



Microfoundations for New Market Creation: Differences Between Expert Entrepreneurs and Expert Managers

Nicholas Dew

Naval Postgraduate School, USA

Stuart Read¹

Willamette University, USA

Saras D. Sarasvathy

University of Virginia, USA

Robert Wiltbank

Willamette University, USA

Abstract. Within the growing literature on new market development, much work focuses on the industry, competition and firm units of analysis. In this paper we complement these understandings of how new markets unfold with research examining how individual decision-makers think about the task of building new markets. We replicate an entrepreneurship protocol analysis study so we can contrast entrepreneurs' results with a novel sample of experienced corporate executives. We find these groups (a) employ significantly different heuristics that (b) generate different prospective outcomes; (c) the different heuristics aggregate into substantively different processes and (d) the heuristics and processes offer clear implications for theory in entrepreneurship, strategy and innovation management. Our work contributes to the literature by providing prescriptions for new market creation processes based on the cognitive microfoundations revealed in our study.

Keywords: creation, new market, cognition, executive, entrepreneur, decision-making, protocol analysis, expert.

Funding: This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sector.

1. Introduction

The creation of new markets that compete with existing markets or even stimulate new demand has generated significant scholarly and practical interest over time (Schumpeter 1942; Golder and Tellis 1993; Kim and Mauborgne 2005;

1. Corresponding author: Stuart Read, Willamette University, Atkinson Graduate School of Management, Salem, OR 97301, USA. Ph: (503) 370-6444. Email: sread@Willamette.edu

Eisenhardt and Bingham 2017). The study of this phenomenon is often founded on frameworks that incorporate a range of technological, economic and institutional factors (McCloskey 2006; Mokyr, 2016). Within these existing frameworks, environmental selection processes do much of the work while individual firms/actors contribute variations in what may turn out - ex post - to be blind alleys, or may turn out looking like prescient discoveries of new market opportunities (Winter et al. 2012, Denrell, Fang and Winter 2003; Aldrich and Fiol 1994).

Scholars have already discovered much about how firms participate in these processes in literatures detailing firm-specific strategies as well as institutional entrepreneurship aimed at organizing market infrastructure (Fligstein and Dauter, 2007; Humphreys 2010; Ott, Eisenhardt and Bingham 2017). Apparent from these works is that leaders of enterprises large and small, new and established, do not believe their actions are irrelevant - simply grist for the environment to select for - or not (Demetry, 2017). The role of Steve Jobs (famously) and Apple in establishing the smartphone market, the role of Andrew Bell, David Brown, and Nicholas Terrett at Pfizer in building the market for erectile dysfunction treatment, or the role of Michael O'Leary at Ryanair in establishing the ultra-low-cost air travel market in Europe are three examples where variations championed by specific individuals mattered greatly in the development of these respective markets. Simply put, leaders act as though they make a difference in shaping new markets (Santos and Eisenhardt, 2009; Prahalad and Ramaswamy, 2004; McDonald and Eisenhardt 2014; Tharchen and Garud 2017).

A related stream of research on managerial cognition has established that firm actions are in part a reflection of how its managers think about issues the firm faces (Barr, Stimpert and Huff 1992; Porac et al 1995; Huff et al 2016; Rindova and Martins 2017; Menon 2018). Managerial cognition has been examined in the context of established markets. Entrepreneurship scholars, however, have also examined cognition extensively but the focus of their studies has generally been on how new firms are established and new opportunities discovered (Busenitz and Lau 1996; Grégoire et al. 2010). Comparing these literatures, it is apparent there are important differences in what each suggests about how leaders think about the task of building new markets. This contrast sets the stage for this paper. We examine whether corporate executives and entrepreneurs think in different ways about the same market development task.

We address this question by using an existing experimental research design that simulates the market creation task. Using a well-established instrument and method, we replicate a study of expert entrepreneurs with a sample of expert corporate executives. Contrasting data from these two distinct groups of experts, we find corporate executives and entrepreneurs do think quite differently about the new market creation task. In addition to their cognitive patterns, we also analyze distinct processes used by these two groups for enacting new market creation (McMullen and Dimov 2013; Garud and Gehman 2016).

Since this paper is positioned at the intersection of cognition, strategy and entrepreneurship research, our discoveries contribute to each in a unique way. To the entrepreneurship literature, we contribute a clearer delineation of the uniqueness of heuristics very experienced entrepreneurs use in the creation of new firms and new markets. To the strategy literature, we offer an explanation for why startups and large firms may differ so greatly in how they compete for new market development opportunities. To the individual cognition literature we provide a conceptual explanation for, and empirical evidence of, the way expertise in different managerial domains manifests in dramatically different heuristics. Our findings point to important issues regarding the impact of individuals since how our subjects think about new market development problems may manifest directly in the actions of the new ventures they lead. In principle such ventures might be entrepreneur-led privately-held firms (Mintzberg and Waters 1982) or might be corporate ventures led by experienced corporate managers (Zahra, 1996). Understanding the cognitive processes driving the actions of different kinds of organizations aids in explaining why they approach new market development in different ways. The differences in cognitive heuristics we observe in this study also remind us that research opportunities exist for follow-on work to examine a broad range of heuristic differences across the corporate and entrepreneurial domains.

2. Background

Work on new organization and market creation has drawn extensively on evolutionary theories. Such work describes market development as emerging from variation, selection and retention processes (Weick, 1979; Aldrich and Ruef, 2006). From this view, variations that form the basis of new markets may be blind or intentional and may occur within existing organizations or through the creation of new organizations (Klepper 2007). Regardless of the sources of novelty, variations retained by the process are determined by selection criteria driven by market forces, competitive pressures and institutional norms (Aldrich and Ruef, 2006; Granovetter and Swedberg 2001; Metcalfe 1994).

Santos and Eisenhardt (2009) exemplify an alternative stream of work explaining new market and organizational creation as influenced by organizational actors who define, shape and co-construct the environment. Santos and Eisenhardt define "nascent markets" as the context for this to happen. These are "business environments in an early stage of formation, e.g. emerging 'organizational fields'" (2009: 644). Such a view is also evidenced in research in marketing that emphasizes co-production of value by firms and customers (Vargo and Lusch, 2004; Prahalad and Ramaswamy, 2004; Ranjan and Read 2016). Further, studies of institutional entrepreneurship highlight that entrepreneurs are capable of leading changes both within their own businesses (Kesidou and Carter

2018), as well as in institutions by developing new institutional elements, including creating new markets and industries (Aldrich and Fiol, 1994; Battilana and Leca 2009; Humphreys 2010).

Our work follows the natural progression of these streams of literature, as we investigate how leaders think about the task of developing new markets. Lack of knowledge about this question reflects the fact that actions contributing to new market development are often complex and hidden inside firms (Shapira 2017). First-hand accounts of these processes suffer from a variety of factors that may bias account-giving, such as social pressures to conform to established conventions, impression management efforts, and retrospective and selection biases (Golden, 1992; Golder and Tellis, 1993). Moreover, the approach taken towards new market development may differ significantly between start-ups and established firms (Santos and Eisenhardt, 2009; Winter, 1984).

Research on managerial and entrepreneurial cognition offers one approach to understanding how leaders undertake new market development. Managerial cognition research has already established that a firm's actions in part are a reflection of how its managers think about the issues the firm faces (Barr, Stimpert and Huff 1992; Porac and Baden-Fuller 1989; Jackson and Dutton 1988). Entrepreneurship scholars have also pursued questions of how individuals think about new venture actions, with a particular focus on lucrative opportunities (Baron and Ensley, 2006; Gregoire, Barr and Shepherd, 2010; Shepherd, McMullen and Jennings, 2007). Thus, cognition research provides an established basis for studying the reasoning strategies mobilized by individuals for new market development tasks. Research investigating the search for, and creation of, new opportunities also supports this work on new market development by enhancing our understanding of the role of individual experience in explaining the roots of product and service variety (Woolley, 2017; Gruber, MacMillan and Thompson, 2012 and 2013).

