

Effectuation in Corporate Entrepreneurship

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ABSTRACT

Corporate Entrepreneurship (CE) has been a topic of interest to scholars for over 40 years. Scholars have defined CE using a variety of terms, however the core idea of CE has involved entrepreneurial activities occurring within large, established firms. CE activities have included the pursuit of innovation and the introduction of new products, services and ideas in order to renew established companies and enable them to compete with more agile start-ups. To date, there has been little research on how CE unfolds which has stymied theory development and practical knowledge. The purpose of this thesis was to address this “how” question to further understand the process of CE. I implemented effectuation as a conceptual framework as opposed to the rational-economic perspective normally assumed in CE research.

The overarching research question was “How do corporate entrepreneurs use effectuation for innovation?” I employed a qualitative, multi-case study research design with corporate innovation projects as the level of analysis. The design facilitated theory building. Data were collected via interviews as well as secondary sources. Within and cross case analyses were done to surface patterns across the innovation projects. Findings revealed three effectual mechanism including: garnering support of internal stakeholders, accreting in-house financial resources, and acquiring skills of existing employees for project development. Evidence also suggested a process model whereby corporate entrepreneurs’ ideas were shaped into viable products (see Figure 2). Interestingly, findings illustrated how effectuation in the corporate setting may differ from the new venture context, the context in which it is usually applied. Implications for the wider literature are discussed along with limitations of the research design.

This study extended research on effectuation through exploring effectual processes in the corporate setting. In particular, findings provided an initial glimpse of how more emergent, organic entrepreneurial processes might unfold in corporations.

Such findings complemented existing research which has assumed a more rational and analytical approach to CE.

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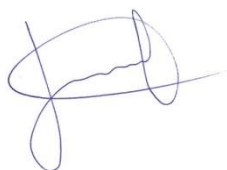
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ATTESTATION OF AUTHORSHIP

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

Signed: Jennifer Jarman

A handwritten signature in blue ink, appearing to read 'Jennifer Jarman', with a stylized, cursive script.

CHAPTER 1 INTRODUCTION

Corporate Entrepreneurship (CE) has been a topic of interest to scholars and executives for over 40 years (Corbett, Covin, O'Connor, & Tucci, 2013). Various definitions exist but CE broadly refers to the renewal of established corporations through the introduction and development of new ideas, products, services and business opportunities (Corbett et al., 2013; Thornberry, 2001). Hisrich and Antoncic (2001) describe CE as “entrepreneurship within an existing organisation” (p. 498).

Entrepreneurship is the process of discovering or developing new products, ideas, or market opportunities, in order to create economic wealth and corporate entrepreneurship explores this phenomenon in large, established businesses in contrast to start-up ventures (Rieple & Vyakarnam, 1994).

CE is critical for large corporations wishing to stay competitive (Coff, 2002; Ireland, Covin, & Kuratko, 2009; Zahra, 1991). Given the complexities of the global environment, companies can no longer remain stagnant but instead must continually modify, adjust, and rejuvenate in order to stay competitive (Drucker, 1998; Kanter, 1985; Morris, Kuratko, & Covin, 2011; Turner & Pennington, 2015). Companies can achieve this competitive edge through driving new innovations in the form of ideas, services and products (Ireland et al., 2009; Morris et al., 2011). Interwoven with CE is the concept of innovation, particularly in research exploring how businesses launch new ventures and create success (Kuratko & Audretsch, 2013; Rieple & Vyakarnam, 1994; Zhao, 2005). Existing businesses can utilise CE activities, such as business strategy renewal, in order to increase the competitive position of a firm (Zahra, 1991). Understanding how CE works is critical for scholars given its role in maintaining or renewing competitive positioning (Ireland et al., 2009).

As part of their exploration of CE, scholars considered the process whereby CE unfolded. As such, several models of the CE process have been developed but these

models mainly focus on the circumstances and environments needed for innovation to transpire within firms as opposed to how the actual process unfolds (Ireland et al., 2009; Kuratko & Audretsch, 2009; Morris et al., 2011). Quantitative research on the CE process mainly focuses on what contribution management makes to the CE process (Hitt, Nixon, Hoskisson, & Kochhard, 1999; Hornsby, Kuratko, Shepherd, & Bott, 2009). However, Turner and Pennington's (2015) quantitative study explores the actual process of CE emerging within companies. Their findings suggest the innovation process is powered through the activities of knowledge sharing and organisational learning within the corporation.

