**WHAT ARE WE EXPLAINING?**

**A REVIEW AND AGENDA ON INITIATING, ENGAGING, PERFORMING, AND CONTEXTUALIZING ENTREPRENEURSHIP**

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**ABSTRACT**

Entrepreneurship is multifaceted. The purpose of this review is to acknowledge and critically assess the many and varied dependent variables (DVs) of entrepreneurship over the last 17 years. By focusing exclusively on systematically reviewing entrepreneurship’s DVs, this paper maps out, classifies, and provides order to the phenomena that scholars consider part of this self-defined field of research. Using a systematic selection process and an inductive approach to categorization, we offer a meta-framework for organizing entrepreneurship’s DVs. Based on this meta-framework, entrepreneurship involves the (a) initiation, (b) engagement, and (c) performance of entrepreneurial endeavors embedded in (d) environmental conditions, in which an entrepreneurial endeavor is the investment of resources into the pursuit of a potential opportunity. For each category, we offer both a review of the different DVs and opportunities for future research.

***Keywords***: Entrepreneurship; Dependent Variables; Initiating; Engaging; Performing; Contextualizing

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In 2001, Bill Gartner noted that “entrepreneurship espouses a diverse range of theories applied to various kinds of phenomena. There is no theory of entrepreneurship that can account for the diversity of topics that are currently pursued by entrepreneurship scholars” Gartner, 2001: 34). The situation is similar today. Each scholar contributes to the knowledge of entrepreneurship but more so if the pieces of the puzzle come together. By reviewing the different pieces and starting to put them together, each scholar gains a more general understanding that informs his or her subsequent investigations. The purpose of this paper is to give a big picture perspective to highlight what we know and what we do not know about entrepreneurship research. Rather than contributing to any specific theory or sub-field of entrepreneurship (a piece of the puzzle), we intend to contribute to the wider entrepreneurship literature (the puzzle as a whole). This is a challenging task given entrepreneurship’s many dependent variables (DVs).

Indeed, at a gathering of strategy and entrepreneurship scholars, a strategy scholar approached the first author with the following: “You [entrepreneurship] have many different DVs [dependent variables]. Strategy has performance as its DV. Entrepreneurship needs an overall DV.” It appeared that he felt sorry for us entrepreneurship scholars representing a field that lacked a single unifying DV. The first author’s response was along the lines of, “Yes, we have many different DVs; isn’t it great!” The conversation ended as quickly as it started, but its gist was impactful. Yes, strategic management relies primarily on explaining firm performance or some antecedent thereof (e.g., Wiersema & Bowen, 2009). But entrepreneurship is different; it is multifaceted and manifested in many different ways. And that is a good thing!

The purpose of this review is to organize the many and varied DVs of entrepreneurship and to offer some important opportunities for future research. Thus, it is an examination of what entrepreneurship scholars attempt to explain. It is not a review of the relationships involving these DVs—such a review would involve the field’s entire body of knowledge. It does not explain the creation or formation of these DVs. Rather, we hope that this filtered snapshot of the entrepreneurship field’s terrain can provide a basis for making sense of where the field currently stands, the position of a study vis-à-vis other studies, and identify relatively unexplored terrain.

We start our review in the year 2001. Apart from marking the start of the new millennium, this allows us to take off from where the influential special issue published in ETP in 2001 “Low and MacMillan ten years on: Achievements and future directions for entrepreneurship research” finished. We encourage readers to consult this special issue (including Gartner [2001] that provided our opening quote) to gain a complete picture of the intellectual foundation on which current research rests. 2001 also marks the year following Shane and Venkataraman (2000), which was influential in subsequent scholarly conversations in entrepreneurship, and thus the results of our review. The research reviewed does not occur in a vacuum; it built on prior insights and embedded in larger societal trends and developments. Both are important in explaining *why* scholars focus on the DVs that they do. The extensive scope of our review does not allow us to systematically explicate all such connections to past research and current trends. However, when appropriate to contextualize our analysis, we offer such connections. For example, we note that crowdfunding is a recent phenomenon and therefore related DVs have only been studied in the last few years.

This review of entrepreneurship’s DVs provides three primary contributions. First, we offer a meta-framework that synthesizes the DVs of entrepreneurship research over the past 17 years. Based on the literature, we identify three overarching themes and label and sort DVs into categories within each theme. This framework allows us to organize an unwieldy field and assist scholars in situating their research within the existing body of knowledge. Second, the review allows us to identify gaps regarding our current understanding of the phenomena and offer a number of future research opportunities. Third, previous research has largely taken a top-down approach to define the field (Shane & Venkataraman, 2000; Venkataraman, 1997), its uniqueness (Gartner, 1990), and what should (Shepherd, 2015) and should not (Davidsson, 2017) be the focus of entrepreneurship research. In this review, we offer a different approach. Our meta-framework arises from an inductive review of the studies that self-report as entrepreneurship. Therefore, we do not enforce our opinion of what constitutes entrepreneurship; rather we reflect the opinions of those who create the knowledge. Of course, the review still involves judgment and choices especially in proposing future research opportunities. We do not seek to distinguish entrepreneurship from other scholarly domains because we have a different purpose—we want to capture and represent the “lay of the land” currently staked out by self-reported entrepreneurship studies and also identify fertile lands for future exploration. Finally, we highlight how entrepreneurship’s DVs provide vitality to a field that draws on a highly diverse set of theories, methods, and scholars.

**REVIEW APPROACH**

We started by casting a wide net: all papers that self-report as entrepreneurship (using the term “entrepreneur\*”) in the title, keywords, or abstract of top journals in entrepreneurship (*Entrepreneurship Theory and Practice, Journal of Business Venturing, Small Business Economics*, and *Strategic Entrepreneurship Journal*) and in management (*Academy of Management Journal, Academy of Management Review, Administrative Science Quarterly, Journal of Management, Journal of Management Studies*, and *Organization Science*) since 2001. This search produced 1,041 papers. We reviewed the abstract of each paper to determine its suitability for inclusion in the review. We rejected 101 papers because they were introductions to special issues, review papers, research methods papers, or did not have entrepreneurship as their stated focus. Because variance-based papers focus on DVs and process papers do not (Langley, Smallman, Tsoukas & Van de Ven, 2013), we excluded 22 papers that were exclusively process oriented. We reviewed each of the remaining 918 papers to generate a meta-framework to organize the review and provide a springboard for future research. Specifically, we read key sections of the papers and sorted them into rough categories, which we assigned among the coauthors based on their area of expertise.

We then read the papers within each category and copied variable descriptions and other central information into Excel sheets. We added columns describing the dependent variable(s) and classified them into sets—‘first-order categories’—and then aggregated these sets into broader themes. During this process, we iteratively adjusted labels and re-classified papers until there was agreement amongst the author team that the sets and the themes made sense. We then linked the themes to form a meta-framework.

We made a number of decisions in conducting the review. First, we focused on the primary DV of a particular study (when applicable). For example, while a mediating variable is the DV for one variable and the IV of another, we focused on the ultimate outcome variable for the study. For studies that had multiple DVs (as ultimate outcomes), we included each of the DVs in the review. Second, as mentioned above, we excluded process studies in which it was not possible to determine a DV. Our review may thus under-represent explanations of the sequences of entrepreneurial endeavors. Third, we focused our review on papers from 2001 and onwards. Although this somewhat limits our ability to detect and discuss long-term trends, much has happened over the last 17 years, and we offer some discussion of changes over this period. Moreover, by focusing on recent research, we by no means wish to de-emphasize the work in the development of the field in the previous millennium. Rather, we acknowledge that the pre-2001 entrepreneurship studies lay a solid foundation for the studies we reviewed. Finally, although we reviewed all papers, we did not cite them all because doing so would increase the length of the article without a corresponding increase in information.

**Organizing the Review**

In Figure 1, we offer a meta-framework for organizing entrepreneurship’s DVs. Based on this meta-framework, **entrepreneurship** *involves the initiation, engagement, and performance of entrepreneurial endeavors embedded in environmental conditions, where an entrepreneurial endeavor is the investment of resources (i.e., cognitive, behavioral, financial, and/or other resources) into the pursuit (exploration and/or exploitation) of a potential opportunity.*

The first stage of the meta-framework is the *initiation of* *entrepreneurial endeavors*—the first steps (cognitively, affectively, and/or behaviorally) of identifying (through recognition or co-creation) and evaluating a potential opportunity before full-scale exploitation. The second state is the *engagement in entrepreneurial endeavors*—the cognitive, affective, behavioral, and/or organizational activities of involvement in the process of exploiting a potential opportunity. The third stage is the *performance of entrepreneurial endeavors*—the accomplishments (or lack thereof) from exploiting a potential opportunity or multiple potential opportunities. All of the above is embedded in an *environment of entrepreneurial endeavors*—the context (environment external to) in which the entrepreneurial actor is nested. This meta-framework of entrepreneurship research serves the purpose of offering a parsimonious, big picture of entrepreneurship research to organize the current literature.

In Figure 2, we build on the meta-framework of entrepreneurship’s DVs to highlight the opportunities for future research discussed in our review. The bullet points represent our suggestions for future entrepreneurship research. We also highlight suggestions for future entrepreneurship research across stages by the dashed arrows, which indicate the iterative and dynamic nature of entrepreneurship and how the DVs of one stage can be the IVs of future studies of different stages (and vice versa).

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Insert Figure 1 and 2 about here

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**DVs FOR THE INITIATION OF ENTREPRENEURIAL ENDEAVORS**

**Literature Review**

Entrepreneurship research has been interested in explaining the *initiation of* *entrepreneurial endeavors*—the first steps (cognitively, affectively, and/or behaviorally) of identifying (through recognition or co-creation) and evaluating a potential opportunity before full-scale exploitation. DVs capturing these initial steps are those related to (1) entrepreneurial cognitions about opportunity, (2) entrepreneurial cognition on other initiations, (3) entrepreneurial intention, (4) entrepreneurial motivation, (5) entry, and (6) distinctive groups of initiating endeavors.