2.1. Why Entrepreneurial and Managerial Experience Matters in Understanding Variation

In management research, topics such as decision-making, learning and knowledge gained through experience have always been important (Stuart and Podolny, 1996; Ahuja and Katila 2004; Heimeriks et al. 2015). Accumulated research suggests that experience fundamentally affects cognitive processes of individuals (Helfat and Peteraf, 2015) and that top management is influential in firm behavior. Hambrick and Mason (1984) proposed an "upper echelons" perspective that sought to examine the role of top managers in firm performance. This line of research explicitly connected managerial background variables, including experience, to strategic decision-making. The upper echelons perspective carefully formulated its models within the constraints of realistic behavioral factors. This approach has led to a significant body of empirical work

(Hambrick, 2007). For example, Bigley and Wiersema (2002) used data on 112 CEO succession events to relate "heir apparent" top management team (TMT) experience (operationalized as time spent as President or COO before becoming CEO) - to the level of strategic refocusing or "...the acquisition of related activities and the divestiture (e.g., the spinning off or shutting down of establishments or entire lines of business) of unrelated, peripheral businesses" (2002: 709). Holcomb, Holmes, and Connelly (2009) studied managerial ability, which "derives from experience and is tacit in nature." Using a dataset covering 20 years of the American National Football League, they showed managerial ability affects resource productivity, confirming a prediction made more than 50 years ago by Penrose (1959): that what managers do with an organization's resources affects performance.

Table 1: Literature contrasting market development differences due to executive and entrepreneurial experience

	Executive Experience	Entrepreneurial Experience
Focus	Market Share	Partnerships
of models of creation	Brown and Eisenhardt (1995) Porac et al. (1995) Teece (2007) Sutton (2007)	Lounsbury and Glynn (2001) Sarasvathy and Dew (2005) Maurer and Ebers (2006) Zott and Huy (2007) Murnieks et al. (2011) Martinez and Aldrich (2011)
Drivers	Goals	Means
of models of creation	Miller and Chen (1994) Moorman and Miner (1998) Hoffmann (2007) Shipilov and Li (2008)	Sarasvathy (2001) Baker, Miner and Eesley (2003) Baker and Nelson (2005)
Outcomes	Given Segments	New Markets
of models of creation	Greve (1999) Sorenson (2000) Barnett and Freeman (2001) Benner and Tushman (2002) Burgelman (2002a) Barnett and McKendrick (2004)	Wiltbank et al. (2006) Kor (2003) Simons and Roberts (2008) Yli-Renko and Janakiraman (2008)

Experience is relevant not only to decision making within large established organizations but also new ventures. Entrepreneurship research emphasizes individual traits and cognition determines entry and success in new venture creation (Boeker 1989; Beckman, Burton and O'Reilly, 2007). This research is supplemented by a focus on learning and experience acquired through entrepreneurial decisions and actions (Toft-Kehler et al. 2014; Ucbasaran, Westhead, and Wright, 2009; Politis, 2005; Baron and Ensley, 2006). We believe there are good reasons to further this work using experimental data as urged by Sorenson (2007: 409). In Table 1, we organize those reasons around three major

pastures of differences induced from a review of the growing empirical literature on strategies used by experienced managers and entrepreneurs. We dub these (1) focus, (2) drivers and (3) outcomes of variation.

2.2. Focus of Variation: Pre-defined Markets versus Stakeholder Networks

Studies of managerial decision making, as well as normative prescriptions based on them, insist on the importance of market potential as the ultimate prize for firms developing new markets. A review article on the subject of product development showed firms that developed products customers wanted were winners, while firms that introduced products that were "off the mark" failed (Brown and Eisenhardt, 1995: 344). This might seem obvious at first. But the obviousness hides the dominant assumption of both practitioners and researchers: That markets pre-exist the product development process and the job of new product development is to correctly predict and quickly cater to the needs of the market and thereby win market leadership. Brown and Eisenhardt suggest that new product development also depends on fit with organizational capabilities and alignment of managerial decisions with the organization and market.

Organizational researchers in general tend to be more conscious of the role of the individual in shaping firms and markets. Weick's (1979) conceptualization of bracketing and enactment provides one illustration of a more nuanced approach to defining a market. This is in contrast to the more simplistic notion of completely exogenous marketplaces in which managers merely fight for survival and dominance (Nadkarni and Barr 2008). Porac et al.'s (1995) study of Scottish knitwear manufacturers is a case in point where managers play a role in configuring markets through the choice of which rivals to attend and respond to, and which to ignore. Yet, even as the article illustrates how "[M]anagers enact their competitive environment..." (Porac et al, 1995: 205), it still focuses on the overall need to attain market leadership as the main goal of the enactment process.

In contrast, most studies into the activities of entrepreneurs and entrepreneurial experience show entrepreneurs are more focused on bringing stakeholders on board than on seeking market leadership per se. There is, of course, a tendency to focus on investors as the most important stakeholders. But both theoretical and empirical investigations argue for a more comprehensive set of possible stakeholders. Lounsbury and Glynn (2001), for example, consider the impact of entrepreneurial stories on competitors and customers as well as investors. Through these stories, they argue, entrepreneurs construct a new venture identity that allows them to accumulate two kinds of capital - resource and institutional. Sarasvathy and Dew (2005) develop a model of entrepreneurial stakeholder acquisition that is applicable to all possible stakeholders who may self-select into the creation of new markets. Their focus is on the co-creation of new markets and new ventures through an entrepreneurial process. Zott and Huy

(2007) empirically examined entrepreneurs' resource acquisition activities through a two-year inductive field study. They found the quality of stakeholder relationships to be one of the four most significant categories of symbolic actions that constituted successful entrepreneurial experience, with stakeholders including investors, co-founders, employees, suppliers, customers and board members. Aldrich and colleagues (Aldrich and Kim, 2007; Martinez and Aldrich, 2011) develop models of social networks to explain how relationships affect entrepreneurial team formation and search. But even when looking only at entrepreneur-investor relationships, Murnieks et al. (2011) found cognitive similarities played an important role in the creation and sustenance of stakeholder relationships. So while the market potential of an opportunity may provide a necessary condition for the creation of new ventures and product markets, stakeholder relationships may provide one of the sufficient conditions. This distinction is illustrated by Sarasvathy and Dew (2005) using examples from the specialty coffee market and social movements such as Mothers Against Drunk Driving.

Thus, a tension lies at the heart of managerial and entrepreneurial research. Whereas managers seek directly to achieve market leadership (presumably in some kind of actual or potential marketplace defined ex-ante), entrepreneurs pay more attention to the nurturing of stakeholder networks that hopefully lead to market leadership (presumably in a market defined only ex-post). Nevertheless, the activities of both managers and entrepreneurs are widely recognized as consequential not just for organizational performance but also for economic growth. David Teece writes that:

“(I)f we want to understand economic growth and economic development better, we need a more complete understanding of the role of management and entrepreneurship in enterprise performance, and of enterprise performance in economic development and growth.” (Teece, 2007: 44).

Teece's prescription for market leadership is that managers become more entrepreneurial:

“(O)nce an enterprise is established, continued success in an open competitive economy requires entrepreneurial management...” (Teece, 2007: 45).

For Teece, the notion of market leadership itself remains central to his thesis of entrepreneurial performance rather than the creative "making" of markets. All the same, Teece (2007) marks a major departure from treating managers and entrepreneurs as mere coefficients in a production function to making their behavior more salient in shaping the forces that matter for economic growth.

Taken together, there is a growing consensus in a variety of literature streams that what corporate executives and entrepreneurs do does matter for market development, economic growth and the vitality of national economic institutions.

But the empirical evidence suggests executives' efforts are predominately focused on rivalry and leadership within predefined markets, with or without explicit engagements with new stakeholders. Entrepreneurs' efforts, however, are more focused on developing relationships with stakeholders, with or without clear, upfront definitions of potential markets. Both are engaged in new market creation - but the focus of their efforts is different.

2.3. Drivers of Variation: Goals versus Means

The rich and enduring literature on goal-setting in organizations and leadership studies attests to the importance of goals as drivers of managerial models of creation (Locke and Latham, 2002). Even when using a relational perspective on strategizing in a setting explicitly focused on interorganizational networks rather than market performance per se, Hoffmann (2007) found the creation and management of goal-oriented alliance portfolios allowed the focal firm "...to strategically optimize the position of the focal company in the interorganizational field and to improve its financial performance" (Hoffmann, 2007: 849). Scholars working in a sociological tradition also tend to focus on goal-oriented and resource-constrained action (Shipilov and Li 2008).

