

Developing Endogenous Innovations: Corporate Entrepreneurship and Effectuation

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Abstract:

We empirically explore the process of corporate entrepreneurship (CE) through the conceptual lens of effectuation, a theory describing how entrepreneurs innovate. In particular, we investigate how endogenous innovations emerge and evolve into new products or services. The study thus provides an alternative perspective to most CE research that assumes a causation or rational-analytic approach to innovation. We implement a qualitative, multi-case study research design with corporate innovation projects as the level of analysis. Data are from interviews as well as secondary sources and were analyzed using within and cross case analysis. Findings reveal organic stages through which ideas are shaped into viable products. Findings show important effectuation principles at work including stakeholder commitments, affordable loss thinking, and a focus on control instead of prediction. Interestingly, findings illustrate how effectuation may differ in the corporate as compared to the new venture context. Implications for the wider literature are discussed along with limitations of the research design.

Keywords: effectuation, corporate entrepreneurship, innovation process, product development, qualitative research design

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Introduction

Corporate Entrepreneurship (CE) or the development of new ideas, products, and business opportunities by large, established organizations has been a topic of interest to scholars and executives for over 30 years (Corbett et al. 2013; Thornberry 2001). Researchers contend that CE is critical for corporations to stay competitive (Coff 2002; Ireland, Hitt, and Sirmon 2003; Zahra 1991) in the complex and ever-changing global environment (Drucker 1998; Kanter 1985; Morris, Kuratko, and Covin 2011; Turner and Pennington 2015). CE enables large companies to compete with smaller, often more agile start-ups, especially ones commercializing new technology (Kuratko, Hornsby, and Hayton 2015). Existing literature describes CE as the transformation or recombination of resources within an existing firm (Guth and Ginsberg 1990; Sharma and Chrisman 1999; Zahra 1996) and classifies research into the broad domains of corporate venturing and strategic entrepreneurship (Kuratko and Audretsch 2013, 2009; Phan et al. 2009). The literature also identifies factors that affect CE, including organizational characteristics like structure, size, culture, and processes (Duane, Covin, and Kuratko 2009; Kuratko 2010; Lumpkin and Dess 1996; Kuratko and Goldsby 2004).

The process of CE, however, remains under-researched (Kuratko, Hornsby, and Hayton 2015). Initial findings suggest different roles for middle and top level management (Burgelman 1983) and identify activities that enable CE (Belousova and Gailly 2013). As such, our knowledge is limited with respect to how novel ideas within large, existing organizations are transformed into viable products, services, and new businesses (Turner and Pennington 2015). Insights from such research could improve the global economy which has remained sluggish since the 2008 global financial crisis (Kuratko, Hornsby, and Hayton 2015).

In addition, there is scant research that examines effectuation in the context of CE. Effectuation describes an approach to thinking or problem-solving that assumes the future is inherently unpredictable but can be controlled through human action (Sarasvathy 2008). It informs a growing body of research on entrepreneurship occurring independent of existing organizations (Read et al. 2016). It offers a view of entrepreneurship process as emergent and organic, as opposed to highly rational and analytical (Corner and Ho 2010), which echoes

existing descriptions of CE (Burgelman 1983). Effectuation therefore may be considered a process whereby innovation in established organizations unfolds.

The purpose of this paper is to examine empirically the process of emergent, endogenous CE. An effectuation perspective guides our examination and stands in contrast to existing CE research which often implies a rational/analytical view of CE (Duening, Shepherd, and Czaplewski 2012; Ma, Liu, and Karri 2016) or what Sarasvathy labels a causation view (Sarasvathy 2008). We contend, along with other scholars, that CE processes may emerge from idiosyncratic, spontaneous ideas as well as rationally designed research and development discoveries (Ginsberg and Hay 1994; Miles and Covin 2002; Parker 2011; Sharma and Chrisman 1999). We suggest that effectuation may provide insight into such emergence.

We thus explore the research question of “How do corporate entrepreneurs develop endogenous innovations?” We implement a qualitative research design drawing on multiple case studies to induce patterns in CE. The patterns are assessed for their consonance with effectuation theory. This design may extend theory by revealing mechanisms underlying exogenous, emergent CE projects that could inform future research as well as provide practical guidelines for executives wishing to encourage CE.

The research makes two contributions to the literature. First, we apply an effectuation perspective (Sarasvathy 2001, 2008) consistent with organic entrepreneurial projects that emerge within corporations. This application could open theory on CE to process mechanisms that complement the causation mechanisms that currently dominate the literature. Second, applying effectuation in the context of CE may extend effectuation theory. Existing effectuation logic illustrates a series of constraints that unfold as products are co-created by an entrepreneur and his or her partners. The present research could reveal further, organizational based constraints as effectuation unfolds within corporations. In the following sections we review background literature, describe the research methods, and report and discuss findings.

Background Literature

Corporate Entrepreneurship (CE)

Although entrepreneurship research traditionally focuses on new venture start-ups and their founders, CE investigates the entrepreneurial behaviors and activities that occur within corporations or large established businesses. The concept of CE reflects different labels over the past 30 years (Corbett et al. 2013; Kuratko 2010; Lumpkin and Dess 1996; Menzel, Aaltio, and Ulijn 2007; Urbano, Alvarez, and Turró 2013), including intrapreneurship (Antoncic and Hisrich 2001; Guth and Ginsberg 1990), corporate renewal (Zahra 1995, 1996), and corporate innovation (Ginsberg and Hay 1994; Corbett et al. 2013). Also, scholars propose various definitions of CE that emphasize different aspects of the phenomenon such as generating new resource combinations (Covin and Slevin 1991), diversifying through internal development (Burgelman 1983), developing new products and/ or markets (Jennings and Lumpkin 1989), and innovating for corporate renewal (Zahra 1995, 1996). For the purpose of this research, we define CE broadly as the process whereby an individual or a group of individuals, in association with an existing organization, instigates innovation or renewal within that organization (Sharma and Chrisman 1999).

Existing literature indicates two important domains of CE research: corporate venturing and strategic entrepreneurship (Kuratko and Audretsch 2013, 2009; Phan et al. 2009). The fact that scholars sort CE research into separate domains illustrates the breadth and importance of entrepreneurship in the corporate context (Kuratko and Audretsch 2013). We choose to review research on these two domains separately in the following paragraphs, while acknowledging that, in practice, a senior management team of a corporation may intermingle corporate venturing and strategic entrepreneurship activities when innovating.

The first domain is corporate venturing and involves the creation of new businesses by an existing corporation (Ginsberg and Hay 1994; Miles and Covin 2002; Parker 2011; Sharma and Chrisman 1999). Corporations can develop a new business that remains within a parent company by integrating it into the pre-existing corporate structure (Guth and Ginsberg 1990; Morris, Kuratko, and Covin 2011; Phan et al. 2009). Additionally, corporations generate new businesses that are spun-off from parent corporations into separate organizational structures (Henri et al. 2009) or joint ventures with other companies (Sharma and Chrisman 1999; Titus, House, and Covin 2014).

Corporate venturing helps established companies maintain or enhance performance. It does so by creating new knowledge and competences or revitalizing existing ones (Zahra, Nielsen, and Bogner 1999). Importantly, it enables corporations to respond expediently to market transformations (Lerner 2013). Venturing processes are challenging for companies to implement because they are explorative and thus at odds with corporate structures designed for exploitation, or the efficient leveraging of value from existing products and capabilities (Henri et al. 2009).

The second domain in CE research is strategic entrepreneurship. This research explores the innovation and renewal activities of corporations that are undertaken to maintain or create competitive advantage (Kuratko and Audretsch 2009; Morris, Kuratko, and Covin 2011; Phan et al. 2009). The strategic entrepreneurship literature reflects a broad array of concepts such as strategic renewal, corporate domain redefinition, sustained business regeneration, business model reconstruction, and corporate rejuvenation (Covin and Miles 1999). An important construct in strategic entrepreneurship research is entrepreneurial orientation or the extent to which established firms exhibit innovativeness, risk taking, and proactiveness (Rauch et al. 2009; Wales, Gupta, and Mousa 2013).

Regarding process, there are numerous conceptual models hypothesizing how CE might unfold but there is a lack of empirical research (Belousova and Gailly 2013). Much existing research focuses on the role of management in CE, looking at the importance of managers (Burgelman 1983) and involvement of different levels of management in CE (Kuratko 2010; Hornsby et al. 2009; Phan et al. 2009). Scholars also focus on different types of employees involved in CE such as bottom-up entrepreneurs (Antoncic and Hisrich 2001) and middle level innovation champions (Howell, Shea, and Higgins 2005). Still others examine sets of behaviors and activities to understand CE processes at an activity level. For example, Belousova and Gailly (2013) empirically examine four categories of CE action (discovery, evaluation, legitimation, exploitation) and Zahra (1991) argues that informal as well as formal activities lead to CE. Despite accumulating knowledge, the process of CE remains under-researched (Kuratko, Hornsby, and Hayton 2015), especially with respect to organic, emergent innovation projects. We thus examine those kinds of projects in this research and apply an effectuation perspective to theorize them.