First, research on the DVs of *entrepreneurial cognitions on opportunity* includes opportunity identification, opportunity evaluation, and related processes.[[1]](#footnote-1) Opportunity identification—the belief that one has discovered or can create a new product-market (or service-market) combination that, when exploited, will add value for the actor and/or others—has been investigated in terms of opportunity recognition (Ardichvili, Cardozo & Ray, 2003), discovery (Ozgen & Baron, 2007), and formation (McMullen & Shepherd, 2006; Shepherd, McMullen & Jennings, 2007). Empirically, studies have investigated opportunity identification regarding the number of ideas (Gielnik, Frese, Graf & Kampschulte, 2012) and the number of (potential) opportunities (Gruber, MacMillan & Thompson, 2012; Shepherd & DeTienne, 2005). Opportunity evaluation—the assessment of the extent to which exploiting a particular new product-market (or service-market) combination will add value for the actor and/or others—has been investigated in terms of market attractiveness (Grandi & Grimaldi, 2005; Haynie, Shepherd & McMullen, 2009; Wood & Williams, 2014), wealth-creating potential (Fiet, 2007), and sustainable development (Patzelt & Shepherd, 2011).

Research has also explored entrepreneurial processes—sequences of cognitions, activities, and resources for identifying and evaluating a potential opportunity. For example, Gregoire, Barr, and Shepherd (2010) explained the process of aligning structural relationships of the market and a technology (vis-à-vis superficial features); Hayton and Cholakova (2012) investigated the aspects of the entrepreneurial idea–development process; and Auerswald (2008) modeled new combinations of organizational production routines as a potential opportunity source. Other studies have attended to DVs highlighting heterogeneity in entrepreneurial alertness (i.e., alertness to opportunity) (Ozgen & Baron, 2007; Valliere, 2013), attributions made about opportunities (internal versus external and stable versus variable) (Gartner, Shaver & Liao, 2008), the willingness to accept risk (Mullins & Forlani, 2005) and/or uncertainty (Kuechle, Boulu-Reshef & Carr, 2016; McKelvie, Haynie & Gustavsson, 2011; Wood, McKelvie & Haynie, 2014) associated with pursuing potential opportunities.[[2]](#footnote-2)

Second, research on *entrepreneurial cognition* has included aspects *other* than those directly related to opportunity. These studies have DVs related to the cognitive construction of business models between high- and low-profit businesses (Malmström, Johansson & Wincent, 2015) as well as whether entrepreneurial proclivity is inherited (Ellis, et al., 2017). Also, Baron (2008: 334-335) proposed a series of DVs, some of which are related to cognition, including alertness and tolerance for high stress, and Lerner (2016) explored others’ beliefs about entrepreneurs’ cognitions regarding their generative and administrative qualities. With both a cognitive and a behavioral component, studies have investigated entrepreneurial search as a DV—activities for detecting, accumulating, and interpreting information about the attractiveness of a potential opportunity—including how and where to search (Dimov, 2007; Fiet, 2007), when to stop searching (Fiet, Piskounov & Patel, 2005), and ideas generated or identified through search (Fiet & Patel, 2008). Searching for and finding venture ideas can lead to the exploitation of a potential opportunity (De Carolis & Saparito, 2006) and increase entrepreneurs’ likelihood of acting on subsequent potential opportunities (Wood, Williams & Drover, 2017).

Third, studies of *entrepreneurial intention—*the commitment to take active steps toward an entrepreneurial endeavor—an endeavor that includes self-employment (Dohse & Walter, 2012; Erikson, 2002) or the pursuit of an opportunity (Lee & Venkataraman, 2006) by starting a new business (Bullough, Renko & Myatt, 2014) or by conducting entrepreneurial activities in an established organization (Fini, Grimaldi, Marzocchi & Sobrero, 2012; Fitzsimmons & Douglas, 2011). Sometimes, scholars use entrepreneurial intention as a proxy for behavior. This use of intention as a proxy for behavior is not necessarily a wise practice given that many individuals form entrepreneurial intentions, but only a small minority turn their intentions into actions (Van Gelderen, Kautonen, & Fink, 2015). Critical to entrepreneurial intention is the notion of *entrepreneurial self-belief*—an individual’s confidence in his or her ability to successfully identify, evaluate, and exploit a potential opportunity that is consistent with perceptions of “who am I” and “who I want to be.” Such investigations have studied DVs like entrepreneurial self-image (Verheul, Uhlaner & Thurik, 2005), the ability to sustain confidence and flexibility to adapt (Miller & Sardais, 2015), and entrepreneurs’ self-views after experiencing failure (Shepherd & Haynie, 2011). Moreover, given its frequent use as an independent variable, Forbes (2005) investigated entrepreneurial self-efficacy—the belief that one will be successful at entrepreneurial tasks—as a DV.

Fourth, *motivation research* in the initiation stage—the desire or willingness to initiate an entrepreneurial endeavor—has explored entrepreneurial goalsby examining the extent to which wealth creation is a central goal of entrepreneurship (Amit, MacCrimmon, Zietsma & Oesch, 2001; McCaffrey, 2014); the extent to which businesses care for the environment (Horisch, Kollat, & Brieger, 2017; Patzelt & Shepherd, 2011); and have goals to create economic, social, or environmental value (Hechavarría, Terjesen, Ingram, Renko, Justo & Elam, 2017) or to make a change in the world by creating something new (Wyrwich, 2015). Also, scholars have examined the difficulty of the goals entrepreneurs set for themselves (Baron, Mueller & Wolfe, 2016). This stream of motivation research has also explored aspirations, including the practicing entrepreneurs’ development aspirations (Doern & Goss, 2014), aspirations for growth (Wiklund & Shepherd, 2003), and entrepreneurs’ inclination to persevere with current exploration activities (Muehlfeld, Urbig & Weitzel, 2015). Others have examined aspirations for corporate entrepreneurship among engineers and scientists within established firms (Marvel & Lumpkin, 2007) and members within family businesses (Minola, Brumana, Campopiano, Garrett & Cassia, 2016). Also, research has investigated entrepreneurs’ aspirations to pursue political appointments (Li & Liang, 2015), the entrepreneurial aspirations of ethnic minorities (Thomas, 2009), and regional differences in entrepreneurial aspirations (Harada, 2005).

Fifth, a common DV is *entry*—undertaking organized activities— such as individuals’ entry into self-employment (e.g., Caliendo, Fossen & Kritikos, 2014) or status as a self-employed person (Obschonka & Stuetzer, 2017) in both small proprietorships or hobby firms (Kim, Longest & Lippmann, 2015) and in incorporated (Özcan, 2011) and venture-backed (Beckman, 2006) firms. These entry studies have investigated entrepreneurs’ creation of new for-profit (Eesley, 2016) and non-profit (Dutta, 2017) organizations (or their takeover of existing organizations [Parker & van Praag, 2012]) and have distinguished between entrepreneurs’ part-time and full-time entry (Folta, Delmar & Wennberg, 2010). Studies have also investigated team entry (Ruef, Aldrich & Carter, 2003) to create new organizations (De Carolis, Litzky & Eddleston, 2009; Patel & Fiet, 2009) and to facilitate the emergence of new organizations (Haveman, Habinek & Goodman, 2012; Newbert & Tornikoski, 2012; Parker & Belghitar, 2006), including speed through the new venture process (Kim et al., 2015). Research has also looked at *re-entry* regarding subsequent new venture creation by individuals who become serial/habitual (Amaral, Baptista & Lima, 2011) or portfolio entrepreneurs (Wiklund & Shepherd, 2008), including re-entry by those whose businesses previously failed (Simmons, Wiklund & Levie, 2014). Entry (or re-entry) may arise from employees deciding to participate in corporate venturing programs (Monsen, Patzelt & Saxton, 2010) and can be into more or less difficult markets (Cain, Moore & Haran, 2015; Moore, Oesch & Zietsma, 2007).

Finally, scholars have used DVs to reflect differences in *groupings* of individuals taking the initial steps of the entrepreneurial endeavor. A large number of studies have compared male and female entrepreneurs in their initiation of entrepreneurial endeavors in terms of ownership rates (Bullough, Renko & Abdelzaher, 2017), latent and nascent entrepreneurship rates (Bönte & Piegeler, 2013), credit success (Kim, 2006), micro-finance borrowing (Brana, 2013), conversion of intentions to action (van der Zwan, Verheul & Thurik, 2012), motivation (DeMartino & Barbato, 2003), opportunity identification (DeTienne & Chandler, 2007), opportunity evaluation (Gupta, Goktan & Gunay, 2014), personality and other demographics (Cowling & Taylor, 2001; Jennings & McDougald, 2007), propensity for (Adachi & Hisada, 2017), reasons for becoming self-employed (Saridakis, Marlow & Storey, 2014), and self-employment duration (Rosti & Chelli, 2005). Another stream of studies has investigated differences in groups in terms of ethnicity (US-based studies) or immigration status (Europe-based studies) in terms of entry (Fairchild, 2008), behavior (Chuah, Hoffmann, Ramasamy & Tan, 2016), personality (Aboal & Veneri, 2016), push/pull into entrepreneurship (Constant & Zimmermann, 2006), self-employment rates (Fairlie, 2004), and repeat entrepreneurship (Parker, 2014; Westhead, Ucbasaran, Wright & Binks, 2005). Additional groupings to highlight distinctions include corporate versus independent (Kacperczyk, 2012); and solo self-employed versus employer entrepreneurs (Medrano-Adán, Salas-Fumás & Sanchez-Asin, 2015). Apart from making comparisons among types of entrepreneurs, some studies have also used the individual level of analysis to compare entrepreneurs with non-entrepreneur groups, such as the general public (Beugelsdijk & Noorderhaven, 2005), employees (Medrano-Adán et al., 2015), CEOs (Dyer, Gregersen & Christensen, 2008), and franchisees (Seawright, et al., 2013).

**Future Research Opportunities**

Although research has substantially increased our knowledge of the initial steps of the entrepreneurial journey, there are many opportunities for future research to contribute to the entrepreneurship literature including research on (1) a richer and deeper investigation of opportunity, (2) a more micro-perspective of self-employment entry, and (3) an expanded range of initiation contexts.

First, despite a long-standing tradition of studying various aspects of entrepreneurial opportunity starting well before the period we have reviewed (e.g., Kirzner, 1979), there are several under-explored domains. For example, rather than viewing a potential opportunity as being exploited or not yet exploited, perhaps exploitation can be considered on a continuum or as multiple steps. Future research can explore how opportunity exploitation emerges (e.g., through the entrepreneur’s interactions with the community of inquiry [see Shepherd, 2015]) and what stages, forms, or activities this emergence takes. A more in-depth understanding of the opportunity emergence increases the chance for us (as educators) to teach entrepreneurs how to engage in this process more successfully, proceed through the process more quickly, and engage others in facilitating the process (how and when). Making such a contribution requires a scholarly focus on changes over time, which may require alternate methods and data sources.