In contrast to the goal emphasis in managerial settings, some studies have converged on the idea that entrepreneurial actions are means-driven, both when goals are clear and when they are ambiguous. Sarasvathy (2001) proposed the theory of effectuation in which people begin with who they are, what they know and whom they know (their means) to iteratively and interactively create new means-ends frameworks that become embodied in new ventures and markets. Baker, Miner, and Eesley (2003) explicated the notion of improvisation and compared and contrasted it with effectuation and bricolage. Improvisation occurs when the timing of the design and execution of actions converge; bricolage is the technique of making do with what you have (Baker, Miner, and Eesley, 2003: 266 and 273). Baker and Nelson (2005) conducted a field study of 29 ventures to show how people use bricolage to create something from nothing. Other studies on the resourcefulness of entrepreneurial networks (Zhang et al., 2008) argue for the relative importance of means-driven strategies in entrepreneurial models of creation. Fundamentally, means enable entrepreneurs to break out of the "credibility carousel" (Birley 2003) and initiate a cycle that confers legitimacy to their fledgling venture. Managers, in contrast, tend to be driven by organizational goals, even when engaged in innovative activities such as new product development. In a study of improvisation in this setting, Moorman and Miner (1998) found more experienced managers less likely to use improvisation. In sum, while corporate managers and entrepreneurs engage in new market creation activities, the drivers of those actions are different.

2.4. Outcomes of Variation

The two different approaches used by executives and entrepreneurs have clear consequences for the firms they build and run, and the product markets they interact in. There is overwhelming evidence that incentives, processes and even best practices of organizational learning within established firms lead to inertia and narrowing rather than broadening of valuable innovative possibilities (Burke, Van Stel and Thurik 2016). A series of studies involving "Red Queen" competition spell out the difficulties established organizations face in increasing their slate of successful innovative offerings. Barnett and McKendrick (2004), for example, illustrate how large organizations weaken in their ability to compete over time when compared with small ones. Another problem identified in this connection consists in "co-evolutionary lock in." In a seminal study of Intel using a longitudinal multistage, nested case design, Burgelman (2002b) found that by focusing on a successful strategy, Intel locked itself into pathways that inhibited new business development. Benner and Tushman (2002) undertook a 20-year longitudinal study of patenting activity and ISO 9000 quality program certifications in the paint and photography industries to find rather succinctly that "exploitation crowded out exploration."

All the same, as several noted scholars argue, we should not jump to the conclusion that such a narrowing of innovative activities is always a bad thing (Timsit et al. 2015). In fact, it may not only be inevitable, but necessary and even good for mature firms. Greve (1999), for example, shows changes in market position are not beneficial to established firms with good performance track records. Sorenson (2000) makes the same argument with regard to product innovations for firms operating in markets where the total number of new products introduced is increasing. Dew, Goldfarb, and Sarasvathy (2006) developed a mathematical model specifying conditions under which large corporations should not pursue disruptive technologies but consider closing while there is still value to be distributed to stakeholders.

The interesting conclusion from these works with regard to managerial models of variation creation seems to be that the very mechanisms that result in increased performance often lead established organizations to narrow their slate of product market offerings, which then causes them to lose market leadership to upstart entrepreneurial firms that offer more variety of products and services. In contrast to the "narrowing down" observed in managerial models, entrepreneurial models of creation lead to an expansion of new product market opportunities. Several studies have begun cumulating evidence in this regard. Through a longitudinal sample of entrepreneurial firms from the medical and surgical instruments industry, Kor (2003) showed founders' skills valuable in matching firm capabilities with new productive opportunities. Also Simons and Roberts (2008) investigated Israeli wineries during the period 1983-2004 to study the development of a new organizational form arising from the entry of 138 new

ventures into a traditional market. The study found that founders' experience played an important role in producing superior quality innovations related to the new organizational form that fundamentally transformed the industry.

Entrepreneurs' relationships with key stakeholders are also crucial in this process of expanding the slate of new product and market opportunities. Yli-Renko and Janakiraman (2008) looked into such relationships using longitudinal data on young technology firms and examined how they are related to entrepreneurial performance with regard to the development of new products and markets:

The results indicate that customer portfolio size has an inverse U-shaped relationship to the number of new products developed and that the more relationally embedded the customer set, the more new products the firm develops. Dependence stemming from revenue concentration has a negative impact on new product output. Furthermore, the authors find that relational embeddedness can compensate for too small of a customer portfolio and can help offset the negative effects of a highly concentrated portfolio (p. 131).

As studies involving entrepreneurial firms cumulate, it is clear there are not only distinct differences in models adopted by young and mature firms, but these lead to important differences in consequences for the construction of new products and markets (Davis, Eisenhardt, and Bingham, 2009).

Taken together, extant literature suggests key differences between experienced managers and entrepreneurs in the variations they create that enable the development of new markets. But if we are to bring these out more precisely with a view to deepen our understanding of new market development, we need to explore them in an experimental setting. We turn to that task next.

3. Method and Procedures

3.1. Verbal Protocols

As our objective is to understand heuristic differences in decision-making associated with entrepreneurial and managerial approaches to market creation, we selected the method of concurrent verbal protocol analysis. Pioneered largely in psychology, verbal protocols are well established in studies of expertise (Ericsson and Simon, 1980 and 1993; Ericsson et al., 2006) and have been employed in management (ex: Isenberg, 1986; Collopy and Armstrong, 1992) to validate decision-making results obtained with alternative methods (Argote, Devadas, and Melone, 1990) as well as investigations of entrepreneurs (Grégoire, Barr and Shepherd, 2010). The method involves presenting subjects with a problem-solving task and asking them to think aloud while completing the task. The intent

of verbal protocol analysis is to gain in-depth information and insight into real-time cognitive processing (Ericsson and Simon, 1980), minimizing bias associated with retrospective recall and overcoming some limits of stimulus-response methods that focus only on decision outcomes. In line with well-established techniques of protocol analysis, we utilized an engaging research instrument, validated in prior research (Sarasvathy 2008), to capture the information-processing tasks involved in discovering and/or creating market(s) for a new product.

3.2. Subjects

Think aloud verbal protocols were collected from 61 individuals: 34 experienced executives, and 27 experienced entrepreneurs. Managerial experience was operationalized through the following criteria: a) significant experience in an executive role at a multinational firm, and b) limited entrepreneurial experience. We identified 34 professionals from the alumni of a leading management executive education program. Subjects were between the ages of 32 and 64, with an average of 14.8 years' experience in large organizations. They had diverse industry backgrounds, and eighty-five percent had never been part of a startup.

The 27 experienced entrepreneurs had similar levels of experience in their domain and also represented a diversity of industry backgrounds. This sample was drawn from a population identified by combining a list of the one hundred most successful entrepreneurs and a list of national winners of the Entrepreneurs of the Year awards, compiled by Ernst and Young. The criteria included: a) having founded multiple firms, b) having remained with at least one of the ventures through more than 10 years of operation, and c) having achieved a minimum of \$200 million in annual revenues. Additionally, all the entrepreneurs had taken a firm through an initial public offering (IPO). On average, the entrepreneurs had founded seven firms.

3.3. Research Instrument

In all cases, one of the principal investigators administered the instrument in a standardized process. First, subjects were presented with a detailed written description of an imaginary game of entrepreneurship called Venturing (Sarasvathy, 2008). After the subjects finished reading the description aloud, they were presented with the following five written questions and asked to read the questions aloud to ensure they experienced the questions in the same order and format:

1. Who could be your potential customers for this product?

2. Who could be your potential competitors for this product?
3. What information would you seek about potential customers and competitors – list questions you would want answered.
4. How will you find out this information – what kind of market research would you do?
5. What do you think are the growth possibilities for this company?

Each subject completed the task individually and their concurrent verbal protocols were recorded. Throughout the experiment, interaction between investigator and subject was limited to prompting the subject to continue thinking aloud if they stopped talking for more than four seconds. Once subjects finished responding to the first five questions, they were presented with two pages of market research information relating to the opportunity for the Venturing product and asked to think aloud about the following three additional questions, again in a standardized format and order:

1. Which market segment/segments will you sell your product to?
2. How will you price your product?
3. How will you sell to your selected market segment/segments?

All subjects were asked to commit a minimum of 30 minutes to the experiment. All subjects completed the tasks without time pressure and members of both groups of experts remarked that they found both the scenario and questions to be engaging and representative of the kinds of issues they faced or might expect to face in the context of creating a new market opportunity. Subsequent to the interactions, recordings of their think aloud protocols were transcribed by a professional service.

3.4. Coding

A coding scheme to extract relevant data from thought “chunks” in the protocol transcripts was created using the helix process described in Ericsson and Simon (1993). This generated specific items along the particular dimensions of interest induced from previous literature discussed in depth earlier, namely, instances of thoughts relating to markets versus networks, goals versus means, and market capture versus creation. The iterations began with one principal investigator randomly selecting protocol transcripts of two experienced executives and two experienced entrepreneurs, then creating a list of specific coded items. The same researcher expanded the list by adding items from other protocol transcripts, testing, adding, deleting and refining items iteratively until new protocol transcripts yielded no further modifications, producing the following operationalization schemes:

3.4.1. *Focus (Market Share/Partnerships)*: Achieving leadership within predefined markets was operationalized by coding subjects' thought "chunks" according to whether they emphasized market size, scale, scope in their choices, while a focus on building and maintaining stakeholder networks was operationalized based on their envisioning partnerships or relationships.