Effectuation versus Causation

Description of Process

Effectuation suggests that entrepreneurs begin with their personal means including their characteristics, background and education, and personal contacts to develop ideas into new products or ventures (Sarasvathy 2001, 2008). Means can engender any number of possible outcomes across a spectrum of products and ventures. For example, Sarasvathy describes how an Indian woman might effectuate an outcome from her love of Indian food (Sarasvathy 2008). There are many possible outcomes including a restaurant, a service that delivers Indian meals, or a television show where she illustrates Indian cooking. An outcome ultimately emerges when the woman's television producer friend sponsors a show that features her preparing Indian dishes.

In contrast, the causation view describes a process wherein an entrepreneur begins with a goal or desired outcome (Sarasvathy 2001; Corner and Ho 2010). For the Indian woman, a causation process of entrepreneurship would begin with an exact venture in mind such as an Indian restaurant. Causation views such outcomes as pre-existing and noticed due to entrepreneurial alertness (Alvarez and Barney 2007). The entrepreneur then searches for means or resources that would realize the goal. The Indian woman following a causation process thus would search for an appropriate chef, design a menu, and locate premises and suppliers (Sarasvathy 2001, 2008).

Control versus Prediction

Effectuating entrepreneurs use a logic of control when making decisions about new products or ventures (Sarasvathy and Dew 2013; Wiltbank et al. 2009). Specifically, effectuating entrepreneurs control whatever they can like who they partner with and how much they invest in a business (Sarasvathy 2008).

In comparison, entrepreneurs following a causation process use a logic of prediction (Dew, Dew et al. 2009b). These entrepreneurs take the environment as given and try to predict accurately what new products or services can be successful within it (Wiltbank et al. 2009). Comprehensive analysis and forecasting is the key to prediction and realizing a predetermined outcome (Sarasvathy 2008). For example, the Indian woman with the goal to open a restaurant would predict the ideal location for her restaurant based on the use of in-depth market research.

Affordable Loss versus Expected Returns

Another important difference between effectuation and causation processes has to do with how the entrepreneur thinks about financing product development or a venture. Effectuation holds that the entrepreneur invest what he or she can afford to lose – the principle of affordable loss (Chandler et al. 2011; Dew et al. 2009a;

Fisher 2012; Read et al. 2009; Sarasvathy 2001, 2008). This principle is supported empirically through a study of 27 expert entrepreneurs who provided evidence of affordable loss thinking (Sarasvathy 2008).

The causation view holds that entrepreneurs think in terms of expected returns or the amount of money they expect to earn relative to what they invest (Sarasvathy 2008). Empirical evidence shows that novice entrepreneurs make investment decisions based on expected returns while experienced entrepreneurs think in terms of affordable loss (Dew et al. 2009a).

Interestingly, the causation model underlies most CE research in that new organizational initiatives usually are evaluated against predicted returns and estimated risk (Duening, Shepherd, and Czaplewski 2012; Ma, Liu, and Karri 2016). Such evaluation is difficult if not impossible to do for organic, emergent innovation projects where returns cannot be predicted (Santos and Eisenhardt 2009). We contend that the application of effectuation logic may extend our knowledge of CE process by highlighting mechanisms whereby endogenous organic innovations are shaped into viable products within corporations. We thus use effectuation as the conceptual framework for the study. We now describe the research methods used to address the explicit research question of “How do corporate entrepreneurs develop endogenous innovations?”

Research Methods

Research Design

We implemented a qualitative, theory inducing research design to address the research question. Qualitative research is used across numerous disciplines, fields, and topics as a way to explore multifaceted processes (Creswell 2009; Langley 1999; Roller and Lavrakas 2015) such as CE (Kuratko and Audretsch 2013; Rieple and Vyakarnam 1994). Also, qualitative methods can reveal surprising findings if prior studies are scarce or not much is known about a topic (Richards and Morse 2007). Accordingly, this design is suitable for the study of possible effectual processes in CE.

Within this broader design, we developed multiple case studies consistent with recommended practice (Creswell 2009; Eisenhardt 1989). Case study development and analysis facilitates theory building (Creswell 2009; Eisenhardt and Graebner 2007; Yin 2003) which is the purpose of this research. Specifically, our goal was to identify mechanisms or processes underlying CE, especially those consistent with effectuation.

Development of Cases

Cases were developed for innovation projects completed by three large, New Zealand companies. The innovation projects thus were the unit of analysis for the study (Stake 1978). The companies represented multiple industries, helping to enhance the generalizability of the findings. Criteria were developed to ensure cases embodied the same phenomenon (Taylor and Bogdan 1998) and were appropriate for the research question (Orcher and Glendale 2005). Criteria included: (1) the company had 100 or more employees thus ensuring it was large in the New Zealand context; (2) the company had operated for at least 5 years so it was established; and (3) the innovative project was completed within the last 12 months. Also, innovation projects had to be endogenous to the company.

Personal acquaintances of the first author were contacted and asked to identify innovation projects that met the criteria (Patton 2002). We developed three cases for the study, recognizing that there is no set rule for number of cases (Eisenhardt 1989) and meaningful findings are possible with a modest number of cases (Yin 2003). We compiled thick description of the cases (Patton 2002) drawing on a number of data sources. Data sources as well as descriptive details of the cases are given in Table 1.

Table 1: Description of cases.

Innovation projects	Descriptive details	Strategic significance of project	Participants' positions	Data sources
Crowdsourcing challenge	A crowdsourcing initiative to change public perception of the company and build new online apps for its business platform	To shift customers' perception of company from 'conservative' to 'innovative'	Media Relations Manager Head of Digital	Interviews, company notes providing process details, newspaper articles, media releases, and company website
Coffee app	Redeveloping existing customer app to include a new service for frequent customers	To maintain industry leadership in innovation and technology	Head of Digital Enterprise Online Development Manager	Interviews, company power point on the new product, newspaper articles, media releases and company website
Digital platform	The creation of a digital platform to enable a new range of customer services and products	To expand the business from a single product offering to a portfolio of products including: marketing, advertising, and PR products; creates a one-stop-shop for customers	Executive Director Business Operations Manager	Interviews, company advertising materials and company website

Data Collection

We collected both primary and secondary data. Primary data were obtained through interviews with individuals closely involved in the innovation projects. Specifically, two individuals were interviewed for each project, including the project initiator and another person identified by the initiator as being vital to the project. All participants were at management level or higher (see Table 1 for participant details). Interviews were semi-structured in order to allow the participant point of view to be clearly expressed and the data acquired to paint a rich picture (Flick 2009; Richards and Morse 2007; Seidman 2006). Interviews ranged from 45–80 minutes in length and interview questions are available upon request from the second author. Interview data provided detailed information regarding how innovation unfolded, information that could be compared to the conceptual framework of effectuation.

Secondary data provides background information to enrich and enhance the reliability and trustworthiness of interview data (Creswell 2007; Flick 2009; Orcher and Glendale 2005). It also provided information regarding the context within which the innovation project unfolded (Creswell 2009). It was sourced from archival documents, including newspaper articles, website materials, company documents, and advertising materials. Data from these documents verify timelines and other important details about the innovation projects.

Data Analysis

We used data analysis techniques for inductive theory building that are well-established (see Eisenhardt 1989; Eisenhardt and Graebner 2007; Miles and Michael Huberman 1994; Yin 2003). We began with coding data; both primary and secondary data were coded. Specifically, we started with open codes or a few, very broad categories that were applied to portions of text (Creswell 2009). There were five open codes based on an initial reading of transcripts and key concepts from current literature. They included “effectuation,” “the spark,” “quirks in the process,” “strategic intent of the project,” and “outcomes/ consequences”. We identified passages in the data that represented open codes and got to the point where new passages provided no further insight into the category. We thus considered the open codes saturated, consistent with Yin’s definition of saturated open codes (Yin 2003). We then developed expanded codes which are more fine-grained concepts as well as possible relationships between concepts (Creswell 2007; Richards and Morse 2007). Margin notes helped facilitate expanded coding. An example of an expanded code within the open code of effectuation was “affordable loss” (see Table 2).

Table 2: Summary of Cross-case Patterns and Supporting Quotes.