Furthermore, the opportunity DVs in our review have largely focused at the individual level of analysis, but they need not. While collectives are often involved in the opportunity process, teams also evaluate potential opportunities and perhaps even collectively form opportunity beliefs. How do collectives evaluate opportunities, and why do some entrepreneurial teams generate different assessments than others? Similarly, how do groups formulate beliefs, and why do some groups form collective beliefs about certain opportunities whereas other groups form beliefs about different opportunities or collectively doubt the viability of potential opportunities altogether? Building on the substantial literature on teams, we have a solid foundation from which to generate new insights on collectives’ opportunity outcomes.

Second, although research has explored entry through the creation of a new organization as a series of steps of emergence ([Newbert & Tornikoski, 2012](#_ENREF_88)), research on individuals’ entry into self-employment is still largely characterized as one big step or, more recently, as a two-step procedure (Folta et al., 2010; Petrova, 2012; Raffiee & Feng, 2014). With the emergence of ‘boundaryless’ careers within and across nations, fueled by digital technologies, the boundaries between employment and entrepreneurship becomes increasingly blurred (Evans, Barley & Kunda, 2004). Entrepreneurship research could reach further by studying different types of self-employment as more or less entrepreneurial (e.g., purchasing a corner store vs. creating a new high-tech venture), along with other attributes. Research can explore how the decision processes, sequences of organizing steps, and types and sources of resources differ depending on the entrepreneurialness of the self-employment choice. The level of entrepreneurialness of entry can also apply to the creation of new ventures (de novo or de alio) and becomes particularly interesting in the context of serial entrepreneurs—what is the pattern of their entrepreneurialness of entry over time, and do portfolio entrepreneurs think about constructing a portfolio based on ventures with varying (or similar) levels of entrepreneurialness?

Moreover, much of the research in this theme has worked from the assumption that entrepreneurs’ entry mindset informs their entry decisions and actions. However, an entry mindset could also be a consequence of entry—for example, the outcome of sensemaking. Perhaps entry performance leads to a change in goals and decision policies related to evaluating potential opportunities; and the generation of positive and negative emotions that broaden or constrict the mindset, respectively (see Fredrickson, 1998). Moreover, what role—if any—does an entry mindset play in exit or termination decisions? Perhaps for many, an entry mindset conflicts with and dominates an exit mindset (e.g., the escalation of commitment), but for some, the two mindsets may be complementary (such as with a real options reasoning [McGrath, 1999]). It could be that an entrepreneurial mindset has become more prevalent given the lowering costs of both start-up and raising funds (e.g., via crowdfunding). We need further research to understand better the nature of entrepreneurs’ entry mindset (Wood et al., 2017); the way it works; and its relationships with decisions and actions, such as exit, portfolio construction, and opportunity exploitation.

Finally, there are ample research opportunities to explore further entrepreneurial entry in specific contexts, with research on entry into informal markets being particularly promising. Micro-studies can explore why entrepreneurs choose to enter the informal economy instead of the formal economy as well as differences in entry actions, entry mindset, and entry performance in the informal economy. Macro-studies can explore how new entries impact the informal economy and the corresponding formal economy and what social impacts there are for the communities “touched” by informal entrepreneurial action. It is also important to understand what psychological, emotional, and social effects entry into the informal economy has on entrepreneurs. We realize that research on entry into the informal economy is challenging, but future research on this topic can make important contributions to our understanding of entrepreneurial phenomena.

Rather than a change in context, a shift to a micro-focus can begin to reveal the specific cogs and wheels underlying different entrepreneurial actions (e.g., see Shepherd, 2015). Indeed, by explaining specific activities or sequences of activities, we can introduce more proximal and precise DVs, which should increase the explanatory power of our models. For example, there is ample opportunity to explain the different activities that constitute the search for promising opportunities and how they fit together. For instance, what activities do entrepreneurs use to detect signals of opportunity, to accumulate information about market trends, and to facilitate interpretation of data? There is much to learn about the *practice* of entrepreneurship.

**DVs FOR THE ENGAGEMENT OF ENTREPRENEURIAL ENDEAVORS**

**Literature Review**

DVs for the engagement of entrepreneurial endeavors—the cognitive, affective, behavioral, and/or organizational activities of involvement in the process of exploiting a potential opportunity—include outcomes related to (1) engaged decision making, (2) acquiring and allocating resources, (3) entrepreneurial organizing, (4) commitment, affect, and well-being; (5) engaged learning; and (6) innovative orientation, inputs, and outcomes.

First, some studies have explained *engaged decision making—*the process of choosing a course of action by those involved in exploiting a potential opportunity—by studying DVs such as the use of effectual logic vis-à-vis causal logic (Engel, van Burg, Kleijn & Khapova, 2017; Sarasvathy, 2001), the nature and use of intuition (Dane & Pratt, 2007: 40), and the nature and use of metacognition (Haynie, Shepherd, Mosakowski & Earley, 2010). Uygur and Kim (2016) also investigated entrepreneurial decision making as both judgment selectiveness (i.e., discernment between factors) and conviction (i.e., the strength of the causal map). Ethical decision making in the entrepreneurial context has also been a topic of interest in terms of moral imagination and identity (McVea, 2009), rule breaking (Brenkert, 2009), moral disengagement (Shepherd, Patzelt & Baron, 2013), and informal entrepreneurship (Webb, Bruton, Tihanyi & Ireland, 2013). This decision making research has also investigated DVs such as investment choices (Cassar & Friedman, 2009) and other important decisions, such as time commitment (Davidsson & Gordon, 2016; Renko, Kroeck & Bullough, 2012) during the venture-creation phase, and the decision to persist despite losing courses of action (DeTienne, Shepherd & DeCastro, 2008; McMullen & Kier, 2016) or terminate the failing projects of a corporate portfolio (Behrens & Patzelt, 2016; DeTienne, McKelvie & Chandler, 2015; Shepherd, Patzelt, Williams & Warnecke, 2014) or a failing business (Shepherd, Wiklund, Haynie, 2009; or distinct forms of exit [Wennberg, Wiklund, DeTienne & Cardon, 2010]).

A number of studies have investigated DVs related to entrepreneurs’ time-related decisions, including the speed of decision making (Bakker & Shepherd, 2017; Forbes, 2005), entrepreneurs’ allocation of time to their ventures (Burmeister-Lamp, Lévesque & Schade, 2012; Lévesque & Schade, 2005), and decisions about the future in terms of growth (i.e., attitudes [Delmar & Wiklund, 2008; Wiklund, Davidsson & Delmar, 2003] and expectancies [Manolova, Carter, Manev & Gyoshev, 2007]). Indeed, decisions about the future raise the questions about the accuracy of decisions (e.g., Cassar & Craig, 2009). Studies exploring the accuracy of entrepreneurs’ decisions have focused on entrepreneurs’ susceptibility to status quo bias (Burmeister & Schade, 2007: 340), hindsight bias (Cassar & Craig, 2009: 150), over-optimism (Cassar, 2010) (see also optimism [Hmieleski & Baron, 2009; Ucbasaran, Westhead, Wright & Flores, 2010] and over-confidence [Busenitz and Barney, 1997; Hayward, Shepherd & Griffin, 2006)].

Second, in explaining *resource acquisition*—obtaining the inputs necessary for, or facilitating, an entrepreneurial endeavor—scholars have paid considerable attention to the skillful use of persuasive language in interactions with external stakeholders, particularly funders (Plummer, Allison & Connelly, 2016; Zott & Huy, 2007), to establish venture legitimacy. As such, researchers have explained the different types of meta-narratives used for legitimacy development (Ruebottom, 2013), the presentation of appropriate scenes to stakeholders (Clarke, 2011), the range of visual symbols entrepreneurs use during interactions with stakeholders (Clarke, 2011), and the way entrepreneurs set stakeholder expectations (Garud et al., 2014). Further, a number of studies have investigated how an organization’s structure conveys legitimacy in terms of identity differentiation from peers (Certo, Daily, & Dalton, 2001) and has also distinguished between women entrepreneurs who partner with men vis-à-vis women who do not partner with men (Godwin, Stevens & Brenner, 2006).

Further, an emerging stream of research has focused on how legitimation strategies vary in later stages of the entrepreneurial process for efficient *resource allocation*, i.e., the portioning and distributing of acquired resources. Karlsson and Honig (2009) demonstrated that once entrepreneurs acquire needed resources, they engage in loose coupling from their business plans and adopt new legitimation strategies. Fisher, Kuratko, Bloodgood, and Hornsby (2017) similarly observed that as an entrepreneurial venture matures, it must adapt its legitimation strategies and organizational identity to new resource providers due to the new legitimacy expectations of more sophisticated financiers. Dunkelberg, Moore, Scott, and Stull (2013) found that as entrepreneurs’ resource goals changes, so do their legitimation and resource-allocation strategies.

Moreover, research has also explained entrepreneurial fundingdecisions in terms of entrepreneurs’ preference to finance with less bank debt (Huyghebaert, Van de Gucht & Van Hulle, 2007) as well as entrepreneurs’ choices between venture capital and bank finance (De Bettignies & Brander, 2007), between venture capitalists and business angels (Fairchild, 2011), and among specific venture capitalists (Drover, Wood & Payne, 2014). Other DVs related to entrepreneurial decision making include decisions on which stock market to list on (Ding, Nowak & Zhang, 2010) and the type of contract to enter into with investors (Dushnitsky & Shapira, 2010). Research on business angels’ decisions has focused on explaining their assessments of venture performance (Bammens & Collewaert, 2014), the timing of possible investments (Maxwell, Jeffrey & Lévesque, 2011), the legitimacy of ventures seeking funding (Becker-Blease & Sohl, 2015), and the quality of their communication with entrepreneurs (Bammens & Collewaert, 2014). In terms of venture capitalists—and investors more generally—decision outcomes studied as DVs include the selection of which entrepreneurial firms to invest in (Murnieks, Cardon, Sudek, White & Brooks, 2016), evaluations of firms’ founders (Matusik, George & Heeley, 2008), their business plans (Chan & Park, 2015), and stage of investment (Hsu, 2010). Decision outcomes studied as DVs also include external actors’ funding decisions related to debt (Bruns, Holland, Shepherd & Wiklund, 2008; Rassenfosse & Fischer, 2016), including gender differences in decision criteria (Carter, et al., 2007).