3.4.2. *Drivers (Goals/Means)*: Goal-driven strategy was reflected in subjects' selection of a distribution approach to the market based on prior segment choice. Means-driven strategy was operationalized by coding whether the subject started reasoning about approaching the environment by evaluating their personal expertise, relationships and interests.

3.4.3. *Outcomes (Given Segments/New Markets)*: Remaining close to existing product markets was operationalized by looking at whether subjects selected at least one of the segments described in the scenario, while the breadth of slate of new product markets was measured by the number of new market opportunities subjects explored beyond those embodied in the scenario.

The converged coding scheme was tested by two other principal investigators who used the coding scheme to independently recode the same protocol transcripts. To check inter-coder reliability, an independent individual, otherwise not involved in the study, recoded all protocols using the scheme created by the principal investigators. The independent coder comparisons, using the proportional reduction in loss (PRL) approach (Rust and Cooil, 1994), identified strong mean inter-rater agreement of 0.78 across study variables, with no agreement less than 0.62. Table 2 presents sample descriptive data and analysis results.

Table 2: Faced with the same new market creation tasks...

	Experienced Executives N = 34	Difference (test of significance)	Experienced Entrepreneurs N = 27
Descriptives	41 years old (34-62)	Average Age (Range)	55 years old (45-80)
	0.3 (4) ventures	Average New Ventures (Max)	7.3 (27) ventures
	14.8 years	Average Work Experience	21.6 years
	30 male, 4 female	Gender	27 male, 0 female
	Industries: Technology, Food, Banking, Energy, Air Transport, Telecommunications, Pharma, Tobacco, Education, Media, Aluminum, Consumer Goods, Packaging		Industries: Retail, Services, Biotech, Computers, Software, Railroad, Medical Devices, Energy, Steel, Consumer Products, Telecommunications, Media
Mkt Share V. Partner	1.85 instances (average per subject)	S Market Share t = 2.81; p = 0.007	0.41 instances (average per subject)
	Focus on achieving leadership within predefined markets (Based decisions on market size, scale or scope)		Focus on building stakeholder networks that lead to new market definitions (Based decisions on partnering or relationships)
	8 instances 26 no mentions	P Partnerships ChiSq = 6.57; p = 0.010	15 instances 12 no mentions
Goals V. Means	26 instances 7 no mentions	G Goals t = 16.77; p < 0.001	7 instances 20 no mentions
	Use goal-driven strategies (Chose distribution based on earlier segment choice)		Use means-driven strategies (Mentioned what they (personally) have, whom they know or what they know)
	3 instances 30 no mentions	M Means ChiSq = 11.58; p = 0.001	13 instances 14 no mentions
Given V. New	33 instances 1 no mention	Existing Products/Segments t = 4.12; p = 0.042	22 instances 5 no mention
	Remain close to existing product markets (Chose at least one segment in scenario)		Broader slate of new product markets (Considered markets outside the scenario)
	1.59 instances	N New Markets t = 1.97; p = 0.054	2.37 instances

4. Results

We compared differences between experienced executives and experienced entrepreneurs using Pearson chi-squared statistics if the coding data was dichotomous (instance of a given thought, or none), or a t-test if the coding was an integer number of thoughts identified from the transcripts. All p-values are two-tailed, and all t-tests assume equal variances, though we validated our analyses assuming unequal variances and found the results did not significantly change. Our results reveal experienced executives are more likely to focus on capturing market share, scope or scale ($p = 0.007$) than experienced entrepreneurs. At the same time, experienced entrepreneurs are more likely to focus on partnerships ($p = 0.010$) than their experienced executive peers.

To compare drivers of variation, we examined subjects' rationale for distribution decisions along the lines of goal or means orientation. Compared with experienced entrepreneurs, we find experienced executives significantly more ($p < 0.001$) goal oriented. They were preoccupied with identifying and selecting the distribution channel that matched the given product and segment they previously selected. In contrast, expert entrepreneurs were significantly ($p = 0.001$) more likely to start with the means available, both at the beginning and in later decisions about distribution.

Investigating outcomes, we examined both the commitment to existing segments and markets, as well as the creation of new segments and markets. Our analyses showed experienced executives significantly ($p = 0.042$) more likely to select at least one of the segments presented in the scenario than their experienced entrepreneur peers. This contrasted directly with experienced entrepreneurs who were significantly ($p = 0.054$) more likely to come up with possible new markets.

4.1. Aggregation of Heuristics into Processes

The results impelled us to delve deeper into the protocols to qualitatively assess major patterns of differences in the *process* models of new market creation used by our subjects. We began by fitting data from entrepreneurs with the dynamic process model of effectuation from prior literature (Sarasvathy and Dew 2005; Read and Dolmans 2012). Illustrated with select quotes from the expert entrepreneur transcripts in Figure 1, and using letter icons in red circles to match heuristics from Table 2 into processes, we find the model fit the data well.

Figure 1: Experienced entrepreneurs and the effectual process

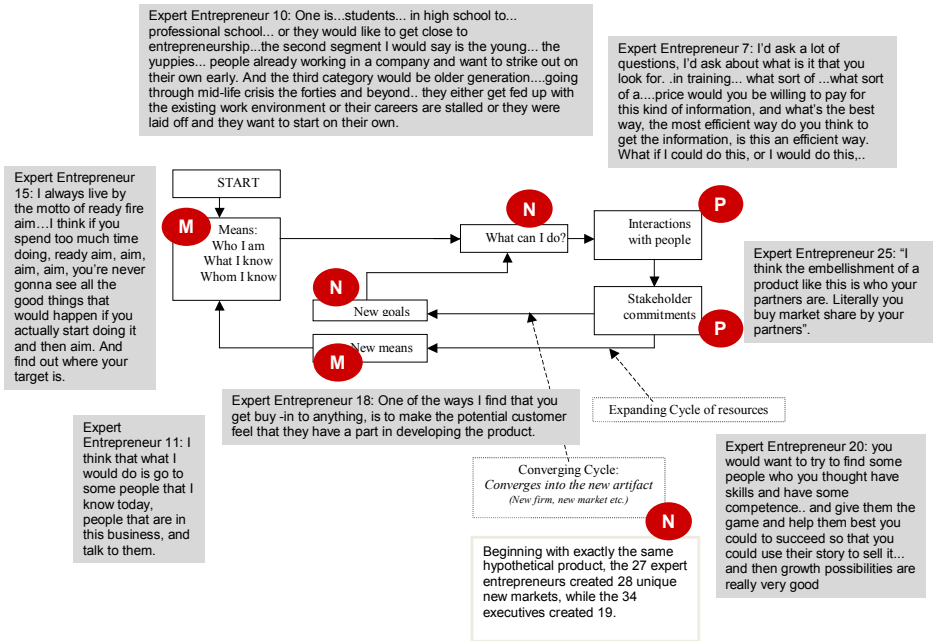
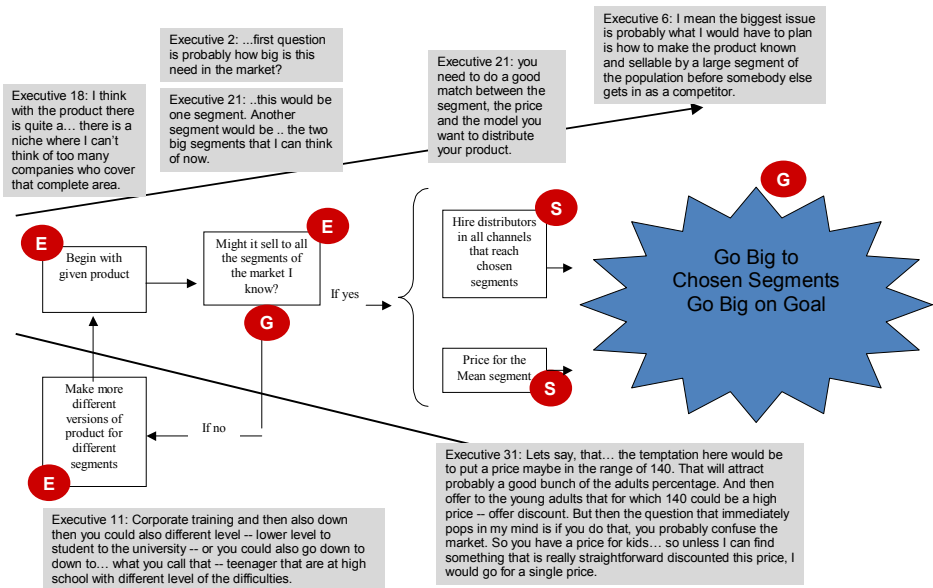


Figure 2: Experienced executives: Process in the pursuit of scale



We then endeavored to find similarities and differences between process model and the patterns identifiable in the experienced manager data. As is clear from Figure 2, the resulting generalized process differs dramatically from that used by entrepreneurs. There is a single locus of variation creation that occurs early in the experienced executive process when subjects try to define, find or create a market that is predicted to be large both in terms of size and expected return the executives believe they can capture. This is consistent with Henderson and Stern's (2004: 42) observation that:

“To select among competing projects, middle managers must forecast future shifts in technology, competition and customer demand. Since they are boundedly rational, managers' internal selection decisions are often flawed, yet those forecasts are typically a good deal better than random guesses, particularly in firms that can extrapolate from their experience and combine that information with real-time market feedback.”