Stages	Patterns	Supporting quotes
Spark	<ul style="list-style-type: none"> -Ideas from individuals, not group -Informed by outside influences (i.e., customers, trends) -Ideas pursued because they were fun or cool 	<p>Crowdsourcing challenge case “So I knew about crowdsourcing and quite liked the idea of going to the outside world (to get innovative ideas).” Media Relations Manager</p> <p>Coffee app case “Anything we can do (for our customers) to make it a) easier, and b) have a little bit of sparkle and a little bit of ‘ooh’ is a really good thing for us strategically. It was cool, it was a fun project.” (Online Development Manager)</p> <p>Digital platform case “(The idea was born from person C) primarily because he’s had 25 years in that sort of environment, it was something that showed clients that we’re a company of innovation.” (Executive Director)</p>
Headbashing	<ul style="list-style-type: none"> -Communicating and honing ideas -Shopping for resources with no success 	<p>Crowdsourcing challenge case “So I tried to sell it inside the business to executives for about 9 months, over 9 months? Because we don’t have budget. I couldn’t get any, they all sort of got it but it was all a bit ‘Ooh risky, we can’t do that’.” Media Relations Manager</p> <p>Coffee app case “There was a lot of haters or doubters when we first started this. The first steps were getting buy-in from the people who signed the cheques. My boss, who is really the ultimate one that says yes or no, was not a believer, he thought it was stupid.” Online Development Manager</p> <p>Digital platform case “But the problem was we had so many (possible) elements of the product suite, what do we want to put to the market first? That was the hardest thing.” Business Operations Manager</p>

Gaining Momentum

- Garnering support of key stakeholders
- Accreting of financial resources
- Acquiring skills of key collaborators

Crowdsourcing challenge case

"Then I happened to tell a colleague who's the Chief Product Officer, who got it, 'Oh mate, love it. How much do you need?' and I went 'Oh look I could do with around 60-80k' and he went 'Great, I'll fund it'." Media Relations Manager

Coffee app case

"And that was really important to be collaborating with other key people from within the business as well because they were giving us permission to speak to their team members too." Head of Digital Enterprise

Digital platform case

"From a Board perspective, they've allowed the investment into the product and the people to develop it, which is great. We knew of this guy and we knew he was ideal to bind this all together because he had experience and he had done this before, so we hired him." Executive Director

Cultivating and Refining

- Developing and trialing prototypes
- Seeking and applying feedback from key stakeholders

Crowdsourcing challenge case

"You've got to take other people's feedback about how to mold and shape and get it right. And that's what we've done really." Head of Digital

Coffee app case

"We did a lot of user testing with the design." Head of Digital Enterprise

Digital platform case

"Each product (within the platform) has been a baby and then we've grown, we were crawling and now we're running." Business Operations Manager

Outcomes

- Innovative products and product platforms
- Processes new to the corporation
- Unexpected opportunities for further innovation

Crowdsourcing challenge case

"So we were originally going to take one idea, here, with the original NZ app challenge, one or two? But we ended up taking three. It generated a lot of buzz in the tech community; it set a template for other things that have come out of the business." Head of Digital

Coffee app case

"It has influenced this year's plan that we're working on at the moment, it did spark a few other ideas." Head of Digital Enterprise

Digital platform case

"We've actually written workflows for another company and they've implemented end-to-end solutions ... I don't think we would've even imagined being involved in that." Executive Director

After coding, we completed within case analysis (Eisenhardt and Graebner 2007). It involved identifying patterns for each case that suggested constructs or relationships relevant to how corporate entrepreneurs developed their endogenous ideas/innovations (Eisenhardt 1989). We then implemented cross case analysis, using replication logic to induce patterns (Yin 2003). Specifically, we treated a pattern identified within one case as a hypothesis and tested it against evidence in the other cases. We were particularly interested in patterns highlighting processes used to develop innovations. To aid analysis, we used tables that displayed data from the individual cases to compare patterns across cases (Miles and Michael Huberman 1994; Yin 2003). The use of such tables ensures that data across cases supports an identified pattern and suggests data saturation for patterns, even when there is a modest number of cases (Yin 2003). Moreover, we compared any patterns in process to effectuation processes suggested by theory as described in the literature. Use of existing research in this fashion was consistent with established practice for generating theory from data (Eisenhardt and Graebner 2007).

A final step in analysis of qualitative data was theorizing (Creswell 2007; Patton 2002; Singh, Corner, and Pavlovich 2015). Theorizing is described as a step beyond pattern identification and involves induction of processes or graphic depictions of patterns in the data (Patton 2002; Singh, Corner, and Pavlovich 2015). We used this analytical tool in the present study as can be seen in the Findings section.

Findings

“How do corporate entrepreneurs develop endogenous innovations?” An overarching pattern emerged across the three cases that we labelled “effectuating corporate innovation.” This pattern illustrated how innovations began, developed, and grew organically to create outcomes of value. Innovations began with ideas from individuals within the corporation and were shaped effectually into products using innovators’ means. “Effectuating corporate innovation” unfolded over time in the stages depicted in Figure 1. However, stages were not always as clear-cut as depicted, there was iteration between stages and cycling back to previous stages. Nevertheless, evidence showed the progression of the innovation as broadly depicted, culminating in outcomes – viable products/services that created value for corporations.

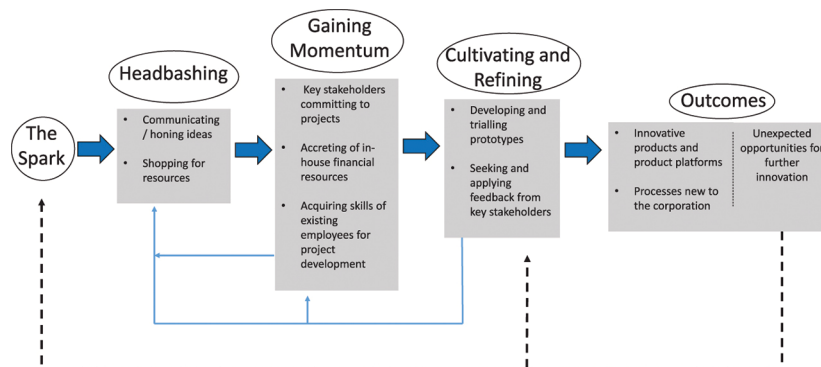


Figure 1: Effectuating corporate innovation.

The overall pattern took anywhere from 3 to 18 months to unfold. Time varied across innovations for two reasons. First, the length of time from initial idea to viable product reflects the time it took initiators to gain preliminary support for the idea in the form of resources such as funding and skills. For example, the quickest project was the coffee app which took 3 months because the funding and support was provided in the shortest length of time. The longest project was the crowdsourcing challenge. It took one and a half years due to lack of initial support for the idea. Second, the more complex and the larger the scale of product development, the more time the innovation process took. For example, the third case of creating a digital platform initially progressed quickly, gaining needed resources and skills swiftly after the initial spark. However, the innovation was large-scale affecting the entire company and was also complex involving a significant amount of planning, building and refining before being implemented. Therefore, the scale and complexity of the innovation increased the length of time required for the innovation process, despite the quick garnering of initial support and resources. The next sections describe each of the stages in the overarching pattern depicted in the figure.

Stage 1. The Spark

Effectuating corporate innovation began with a “spark”. This stage involved the emergence of an interesting idea from an individual who we call the initiator. The idea was about something that he or she thought could create value in the corporate setting. Data showed the spark flowed from the initiator’s interests and personal affinities. These ideas were not final goals with formal plans but notions emanating from personal interest or inspiration. The spark or idea seemed interesting and worth pursuing from the initiator’s point of view. The spark thus appears to be consistent with an effectuation process which begins with an individual’s idea and is shaped by their idiosyncratic characteristics (Sarasvathy 2001).

The crowdsourcing challenge offers a good example of this stage. The idea came from the initiator’s own interest in crowdsourcing, an innovation happening in the wider business environment. Crowdsourcing is the act of outsourcing business-related tasks to a broad audience of potential actors in order to tap into their combined intelligence and creativity and generate innovation (Hammon and Hippner 2012; Shepherd 2012). The initiator was “naturally interested in technology and those types of things” and had prior knowledge of how innovation could be accomplished in the corporate setting. The crowdsourcing challenge idea was born from this interest which, in turn, combined with his prior knowledge and experience of innovation.

There was some variation across cases with respect to this first stage. For both the crowdsourcing challenge and coffee app cases, the spark originated with individuals at lower levels of their organizations. This implied a more bottom-up innovation process where the initiators had to convince higher level managers in the companies of the potential of their ideas as illustrated in this quote from the crowdsourcing challenge case.

I tried to sell it inside the business to executives for about 9 months, over 9 months? I couldn’t get anywhere, they all sort of got it but it was all a bit ‘Ooh risky’. There was a real reluctance (at) GM (general manager) level, it was too big a risk. I knew in my guts it would work, I knew it would be great for the company.