In recognizing that funding can come from internal sources, research has investigated DVs related to actors’ activities to fund ongoing entrepreneurial activities. Internal sources of funding come from bootstrapping (Grichnik, Brinckmann, Singh & Manigart, 2014) as well as from entrepreneurs themselves when they re-invest in their businesses (Ge, Li, Liu & McVay, 2017). Internal funding can even come from the entrepreneur’s family, but such funding can lead the entrepreneur to feel restricted and constrained (Au & Kwan, 2009).

Third, *entrepreneurial organizing*—the activities involved in accessing and coordinating resources for exploiting a potential opportunity—often involves interacting to develop the potential opportunity (Dimov, 2007; Shepherd, 2015), to gain the support of potential partners (Dimov, 2007), to share information underlying inventions and innovations (Bercovitz & Feldman, 2008; Link & Ruhm, 2011), and to gain political access (Pinkse & Groot, 2015). Entrepreneurial organizing can involve planning (i.e., an action to facilitate subsequent actions), with DVs like the number of business-planning activities (Brinckmann & Kim, 2015) and whether a formal plan has been generated or not (Honig & Karlsson, 2004). This organizing is also reflected in the proportion of resources firms allocate to new products (Sirmon & Hitt, 2003) as well as in efforts to solve problems, such as those involved in coordinating resources and appropriating value (Alvarez & Barney, 2005), balancing transnational activities (Patel & Conklin, 2009), allocating time to specific activities (Murnieks, Mosakowski & Cardon, 2014), and forming networks (Hite, 2005). On the individual level, research has studied DVs like entrepreneurs’ intentions to form new network ties (Vissa, 2011), time spent developing and maintaining network ties (Greve & Salaff, 2003), the perceived value of new network contacts (Grossman, Yli-Renko & Janakiraman, 2012), and the addition and deletion of network contacts (Vissa, 2012). On the venture level, DVs include the choice (Hallen, 2008) and effectiveness (Hallen & Eisenhardt, 2012) of forming new ties with other firms and the choice between using networks or formal markets when approaching investors (Zhang, Souitaris, Soh & Wong, 2008).

Organizing can take many different forms. Studies have examined differences in entry (conservative versus adventurous entry strategy [(Schwienbacher, 2007)] starting versus buying [(Parker & van Praag, 2012)]), operating strategies (franchising versus internal expansion [Gonzalez-Diaz & Solis-Rodriguez, 2012]), informal business venturing (Khavul, Bruton & Wood, 2009), and on productive versus unproductive entrepreneurship at the macro level (Collins, McMullen & Reutzel, 2016). Entrepreneurship research has also examined how social entrepreneurship differs from commercial entrepreneurship (Estrin, Mickiewicz & Stephan, 2016), how social entrepreneurship can take different organizational forms [Townsend & Hart, 2008]), how it can use conformist versus insurgent strategies (Muñoz & Dimov, 2015), and how it can create different kinds of value (McMullen & Warnick, 2016; Meyskens, Robb‐Post, Stamp, Carsrud & Reynolds, 2010) for example by addressing market failures (Dean & McMullen, 2007). Scholars have made similar considerations in studies on environmental (York, O'Neil & Sarasvathy, 2016) and public-service ventures (Cabral, Lazzarini & Azevedo, 2013).[[3]](#footnote-3) Other forms related to differences amongst various groups regarding ethnicity and venture capital investments (Zhang et al., 2016a) and gender and funding (Orser, Riding & Manley, 2006).

Fourth, this organizing can involve *entrepreneurial commitment— a* personal investment of time, energy, and other resources into the exploitation of a potential opportunity, which can generate affective outcomes and have implications for the entrepreneur’s well-being. While some research in this area has focused on established commitment constructs as DVs, such as affective commitment by entrepreneurs (Pollack, Coy, Green & Davis, 2015) and employees (Breugst, Domurath, Patzelt & Klaukien, 2012), new DVs have also been introduced, such as Mitchell Mitchell and Smith’s (2008) notion of a new transaction commitment mindset. From a different perspective, Wolfe and Patel (2016) explained entrepreneurs’ grit as perseverance for long-term goals, and others have explained the nature of goals in the entrepreneurial context (e.g., Breugst et al., 2012). Further, entrepreneurship studies have explored emotional and social outcomes and the combination of the two such as trust between entrepreneurs and partners (Howorth & Moro, 2006; Nguyen & Rose, 2009), the risk of entrepreneurs’ over-trusting (Goel & Karri, 2006), and entrepreneurs’ perceptions of relational support and satisfaction with customer relationships (De Clercq & Rangarajan, 2008). Some have examined the emotional consequences of entrepreneurship, such as the extent to which starting a business elicits negative emotions (Doern & Goss, 2014) or the extent to which engaging in specific entrepreneurial tasks generatese passion (which involves positive emotions) (Cardon, Post & Forster, 2017; Collewaert, Anseel, Crommelinck, De Beuckelaer & Vermeire, 2016). Furthermore, some have characterized habitual entrepreneurship as an addiction in which entrepreneurial action involves both positive and negative emotions (Spivack, McKelvie & Haynie, 2014).

Many studies have attended to negative emotions from social interactions, such as from conflicts between entrepreneurs and stakeholders (Collewaert & Fassin, 2013), negative affect from inter-personal conflict in teams engaged in an entrepreneurial task (Breugst & Shepherd, 2017), envy (Biniari, 2012), feelings of grief over failure (Jenkins, Wiklund & Brundin, 2014; Shepherd, 2003, 2009; Shepherd, Patzelt & Wolfe, 2011), the level of stigma applied to an entrepreneur of a failed business (Shepherd & Patzelt, 2015), and fear of failure (Cacciotti, Hayton, Mitchell & Giazitzoglu, 2016; Mitchell & Shepherd, 2010). These negative emotions are assumed to indicate diminished well-being. Investigations of entrepreneurial well-being have taken various forms of subjective satisfaction, including global life satisfaction (Baron, Franklin & Hmieleski, 2016), job satisfaction (Kwon & Sohn, 2017; Schjoedt, 2009), pay satisfaction (Dawson, 2017), and quality of life (Kautonen, Kibler & Minniti, 2017). Relatedly, entrepreneurship studies have explained psychological well-being in terms of peak experience, peak performance, and flow (Schindehutte, Morris & Allen, 2006) as well as resilience in the aftermath of a disaster (Williams & Shepherd, 2016a,b).

Fifth, by engaging in an entrepreneurial endeavor, individuals and organizations can facilitate sensemaking and other forms of *engaged learning*, i.e., increased knowledge gained from participating in an entrepreneurial endeavor. Studies have explored sensemaking-related DVs among entrepreneurs (Strike & Rerup, 2016) and their advisors (Mantere, Aula, Schildt & Vaara, 2013; Strike & Rerup, 2016) and on the venture level (Grimes, 2010), the usage of analogies and metaphors (Cornelissen & Clarke, 2010), the objectification of ideas (Tocher, Oswald & Hall, 2015), as well as ventures’ strategies (Strike & Rerup, 2016) and processes (Grimes, 2010). There have been numerous investigations of failure as a context for learning (Cope, 2011; Shepherd, 2003), including the use of structural alignment processes (Mueller & Shepherd, 2016), emotion regulation (Shepherd & Haynie, 2011), and narrative accounts of failure by entrepreneurs and stakeholders (Byrne & Shepherd, 2015; Mantere et al., 2013), with some work, also noting differences across regions (Cardon, Stevens & Potter, 2011).

Research has also explored DVs related to learning regarding the perceived level of goal achievement and skill development (Van Gelderen et al., 2005) and serial entrepreneurs’ performance in subsequent ventures (Eggers & Song, 2015; Toft-Kehler, Wennberg & Kim, 2014). From a social perspective, entrepreneurs can learn from peers (Falck, Heblich & Luedemann, 2012), from co-workers (Nanda & Sørensen, 2010), within a venture’s management team (Bruneel, Yli-Renko & Clarysse, 2010), and across ventures (Zheng, Miner & George, 2013). This social learning includes knowledge acquisition and improvisation in teams (Zheng & Mai, 2013), the rate of learning from competitors (Lévesque, Minniti & Shepherd, 2009), and new ventures’ technological learning and knowledge integration (Zahra, Ireland & Hitt, 2000). The organization can also learn. Organization-based studies have explored learning (or lack thereof) in terms of organizations’ strategic or undisciplined termination of venturing projects (Corbett, Neck & DeTienne, 2007), corporate entrepreneurs’ enhanced self-awareness and organizational knowledge (Byrne, Delmar, Fayolle & Lamine, 2016), and organizational members’ learning from project failure (Shepherd, Covin & Kuratko, 2009; Shepherd, Patzelt and Wolfe, 2011).

Sixth, entrepreneurship studies on the inputs to *innovation—*the idea development of, problem solving for, and implementation of new products, services, and/or processes—have focused on the resources that small and/or new ventures spend on R&D in terms of R&D propensity and intensity (Guzzini & Iacobucci, 2014). Research concerned with the innovation processhas focused on how an organization’s climate influences the extent to which employees seek out and implement new products (Kang, Matusik, Kim & Phillips, 2016) and how users create, evaluate, share, and commercialize their ideas (Shah & Tripsas, 2007). Indeed, innovativeness is a key dimension of a firm’s entrepreneurial orientation (EO) and can lead to pivots. Despite considerable research on entrepreneurial orientation (EO) as an independent variable, there are only a few studies that have explored it as a DV, including studies on the level of entrepreneurial orientation (Boling, Pieper & Covin, 2016) and changes in firms’ entrepreneurial orientation (Grühn, Strese, Flatten, Jaeger & Brettel, 2017).

Innovations (and changes in the external environment) may lead to pivots. Studies of pivots have focused on individual-level DVs such as changes in founder’s self-identity (Grimes, 2018), and with firm-level DVs such as adopting (or resisting) disruptive business model innovations (Dewald & Bowen, 2010), switching lead investors (Cumming & Dai, 2013), and changing the venture’s industry (Eggers & Song, 2015) and top management (Wasserman, 2003). However, some changes may be less drastic than a pivot, including limiting the scope of commercialization (Mollick, 2014), terminating a project (Shepherd et al., 2014), and avoiding environmental degradation (Pacheco, Dean & Payne, 2010).

**Future Research Opportunities**

Building on the extant literature that explains attributes of engagement in an entrepreneurial endeavor, we now turn our attention to research opportunities to extend and enrich this research stream including on (1) human resource management and other decisions, (2) the creation of, and pivoting from, routines, (3) collective entrepreneurial cognition, (4) positive and negative affect, (5) motivation, (6) funding through family, fools and friends, and (7) entrepreneurial learning.