If the predicted market is not large enough, or if the executives find through their analyses the probability of acquiring leadership within the market is not high enough, they restart the process and try to imagine or find another market that would meet their goals. The number of new markets generated through this process is constrained by the predictability of return, the probability of market leadership and the speed with which such a new market is found. Once such a large market is identified, executives tend to concentrate their analytical and creative efforts on capturing share within that predicted market rather than generating new markets.

In contrast to the experienced executives, experienced entrepreneurs show a much longer cycle of variation in terms of new product/markets creation since they do not begin with a predefined market. The entrepreneurs pursue commitments from stakeholders who iteratively re-shape both the resource base and target market until one or more new markets has been created. Such markets may or may not have been predicted by any of the stakeholders – including the entrepreneurs – early on in the creation process. The detail in our data demonstrates this difference. Not only did experienced entrepreneurs create a greater quantity of new markets than their executive peers, but the opportunities created by the experienced executives were qualitatively closer to the known markets in the scenario-based research instrument we used, in areas such as corporate education and retraining displaced employees. In contrast, the stakeholder-driven process of expert entrepreneurs yielded diverse products and markets ranging from gifts to fantasy entrepreneurship to building product variations for different kinds of retailers including Toys "R" Us and even the military².

2. To establish the uniqueness of both experienced entrepreneur and experienced executive processes, we extracted the novice process from transcript data previously collected with the Venturing protocol (Read et al. 2009) and diagram that process model in Appendix 1.

4.2. Focus: Stakeholder-driven Processes

An important consequence of our findings is that systematic differences in models of variation creation systematically determine what is – and is not – available for selection (Henderson and Stern 2004). We found the model used by experienced entrepreneurs explicitly endogenizes selection forces, at least partially. Experienced entrepreneurs learn the value of co-creating elements of the environment with selected stakeholders who help shape the goals of the new venture at any given point in time in return for commitments of resources. Market leadership is not the driver of this process. More important is the creation of market niches, whether or not they eventually grow into a coherent future market (Dew and Sarasvathy 2016).

Interestingly, this process of stakeholder self-selection solves a fundamental problem of innovation identified by Weitzman (1998) – namely that, in general, creating new combinations is easy; creating *valuable* new combinations is difficult. Weitzman builds on the basic Schumpeterian insight that innovation processes transform an economy from within, i.e. growth is best conceptualized as an endogenous process. Schumpeter's (1934) original work on “new combinations” as a recombinatorial process is supported by both technology historians and studies of creativity in science (Basalla, 1998). The Weitzman model shows the number of possibilities arising from new combinations quickly becomes astronomical, vastly outstripping the capacity of the economic system to process all the seed ideas into workable innovations. This leads Weitzman to conclude that, “The core of economic life could appear increasingly to be centered on the more and more intensive processing of ever-greater numbers of new seed ideas into workable innovations...” (Weitzman, 1998: 356).

Given this framing of economic growth, the Weitzman model leads us with the question of what the process of producing workable and valuable innovations might look like. The models we present in this paper may provide some solutions to this problem that are also consistent with other studies. Hannan et al. (2006) reported similar evidence in a study of young high-technology firms in Silicon Valley. Their study found that of the 36 possible combinations of key employment variables, results clustered into 5 “blueprints”, only two of which had positive performance implications for the new venture. The first, the “Star” blueprint – evocative of the causal approach embodied in Figure 2, the executive model of creation, had a significantly higher rate of growth in market capitalization, consistent with our findings that experienced executives shoot to build big new product markets. The second, the “Commitment” blueprint consisted of a very different combination that maps well to the effectual approach manifested in the entrepreneurial model of market creation in our study and diagrammed in Figure 1. In terms of performance, the “Commitment” blueprint had a significantly lower hazard of mortality and a significantly higher hazard of completing an IPO. Hannan (2005: 66) draws upon this study and others to argue

for research involving more than just ‘customers’ as the key stakeholder group for fledgling organizations:

“The notion that organizations interact in important ways with multiple audiences, and thus to some extent might be defined by several possibly interrelated identities, prompts organization researchers to rethink how they define populations.”

We generalize this observation to suggest stakeholder-driven processes of new market creation - as opposed to predefined market-driven processes - result in substantially larger variations both in total number of new markets and in degree of novelty in these new markets, therefore leading to a higher probability of significant innovations in products and markets. Moreover, since these variations are co-created with stakeholders, they are likely (at least a bit) more valuable than a randomly generated set of variations.

4.3. Drivers: Bias Towards Means

Experienced executives were highly goal-driven in the way they pursued new market creation, as might be expected given the nature of their experience and the content of their responsibilities. Entrepreneurs, in contrast, were means-driven and more open to changing immediate goals and transforming given market segments into new ones. A focus on goals may be more efficient for internal selection of what products or markets to pursue, but raises questions of effectiveness if the organization’s environment evolves significantly. As Sorenson and Stuart (2000: 117) remark, established organizations appear to quickly lose touch with environmental demands, perhaps because their assumptions are formulated early in the organization’s life and therefore reflect the environmental state near the time of founding. Being goal-driven entails narrowing down the space of possible new markets to those that meet the criteria specified by goals that were probably formulated in prior periods, including size and probability of market leadership. In other words, users of these strategies begin with a set of possibilities from which options are discarded based on subjects’ goals. In contrast, means-driven heuristics encourage adding and expanding possibilities through new combinations of changing means. Again, our data demonstrate this connection. We analyzed this by coding data on partnerships according to relationship type. We observed both experienced executives and entrepreneurs interested in transactional and co-creational relationships. However, experienced entrepreneurs envisioned broader diversity in the types of partners they might work with, suggesting collaborating with military leaders, school-aged children and international traders.

Another observation from our results is that experienced executives appear to assume it is possible a priori to obtain knowledge about linking technologies to

marketplaces, perhaps using information gained from market research techniques (Dougherty, 1992). Such knowledge forms the basis of predictions and strategies to capture market share: leadership of the entire market in the case of executives. The experienced entrepreneurs in our study appeared to reject this knowledge assumption. Their approach to linking technological possibilities with market possibilities involves working locally, utilizing bottom-up processes. This approach seems consistent with fast-changing marketplaces, where new knowledge is constantly emerging, where the experienced executives' approach seems consistent with more stable marketplaces and better established knowledge sources (Uotila et al., 2009).

In sum, the better aligned the means and ends at any given point in the market creation process, the more likely the creation of viable and valuable new markets. Moreover, the better aligned the means and ends, the less time it takes for these new markets to emerge from the process. Given predictability in the environment and accuracy of predictions by decision makers, a market-driven process is more likely to align means and ends than a stakeholder-driven process. The latter is more likely to take unexpected twists and turns contingent upon idiosyncratic stakeholders negotiating particular aspects of means and ends that shape the new product/market creation. Stakeholder perceptions and preferences may thus inject uncertainty into the process in ways that may prove detrimental to new ventures. This is one of the harder lessons entrepreneurs learn, underscored by the qualitative observations in our data of why experienced entrepreneurs insist on stakeholder *self*-selection rather than the targeted pursuit of stakeholders based on predetermined visions.