However, the spark originated at the very top level in the third case – the digital platform. Specifically, the spark came from one of the members of the Board of Directors, inspired by a story about the artist Van Gogh’s creativity. The story inspired him to rethink his company and he came up with the idea that it could be a one-stop shop for media and advertising services. The board backed his idea, conceptualizing it as a digital platform that could facilitate multiple services. This platform was a huge change from the single service the company was offering at the time. The board then communicated the digital platform idea to managers and employees to gain their support and cooperation for implementing it. As such, the effectuating corporate innovation was a top down process for this company as expressed in the following quote from the executive director.

A lot of people have been here for twenty years and kind of just accept the same-old, same-old so I had to be communicating with people again and again.

Stage 2. Headbashing

This was the next stage in the overarching pattern as shown in Figure 1. Headbashing involved the initiator trying to bring attention to ideas generated in the spark stage but not having a lot of success. The figure indicates two main mechanisms initiators engaged in to garner attention: communicating the idea to key corporate stakeholders to gain support and shopping for resources to develop it. Part of communicating the idea involved honing it given feedback from stakeholders. Initiators encountered roadblocks and lack of interest in their ideas that initially thwarted further development. This stage thus echoed existing research which shows that the first stages of corporate innovations are characterized by resistance to an idea, internal corporate politics, and difficulties in obtaining resources (Hisrich and Kearney 2012). However, the headbashing stage emphasized a difference between effectuation in corporate and new venture settings. In our cases, the scope of stakeholders that initiators could access for support of their ideas was limited to those within the company. In contrast, entrepreneurs setting up new ventures are able to cultivate stakeholders and resources from a wide pool of contacts and networks (Sarasvathy 2008) – they are not limited to people and resources available within a particular corporation.

The coffee app case offered a useful example of this first headbashing mechanism – communicating the idea. The initiator presented his idea to the General Manager (GM) charged with approving innovative projects and the GM was firmly against it, describing it as “stupid” and “doomed to fail.” The innovation GM’s assessment was a significant roadblock to further developing the idea and almost resulted in the idea being completely abandoned. Obtaining endorsement or support from senior management is noted as being one of the most valuable resources a corporate entrepreneur can acquire (Morris, Kuratko, and Covin 2011). However, the initiator continued to communicate the idea and got support from several other high-level managers. The other

managers thought the coffee app was “a really cool idea” and gave their approval and ultimately the resources needed to develop it.

The crowdsourcing challenge highlighted the second key mechanism of headbashing – shopping for resources. In that case, the initiator found himself “hammering away” for 8–9 months trying to source the money and skills needed to develop his idea. In these months, he was unable to obtain resources due to lack of support for the idea so development of his idea stalled.

Across the cases, some variation occurred in the headbashing stage. The time spent in this stage indicated the level of stakeholder support the initiator had for developing the innovation project. The time spent in the headbashing stage for the crowdsourcing challenge case was over 8 months. During this time the initiator approached several people in various upper management positions but they deemed the idea to be “too risky.” Specifically, it was seen as too much of a departure from how the company traditionally operated; too much of a gamble to pursue. The time in this stage was shorter for the other two cases, the coffee app and digital platform. The initiator of the coffee app got initial support within 2 months. In the digital platform case, initial support was garnered quickly from the board of directors, nevertheless the initiator described frustrations regarding funding and pockets of resistance in the wider organization.

Stage 3. Gaining Momentum

Figure 1 showed “gaining momentum” as the next stage in the innovation process. Ideas gained momentum when they became tangible projects supported by skills and financial backing from stakeholders within the company. Across all three cases, the gaining momentum stage encompassed three mechanisms: commitment of key internal stakeholders, accreting in-house financial resources, and acquiring skills of existing employees for project development.

Regarding the first mechanism, internal stakeholders committed to projects and became members of the entrepreneurial teams that nurtured and guided them. These key stakeholders, usually at the GM level, invested resources and helped acquire other resources needed to ensure further development of the innovation. These commitments are consistent with the effectuation process described for the development of a new venture (Sarasvathy 2008; Sarasvathy and Dew 2005) but were sourced from within the corporation. This is in contrast to new venture cases where stakeholders could be drawn from a wider scope of contacts including less formal connections such as friendships, acquaintances, and other personal connections (Sarasvathy 2001, 2008). The key internal stakeholders that committed to the innovation projects in each case are illustrated in Table 3 below.

Table 3: Key Stakeholders within the Innovation Project Cases.

Innovation project cases	Key internal stakeholders	Illustrative quotes showing how instrumental internal stakeholders were for the innovation
Crowdsourcing challenge	Head of Digital Media relations team Legal team	<p>“The media team did play a big part in that actually, going around the universities, holding some meet-ups here for techies, in different parts of the country too, hammering them through emails, those types of things. Everyone definitely played a role, collaborating with Legal was really, really crucial! Terms & conditions were obviously Legal. Our legal team had a pretty firm view around (what needed to be considered).”</p> <p>“People knew this was a key strategic priority so we’ve had pretty good support from the business throughout in terms of delivering on it. It really opened the pathway of collaboration, of building things with other people.”</p>

Coffee app	Online development manager Steering committee members App development team	<p>“This coffee project would be prioritized by a steering group, of which I’m a member and then there’s other stakeholders as well. So there’s someone from travel there’s somebody from the loyalty team because our high value customers use it a lot, it’s a collaborative thing to get momentum.”</p> <p>“So we really needed the lounge people really. Going and talking with them that was like ‘Yea that would be awesome. This is how the current process works yada’ without having that collaboration piece the project would never have happened.”</p> <p>“The visual designer, he had a really big part of it because he broke down the process into the really easy steps that were necessary to make the product a success.”</p>
Digital platform	Business Operations Manager Product Manager Head of Retail department	<p>“(The person who) runs the retail agency works with a team of retail specialists and that idea was born through them saying ‘Hey there’s got to be a better way to help our clients’ so that’s how that (particular) product was developed.”</p> <p>“We knew of him and we knew the business he came from and we knew he was ideal to bind this all together because he had experience and he had done this before so we just hired him you know. You want to win the game; you hire the best players. That’s what we did really.”</p>

The quotes in Table 3 offer many examples of stakeholders committing to innovation projects. The digital platform case provides a particularly useful example of the emergent nature of stakeholder engagement and commitment. A board member other than the initiator recognized the need for digital design skills and knew, through a business acquaintance, someone who possessed these skills. This board member worked with the company’s chief executive to employ this digital designer. Over the course of a year, the designer transformed the initiator’s promising notion into a digital platform that enabled the company to expand its product offerings from the single product it historically offered to a suite of six online products. The digital designer then leveraged his own personal means to persuade a former colleague to join him at the new company. This additional employee provided skills in project management and process streamlining. This illustration shows how commitments from a stakeholder, the non-initiator board member, helped to eliminate uncertainty and control future outcomes (Dew et al. 2009a; Sarasvathy 2001, 2008). That stakeholder secured the commitment of others and the collection of commitments grew and produced results (Sarasvathy 2001, 2008) – the digital platform supporting six products for this case.

The second mechanism was the accretion of financial resources. Initiators and key stakeholders were well aware they needed money to develop promising ideas into projects and potentially products. The crowdsourcing case illustrated the importance of this second mechanism in that no progress was made for 8–9 months because financial backing was unavailable. Finally, the securing of funds from one of the company’s GM’s helped shift the idea into a viable project. This initial in-house funding also gave the idea legitimacy within the company, which, in turn, facilitated the acquisition of other internal resources such as advertising, media support, and needed skills.

The final mechanism for gaining momentum was the acquisition of skills from existing employees. All three cases required specific skills to progress the innovation to a tangible product. For instance, the coffee app needed to be generated through computer coding and this skill was acquired from the company’s digital innovation team. The crowdsourcing challenge needed skills in marketing, promotion, legal protection, as well as technical skills. These skills were sourced from the initiator’s business unit and through his connections within the corporation. Overall, skill acquisition enabled the development of prototypes ready for testing.

Cultivating and Refining

The next stage in the effectuating corporate innovation process is labelled the “cultivating and refining” stage. Figure 1 indicated this stage involved two important mechanisms: developing and trialing prototypes and seeking and applying feedback from key stakeholders to improve products. Evidence from the coffee app case provided a good example of how these two mechanisms worked together to develop and refine products. The prototype coffee app was trialed on internal stakeholders and their feedback led to the designers including

animation within the app. Animation came in the form of a “wave” to fill up the pictured coffee cup based on the type of coffee ordered. The animation added a whimsical element to the app which was not envisioned at first because it did not add to the function of the product. However, the animation generated a more emotive response from users; adding to the overall customer experience and success of the final product. This product refinement and its assessment by its developers are captured in the following quote:

The app designer said ‘How about when it fills up we make it fill up like that (hand gesture to indicate a wave motion)?’ and it’s such a tiny thing but people just love it and it’s special.