First, we need more research on human resource management decisions, which likely occur before a venture is formed and continue after that (Beckman & Burton, 2008). For example, it is critical to choose the “right” person with whom to co-found a venture. How are human resource decisions made, why do some entrepreneurial teams arrive at different decisions than other entrepreneurial teams, and which human resources decisions are more successful than other human resource decisions? How do social network sites and other technological tools in the digital age affect resource assembly mechanisms, social capital resources, and behavioral norms among entrepreneurs and their stakeholder (Smith, Smith & Shaw, 2017)? Although such research is at the initiation stage of the entrepreneurial endeavor, such investigations would complement research on the addition and subtraction of members to an entrepreneurial team as they are engaged in the exploitation of a potential opportunity (Ruef, 2010; Ucbasaran, Lockett, Wright & Westhead, 2003). For example, who decides to add (or subtract) an individual to the entrepreneurial team, and how is that decision made (and to what effect)? In many decision-making contexts, the outcomes depend on the decisions of both parties involved (e.g., entrepreneur and investor), and even then, the situation likely involves a series of back-and-forth decisions by both parties (and within a party). Future research can make an important contribution by exploring the decision making of the multiple parties involved in an outcome, the sequence of those decisions, and the dynamism of the process.

Furthermore, research has typically focused on the decisions of an individual but has rarely investigated how others can influence those entrepreneurial decisions. This insufficient exploration highlights opportunities to study, for example, how venture capitalists make a collective decision to fund a venture (portfolio company), how the entrepreneurial team decides to pivot, and whether (or when) a collective decision is more accurate (or quicker to action) than an individual’s decision. There are ample opportunities to investigate the collective aspect of entrepreneurial decision making in established organizations. For example, who are involved in the decisions to initiate, proceed, or terminate an entrepreneurial project, how and why are these actors involved, and how are the decisions made? As these questions reveal, we do not yet have a complete understanding of decision making in the corporate entrepreneurship context.

Second, like organizations, routines *emerge*—it is difficult to say when a routine exists in the early stages of a venture, but scholars can investigate the formation and emergence of routines before solidifying into the type of routines studied in strategic management. Scholars may also seek to bridge the founder and venture levels of analysis by studying how entrepreneurs’/teams’ habits become a source of venture routines (or norms) as well as whether venture-level routines impact the habits of the entrepreneur and employees. Entrepreneurship research thus has the opportunity to investigate how organizing systems originate, develop, and persist across levels of analysis. Research also has the opportunity to investigate radical changes to these established positions. Indeed, given the uncertainty surrounding entrepreneurial action and the importance of trial and error, it is somewhat surprising that entrepreneurship scholars have not invested more scholarly effort in explaining major adjustments to strategy (i.e., course corrections). Explaining pivots could involve returning to the initial stage of the meta-framework: pivoting could be the result of a re-evaluation of the potential opportunity involving additional search and perhaps the identification of a new potential opportunity. While popular in managerial discourse and teaching, the topic of pivoting remains under-explored in the entrepreneurial context.

Third, over and above collective decision making suggested above, research could contribute by investigating other cognitive outcomes at the collective level. For example, we are beginning to understand how entrepreneurial action can impact an individual’s well-being, but what about collective well-being, such as the well-being of the entire entrepreneurial venture, or the well-being of the community impacted by the venture’s products and services or even the well-being of society enhanced by individuals willing to pursue potential opportunities despite high uncertainty? Similarly, we have explored an individual’s commitment to an entrepreneurial project or venture, but what explains a founding team’s commitment to a focal potential opportunity, an entrepreneurial venture’s commitment to solving an environmental or social problem, or a nation’s commitment to protecting entrepreneurs whose businesses fail?

Fourth, there is much scope to examine affect as a DV. The work by Spivack et al. (2014) highlights both positive and negative emotions and touches on the “dark” side of entrepreneurship. Future research could contribute to extending this work by exploring how the entrepreneurial process generates both positive and negative emotions and whether they persist over time or whether positive emotions “undo” negative emotions (Fredrickson, 1998). There are also opportunities to build on the notion that emotions are contagious (Barsade, 2002) as well as to explore the emotions of individuals within entrepreneurial teams (of de novo or de alio ventures) and the ways these individual emotions become collective emotions that motivate or obstruct collective entrepreneurial action.

Fifth, much of the research on goals in entrepreneurship has its origin in industrial/organizational psychology (e.g., Locke & Latham, 2006) with goals and tasks often set for employees by superiors. Entrepreneurs have the leeway to choose their work tasks and work-effort levels to fit their own needs and preferences. For example, an entrepreneur may have the goal to expand his or her business extensively but may change this goal if he or she has a child. As such, it would be interesting to see how entrepreneurs’ goals related to their businesses mesh with goals in their private lives and how both change over time.

Sixth, given that the initial stages of venture formation are the most difficult to fund using traditional sources and the lowering costs of an entrepreneurial startup, it is surprising that we do not know more about the three Fs—family, friends, and fools—as sources of funding. Why do some entrepreneurs seek funding from family and friends while others do not, and why do some family and friends invest while others do not? This question may be particularly important now that the funding of entrepreneurial ventures is fundamentally changing thanks to crowdfunding and other new mechanisms. What is the form of the business relationship between the entrepreneur and his or her family/friend investors, and how is this relationship negotiated, monitored, and enforced? Also, what about the fools—are they really fools? Perhaps. But, while investing in particular entrepreneurial ventures may not make economic sense (hence the label “fools”), maybe these investors have non-economic motivations that justify these investments. Who are these so-called fools, and why do they take such risks to invest in early-stage ventures? Perhaps they are intrinsically motivated, are prosocially motivated, or are genuinely fools. Furthermore, future research can go deeper into explaining the (sequence of) activities involved in the resourcefulness of bootstrapping and discover why some actors are more resourceful than others. Such research may offer prescriptions for how entrepreneurs can more effectively engage in bootstrapping to fund their entrepreneurial endeavors.

Finally, future research can provide more richness to our understanding of why some entrepreneurs learn more from their experience than others, and how they do it. That is, while we are gaining a deeper understanding of the actions and cognitions that lead to learning and vice versa, more can be done to identify and explain the learning tools entrepreneurs use, the contexts that facilitate or obstruct the use of these learning tools, and the processes of collective learning, all of which are in an environment characterized by high uncertainty, high dynamism, and considerable time pressure. In addition to research on learning processes, future research needs to explain the content of what is learned. For example, what concepts and relationships constitute entrepreneurs’ (individually and as a team) cognitive maps, how do these cognitive maps change with the pursuit of potential opportunities, and how does this learning manifest itself in subsequent entrepreneurial action? Research on entrepreneurial (Baron, 2007) and team cognition (West, 2007) and the formation of simple rules in new ventures (Bingham & Eisenhardt, 2011) may bring about the inspiration for studies on how entrepreneurs, entrepreneurial teams, and new ventures learn. For example, how do simple rules change over time? Entrepreneurs may learn that they need to make their rules simpler.

Future research has the opportunity to explore mutual social learning, particularly around the co-creation of a potential opportunity (see Shepherd, 2015). For example, future research may explore the social learning that occurs between an entrepreneur and a community of inquiry as well as the way that social learning occurs through a potential opportunity and leads to changes to the nature of the potential opportunity, the nature of the entrepreneur’s knowledge, and the collective knowledge of the community of inquiry. Indeed, entrepreneurship scholars have a unique opportunity to explore learning across levels of analysis during the creation of those levels. For example, what learning takes place before an entrepreneur creates a founding team; before the founding team hires employees, institutes a structure and strategy, and engages in other organizing mechanisms; and before the organization chooses to pursue additional potential opportunities, makes alliances, and engages different stakeholders? Future research can explore how learning at any one level impacts the learning at other levels (and stages of the meta-framework) and investigate the mechanisms that facilitate this learning transference or dispersion. For example, once an entrepreneur has formed a founding team, he or she is likely to also learn from the team, and both are likely to learn from the organization they build.

**DVs FOR PERFORMING ENTREPRENEURIAL ENDEAVORS**

**Literature Review**

The third stage is the *performance of entrepreneurial endeavors*—the accomplishments (or lack thereof) from exploiting a potential opportunity or multiple potential opportunities. DVs for the performance of entrepreneurial endeavors are those related to (1) individual-level accomplishments, (2) general firm-level accomplishments, (3) firm-level accomplishments specific to entry; (5) firm-level accomplishments specific to innovation; and (6) regional performance.

First, studies of *individual-level performance—an individual’s accomplishments—*include success in setting up a new venture (Katre & Salipante, 2012) or in transitioning to self-employment (Blumberg & Pfann, 2016). More fine-grained performance outcomes include accurate identification and evaluation (Baron & Henry, 2010) and realization of a (potential) opportunity (Navis & Ozbek, 2016). These individual-level performance outcomes may take place within different organizational contexts, such as within new ventures (Baron & Henry, 2010) or before an organization is created (Navis & Ozbek, 2016). Other studies on entrepreneur-related performance DVs have focused on the rewards from entrepreneurial efforts, such as various financial (Baron & Markman, 2003; Bublitz & Noseleit, 2014) and psychological (Hmieleski & Corbett, 2008) rewards.

Second, acommon DV for *general firm-related performance—*a firm’s accomplishments—is firm survival, including keeping the business alive both before (Brush, Manolova & Edelman, 2008) and after launch (Stenholm & Renko, 2016; Wennberg, Delmar & McKelvie, 2016). Growth is another common DV in studies exploring firm-related entrepreneurial performance, often measured as growth in employees (Davis & Shaver, 2012), sales (Delmar & Wiklund, 2008), or assets (Thapa, 2015). Other DVs in this theme include financial and economic performance outcomes, such as market value (Zott & Amit, 2007), earnings (Michael, 2003), profits (Jacobides & Winter, 2007), profit margin (Song, Wang & Parry, 2010), and various accounting ratios (Meoli, Paleari & Vismara, 2013; Wennberg, Hellerstedt, Wiklund & Nordqvist, 2011). Research has also dealt with specific aspects of firm performance, such as success into foreign markets (Bruneel et al., 2010; Prashantham & Dhanaraj, 2010) and with the performance of firms that facilitate entrepreneurial performance, such as, business angels (Huang & Pearce, 2015) and venture capital investors (Dimov & Shepherd, 2005), investor returns at IPO (Florin, 2005), and the success of universities in generating spin-off companies (Lockett, Wright & Franklin, 2003).