4.4. Outcomes: Novelty and Experience

Our work clearly urges a deeper incorporation of the role of experience and expertise into future investigations of organizational performance (Toft-Kehler et al. 2014). It also suggests something possibly much more novel and valuable – namely, expertise as a foundation for explaining market variation. By moving beyond prior knowledge as the primary basis for opportunity discovery (Shane 2000), contemporary scholarship such as Gruber et al. (2012 and 2013) offers new possibilities for research that acknowledges firms can “choose” markets and that market opportunities can be created as well as discovered (Alvarez, Barney and Anderson 2013). This paper identifies some mechanisms that may drive variation in opportunity creation. These insights suggest it may be useful if future research addresses: (a) how organizations learn to create opportunities and select and shape the environments within which these opportunities may arise; (b) how the deployment of prior knowledge and expertise may impact those creative processes; (c) how the variety generated through those processes differs for opportunities discovered and created; and (d) the performance implications associated with each.

5. Conclusion: Contributions to Economic and Sociological Viewpoints on How New Markets Come to Be

Researchers, especially evolutionary and industrial organization economists who have begun cumulating their own empirical work involving historical analyses of industries, have demonstrated the need to understand the roots of heterogeneity. That industries will converge on a dominant pattern as the market simply selects out less efficient and ineffective variations has been one of the primary theoretical predictions arising from classical models of industry evolution (Metcalfe, 1998). But more variation persists among firms than models suggest it should, even as industries mature (Malerba and Orsenigo, 1996). Some reviews have called for a fundamental rethinking of microfoundations of industry behavior and even changes in the ubiquitous production function that underlies most formal models of industrial organization (Dosi, 2004).

Through precise and careful comparison in an experimental setting, we have shown managerial and entrepreneurial experience differentially impact development of new markets. This suggests finding ways to incorporate entrepreneurial and managerial experience into firm foundations may open fertile avenues for rethinking assumptions about firm behavior, both in conventional economic and evolutionary terms. It could be that not all new entrants are creating random variations, not only because they may vary in level of experience (novice vs expert), but also because they may vary in kinds of experience (expert executives vs expert entrepreneurs). For, as Hannan (2005) points out, "...diversity reflects specialization, which arises as a consequence of differences in endowments, learning by doing and the gains from trade." Studying entrepreneurs, Chatterji (2009) supports this view, finding superior performance "...is not driven by technological spillovers from parent to spawn, but rather by non-technical knowledge related to regulatory strategy and marketing", while Eisenhardt and Bingham (2017) arrive at similar findings in a study of executives. These skills may be acquired through learning-by-doing and are not necessarily tied to the attributes or initial endowments of individuals, whether executives or entrepreneurs.

In other words, experienced entrepreneurs do what they have learned to do well in the context of sparse resources and significant uncertainties. They take a co-creative rather than predictive stance toward the future, working with what they have, to transform their environment through ongoing engagement with a growing network of self-selected stakeholders (Liao and Rice, 2010). Experienced executives, similarly, do what they have learned to do well in the context of coordination of large pools of resources, pushing toward new top-line growth that can only be justified by its comparative size to current sources of revenue and market position. The point is not that one is better than the other in some abstract notion of optimality but there are at least two completely separate yet internally consistent processes for developing market niches.

References:

- Ahuja, G., and Katila, R. (2004), "Where do resources come from? The role of idiosyncratic situations", *Strategic Management Journal*, 25: 887-907.
- Aldrich, H., and Ruef, M. (2006), *Organizations Evolving*, Thousand Oaks: Sage Publications Incorporated.
- Aldrich, H., and Fiol, C.M. (1994), "Fools rush in? The institutional context of industry creation", *Academy of Management Review*, 19: 645-670.
- Aldrich, H., and Kim, P.H. (2007), "Small worlds, infinite possibilities? How social networks affect entrepreneurial team formation and search", *Strategic Entrepreneurship Journal*, 1: 147-165.
- Alvarez, S.A., Barney, J.B., and Anderson, P. (2013), "Forming and exploiting opportunities: The implications of discovery and creation processes for entrepreneurial and organizational research", *Organization Science*, 24(1): 301-317.
- Argote, L., Devadas, R. and Melone, N. (1990), "The base-rate fallacy: Contrasting processes and outcomes of group and individual judgment", *Organizational Behavior and Human Decision Processes*, 46: 296-310.
- Baker, T., Miner, A. and Eesley, D.T. (2003), "Improvising firms: Bricolage, account giving and improvisational competencies in the founding process", *Research Policy*, 32: 255-276.
- Baker, T. and Nelson R.E. (2005), "Creating something from nothing: Resource construction through entrepreneurial bricolage", *Administrative Science Quarterly*, 50: 329-366.
- Barnett, W.P. and Freeman, J. (2001), "Too much of a good thing? Product proliferation and organizational failure", *Organization Science*, 12: 539-558.
- Barnett, W.P. and McKendrick, D.G. (2004), "Why are some organizations more competitive than others? Evidence from a changing global market", *Administrative Science Quarterly*, 49: 535-571.
- Baron, R.A. and Ensley, M. (2006), "Opportunity recognition as the detection of meaningful patterns: Evidence from comparisons of novice and experienced entrepreneurs", *Management Science*, 52: 1331-1344.
- Barr, P.S., Stimpert, J.L., and Huff, A.S. (1992), "Cognitive change, strategic action, and organizational renewal", *Strategic Management Journal*, 13(S1): 15-36.
- Basalla, G. (1998), *The Evolution of Technology*, Cambridge, MA: Cambridge University Press.
- Batilana, J., and Leca, B. (2009), "The role of resources in institutional entrepreneurship: Insights for an approach to strategic management that combines agency and institution", In L.A. Costanzo and R.B. MacKay (Eds.), *Handbook of Research on Strategy and Foresight*, Cheltenham, UK: Edward Elgar Publishing, pp. 260-274.
- Beckman C., Burton, M. and O'Reilly, C. (2007), "Early teams: The impact of team demography on VC financing and going public", *Journal of Business Venturing*, 22: 147-173.
- Benner, M.J., and Tushman, M. (2002), "Process management and technological innovation: A longitudinal study of the photography and paint industries", *Administrative Science Quarterly*, 47: 676-706.
- Bigley, G.A. and Wiersema, M.F. (2002), "New CEOs and corporate strategic refocusing: How experience as heir apparent influences the use of power", *Administrative Science Quarterly*, 47: 707-727.
- Birley, S. (2003), "Universities, academics, and spinout companies: Lessons from Imperial". *International Journal of Entrepreneurship Education*, 1(1), 133-154.
- Boeker, W. (1989), "Strategic change: The effects of founding and history", *Academy of Management Journal*, 32: 489-505.
- Brown, S.L. and Eisenhardt, K.M. (1995), "Product development: Past research, present findings, and future directions", *Academy of Management Review*, 20: 343-378.
- Burgelman, R.A. (2002a), *Strategy is Destiny: How Strategy-Making Shapes a Company's Future*, New York: Free Press.
- Burgelman, R.A. (2002b), "Strategy as vector and the inertia of coevolutionary lock-in", *Administrative Science Quarterly*, 47: 325-357.
- Burke, A., Van Stel, A., and Thurik, R. (2016), "Testing the validity of Blue Ocean Strategy versus Competitive Strategy: An analysis of the retail industry", *International Review of Entrepreneurship*, 14(2): 123-146.