The cultivating and refining stage in Figure 1 has a blue feedback arrow emanating from it back toward the gaining momentum and headbashing stages. This feedback arrow depicts the “messy” iterative, nature of these three stages within the effectuating corporate innovation process. Stated differently, the boundary between these three stages was somewhat fuzzy and innovation projects could gain momentum only to slip back for a short time into previous stages. The coffee app case highlighted the back and forth movement between the stages when the prototype encountered resistance from an internal team. The issue around the prototype came from the frontline employees not being happy with the app because it would replace some of the more enjoyable aspects of their jobs. This resistance prompted the entrepreneurial team to work with the frontline employees to investigate alternative ideas for the app design that the employees would find acceptable. The entrepreneurial team refined the prototype and subsequently gained support from frontline employees who now saw themselves as stakeholders.

Stage 5. Outcomes

The final stage of the effectuating corporate innovation process depicted in Figure 1 is “outcomes.” Evidence from all three cases showed multiple outcomes as depicted in the figure. The coffee app case resulted in a new service the company could provide for existing customers. The digital platform enabled six products instead of the single product the company had historically offered. The crowdsourcing challenge case provided a process outcome for the corporation, a new way to introduce novel ideas into the company. A participant described how this worked for the corporation in the following quote:

So the company developed a dragon’s den event to vet ideas. The dragon’s den concept comes from a popular UK television programme where inventors and entrepreneurs pitch their business ideas to a panel of venture capitalists who have the ability to financially invest in the idea. Also, the company developed a process to turn winning ideas into tangible innovations.

There was variability in how outcomes presented across cases. Two of the cases (coffee app and crowdsourcing) resulted in products designed to provide extra benefits for existing customers. In contrast, the digital platform case developed novel products to attract new customers as well as create further value for existing customers.

Figure 1 depicted an additional outcome. Evidence surfaced the unexpected finding that effectuated products were leveraged for further innovation. Leveraging of innovative products, platforms, and processes was present across all three cases but the crowdsourcing challenge case illustrated leveraging particularly well. The crowdsourcing challenge led to three new working apps at the time of data collection. These new apps were generated from the ideas of crowdsourcing challenge winners. These ideas required the development of new technology and customer safety measures to be implemented but their development is evidence that corroborates the crowdsourcing challenge as a viable innovation process for the corporation. An unexpected outcome in the coffee app case was a stand-alone mobile coffee unit used for external public relations events as well as for internal company events. The unit was developed to take advantage of the “buzz” created by the coffee app. In this way, the coffee app became a symbol for innovation and customer service in the company.

Finally, Figure 1 depicted a dashed line feedback arrow emanating from outcomes back to the cultivating and refining and spark stages of the effectuating corporate innovation process. The arrow was included because outcomes led to further refinements in products and sparked ideas for new innovations. The digital platform case provided a particularly interesting illustration of how one innovation can spark other ideas for innovations. Through the creation of the digital platform, the entrepreneurial team developed expertise in the area of workflows and streamlining processes. Clients began to enquire about how the company had produced the digital platform which led to them writing workflows and streamline processes for other businesses. Prior to the digital platform, the top managers of the company never “imagined” offering the service of writing workflows for clients. This example highlighted how a new business idea emerged from the platform provided by the initial project.

Two Additional Patterns

This section describes two additional patterns that fit within the overarching pattern. Patterns generally were reflected across several of the stages depicted in Figure 1. These patterns are worthy of note because they are consistent with an effectuation as opposed to causation process.

Affordable Loss

Data revealed an “affordable loss” pattern. Specifically, evidence showed initiators and their entrepreneurial teams thought about the innovation projects in terms of affordable loss as opposed to expected returns. The managers who initially agreed to fund projects limited investments in projects to the amount of money they felt they could lose if projects failed. The digital platform case provided a good example. When the “one-stop shop” idea was introduced, the board’s first action was to estimate losses should the project fail. Board members reasoned that the core business would not be severely affected if the project failed because the company’s umbrella structure ensured the core business was operated separately from the new, digital platform businesses. The board ultimately invested retained earnings but no more in the project.

Interestingly, evidence showed affordable loss thinking in the corporate setting was somewhat different from that in the new venture formation context. It is the entrepreneur who engages in affordable loss thinking in the new venture context (Perry, Chandler, and Markova 2012; Sarasvathy 2001, 2008) but in the corporate context it was the original key stakeholder(s), the manager(s) who decided to invest the initial funds in the projects, who thought about how much they were willing to lose. Original stakeholders tended to commit resources by thinking about what they were willing to lose. In both the coffee app and crowdsourcing challenge cases, original stakeholders perceived both innovation ideas as requiring minimal investment compared to previous larger scale projects and thus considered the potential loss of investment due to failure as relatively painless. They were therefore prepared to fund the innovation projects.

However, variation occurred across cases. While initial stakeholders engaged with affordable loss in all three cases, there was one case (crowdsourcing challenge case) where the initiator also engaged in affordable loss thinking before the original stakeholder was involved. The initiator encountered resistance to his idea at first and thought about affordable loss in terms of his own time and reputation. Specifically, he thought about how much he could afford to lose if he kept pursuing the idea and the project never got off the ground as shown in the following quote.

Once I got turned down a couple of times by the GMs I didn’t go too hard, you can’t invest too much time if it’s not going to go anywhere.

With so much personally at stake, he was only prepared to risk a certain amount of his time, effort, and reputation within the business. He minimized time invested and used potential original stakeholders’ questions and concerns to refine the idea and craft solutions for concerns. He was ultimately able to address concerns and secure support and funding from a general manager which provided the resources and approval needed to proceed with the innovation.

Innovation through Control

Evidence showed an “innovation through control” pattern in that innovators strived for control of the innovation process, not prediction of outcomes. Specifically, managers maintained control of the process whereby ideas were developed into products in two ways. First, innovations were funded from existing sources within the corporation, including current department budgets and retained earnings. Internal funding of innovations meant that stakeholder teams did not seek funding from potential partner companies. Funding from partner companies would have involved negotiating design and implementation of the innovation (Sarasvathy and Dew 2005) so 100 % internal funding of innovations ensured that control of the innovation projects stayed within companies. The crowdsourcing case provides a good example. The initial funding was provided by a manager who had a considerable budget at his disposal as described by the initiator of the project in the following quote.

I happened to tell a colleague who was the Chief Product Officer, who got it, ‘Oh mate, love it. How much do you need?’ and I went ‘Oh look I could do with around 60-80k’ and he went ‘Great, I’ll fund it’.

This approach was different from effectuation in new venture founding wherein funding is often acquired from partnerships and ownership/control of the innovation is shared and negotiated (Sarasvathy 2008).

Second, control through funding was achieved by minimizing investment in innovations. Minimization meant corporations controlled potential losses by keeping them as low as possible. An example of a minimal investment of money as well as skills was seen in the crowdsourcing challenge case. The team involved in the project had to work on the innovation in addition to their full-time job responsibilities and had to complete tasks that were new to them, that were normally done by others or outsourced as illustrated in the below quote.

It was a really, small group running this. We had to come up with how to promote it. We had to source all the prizes and the actual concept of the dragons den itself, it was a lot of work by a small group of people and it was on top of our normal day-to-day work.

Discussion

The purpose of this paper was to investigate how innovative ideas and discoveries internal to a corporation develop into new products and services. In particular, we addressed the research question of “How do corporate entrepreneurs develop endogenous innovations,” answering the call for research on the CE process (see Belousova and Gailly 2013; Kuratko and Audretsch 2013; Kuratko, Hornsby, and Hayton 2015). We implemented exploratory research using effectuation as a conceptual lens. This lens is potentially more consistent with the emergent nature of endogenous innovation than the causation lens implied by existing research. Findings showed that corporate entrepreneurs used elements of effectuation when shaping their innovative ideas into viable products/services. Figure 1 depicted a process whereby innovation unfolded organically and reflected mechanisms consistent with effectuation. Findings are a contribution because they suggest an alternative to the singular causation lens implied by existing CE research (Duening, Shepherd, and Czaplewski 2012; Ma, Liu, and Karri 2016). Moreover, existing research rarely reports on how such a process evolves (Duening, Shepherd, and Czaplewski 2012), focusing instead on the role of management within the CE process (Belousova and Gailly 2013; Turner and Pennington 2015).

Also, findings highlight how effectuation in the corporate setting was similar to and different from the new venture context as summarized in Table 4. Similarities included affordable loss thinking and a focus on control instead of prediction, both important effectuation principles (Sarasvathy 2008). One key difference is that corporate innovators’ choices regarding stakeholders and funding are limited to what is available within the company. This is different from the new venture context where the entrepreneur/innovator has the freedom to find stakeholders and use resources from any available connection (Sarasvathy 2001, 2008; Sarasvathy and Dew 2005, 2013).

Table 4: Comparison of Effectuation in Corporate Entrepreneurship versus New Venture Context.