Third, studies of *performance specific to entry* have relied on DVs that include individual-level outcomes, such as self-employment duration after entry (Bird & Wennberg, 2016; Nziramasanga & Lee, 2001), general satisfaction (Van Gelderen, Van de Sluis & Jansen, 2005), and earnings satisfaction during the first years of operations (Vivarelli, 2004). Studies of performance specific to entry also include firm-level outcomes, such as time to first sale (Marvel, Sullivan & Wolfe, 2018), product launch (Beckman, 2006), operational status (Edelman & Yli‐Renko, 2010), and positive cash flow (Davidsson & Honig, 2003). But, of course, there is also the risk of excess entry (Hogarth & Karelaia, 2012).

Fourth, studies of *performance specific to innovation* concern financial aspects, such as earnings from a specific invention (Åstebro & Yong, 2016), licensing revenue (Lejarraga & Martinez-Ros, 2014), and percentage sales from new products (McKelvie, Brattström & Wennberg, 2017; Wu et al., 2016). Non-financial aspects of innovation performance include perceived innovative performance comparisons with competitors (Collewaert & Sapienza, 2016), expert ratings of invention quality (Åstebro & Yong, 2016), survival in the marketplace (Robson, Akuetteh, Westhead & Wright, 2012), and increases in firms’ knowledge capital (Tan, et al., 2015). Other studies explaining innovation outcomes have investigated quantity in terms of the number of innovations generated (Baron & Tang, 2011), R&D projects completed (Liu, Wright, Filatotchev, Dai & Lu, 2010), new products developed (Lejarraga & Martinez-Ros, 2014), patent activity (Mueller, 2014), and innovation novelty (Park & Tzabbar, 2016).[[4]](#footnote-4)

Finally, studies have explored regional performance—accomplishments of entrepreneurial activities in a geographic location.On the regional level, studies have investigated DVs such as job creation by new ventures (Malchow-Møller, Schjerning & Sørensen, 2011), financial returns from entrepreneurship (Tamvada, 2010), resilience toward export shocks (Liang & Goetz, 2016), and innovativeness (Samila & Sorenson, 2017). Formal economic equilibrium models or simulation models have been presented to explain regional growth in startups (Gries & Naudé, 2010), gross domestic product (Minniti & Lévesque, 2010), intergenerational fairness (Hunt & Fund, 2016), social welfare (Casson & Wadeson, 2007; Norbäck, Persson & Svensson, 2016), prosperity and peace (Tobias, Mair & Barbosa-Leiker, 2013), and the scale of non-profit activity (Nissan, Castaño & Carrasco, 2012). On the country level, entrepreneurship studies have explored growth in GDP (Van Stel, Carree & Thurik, 2005), innovativeness (Anokhin & Schulze, 2009), and happiness (Naudé, Amorós & Cristi, 2014).

**Future Research Opportunities**

The most common level of analysis in entrepreneurship performance research is the firm level. In addition to the commonly used performance variables of sales or employment growth, growth in market share could be an indicator of competitive advantage that fits the emphasis on market dominance among new high-tech ventures. We identified several studies using growth as a DV but none that assessed ventures’ market share. Regarding stakeholder-related performance, we were unable to find a single entrepreneurship study examining employees’ performance as an outcome. Particularly in growing and knowledge-intensive firms, it appears that employees are extremely important stakeholders and their performance is a critical proximal outcome. The extent to which entrepreneurs or entrepreneurial firms can manage employees to retain high-performing employees, compensate desired employee behaviors, and otherwise facilitate employee well-being is likely critical to firm performance. For example, how do employee compensation and well-being relate to the infusion of venture capital funding, or does rapid growth affect employee retention?

Future research is also likely to contribute to the entrepreneurship literature by explaining multiple performance DVs. For example, while much of the innovation performance research has concerned the quantity of innovation output, it is rare for studies to examine multiple outputs simultaneously. For example, it would be interesting to study the correlation between the number of products developed and the number of products introduced as well as the factors that enhance and reduce the launching of new products in the market. Further, unless studies are confined to strictly defined industries that focus solely on either process or product innovation (e.g., as in McKendrick, Wade & Jaffee, 2009's study of hard disk drive producers), it is important to study product and process innovations simultaneously. These two DVs convey different information, and resource-strapped ventures may trade one for the other. Also, we need consistency regarding whether DVs concern innovation input, output, or performance. Many studies have used concepts like innovativeness or innovation without explicating how they relate to the innovation process. There is also promise in research focusing on the innovativeness of the organization rather than the products or services—that is, the extent to which new organizations deviate from existing norms in their industry (Cliff et al., 2006; Jennings et al., 2016). Such research points to the tension between Schumpeter’s (1934) radically innovative entrepreneur on the one hand and new venture’s struggle for legitimacy on the other (Aldrich, 1999).

Going forward, we believe that the field would benefit from conjointly examining performance across different levels of analysis and the performance themes identified above. The expectation is not necessarily to find high correlations but rather to provide a more comprehensive reflection of entrepreneurial performance. The goals of entrepreneurs vary considerably, which speaks to the value of such broad performance assessments. For example, it is well established that many enter into entrepreneurship because they want to be independent (Carter, Gartner, Shaver & Gatewood, 2003). Such goals may be aligned less well with achieving high growth, and therefore the alignment of goals and outcomes might be the key to understanding performance. Regarding entrepreneur-related performance, we believe that a broad view of well-being could make an important contribution to our current understanding of the various aspects of performance. While each aspect of satisfaction is relevant and important, global assessments of well-being (Ryff & Keyes, 1995) are also welcome because they do not isolate the entrepreneur from his or her non-work life.

**DVs FOR CONTEXTUALIZING ENTREPRENEURIAL ENDEAVORS**

**Literature Review**

DVs for the performance of entrepreneurial endeavors refer to research focused on outcomes related to the context (environment external to) in which the entrepreneurial actor is embedded. The DVs capturing these contextual attributes are those related to (1) institutional context, (2) resource context, and (3) regional context.

First, research has explored the entrepreneurial context in terms of change in institutional form and ideational change. Studies of institutional change—major differences over time in the structural patterns of interaction between organizations—have analyzed how entrepreneurial activity creates new *groups* of organizations (Chung, 2001; Lechner & Leyronas, 2009), new *networks* of inter-organizational activity (Ahlstrom & Bruton, 2006; Dieleman & Sachs, 2008), and new organizational *forms* (David, Sine & Haveman, 2013; Suddaby & Greenwood, 2005). Research on the institutional context of entrepreneurship has also studied DVs related to entrepreneurs’ adoption of field-configuring strategies designed to disrupt existing patterns of interaction between producers, suppliers, and consumers (McInerney, 2008); support from intermediaries (Cobb, Wry & Zhao, 2016; Dutt et al., 2016); and field-configuring opportunities emerging from the margins (Castel & Friedberg, 2010) or the center (Greenwood & Suddaby, 2006) of a given organizational field.

Relatedly, researchers have studied DVs to capture ideational change—differences over time in the social meanings attributed to a given product category, organization, or institutional practice—in terms of entrepreneurs’ ability to generate novel product categories (Delmestri, Montanari & Usai, 2005; Montauti & Wezel, 2016); changing institutionalized business practices, such as bookkeeping (Quattrone, 2015); resistance to illegitimate institutions (Sutter, Webb, Kistruck & Bailey, 2013); and narrative strategies to acquire legitimacy (Garud, Schildt & Lant, 2014). Related research has focused on entrepreneurs’ professionalization (Croidieu & Kim, 2017), acquisition of status (Waldron, Fisher & Navis, 2015), identity (Fisher, Kotha & Lahiri, 2016), use of persuasive rhetoric (Waldron, Fisher & Pfarrer, 2016), and legitimating framing (Gurses & Ozcan, 2015). Collectively, these studies have identified a range of techniques and strategies often described as forms of institutional work through which entrepreneurs achieve success by changing institutionalized meaning systems and taken-for-granted ways of interpreting the social world.

Second, *resource contexts* are simply the different environments in which entrepreneurial actors acquire and allocate inputs necessary for the exploitation of a potential opportunity. Kuratko, Fisher, Bloodgood, and Hornsby (2017) provided a theoretical overview of this research, observing that entrepreneurs in ecosystems with high levels of technological novelty face greater legitimacy demands for accessing resources. O'Neil and Ucbasaran (2016) similarly observed that resource allocations mature in lock-step with the growing legitimacy of an entrepreneurial venture. Studies have investigated funding outcomes related to venture capitalincluding the amount of funding raised (Balboa & Martí, 2007), the likelihood an entrepreneurial firm will receive an interview request from a venture capitalist (Wang, 2016), and speed of access [(Zhang, 2011)]), the pre-money valuation upon which the venture capital deal is based (Zhang, Wong & Ho, 2016), funding from government venture capital (Guerini & Quas, 2016), and the advice provided to portfolio companies (Cumming, Fleming & Schwienbacher, 2008).

Similarly, research has investigated the resource context in terms informal venture capital. For example, business angel studies have investigated DVs such as entrepreneurial firms’ likelihood of receiving a business angel’s offer (Maxwell & Lévesque, 2014); funding (Becker-Blease & Sohl, 2007, 2011), including altruistic investments (Klyver, Lindsay, Suleiman & Hancock, 2017); and rejection (Carpentier & Suret, 2015). Huang and Pearce (2015) explained angels’ tradeoff between objective business viability data and subjective assessments of entrepreneurs in investment decisions as well as “investment home runs,” and Parhankangas and Ehrlich (2014) explained entrepreneurs’ progress in the business angel fundraising process. A more recent source of raising funding is crowdfunding. DVs in crowdfunding research include the extent of backer support for a crowdfunding project (Kuppuswamy & Bayus, 2017), received funding or not (Parhankangas & Renko, 2017), the amount of funding received and whether it reaches a pre-set target or not (Josefy, Dean, Albert & Fitza, 2017), as well as whether crowdfunding facilitates future venture capital investments (Roma, Petruzzelli & Perrone, 2017).

