisitions: the role of resource combination activities. *Entrepreneurship Theory and Practice* ***33***(1): 193-212.

Wiklund, J., & Shepherd, D. 2003. Knowledge‐based resources, entrepreneurial orientation, and the performance of small and medium‐sized businesses. *Strategic Management Journal* ***24***(13): 1307-1314.

Wiklund, J., & Shepherd, D. A. 2009. The effectiveness of alliances and acquisitions: the role of resource combination activities. *Entrepreneurship Theory and Practice* ***33***(1): 193-212.

Wiklund, J., Baker, T., & Shepherd, D. 2010. The age-effect of financial indicators as buffers against the liability of newness. *Journal of Business Venturing* ***25***(4): 423-437.

Williams T.A, & Shepherd D.A. 2016. Building resilience or providing sustenance: different paths of emergent ventures in the aftermath of the Haiti earthquake. *Academy of Management Journal* **59**(6): 2069-2102

Wright, M., Hmieleski, K. M., Siegel, D. S., & Ensley, M. D. 2007. The role of human capital in technological entrepreneurship. *Entrepreneurship Theory and Practice* ***31***(6): 791-806.

Wright, M., Westhead, P., & Sohl, J. 1998. Editors’ introduction: habitual entrepreneurs and angel investors. *Entrepreneurship Theory and Practice* ***22***(4): 5-22.

Xia, J., Tan, J., & Tan, D. 2008. Mimetic entry and bandwagon effect: the rise and decline of international equity joint venture in China. *Strategic Management Journal* ***29*(**2): 195-217.

Zimmerman, M. A., & Zeitz, G. J. 2002. Beyond survival: achieving new venture growth by building legitimacy. *Academy of Management Review* ***27***(3): 414-431.



Figure 1 Plot of the cumulative survival probability of time taken to pivot (i.e. pivot speed)

Table 1 Descriptive statistics

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 1.Post-failure pivot | 1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.Pivot speed (in days) | -0.89 | 1 |  |  |  |  |  |  |  |  |  |  |  |
| 3.Intangible human resources | 0.06 | -0.05 | 1 |  |  |  |  |  |  |  |  |  |  |
| 4.Intangible social resources  | 0.02 | 0.00 | 0.03 | 1 |  |  |  |  |  |  |  |  |  |
| 5.Intangible psychological resources | 0.03 | -0.03 | -0.01 | 0.03 | 1 |  |  |  |  |  |  |  |  |
| 6.Gender | -0.02 | 0.03 | 0.11 | -0.04 | 0.02 | 1 |  |  |  |  |  |  |  |
| 7.Total funding pledged | 0.09 | -0.09 | 0.03 | 0.22 | 0.11 | 0.01 | 1 |  |  |  |  |  |  |
| 8.Campaign duration | 0.06 | 0.02 | 0.00 | 0.02 | 0.03 | 0.03 | 0.02 | 1 |  |  |  |  |  |
| 9.Reward levels | 0.01 | 0.00 | 0.00 | 0.13 | 0.26 | -0.02 | 0.17 | 0.01 | 1 |  |  |  |  |
| 10.Campaign length | 0.00 | 0.00 | 0.00 | -0.01 | -0.04 | 0.03 | -0.02 | -0.04 | -0.01 | 1 |  |  |  |
| 11.Risk taking orientation | 0.02 | -0.01 | 0.03 | 0.07 | 0.35 | 0.05 | 0.12 | 0.02 | 0.12 | 0.01 | 1 |  |  |
| 12.Promotion focus | 0.00 | 0.01 | -0.03 | 0.03 | 0.64 | 0.02 | 0.15 | 0.02 | 0.21 | 0.04 | 0.25 | 1 |  |
| 13.Explorative orientation | 0.02 | -0.02 | 0.00 | 0.08 | 0.40 | 0.05 | 0.13 | 0.04 | 0.14 | 0.00 | 0.25 | 0.29 | 1 |
| Mean | 0.18 | 1679.00 | 0.24 | 0.22 | 4.83 | 0.65 | 591.96 | 41.66 | 6.66 | 457.88 | 0.26 | 1.80 | 0.78 |
| Std Dev | 0.39 | 632.45 | 0.42 | 0.41 | 5.88 | 0.48 | 1949.00 | 17.40 | 3.39 | 493.93 | 0.64 | 2.15 | 1.52 |
| Minimum | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 4.36 | 0 | 0 | 0 | 0 | 0 |
| Maximum | 1 | 2771 | 1 | 1 | 67 | 1 | 43266 | 91 | 36 | 9031 | 6 | 22 | 17 |

Note: N=1474. 269 events occurred for pivot speed variable; the remaining 1205 cases are right censored.