Effectuation Patterns in Corporate Entrepreneurship	Similarities	Differences
Overarching Pattern of Effectuating Corporate Innovation (see Figure 1)	<ul style="list-style-type: none"> -Innovators began with an idea, not a concrete goal -Innovators used their means to develop ideas -Stakeholders were key to the projects development -Stakeholder commitments helped eliminate uncertainty and control future outcomes -Outcomes were leveraged for further innovation -Project momentum was gained through three mechanisms; garnering support of stakeholders, accreting financial resources, and acquiring skills of key collaborators. 	<ul style="list-style-type: none"> -Corporate entrepreneurs are limited to stakeholders and resources within the company -Stakeholders had formal connections with the innovator in the CE context
Affordable Loss	<ul style="list-style-type: none"> -Stakeholders used affordable loss thinking as oppose to traditional expected returns -Resources were invested based on what stakeholders were willing to lose 	<ul style="list-style-type: none"> -In the CE context managers engaged with affordable loss thinking as opposed to the individual in the new venture context
Limited Stakeholder Connections and Funding	<ul style="list-style-type: none"> -Control was sought through not predicting outcomes but through controlling aspects of the innovation that was available -Minimal investments of money and skills were used to control the future outcomes 	<ul style="list-style-type: none"> -In the CE context control of innovation design was manifested through limiting the funding of projects to only internal corporate sources as opposed to funding being accessible through any connections in the new venture context -In the CE context control was maintained through skills and talent being sourced solely within the company as opposed to entrepreneurs in new ventures having the freedom to use any connection or person

Findings have four implications for the wider entrepreneurship literature as well as two practical implications. First, current findings suggest effectuation as a promising, alternative perspective to causation that could be applied to future research on CE. We suggest effectuation is potentially useful for understanding innovations that are internal, organic, and emergent whereas causation may be more suited to understanding exogenous innovations such as acquiring another company with promising technology. Also, effectuation may be useful for exploring other issues within CE. For example, effectuation may extend our understanding of CE activities in fast changing and uncertain environments. Such environments may be difficult to predict so researchers could investigate the extent to which a focus on control (i. e. effectuation) instead of prediction (i. e. causation) leads to greater innovation in uncertain environments. An effectuation perspective could also be used to examine how affordable loss, or the focus on what a company is willing to lose through an innovation project, affects choice of and investment in innovation projects. Does thinking in terms of affordable loss, in contrast to maximizing returns, increase the amount of CE activities within corporations?

Second, the three effectual mechanisms identified in the data provide potential insight into the micro-activities or micro-processes that may undergird CE. As a reminder, the three mechanisms included: securing commitment of internal stakeholders, accreting in-house financial resources, and acquiring skills of existing employees for project development. They are consistent with the main effectuation principles of using the means at the entrepreneur's disposal and engaging with key stakeholders to create and innovate (Sarasvathy 2001, 2008). The mechanisms suggest avenues of future research that can potentially answer the call for research on micro-processes in existing literature (Barney, Ketchen, and Wright 2011; Teece 2015). For example, future research could examine the extent to which these mechanisms influence important outcomes such as speed of product development, number of innovations, and the financial performance of innovations. Another example of future research could be looking at the degree to which each mechanism affects the development of innovation projects – is stakeholder support more or less vital than accreting financial resources or acquiring skills of collaborators? Does mechanism importance vary across industries?

Third, scholars could use the stages of Figure 1 to gain further understanding as to when innovation projects are most likely to stall or fail. For example, future research could trace innovation projects to identify the percentage of projects that fail to achieve the milestones represented by these stages. Also, scholars could look for any common characteristics of projects that failed in particular stages of the innovation process.

Findings also have two practical implications for corporate entrepreneurs. First, the stages identified in Figure 1 could be used to create milestones for innovation projects. For example, the “spark” stage could perhaps be formalized through twice yearly brainstorming sessions to encourage creative individuals to come forward with novel ideas. Second, the effectual mechanisms may indicate useful processes for fostering innovation, if verified by further empirical research. Further research could implement a quantitative research design to validate these mechanisms for the larger population of corporations.

As with all research, this study has limitations and we identify three. The first limitation derives from the exploratory nature of the study. As such, findings cannot be generalized to the population of corporations seeking to innovate like findings from quantitative research can be. Future research thus could test the extent to which the surfaced effectual process and mechanism hold true for a large sample of CE projects.

The second limitation is its focus on New Zealand corporations. Generalizability of findings may be limited because data were collected in this country only. New Zealand has a small population and very few large enterprises (Statistics New Zealand 2013). As such, findings would be more applicable to countries that define large companies similar to NZ, those with 100 or more full time equivalent employees. For example, findings may be more generalizable to European countries where firm sizes are generally smaller than in the USA (Bartelsman, Scarpetta, and Schivardi 2005). For countries with a different definition, this limitation could inspire future research to assess the extent to which present findings generalize to large businesses in different national contexts. Do the same patterns identified here surface in countries where large companies are defined as 500 or more full time equivalent employees? Does corporation size affect how effectuation processes unfold? Are current findings relevant only to developed countries like New Zealand or is the process of CE different in developing countries?

The third limitation has to do with the possibility of recall bias given the retrospective nature of the study design. We minimized this potential limitation through introducing a criterion that required the innovation project to have been completed in the 12 months prior to data collection. This criterion ensured the project would still be relatively fresh in the minds of participants. Moreover, research has shown that information about important events such as the innovation projects studied here can still be accurately recalled even after long periods of time (Berney and Blane 1997).

In conclusion, this paper extends research on CE by exploring the process used to develop endogenous ideas into new products or services, a topic that is underexplored in existing research (Dess et al. 2003; Duenning, Shepherd, and Czaplewski 2012; Kuratko and Audretsch 2013; Turner and Pennington 2015). Findings reflect effectual elements of this process and reveal differences between effectuation in the CE and new ven-

ture contexts. The study helps to extend CE beyond the prevailing causation focus of prior research, providing empirical support for effectuation as an alternative conceptual perspective when researching CE. Moreover, the study provides mechanisms that could serve as principles of practice should future research corroborate present findings. Such principles could prove useful for corporations wanting to pursue innovation and increase competitiveness in the ever-changing global environment.