Studies on debt funding provide insight into the resource context and have included DVs like applying for a loan (Blumberg & Letterie, 2008), receiving bank financing (Agier & Szfraz, 2013; Eddleston, et al., 2014), and being denied credit (Cowling, Liu, Minniti, & Zhang, 2016). Of particular interest to entrepreneurship scholars exploring debt-related outcomes is the availability and impact of *micro-finance*—small loans offered to the poor by micro-loan organizations with the purpose of alleviating financial constraints so the borrower can create and grow his or her local business. Investigations of micro-loans have focused on the supply side regarding the program’s attractiveness among prosocial investors (Allison, Davis, Short & Webb, 2015) and the amount of commercial and public capital acquired by micro-loan organizations (Zhao & Lounsbury, 2016). Related DVs include the speed of obtaining micro-finance (Allison, McKenny & Short, 2013) and its price (i.e., interest rate) (Sun & Im, 2015).

Third, entrepreneurship research has been interested in explaining the regional context. Studies of regional engagement have included DVs related to latent entrepreneurship, such as the proportion of residents wishing (Masuda, 2006), planning (Masuda, 2006), or otherwise intending (Shinnar, Giacomin & Janssen, 2012) to become self-employed (Masuda, 2006). Outcomes also include entrepreneurial actions in a region, such as the rate of self-employment (Acs, Braunerhjelm, Audretsch & Carlsson, 2009), as well as the levels of growth-oriented (Levie & Autio, 2011), nascent (Aidis, Estrin & Mickiewicz, 2012), necessity- versus opportunity-oriented (McMullen, Bagby & Palich, 2008), financially successful (Henrekson & Sanandaji, 2014), and high-quality (Hafer & Jones, 2015) entrepreneurship. Studies comparing regions within a focal country have typically focused on the proportion of individuals with business income (Bruce & Deskins, 2012); the number of new (Rogers, 2012) family or non-family founded (Bird & Wennberg, 2014), or small and medium-sized firms (Gohmann, Hobbs & McCrickard, 2008); and, more recently, the proportion of ventures achieving an IPO or a significant acquisition (Guzman & Stern, 2016). Studies of regional engagement have also explained regional differences in fear of failure (Wyrwich, Stuetzer & Sternberg, 2016) and ethical attitudes (Bucar, Glas & Hisrich, 2003).

Furthermore, studies have focused on DVs related to regional trends in terms of building entrepreneurial knowledge in a region (Qian & Acs, 2013), bidirectional venture capital investments across regions and countries (Iriyama, Li & Madhavan, 2010), as well as academic entrepreneurs’ knowledge flows (Hayter, 2016) and partner choices (Zhang, MacKenzie, Jones-Evans & Huggins, 2016). Research has also investigated DVs related to entrepreneurship-related policy differences between regions such as differences in the bankruptcy laws (Peng, Yamakawa & Lee, 2010) or governance arrangements (Parker, 2008). Research on regional direction has also investigated location choices among new ventures (Dahl & Sorenson, 2012), including academic start-ups (Heblich & Slavtchev, 2014).

**Future Research Opportunities**

There has been considerable recent scholarly attention on the context in which entrepreneurial endeavors are embedded, and there remains much to learn. Future research opportunities include (1) the role of the institutional context, (2) the process of building and losing legitimacy, (3) tapping into the crowd, (4) narrower regions, and (5) the role of an entrepreneur’s family or non-work context.

First, there are promising research opportunities to explore further the role of the *institutional context* on the entrepreneurial endeavor.For example, although opportunity recognition is a well-established outcome variable in traditional entrepreneurship research (see section above), explaining opportunity recognition is also important in the context of institutional entrepreneurship, in which theorists struggle with a critical question, often termed the paradox of embeddedness (Battilana, Leca & Boxenbaum, 2009): if institutions are so cognitively overpowering, how is it that some actors can identify opportunities for change? Early research on this question has pointed to the construct of reflexivityas a key attribute of some institutional entrepreneurs who—because of their social position, prior experience, or structural location in an organizational field—are better able than others to identify opportunities to change existing social arrangements (Viale, Gendron & Suddaby, 2017). However, we know little about institutional reflexivity. How do some actors (individuals or organizations) acquire the social knowledge needed to understand the power structures underpinning existing institutional arrangements? Similarly, how do those actors acquire the social skills necessary to effect change in the institutional environment? If reflexivity is a skill acquired through social processes, perhaps we can teach (or otherwise help people develop) this skill to better interact or change the external environment.

Relatedly, another promising area of future research is to focus on the nexus between individual and institutional acts of entrepreneurship (Alvarez, Young & Woolley, 2015). What social, environmental, and political conditions are most likely to contribute to a social culture of individual innovation? Reciprocally, what configuration of individual attributes, cultural characteristics, and social values are most likely to generate institutional change? How do individuals and institutions co-evolve in contexts that generate or deny innovation? Another promising area of research is to focus on outcomes that promote less rationalized definitions of entrepreneurial success. The neo-institutional theory is based on Weberian assumptions of ever-expanding rationality in business practices. However, some emerging studies on institutional entrepreneurship have pointed to examples of entrepreneurial success that defy this traditional model of global economic rationality (Schulze, Lubatkin & Dino, 2003). Therefore, future research opportunities exist to compare and contrast the differences in entrepreneurial action that exist in small- versus large-scale entrepreneurial ventures. Is entrepreneurship in a craft-oriented business different from entrepreneurship in a large bureaucracy? How does entrepreneurship in a profession or a small business differ from that in a corporation? If they are indeed different, are they incompatible with each other? More significantly, is entrepreneurship an act of logical rationality—a science—or is it a somewhat irrational act of creativity and interpretive insight?

Second, two important opportunities for future research emerge on *legitimacy*—legitimacy as a process and losing legitimacy. Regarding gaining legitimacy, the trajectory of current research describes an important shift in understanding legitimacy first as a *property* or capacity of an entrepreneurial venture to an emerging new characterization of legitimacy as a *process.* More importantly, recent research has addressed the social context which generates legitimacy and the way legitimation processes change as an entrepreneurial venture matures (Suddaby, Bitektine & Haack, 2017). Viewing legitimacy as a process holds some important methodological implications for entrepreneurship research. More specifically, considering legitimacy a process of perception or judgement formation that involves interaction between an entrepreneur and key stakeholders (i.e., consumers, funders, regulators), researchers can analyze legitimacy acquisition using deliberation mapping—a technique used to systematically evaluate the interactive processes by which dyads or small groups come to decisions on complex and ambiguous subjects (Burgess et al., 2007). Viewing legitimacy as a multi-modal process spurs entrepreneurship research to see legitimacy as adhering to the attributes of the product or innovation offered by an entrepreneur, and also to consider legitimacy features of the entrepreneur role more abstractly. How has the entrepreneur been legitimated in public discourse? Have the legitimating cultural attributes of the entrepreneur changed over time? Do the attributes change across cultures?

Once we gain a deeper understanding of legitimacy as a process rather than a property, researchers can become more creative in constructing studies that attend to how entrepreneurial actors lose legitimacy. To date, most research has focused on the acquisition of legitimacy, particularly during the start-up phase of entrepreneurship. Some studies, however, have begun to examine the acquisition of legitimacy by “distancing oneself from failure” (Kibler, Mandl, Kautonen & Berger, 2017). A logical extension of this line of inquiry is to examine the processes by which legitimacy erodes or is lost. For example, we understand that storytelling is an important activity nascent entrepreneurs use to gain legitimacy (Gartner, 2007), but what are the consequences for the entrepreneur when his or her projective stories begin to lose credibility (Garud et al., 2014). Similarly, while we understand that entrepreneurs acquire legitimacy as a complex judgment based on an array of technical, normative, and moral factors, we know little about the triggers for a complete loss of legitimacy. For example, to what degree does an entrepreneur’s stigmatized past (e.g., multiple failed ventures) compromise the success of a technically superior innovation?

Third, the advent of crowdfunding has rejuvenated research on funding outcomes, and there are more opportunities for contributions. Future contributions may come from additional DVs that capture this funding context on opportunity refinement, community formation and engagement, and social/environmental benefits. For example, crowdfunding builds communities, but how are they initiated, grown, and changed as a result of their involvement with the entrepreneurial venture and the crowdfunding process? Beyond venture-level measures of funding success, future research can also help explain the outcomes of crowdfunding campaigns as they change the social, environmental, and economic environment. Indeed, research can explore previously important studies (e.g., from the 1980s or 1990s) to determine if they are still relevant or explanatory in modern times. For example, perhaps the DVs of the 1980s related to venture capital, business angels, IPOs, communication strategies, business plans, and so on are no longer relevant (or take a different form) in today’s world of low start-up costs, crowdfunding, acquisitions, lean canvas, and social media. Future research can explore the relevance of previous entrepreneurship theories and adapt them given the changed economic, social, and political environment.

Fourth, while there is a relative abundance of cross-country studies among regional studies of entrepreneurship, there is still a dearth of research looking at smaller regional units, such as states, cities, and neighborhoods. Since much of the literature strongly emphasizes geographic-clustered networks, entrepreneurship scholars could further benefit from employing social network models to study various regional outcomes of entrepreneurship. For example, how do the “weak” and “strong” network ties important for entrepreneurship differ across regional units, how are they affected by the infrastructure and institutional conditions in those regions, and do such network ties affect entrepreneurial processes and outcomes differentially across regions? Further, there are opportunities to investigate long-term rather than short-term regional changes. Entrepreneurial endeavors may spur the emergence of industrial clusters (Feldman, 2014) that are over and above explanations by agglomeration economics (Buenstorf & Klepper, 2009). A long-term view may further explain the emergence and development of a region’s entrepreneurial practices and culture over time. The joint area of history and regional outcomes of entrepreneurship is an emerging and exciting domain for future research. For example, how do more or less “unentrepreneurial” regions slowly change to become less or more “entrepreneurial”? Do regional cultures and narratives of the past affect contemporary entrepreneurship in those regions? Furthermore, we see new avenues for regional outcomes of entrepreneurship that move beyond the traditional comparison of various regional units toward looking at distal cross-national and cross-regional linkages (potentially fueled by new communication technologies) to investigate topics like the emergence of entrepreneurial ecosystems, internationalization rates among new ventures, and the formation of social ventures.

Finally, there has been little research on those non-entrepreneurs psychologically impacted by the entrepreneurial context. An obvious candidate is the entrepreneur’s spouse but could also include funders, customers, and other stakeholders. For example, how and why do the entrepreneur’s actions with the firm influence his or her spouse’s well-being, commitment to the entrepreneur/marriage, and emotions (Dahl, Nielsen & Mojtabai, 2010)? Further, how do a spouse’s psychological outcomes influence entrepreneurial outcomes, including the entrepreneur’s psychological outcomes?