- Busenitz, L.W. and Lau C.M. (1996), "A cross-cultural cognitive model of new venture creation", *Entrepreneurship Theory and Practice*, 20(4): 25-40.
- Chatterji, A.K. (2009), "Spawned with a silver spoon? Entrepreneurial performance and innovation in the medical device industry", *Strategic Management Journal*, 30: 185-206.
- Collopy, F. and Armstrong, J.S. (1992), "Rule-based forecasting: Development and validation of an expert systems approach to combining time series extrapolations", *Management Science*, 38: 1394-1414.
- Davis, J.P., Eisenhardt, K., and Bingham C.M. (2009), "Optimal structure, market dynamism, and the Strategy of Simple Rules", *Administrative Science Quarterly*, 54: 413-452.
- Demetry, D. (2017), "Pop-up to professional: Emerging entrepreneurial identity and evolving vocabularies of motive", *Academy of Management Discoveries*, 3(2): 187-207.
- Denrell, J., Fang, C. and Winter, S.G. (2003), "The economics of strategic opportunity", *Strategic Management Journal*, 24(10): 977-990.
- Dew, N., Goldfarb, B., and Sarasvathy, S. (2006), "Optimal inertia: When organizations should fail", In: J.A.C. Baum, S.D. Dobrev, and A. van Witteloostuijn (Eds.), *Ecology and Strategy (Advances in Strategic Management, Volume 23)*, Bingley, UK: Emerald Group Publishing Limited, pp. 73-99.
- Dew, N. and Sarasvathy, S. (2016), "Exaptation and niche construction: Behavioral insights for an evolutionary theory", *Industrial and Corporate Change*, 25(1): 167-179.
- Dosi, G. (2004), "On some statistical regularities in the evolution of industries: Evidence, interpretation, and open questions", Paper presented at International Joseph A. Schumpeter Society 10th Conference. Università Bocconi, Milan, 9-12 June 2004.
- Dougherty, D. (1992), "Interpretive barriers to successful product innovation in large firms", *Organization Science*, 3: 179-202.
- Eisenhardt, K.M., and Bingham, C.B. (2017), "Superior strategy in entrepreneurial settings: Thinking, doing, and the logic of opportunity", *Strategy Science*, 2(4): 246-257.
- Ericsson, K.A., Charness, N., Feltovich, P.J., and Hoffman, R.R. (Eds.) (2006), *The Cambridge Handbook of Expertise and Expert Performance*, Cambridge, UK: Cambridge University Press.
- Ericsson, K.A. and Simon, H.A. (1980), "Verbal reports as data", *Psychological Review*, 87: 215-251.
- Ericsson, K.A. and Simon, H.A. (1993), *Protocol Analysis: Verbal Reports as Data* (Revised edition), Cambridge, MA: The MIT Press.
- Fligstein, N., and Dauter, L. (2007), "The sociology of markets", *Annual Review of Sociology*, 33, 105-128.
- Garud, R., and Gehman, J. (2016), "Theory evaluation, entrepreneurial processes, and performativity", *Academy of Management Review*, 41(3): 544-549.
- Golden, B.R. (1992), "The past is the past—or is it? The use of retrospective accounts as indicators of past strategy", *Academy of Management Journal*, 35(4): 848-860.
- Golder, P.N., and Tellis, G.J. (1993), "Pioneer advantage: Marketing logic or marketing legend?", *Journal of Marketing Research* 30(2): 158-170.
- Granovetter, M.S. and Swedberg, R. (Eds.) (2001), *The Sociology of Economic Life* (Vol. 3), Boulder, CO: Westview Press.
- Grégoire, D.A., Barr, P.S. and Shepherd, D.A. (2010), "Cognitive processes of opportunity recognition: The role of structural alignment", *Organization Science*, 21(2): 413-431.
- Greve, H.R. (1999), "The effect of core change on performance: Inertia and regression toward the mean", *Administrative Science Quarterly*, 44: 590-614.
- Gruber, M., MacMillan, I.C. and Thompson J.D. (2012), "From minds to markets: How human capital endowments shape market opportunity identification of technology start-ups", *Journal of Management* 38(5): 1421-1449.
- Gruber, M., MacMillan, I.C. and Thompson J.D. (2013), "Escaping the prior knowledge corridor: What shapes the number and variety of market opportunities identified before market entry of technology start-ups?", *Organization Science*, 24(1): 280-300.
- Hambrick, D. (2007), "Upper echelons theory: An update", *Academy of Management Review*, 32: 334-343.

- Hambrick, D.C. and Mason, P.A. (1984), "Upper echelons: The organization as a reflection of its top managers", *Academy of Management Review*, 9: 193-206.
- Hannan, M.T. (2005), "Ecologies of organizations: Diversity and identity", *Journal of Economic Perspectives*, 19: 51-70.
- Hannan, M.T., Baron, J.N., Hsu, G. and Koçak, O. (2006), "Organizational identities and the hazard of change", *Industrial and Corporate Change*, 15: 755-784.
- Heimeriks, K.H., Bingham, C.B., and Laamanen, T. (2015), "Unveiling the temporally contingent role of codification in alliance success", *Strategic Management Journal*, 36(3): 462-473.
- Helfat, C. and Peteraf, M.A. (2015), "Managerial cognitive capabilities and the microfoundations of dynamic capabilities", *Strategic Management Journal*, 36(6): 831-850.
- Henderson, A.D. and Stern, I. (2004), "Selection-based learning: The coevolution of internal and external selection in high-velocity environments", *Administrative Science Quarterly*, 49: 39-75.
- Hoffmann, W.H. (2007), "Strategies for managing a portfolio of alliances", *Strategic Management Journal*, 28: 827-856.
- Holcomb, T.R., Holmes, R.M. and Connelly, B.L. (2009), "Making the most of what you have: Managerial ability as a source of resource value creation", *Strategic Management Journal*, 30: 457-485.
- Huff, A.S., Milliken, F.J., Hodgkinson, G.P., Galavan, R.J., and Sund, K.J. (2016), "A conversation on uncertainty in managerial and organizational cognition", In: K.J. Sund, R.J. Galavan, and A.S. Huff (Eds.), *Uncertainty and Strategic Decision Making*, Bingley, UK: Emerald Group Publishing Limited, pp. 1-31.
- Humphreys, A. (2010), "Megamarketing: The creation of markets as a social process", *Journal of Marketing*, 74(2): 1-19.
- Isenberg, D.J. (1986), "Thinking and managing: A verbal protocol analysis of managerial problem solving", *Academy of Management Journal*, 29: 775-788.
- Jackson, S.E. and Dutton, J.E. (1988), "Discerning threats and opportunities", *Administrative Science Quarterly*, 33(3): 370-387.
- Kesidou, E. and Carter, S. (2018), "Entrepreneurial leadership: An exploratory study of attitudinal and behavioral patterns over the business life-cycle", *International Review of Entrepreneurship* 16(1): 63-88.
- Kim, W.C. and Mauborgne, R. (2005), "Blue ocean strategy: From theory to practice", *California Management Review*, 47(3): 105-121.
- Klepper, S. (2007), "Disagreements, spinoffs, and the evolution of Detroit as the capital of the US automobile industry", *Management Science*, 53(4): 616-631.
- Kor, Y.Y. (2003), "Experience-based top management team competence and sustained growth", *Organization Science*, 14: 707-719.
- Liao, T.-S. and Rice, J. (2010), "Innovation investments, market engagement and financial performance: A study among Australian manufacturing SMEs", *Research Policy*, 39: 117-125.
- Locke, E.A. and Latham, G.P. (2002), "Building a practically useful theory of goal setting and task motivation: A 35-year odyssey", *American Psychologist*, 57: 705-717.
- Lounsbury, M. and Glynn, M.A. (2001), "Cultural entrepreneurship: Stories, legitimacy, and the acquisition of resources", *Strategic Management Journal*, 22: 545-564.
- Malerba, F. and Orsenigo, L. (1996), "The dynamics and evolution of industries", *Industrial and Corporate Change*, 5: 51-87.
- Martinez, M.A. and Aldrich, H. (2011), "Networking strategies for entrepreneurs: Managing cohesion and diversity", *International Journal of Entrepreneurial Behavior and Research*, 17(1): 7-38.
- Maurer, I. and Ebers, M. (2006), "Dynamics of social capital and their performance implications: Lessons from biotechnology start-ups", *Administrative Science Quarterly*, 51: 262-292.
- McCloskey, D.N. (2006), *Bourgeois Virtue*, Hoboken, NJ: John Wiley & Sons, Ltd.
- McDonald, R., and Eisenhardt, K.M. (2014), "Competing in new markets and the search for a viable business model", Harvard Business School working paper.
- McMullen, J.S., and Dimov, D. (2013), "Time and the entrepreneurial journey: The problems and promise of studying entrepreneurship as a process", *Journal of Management Studies*, 50(8): 1481-1512.