References

- Alvarez, S., and J. Barney. 2007. "Discovery and Creation: Alternative Theories of Entrepreneurial Action." *Strategic Entrepreneurship Journal* 1: 11–26.
- Antoncic, Bostjan, and Robert D. Hisrich. 2001. "Intrapreneurship: Construct Refinement and Cross-cultural Validation." *Journal of Business Venturing* 16 (5): 495–527. [https://doi.org/10.1016/S0883-9026\(99\)00054-3](https://doi.org/10.1016/S0883-9026(99)00054-3).
- Barney, Jay B., David J. Ketchen, Jr, and Mike Wright. 2011. "The Future of Resource-based Theory: Revitalization or Decline?" *Journal of Management* 37 (5): 1299–315. <https://doi.org/10.1177/0149206310391805>.
- Bartelsman, E., S. Scarpetta, and F. Schivardi. 2005. "Comparative Analysis of Firm Demographics and Survival: Evidence from Micro-level Sources in OECD Countries." *Industrial and Corporate Change* 14 (3): 365–91. <https://doi.org/10.1093/icc/dth057>.
- Belousova, O., and B. Gailly. 2013. "Corporate Entrepreneurship in a Dispersed Setting: Actors, Behaviors, and Process." *International Entrepreneurship and Management Journal* 9 (3): 361–77. <https://doi.org/10.1007/s11365-013-0259-2>.
- Berney, L. R., and D. B. Blane. 1997. "Collecting Retrospective Data: Accuracy of Recall after 50 Years Judged against Historical Records." *Social Science & Medicine* 45 (10): 1519–25. [https://doi.org/10.1016/S0277-9536\(97\)00088-9](https://doi.org/10.1016/S0277-9536(97)00088-9).
- Burgelman, Robert A. 1983. "Corporate Entrepreneurship and Strategic Management: Insights from a Process Study." *Management Science* 29 (12): 1349–64.
- Chandler, Gaylen N., Dawn R. DeTienne, Alexander McKelvie, and Troy V. Mumford. 2011. "Causation and Effectuation Processes: A Validation Study." *Journal of Business Venturing* 26 (3): 375–90. <https://doi.org/10.1016/j.jbusvent.2009.10.006>.
- Coff, R. W. 2002. "Human Capital, Shared Expertise, and the Likelihood of Impasse in Corporate Acquisitions." *Journal of Management* 28 (1): 107–28. [https://doi.org/10.1016/S0149-2063\(01\)00127-1](https://doi.org/10.1016/S0149-2063(01)00127-1).
- Corbett, A., J. G. Covin, G. C. Connor, and C. L. Tucci. 2013. "Corporate Entrepreneurship: State of the Art Research and a Future Research Agenda." *The Journal of Product Innovation Management* 30 (5): 812–20. <https://doi.org/10.1111/jpim.12031>.
- Corner, Patricia Doyle, and Marcus Ho. 2010. "How Opportunities Develop in Social Entrepreneurship." *Entrepreneurship: Theory and Practice* 34 (4): 635–59. <https://doi.org/10.1111/j.1540-6520.2010.00382.x>.
- Covin, Jeffrey G., and Morgan P. Miles. 1999. "Corporate Entrepreneurship and the Pursuit of Competitive Advantage." *Entrepreneurship: Theory and Practice* 23 (3): 47–63.
- Covin, Jeffrey G., and Dennis P. Slevin. 1991. "A Conceptual Model of Entrepreneurship as Firm Behavior." *Entrepreneurship: Theory and Practice* 16 (1): 7–25.
- Creswell, John W. 2007. *Qualitative Inquiry and Research Design: Choosing between the Five Approaches*, 2nd ed. Thousand Oaks: Sage.
- Creswell, John W. 2009. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 3rd ed. Thousand Oaks, CA: Sage.
- Dess, Gregory G., R. Duane Ireland, Shaker A. Zahra, Steven W. Floyd, Jay J. Janney, and Peter J. Lane. 2003. "Emerging Issues in Corporate Entrepreneurship." *Journal of Management* 29 (3): 351–78. https://doi.org/10.1016/S0149-2063_03_00015-1.
- Dew, N., S. Sarasathy, S. Read, and R. Wiltbank. 2009a. "Affordable Loss: Behavioral Economic Aspects of the Plunge Decision." *Strategic Entrepreneurship Journal* 3 (2): 105–26. <https://doi.org/10.1002/sej.66>.
- Dew, Nicholas, Stuart Read, Saras D. Sarasvathy, and Robert Wiltbank. 2009b. "Effectual versus Predictive Logics in Entrepreneurial Decision-making: Differences between Experts and Novices." *Journal of Business Venturing* 24 (4): 287–309. <https://doi.org/10.1016/j.jbusvent.2008.02.002>.
- Drucker, P. F. 1998. "The Discipline of Innovation." *Leader to Leader* 1998 (9): 13–15. <https://doi.org/10.1002/ltl.40619980906>.
- Duane, Ireland, R., Jeffrey G. Covin, and Donald F. Kuratko. 2009. "Conceptualizing Corporate Entrepreneurship Strategy." *Entrepreneurship: Theory and Practice* 33 (1): 19–46. <https://doi.org/10.1111/j.1540-6520.2008.00279.x>.
- Duening, T. N., M. M. Shepherd, and A. J. Czaplowski. 2012. "How Entrepreneurs Think: Why Effectuation and Effectual Logic May Be the Key to Successful Enterprise Entrepreneurship." *International Journal of Innovation Science* 4 (4): 205–16. <https://doi.org/10.1260/1757-2223.4.4.205>.
- Eisenhardt, Kathleen M. 1989. "Building Theories from Case Study Research." *Academy of Management Review* 14 (4): 532–50. <https://doi.org/10.5465/AMR.1989.4308385>.
- Eisenhardt, Kathleen M., and Melissa E. Graebner. 2007. "Theory Building from Cases: Opportunities and Challenges." *Academy of Management Journal* 50 (1): 25–32.
- Fisher, G. 2012. "Effectuation, Causation, and Bricolage: A Behavioral Comparison of Emerging Theories in Entrepreneurship Research." *Entrepreneurship: Theory and Practice* 36 (5): 1019–51. <https://doi.org/10.1111/j.1540-6520.2012.00537.x>.
- Flick, U. 2009. *An Introduction to Qualitative Research*, Vol. 7. London, Enland: Sage.
- Ginsberg, Ari, and Michael Hay. 1994. "Confronting the Challenges of Corporate Entrepreneurship: Guidelines for Venture Managers." *European Management Journal* 12 (4): 382–89. [https://doi.org/10.1016/0263-2373\(94\)90024-8](https://doi.org/10.1016/0263-2373(94)90024-8).
- Guth, William D., and Ari Ginsberg. 1990. "Guest Editors' Introduction: Corporate Entrepreneurship." *Strategic Management Journal* 11: 5–15.
- Hammon, L., and H. Hippner. 2012. "Crowdsourcing." *Business & Information Systems Engineering* 4 (3): 163–66. <https://doi.org/10.1007/s12599-012-0215-7>.

- Henri, Burgers, J., J. P. Justin, Frans A. J. Jansen, Van Den Bosch, and Henk W. Volberda. 2009. "Structural Differentiation and Corporate Venturing: The Moderating Role of Formal and Informal Integration Mechanisms." *Journal of Business Venturing* 24 (3): 206–20. <https://doi.org/10.1016/j.jbusvent.2009.01.006>.
- Hisrich, R. D., and C. Kearney. 2012. *Corporate Entrepreneurship: How to Create a Thriving Entrepreneurial Spirit Throughout Your Company*. New York, NY: McGraw-Hill.
- Hornsby, Jeffrey S., Donald F. Kuratko, Dean A. Shepherd, and Jennifer P. Bott. 2009. "Managers' Corporate Entrepreneurial Actions: Examining Perception and Position." *Journal of Business Venturing* 24 (3): 236–47. <https://doi.org/10.1016/j.jbusvent.2008.03.002>.
- Howell, Jane M., Christine M. Shea, and Christopher A. Higgins. 2005. "Champions of Product Innovations: Defining, Developing, and Validating a Measure of Champion Behavior." *Journal of Business Venturing* 20 (5): 641–61. <https://doi.org/10.1016/j.jbusvent.2004.06.001>.
- Ireland, R. D., M. A. Hitt, and D. G. Sirmon. 2003. "A Model of Strategic Entrepreneurship: The Construct and Its Dimensions." *Journal of Management* 29 (6): 963–89. [https://doi.org/10.1016/S0149-2063\(03\)00086-2](https://doi.org/10.1016/S0149-2063(03)00086-2).
- Jennings, Daniel F., and James R. Lumpkin. 1989. "Functioning Modeling Corporate Entrepreneurship: An Empirical Integrative Analysis." *Journal of Management* 15 (3): 485–502. <https://doi.org/doi:10.1177/014920638901500310>.
- Kanter, Rosabeth. 1985. "Supporting Innovation and Venture Development in Established Companies." *Journal of Business Venturing* 1 (1): 47–60. [https://doi.org/10.1016/0883-9026\(85\)90006-0](https://doi.org/10.1016/0883-9026(85)90006-0).
- Kuratko, D. F. 2010. *Corporate Entrepreneurship: An Introduction and Research Review*. Vol. 5. New York, NY: Springer.
- Kuratko, D. F., and D. B. Audretsch. 2013. "Clarifying the Domains of Corporate Entrepreneurship." *International Entrepreneurship and Management Journal* 9 (3): 323–35. <https://doi.org/10.1007/s11365-013-0257-4>.
- Kuratko, D. F., J. S. Hornsby, and J. Hayton. 2015. "Corporate Entrepreneurship: The Innovative Challenge for a New Global Economic Reality." *Small Business Economics* 45 (2): 245–53. <https://doi.org/10.1007/s11187-015-9630-8>.
- Kuratko, Donald F., and David B. Audretsch. 2009. "Strategic Entrepreneurship: Exploring Different Perspectives of an Emerging Concept." *Entrepreneurship: Theory & Practice* 33 (1): 1–17. <https://doi.org/10.1111/j.1540-6520.2008.00278.x>.
- Kuratko, Donald F., and Michael G. Goldsby. 2004. "Corporate Entrepreneurs or Rogue Middle Managers? A Framework for Ethical Corporate Entrepreneurship." *Journal of Business Ethics* 55 (1): 13–30.
- Langley, Ann. 1999. "Strategies for Theorizing from Process Data." *Academy of Management Review* 24 (4): 691–710.
- Lerner, Josh. 2013. "Corporate Venturing." *Harvard Business Review* 91 (10): 86–94.
- Lumpkin, G. T., and Gregory G. Dess. 1996. "Clarifying the Entrepreneurial Orientation Construct and Linking It to Performance." *Academy of Management Review* 21 (1): 135–72. <https://doi.org/10.5465/AMR.1996.9602161568>.
- Ma, H., T. Q. Liu, and R. Karri. 2016. "Internal Corporate Venturing: Intrapreneurs, Institutions, and Initiatives." *Organizational Dynamics* 45 (2): 114–23. <https://doi.org/10.1016/j.orgdyn.2016.02.005>.
- Menzel, H. C., I. Aaltio, and J. M. Ulijn. 2007. "On the Way to Creativity: Engineers as Intrapreneurs in Organizations." *Technovation* 27 (12): 732–43. <https://doi.org/10.1016/j.technovation.2007.05.004>.
- Miles, Matthew B., and A. Michael Huberman. 1994. *Qualitative Data Analysis*. Thousand Oaks, CA: Sage.
- Miles, Morgan P., and Jeffrey G. Covin. 2002. "Exploring the Practice of Corporate Venturing: Some Common Forms and Their Organizational Implications." *Entrepreneurship: Theory and Practice* 26 (3): 21–40.
- Morris, M. H., D. F. Kuratko, and J. G. Covin. 2011. *Corporate Entrepreneurship and Innovation: Entrepreneurial Development within Organizations*. Mason, OH: Cengage Learning.
- Orcher, L., and C. A. Glendale. 2005. *Conducting Research: Social and Behavioral Science Methods*. Glendale, CA: Pyrczak Pub.
- Parker, Simon C. 2011. "Intrapreneurship or Entrepreneurship?" *Journal of Business Venturing* 26 (1): 19–34. <https://doi.org/10.1016/j.jbusvent.2009.07.003>.
- Patton, M. Q. 2002. *Qualitative Research and Evaluation Methods*. Thousand Oaks, CA: Sage.
- Perry, John T., Gaylen N. Chandler, and Gergana Markova. 2012. "Entrepreneurial Effectuation: A Review and Suggestions for Future Research." *Entrepreneurship Theory and Practice* 36 (4): 837–61. <https://doi.org/10.1111/j.1540-6520.2010.00435.x>.
- Phan, Phillip H., Mike Wright, Deniz Ucbasaran, and Wee Liang Tan. 2009. "Corporate Entrepreneurship: Current Research and Future Directions." *Journal of Business Venturing* 24 (3): 197–205. <https://doi.org/10.1016/j.jbusvent.2009.01.007>.
- Rauch, Andreas, Johan Wiklund, G. T. Lumpkin, and Michael Frese. 2009. "Entrepreneurial Orientation and Business Performance: An Assessment of past Research and Suggestions for the Future." *Entrepreneurship: Theory and Practice* 33 (3): 761–87. <https://doi.org/10.1111/j.1540-6520.2009.00308.x>.
- Read, S., N. Dew, S. D. Sarasvathy, M. Song, and R. Wiltbank. 2009. "Marketing under Uncertainty: The Logic of an Effectual Approach." *Journal of Marketing* 73 (3): 1–18. <https://doi.org/10.1509/jmkg.73.3.1>.
- Read, Stuart, Saras D. Sarasvathy, Nicholas Dew, and Robert Wiltbank. 2016. "Response to Arend, Sarooghi, and Burkemper (2015): Cocreating Effectual Entrepreneurship Research." *Academy of Management Review* 41 (3): 528–36. <https://doi.org/10.5465/amr.2015.0180>.
- Richards, L., and J. M. Morse. 2007. *Readme First for a User's Guide to Qualitative Methods*. Thousand Oaks, CA: Sage.
- Rieple, A., and S. Vyakarnam. 1994. "Corporate Entrepreneurship: A Review." *Journal of Entrepreneurship* 3 (1): 1–20. <https://doi.org/10.1177/097135579400300101>.
- Roller, M. R., and P. J. Lavrakas. 2015. *Applied Qualitative Research Design: A Total Quality Framework Approach*. New York: Guilford Press.
- Santos, F., and K. Eisenhardt. 2009. "Constructing Markets and Shaping Boundaries: Entrepreneurial Power in Nascent Fields." *Academy of Management Journal* 52: 643–71.
- Sarasvathy, Saras D. 2001. "Causation and Effectuation: Toward a Theoretical Shift from Economic Inevitability to Entrepreneurial Contingency." *Academy of Management Review* 26 (2): 243–63.
- Sarasvathy, Saras D. 2008. *Effectuation: Elements of Entrepreneurial Expertise*. Cheltenham: Edward Elgar.
- Sarasvathy, S. D., and N. Dew. 2005. "New Market Creation through Transformation." *Journal of Evolutionary Economics* 15 (5): 533–65. <https://doi.org/10.1007/s00191-005-0264-x>.
- Sarasvathy, S. D., and N. Dew. 2013. "Without Judgment: An Empirically-based Entrepreneurial Theory of the Firm." *The Review of Austrian Economics* 26 (3): 277–96. <https://doi.org/10.1007/s11138-011-0170-4>.