**DISCUSSION AND CONCLUSION**

Across the period of the review, there are some important trends. First, in reviewing the DVs in entrepreneurship research from 2001-2018, we noticed some larger societal trends. For example, we find no DVs specifically related to e-commerce, which was hot until the dot-com bust in 2000, the year before the start of our review period, while DVs related to crowdfunding become popular in the most recent years of the review. Second, performance is a popular category of DVs, but its dominance appears to be waning. A particularly interesting trend is that during the review period (2001-2017), the relative share of studies using performance as a DV decreased considerably. During the first six years of the seventeen-year period, performance dominated the field with 30% of all entrepreneurship studies using performance as their DV. Given the large number of DVs examined in the field, this represents a large share. During the final five years, this share has decreased to 16%. We believe that this is a healthy development. People initiate, engage in, perform, and leave, entrepreneurship for a whole host of different reasons (e.g., Carter et al., 2004; DeTienne et al., 2015). Greater diversity in outcomes studied by scholars, reflective of this diversity among entrepreneurs, provides for research relevance and unique entrepreneurship insights and theorizing (cf., Davidsson & Wiklund, 2001). It also allows for greater consistency regarding theories in use. For example, well-being is a common DV in much psychological theory and increased use of wellbeing as a DV in entrepreneurship research from a psychological perspective signals consistency with such trends. Third, although still relatively small in number, there has been a steady increase in studies explaining motivation-related DVs. More generally, while psychology-based studies have been contributing to our knowledge of entrepreneurship for some time (and increasingly so), it appears that the sociological perspective has entered and is gaining momentum as reflected in the growth of DVs related to institutions and legitimacy.

Finally, the number of entrepreneurship papers published in the leading management and entrepreneurship journals has increased substantially. This increase reflects growing importance of, and interest in, entrepreneurship as a phenomenon and the growing rigor of research in the discipline.

To conclude this paper, we return to the conversation that motivated this review in which a strategy colleague lamented the lack of a single, identifying DV. The review indicates, that, indeed, entrepreneurship has a plethora of DVs. We remain convinced it is important to celebrate this scope. However, our strategy colleague may be somewhat mollified by the observation that despite the variety of available DVs, the majority reflect measures of financial performance. Why are performance measures so dominant in entrepreneurship research? Three possible, albeit speculative, explanations occur.

Foremost, while the fields of entrepreneurship and strategy have developed largely independent of each other (Alvarez, 2005), they share common roots in applying economic theory to explain the differential performance of firms (Hofer & Schendel, 1978). The preponderance of performance measures in entrepreneurship research, thus, may simply reflect this common heritage and the shared interest in generating paradigmatic unity by focusing on a single research question (Pfeffer, 1993). More likely, however, is March and Sutton’s (1997) observation that all research in management has been obsessed with performance because it occurs within the institutional context of a business school where the normative expectation is that we generate knowledge of use to managers. We study performance because of an implicit goal of rationalizing entrepreneurship into a “managerial lever” that can be pulled at the behest of corporate and government interests.

Performance measures may predominate, thus, simply because they more legitimately reflect the normative standards of the modern business school. And, perhaps more cynically, because performance measures are more socially legitimate, they are more readily available and therefore more easily gathered by academics under increasing pressure to manage their performance measures of generating new knowledge.

It is reassuring, however, to observe the variety of dependent variables in this study, despite the isomorphic pressure to focus on only one. In contrast to most management research, which has tended to adopt a trajectory of increasing economic rationality in explaining individual and organizational behavior, entrepreneurship research has embraced a range of variables that attest to the uniquely human character of the phenomenon. So, for example, in the variables that track entrepreneurial motivation, we see a splendid display of the richness of human self-expression; from the desire for more autonomy to a need to express identity and, yes, even the desire to get rich. And these are only the self-interested motivations of the entrepreneur. We also see, in our DVs, evidence of social motivations—the need to help others, the push to solve a recurring source of inequality and a host of other DVs that in capturing the nuance of the entrepreneurial process, also describe the rich complexity of the human condition.

Critically, our analysis emphatically rejects the notion that entrepreneurship is, at its core, solely an act of economic rationality. Much of the early literature on entrepreneurship suggests that entrepreneurship is an act of deliberate instrumentality. Our panoply of DVs suggests that seizing an entrepreneurial opportunity may as easily be the outcome of serendipity and chance, or creative inspiration, as rational foresight.

We hope that this study encourages the proliferation of more DVs in entrepreneurship research that extend our explanations for the phenomena of entrepreneurship beyond pure rationality and into such unexplored territories as spirituality and art. We believe that paradigm strength emerges not from the de-legitimation of competing DVs, but rather by the manifestation of multiple variables that fully capture the breadth and depth, the richness and complexity, of the phenomena under study.

There are limitations implicit in the design of our study. Foremost is our focus on the dependent variable which, necessarily, adopts a somewhat reductionist stance toward the subject of entrepreneurship and raises the obvious question of whether we have overlooked qualitative research in entrepreneurship as a result. In our defense, we make two observations. First, we have used the term “dependent variable” in its broadest possible meaning to include any construct whose value depends on another. Our sample set, thus, includes a significant proportion of qualitative studies. Second, and perhaps more importantly, our focus on dependent variables and our sample set of articles reflect the current state of research activity in the field, which remains largely quantitative. While we can debate the merits of more qualitative and less reductionist approaches in the study of entrepreneurship, that is not the focus of this study. Others have argued this point far more eloquently than we could. The purpose of this study, rather, is to offer an analytic snapshot of how our community of scholars conceptualizes this intellectual field of inquiry. A focus on dependent variables seems the most logical analytic lens to capture faithfully the evolving and current status of the field. So, while our study may appear to privilege reductionist approaches to entrepreneurship, the bias we reveal is inherent in the field itself rather than in our research design.

In an ever-changing world, entrepreneurship is a societal mechanism dealing with changing issues and appearing in (and even creating) new contexts. In the future, entrepreneurship will deal with issues of which we are yet unaware. As social science scholars, we must observe and explain the world around us, and entrepreneurship scholars are changing along with the manifestations of the phenomena they wish to explain. For example, we noted the growth in funding-related DVs, driven by the introduction and rapid growth of crowd-funding. This growth in research is a direct consequence of researchers actively engaging with what is going on in the world around us. Indeed, it is an exciting time to be an entrepreneurship scholar, and the future looks bright. Happy exploration!

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Figure 1

A Meta-Framework Organizing a Review of Entrepreneurship’s Dependent Variables

**4. DVs for Contextualizing**

**Entrepreneurial Endeavors**

- Institutional Context

- Resource Context

- Regional Context

**1. DVs for Initiating**

**Entrepreneurial Endeavors**

- Entrepreneurial Cognitions on Opportunity

- Entrepreneurial Cognition on Other Initiations

- Entrepreneurial Intentions

- Entrepreneurial Motivation

-Entry into an Entrepreneurial Career

- Groupings of Initiators

**3. DVs for Performing**

**Entrepreneurial Endeavors**

- Individual level Accomplishments

- General firm-level Accomplishments

- Firm-level Accomplishments - Entry

- Firm level Accomplishments - Innovation

- Regional Accomplishments

**2. DVs for Engaging**

**Entrepreneurial Endeavors**

- Engaged Decision Making

- Acquiring & Allocating Resources

- Entrepreneurial Organizing

- Committing & Reacting

- Engaged Learning

- Innovating

Figure 2

A Meta-Framework organizing an Agenda for Future Entrepreneurship Research

**4. Future Research on Contextualizing**

**Entrepreneurial Endeavors**

- Institutions and change

- Building and Losing Legitimacy

- Tapping into the crowd

-Narrower regions

- Non-work

**1. Future Research on Initiating**

**Entrepreneurial Endeavors**

- Richer & Deeper on Potential Opportunity

- Micro-Perspective of Self-Employment Entry

- Expanded Range of Initiation Contexts

**3. Future Research on**

**Performing**

**Entrepreneurial Endeavors**

- Market Share

- Employee Accomplishments: Entrepreneurial

- Multiple Measures of Accomplishments

- Accomplishments across Levels of Analysis

**2. Future Research for Engaging**

**Entrepreneurial Endeavors**

- Human Resource & Other Decisions

- Creation of Routines & Pivoting

- Collective Entrepreneurial Cognitions

- Positive & Negative Affect & Darkside

- Business & Personal Goals

- Funding: Family, Friends & Fools

- Learning Process & Context

1. Research has also investigated distinctions between types, classes, or groups of potential opportunities based on whether they are upstream or downstream in the value-added chain (Woolley, 2010), in the near or distant future (Tumasjan, Welpe & Spörrle, 2013), Schumpeterian (through innovation) or Kirznerian (through alertness) (de Jong & Marsili, 2015), discovered or created (Alvarez & Barney, 2007; Ramoglou & Tsang, 2016), and equilibrating or disequilibrating (Keyhani & Lévesque, 2016). [↑](#footnote-ref-1)
2. Further, some of these differences may be attributable to the individual’s country of residence (Kwon & Arenius, 2010). [↑](#footnote-ref-2)
3. In relation to investigating the organizing of entry, DVs include comparisons of entries across industry sectors (Lofstrom, Bates & Parker, 2014), location choices (Jackson, 2010; Kolympiris, Kalaitzandonakes & Miller, 2015), international expansion (Fernhaber, McDougall & Oviatt, 2007), modes of expansion (Brouthers & Nakos, 2004), the formation of spin-outs from incumbent firms (Agarwal et al., 2004), and tradeoffs between intrapreneurship and entrepreneurship (Kacperczyk, 2012). [↑](#footnote-ref-3)
4. These studies of performance specific to innovation have also made a number of distinctions: (1) the distinction between the development of innovations and their commercialization—firms do not commercialize all the new products they develop (Castellion & Markham, 2013; Wu, Si & Wu, 2016); (2) the distinction between less innovative products and highly innovative products in terms of innovations that are radical (Plotnikova, Romero & Martínez-Román, 2016), breakthrough (Dunlap-Hinkler, Kotabe & Mudambi, 2010), novel (Park & Tzabbar, 2016), innovative (Cliff, Jennings & Greenwood, 2006) or deviate from behavioral norms (Jennings, Jennings & Sharifian, 2016); and (3) the distinction between product and process innovation (Ahlin, Drnovšek & Hisrich, 2014; Plotnikova et al., 2016). [↑](#footnote-ref-4)