Table 2 Logistic model predicting post-failure pivoting

|  |  |  |  |
| --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 |
| Intercept | -1.783(0.247)[0.00] | -1.853(0.250)[0.00] | -1.822(0.254)[0.00] |
| Gender | -0.132(0.142)[0.35] | -0.171(0.143)[0.23] | -0.173(0.144)[0.23] |
| Total funding pledged | 0.000(0.000)[0.01] | 0.000(0.000)[0.01] | 0.000(0.000)[0.01] |
| Campaign duration | 0.008(0.004)[0.04] | 0.008(0.004)[0.04] | 0.007(0.004)[0.050] |
| Reward levels | -0.002(0.021)[0.91] | -0.003(0.021)[0.89] | -0.004(0.021)[0.87] |
| Campaign length | 0.000(0.000)[0.98] | 0.000(0.000)[0.99] | 0.000(0.000)[0.91] |
| Risk taking orientation | 0.070(0.109)[0.53] | 0.063(0.110)[0.57] | 0.049(0.115)[0.67] |
| Promotion focus | -0.025(0.035)[0.47] | -0.022(0.035)[0.53] | -0.053(0.043)[0.21] |
| Explorative orientation | 0.010(0.046)[0.84] | 0.010(0.046)[0.83] | 0.005(0.049)[0.91] |
| Intangible human resources (H1a) |  | 0.372(0.153)[0.02] | -0.062(0.253)[0.81] |
| Intangible social resources |  |  | -0.251(0.274)[0.36] |
| Intangible psychological resources |  |  | 0.014(0.016)[0.38] |
| Intangible human resources X intangible social resources (H2a) |  |  | 1.066(0.521)[0.04] |
| Intangible human resources X intangible psychological resources |  |  | 0.325(0.154)[0.04] |
| Intangible social resources X intangible psychological resources |  |  | 0.147(0.155)[0.34] |
| Intangible psychological resources X intangible human resources X intangible social resources (H3a) |  |  | -0.752(0.403)[0.06] |
| Likelihood Ratio | 16.062 | 21.765 | 30.225 |
| Wald | 14.132 | 19.734 | 28.661 |

Note: N=1474. Standard errors are in parentheses. P-values are between square brackets.

Table 3 Cox proportional hazard model predicting pivot speed

|  |  |  |  |
| --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 |
| Gender | -0.117(0.127)[0.36] | -0.154(0.128)[0.23] | -0.146(0.128)[0.25] |
| Total funding pledged | 0.000(0.000)[0.00] | 0.000(0.000)[0.00] | 0.000(0.000)[0.00] |
| Campaign duration | 0.006(0.003)[0.06] | 0.006(0.003)[0.06] | 0.006(0.003)[0.09] |
| Reward levels | 0.000(0.018)[0.99] | 0.000(0.018)[0.99] | -0.001(0.018)[0.95] |
| Campaign length | 0.000(0.000)[0.99] | 0.000(0.000)[0.99] | 0.000(0.000)[0.93] |
| Risk taking orientation | 0.056(0.095)[0.55] | 0.049(0.096)[0.61] | 0.038(0.100)[0.70] |
| Promotion focus | -0.022(0.031)[0.47] | -0.021(0.031)[0.50] | -0.046(0.037)[0.22] |
| Explorative orientation | 0.011(0.041)[0.78] | 0.013(0.041)[0.74] | 0.008(0.043)[0.85] |
| Intangible human resources (H1a) |  | 0.339(0.135)[0.01] | -0.024(0.220)[0.91] |
| Intangible social resources |  |  | -0.295(0.255)[0.25] |
| Intangible psychological resources |  |  | 0.011(0.014)[0.43] |
| Intangible human resources X intangible social resources (H2a) |  |  | 0.943(0.448)[0.04] |
| Intangible human resources X intangible psychological resources |  |  | 0.265(0.121)[0.03] |
| Intangible social resources X intangible psychological resources |  |  | 0.192(0.145)[0.19] |
| Intangible psychological resources X intangible human resources X intangible social resources (H3a) |  |  | -0.666(0.345)[0.05] |
| Likelihood Ratio | 14.338 | 20.311 | 28.854 |
| Wald | 20.851 | 27.512 | 38.520 |

Note: N=1474. 269 events occurred for pivot speed variable; the remaining 1205 cases are right censored. Standard errors are in parentheses. P-values are between square brackets. SAS PHREG procedure is performed.

1. The publishing industry allowed us to compare “apples to apples” or more literally “books to books.” The commercial book market is unique because close to 90% of commercial activity for this product category takes place on one central marketplace (Amazon.com). In contrast, had we considered a different category (e.g., Design & Tech), which has numerous different types of products and several different physical and online marketplaces, we would have been limited in our ability to track and compare post-failure commercial success of products relative to each other. [↑](#footnote-ref-1)
2. Kickstarter charges between 8-10% of funding raised (assuming fundraising goals have been met). [↑](#footnote-ref-2)
3. Our Amazon sample consists of hard copy books only to account for the potential ease of Kindle based publishing; Kindle publishing requires very little upfront personal investment [↑](#footnote-ref-3)
4. Amazon appropriates $1.20 per book sold plus 15% of the book cost, along with additional fees for storage, packing, and shipping [↑](#footnote-ref-4)
5. Statistics provided in this paragraph can be found at:

<https://www.kickstarter.com/help/fees?ref=faq-basics_fees>

[https://authorcentral.amazon.com/gp/help/ref=AC\_CU\_Books-notavail-oop-dyk?topicID=200650270](https://authorcentral.amazon.com/gp/help/ref%3DAC_CU_Books-notavail-oop-dyk?topicID=200650270) [↑](#footnote-ref-5)