- Ménard, C. (1995), "Markets as institutions versus organizations as markets? Disentangling some fundamental concepts", *Journal of Economic Behavior & Organization*, 28(2): 161-182.
- Menon, A. (2018), "Bringing cognition into strategic interactions: Strategic mental models and open questions", *Strategic Management Journal*, 39(1): 168-192.
- Metcalfe, J.S. (1994), "Evolutionary economics and technology policy", *The Economic Journal*, 104(425), 931-944.
- Metcalfe, J.S. (1998), *Evolutionary Economics and Creative Destruction*. London: Routledge.
- Miller, D. and Chen, M.-J. (1994), "Sources and consequences of competitive inertia: A study of the U.S. airline industry", *Administrative Science Quarterly*, 39: 1-23.
- Mintzberg, H., and Waters, J.A. (1982), "Tracking strategy in an entrepreneurial firm", *Academy of Management Journal*, 25(3): 465-499.
- Mokyr, J. (2016), *A Culture of Growth: The Origins of the Modern Economy*, Princeton, NJ: Princeton University Press.
- Moorman, C. and Miner, A.S. (1998), "The convergence of planning and execution: Improvisation in new product development", *Journal of Marketing*, 62: 1-20.
- Murnieks, C., Haynie, J.M., Wiltbank, R. and Harting, T. (2011), "I like how you think: The role of cognitive similarity as a decision bias", *Journal of Management Studies*, 48: 1533-1561.
- Nadkarni, S. and Barr, P.S. (2008), "Environmental context, managerial cognition, and strategic action: An integrated view", *Strategic Management Journal*, 29: 1395-1427.
- Ott, T.E., Eisenhardt, K.M., and Bingham, C.B. (2017), "Strategy formation in entrepreneurial settings: Past insights and future directions", *Strategic Entrepreneurship Journal* 11(3): 306-325.
- Penrose E. (1959), *The Theory of the Growth of the Firm*, New York: John Wiley and Sons.
- Politis, D. (2005), "The process of entrepreneurial learning: A conceptual framework", *Entrepreneurship Theory & Practice*, 29: 399-424.
- Porac, J.F., Thomas, H., and Baden-Fuller, C. (1989), "Competitive groups as cognitive communities: The case of Scottish knitwear manufacturers", *Journal of Management Studies*, 26(4): 397-416.
- Porac, J.F., Thomas, H., Wilson, F., Paton, D. and Kanfer, A. (1995), "Rivalry and the industry model of Scottish knitwear producers", *Administrative Science Quarterly*, 40: 203-227.
- Prahalad, C.K. and Ramaswamy, V. (2004), "Co-creation experiences: The next practice in value creation", *Journal of Interactive Marketing*, 18(3): 5-14.
- Ranjan, K.R., and Read, S. (2016), "Value co-creation: concept and measurement", *Journal of the Academy of Marketing Science*, 44(3): 290-315.
- Read, S., Dew, N., Sarasvathy, S.D., Song, M., and Wiltbank, R. (2009), "Marketing under uncertainty: The logic of an effectual approach", *Journal of Marketing*, 73(3): 1-18.
- Read, S., and Dolmans, S. (2012), "Effectuation 10 year waypoint", *International Review of Entrepreneurship*, 10(1): 25-46.
- Rindova, V.P., and Martins, L.L. (2017), "From values to value: Value rationality and the creation of great strategies", *Strategy Science*, 3(1): 323-334.
- Rust, R., and Cooil B. (1994), "Reliability measures for qualitative data: Theory and implications", *Journal of Marketing Research*, 31(1): 1-14.
- Santos, F.M. and Eisenhardt K.M. (2009), "Constructing markets and shaping boundaries: Entrepreneurial power in nascent fields", *Academy of Management Journal*, 52: 643-671.
- Sarasvathy, S. (2001), "Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency", *Academy of Management Review*, 26: 243-263.
- Sarasvathy, S. (2008), *Effectuation: Elements of Entrepreneurial Expertise*, Cheltenham, UK: Edward Elgar Publishing.
- Sarasvathy, S., and Dew, N. (2005), "New market creation through transformation", *Journal of Evolutionary Economics*, 15: 533-565.
- Schumpeter, J.A. (1934), *The Theory of Economic Development*, Cambridge, MA: Harvard University Press.
- Schumpeter, J.A. (1942), "Creative destruction". Taken from: *Capitalism, Socialism and Democracy* (New York: Harper, 1975) [orig. pub. 1942], pp. 82-85.
- Shane, S. (2000), "Prior knowledge and the discovery of entrepreneurial opportunities", *Organization Science*, 11(4): 448-469.

- Shapira, Z. (2017), "Entering new markets: The effect of performance feedback near aspiration and well below and above it", *Strategic Management Journal*, 38(7): 1416-1434.
- Shepherd, D.A., McMullen, J.S., and Jennings, P.D. (2007), "The formation of opportunity beliefs: Overcoming ignorance and reducing doubt", *Strategic Entrepreneurship Journal*, 1(1-2): 75-95.
- Shipilov, A.V. and Li, S.X. (2008), "Can you have your cake and eat it too? Structural holes' influence on status accumulation and market performance in collaborative networks", *Administrative Science Quarterly*, 53: 73-108.
- Simons, T. and Roberts, P.W. (2008), "Local and non-local pre-founding experience and new organizational form penetration: The case of the Israeli wine industry", *Administrative Science Quarterly*, 53: 235-265.
- Sorensen, J.B. (2007), "Bureaucracy and entrepreneurship: Workplace effects on entrepreneurial entry", *Administrative Science Quarterly*, 52: 387-412.
- Sorensen, J.B. and Stuart, T.E. (2000), "Aging, obsolescence, and organizational innovation", *Administrative Science Quarterly*, 45: 81-112.
- Sorenson, O. (2000), "Letting the market work for you: An evolutionary perspective on product strategy", *Strategic Management Journal*, 21: 577-592.
- Stuart, T.E. and Podolny, J.M. (1996), "Local search and the evolution of technological capabilities", *Strategic Management Journal*, 17: 21-38.
- Sutton, J. (2007), "Market share dynamics and the persistence of leadership debate", *American Economic Review*, 97: 222-241.
- Teece, D.J. (2007), "The role of managers, entrepreneurs and the literati in enterprise performance and economic growth", *International Journal of Technological Learning, Innovation and Development*, 1(1), 43-64.
- Tharchen, T. and Garud, R. (2017), "The emergence of new market categories in stigmatized industries: The case of e-cigarettes", Paper presented at the Academy of Management Conference.
- Timsit, J.-P., Castiaux, A., Truong, Y., Athaide, G.A., and Klink, R.R. (2015), "The effect of market-pull vs. resource-push orientation on performance when entering new markets", *Journal of Business Research*, 68(9): 2005-2014.
- Toft-Kehler, R., Wennberg, K. and Kim, P.H. (2014), "Practice makes perfect: Entrepreneurial-experience curves and venture performance", *Journal of Business Venturing*, 29(4): 453-470.
- Ucbasaran, D., Westhead, P. and Wright, M. (2009), "The extent and nature of opportunity identification by experienced entrepreneurs", *Journal of Business Venturing*, 24: 99-115.
- Uotila, J., Maula, M., Keil, T. and Zahra, S.A. (2009), "Exploration, exploitation, and financial performance: Analysis of S&P 500 corporations", *Strategic Management Journal*, 30: 221-231.
- Vargo, S. and Lusch, R. (2004), "Evolving to a new dominant logic for marketing", *Journal of Marketing*, 68(1): 1-17.
- Weick, K.E. (1979), *The Social Psychology of Organizing* (2nd ed.), Reading, MA: Addison-Wesley.
- Weitzman, M.L. (1998), "Recombinant growth", *Quarterly Journal of Economics*, 113: 331-360.
- Wiltbank, R., Dew, N., Read, S. and Sarasvathy, S. (2006), "What to do next? The case for non-predictive strategy", *Strategic Management Journal*, 27: 981-998.
- Winter, S.G. (1984), "Schumpeterian competition in alternative technological regimes", *Journal of Economic Behavior & Organization*, 5(3-4): 287-320.
- Winter, S.G., Szulanski, G., Ringov, D., and Jensen, R.J. (2012), "Reproducing knowledge: Inaccurate replication and failure in franchise organizations", *Organization Science*, 23(3): 672-685.
- Woolley, J.L. (2017), "Origins and outcomes: The roles of spin-off founders and intellectual property in high-technology venture outcomes", *Academy of Management Discoveries*, 3(1): 64-90.
- Yli-Renko, H. and Janakiraman, R. (2008), "How customer portfolio affects new product development in technology-based entrepreneurial firms", *Journal of Marketing*, 72(5): 131-148.

- Zahra, S.A. (1996), "Governance, ownership, and corporate entrepreneurship: The moderating impact of industry technological opportunities", *Academy of Management Journal*, 39(6): 1713-1735.
- Zhang, J., Souitaris, V., Soh, P.H. and Wong, P.K. (2008), "A contingent model of network utilization in early financing of technology ventures", *Entrepreneurship Theory & Practice*, 32: 593-613.
- Zott, C. (2003), "Dynamic capabilities and the emergence of intraindustry differential firm performance: Insights from a simulation study", *Strategic Management Journal*, 24(2): 97-125.
- Zott, C. and Huy, Q.N. (2007), "How entrepreneurs use symbolic management to acquire resources", *Administrative Science Quarterly*, 52: 70-105.

Appendix 1: Novices in the process of new market creation