-
- Seidman, I. 2006. *Interviewing as Qualitative Research: A Guide for Researchers in Education and the Social Sciences*, 3rd ed. New York, NY: Teachers College Press.
- Sharma, Pramodita, and James J. Chrisman. 1999. "Toward a Reconciliation of the Definitional Issues in the Field of Corporate Entrepreneurship." *Entrepreneurship: Theory and Practice* 23 (3): 11–27. https://doi.org/10.1007/3-540-48543-0_4.
- Shepherd, H. 2012. "Crowdsourcing." *Contexts* 11 (2): 10–11. <https://doi.org/10.1177/1536504212446453>.
- Singh, S., Patricia Doyle Corner, and K. Pavlovich. 2015. "Failed, Not Finished: A Narrative Approach to Understanding Venture Failure Stigmatization." *Journal of Business Venturing* 30 (1): 150–66. <https://doi.org/10.1016/j.jbusvent.2014.07.005>.
- Stake, R. E. 1978. "The Case Study Method in Social Inquiry." *Educational Researcher* 7 (2): 5–8. <https://doi.org/10.2307/1174340>.
- Statistics New Zealand. 2013. "Cultural diversity." Accessed December 2. <http://www.stats.govt.nz/Census/2013-census/profile-and-summary-reports/quickstats-about-national-highlights/cultural-diversity.aspx>.
- Taylor, S. J., and R. Bogdan. 1998. *Introduction to Qualitative Research Methods: A Guidebook and Resource*, 3rd ed. New York, NY: Wiley.
- Teece, D. J. 2015. "Dynamic Capabilities and Entrepreneurial Management in Large Organizations: Toward a Theory of the (entrepreneurial) Firm." *European Economic Review*. <https://doi.org/10.1016/j.euroecorev.2015.11.006>.
- Thornberry, N. 2001. "Corporate Entrepreneurship." *European Management Journal* 19 (5): 526–33. [https://doi.org/10.1016/S0263-2373\(01\)00066-4](https://doi.org/10.1016/S0263-2373(01)00066-4).
- Titus, Varkey, Jenny M. House, and Jeffrey G. Covin. 2014. "The Influence of Exploration on External Corporate Venturing Activity." *Journal of Management*. <https://doi.org/10.1177/0149206314562426>.
- Turner, T., and W. W. Pennington, III. 2015. "Organizational Networks and the Process of Corporate Entrepreneurship: How the Motivation, Opportunity, and Ability to Act Affect Firm Knowledge, Learning, and Innovation." *Small Business Economics* 45 (2): 447–63. <https://doi.org/10.1007/s11187-015-9638-0>.
- Urbano, D., C. Alvarez, and A. Turró. 2013. "Organizational Resources and Intrapreneurial Activities: An International Study." *Management Decision* 51 (4): 854–70. <https://doi.org/10.1108/00251741311326617>.
- Wales, W. J., V. K. Gupta, and F. T. Mousa. 2013. "Empirical Research on Entrepreneurial Orientation: An Assessment and Suggestions for Future Research." *International Small Business Journal* 31 (4): 357–83. <https://doi.org/10.1177/0266242611418261>.
- Wiltbank, Robert, Stuart Read, Nicholas Dew, and Saras D. Sarasvathy. 2009. "Prediction and Control under Uncertainty: Outcomes in Angel Investing." *Journal of Business Venturing* 24 (2): 116–33. <https://doi.org/10.1016/j.jbusvent.2007.11.004>.
- Yin, Robert K. 2003. *Applications of Case Study Research*, 2nd ed. Thousand Oaks: Sage.
- Zahra, Shaker A. 1991. "Predictors and Financial Outcomes of Corporate Entrepreneurship: An Exploratory Study." *Journal of Business Venturing* 6 (4): 259–85. [https://doi.org/10.1016/0883-9026\(91\)90019-a](https://doi.org/10.1016/0883-9026(91)90019-a).
- Zahra, Shaker A. 1995. "Corporate Entrepreneurship and Financial Performance: The Case of Management Leveraged Buyouts." *Journal of Business Venturing* 10 (3): 225–47. [https://doi.org/10.1016/0883-9026\(94\)00024-0](https://doi.org/10.1016/0883-9026(94)00024-0).
- Zahra, Shaker A. 1996. "Governance, Ownership, and Corporate Entrepreneurship: The Moderating Impact of Industry Technological Opportunities." *The Academy of Management Journal* 39 (6): 1713–35.
- Zahra, Shaker A., Anders P. Nielsen, and William C. Bogner. 1999. "Corporate Entrepreneurship, Knowledge, and Competence Development." *Entrepreneurship: Theory and Practice* 23 (3): 169–89.