There are also only a small number of qualitative studies that discuss CE processes. Burgelman's (1983) article examines a single case study of how senior management engage with CE processes and what these processes are. Belousova and Gailly (2013) investigate how individuals' behaviours contribute to and transform the CE process through multiple case studies within one large corporation. Their study showed that contributions from individuals of all levels are important to the overall process of CE activities in a setting where entrepreneurial activities are integrated with employees' day-to-day work. The study uses the terms "discovery, evaluation, legitimation and exploitation" (p. 364) to discuss the process aspects of CE. Given the limited empirical research scholars have called for greater focus on the corporate entrepreneurship process in order to progress the field forward (Kuratko & Audretsch, 2013). Process focused research is integral to further understanding of what entrepreneurs do and how they do it, especially in new and emerging areas of research within entrepreneurship (Belousova & Gailly, 2013; Kuratko & Audretsch, 2013; Moroz & Hindle, 2012).

In conjunction with scholars, managers also need to understand CE processes. Utilising CE activities in order to revitalise and rejuvenate corporations allows larger

firms to compete with smaller, quicker start-ups encroaching on market share (Kuratko & Audretsch, 2013; Thornberry, 2001). Companies now operate in a time of increasingly tougher trading conditions due to the 2008 worldwide recession as well as the expansion of global markets, and technological advances (Kuratko, Hornsby, & Hayton, 2015). The combination of these factors with the public's ability to easily access e-commerce through the Internet is resulting in new markets and increased competition for established businesses (Thornberry, 2001). Corporations wanting to compete with start-ups and entrepreneurs greatly benefit from applying entrepreneurial activities and processes made accessible through research in these fields.

Given its importance, further empirical research is needed into the processes whereby CE unfolds in companies (Kuratko et al., 2015). Researchers need to understand how CE processes unfold in order to be able to better explain how innovation and entrepreneurship transpire within larger firms, thereby extending our knowledge of how to grow and rejuvenate corporations (Turner & Pennington, 2015). Moreover, the conceptual framework underlying much existing CE research, the rational/ economic perspective, does not capture more emergent entrepreneurship processes (Corner & Ho, 2010). I therefore suggest that the conceptual framework of effectuation holds promise for furthering our understanding of CE. Effectuation explores the thinking process by which entrepreneurs develop good ideas into commercially viable businesses through using their personal means (Sarasvathy, 2001). Means are recognised as the resources that an entrepreneur can have or already has and includes relationships, money, knowledge and expertise (Sarasvathy, 2001, 2008). Outcomes such as new products, services, and ideas for new businesses emerge through the effectual process by starting with means, only risking what is affordable to lose, building partnerships, and exploiting contingencies (Fisher, 2012; Sarasvathy, 2008). In

this research, I explore effectuation within CE activities and in particular, investigate how effectuation logic unfolds within CE processes.

BACKGROUND

Existing research exploring effectuation in the context of CE is predominantly conceptual. Scholars hypothesise that effectuation processes could be potentially very valuable for enacting CE, especially during the beginning stages of existing firms creating new ventures and products (Duening, Shepherd, & Czaplewski, 2012; Svensrud & Asvoll, 2012). Effectuation holds promise for understanding the thinking process behind entrepreneurial actions and behaviours, which in the CE context could provide valuable insight for corporations pursuing innovation. Unfortunately, empirical evidence on the relationship between effectuation and CE is very limited to date. One study provides empirical evidence to support a positive relationship between effectuation and an established CE construct, entrepreneurial orientation (Mthanti & Urban, 2014). A second study investigates the use of effectuation in small and medium sized enterprises for exploring new business opportunities (Evald & Senderovitz, 2013). It provides empirical evidence to support the idea that SMEs act more effectual than causal through using existing means to help create business ventures without predetermined objectives and plans. The third study, recently published, develops and tests a new concept called effectual orientation within CE (Werhahn, Mauer, Flatten, & Brettel, 2015). Effectual orientation is described as the “strategic direction underlining the importance and emphasis of employees actually adopting effectuation principles in their work” (Werhahn et al., 2015, p. 311).

The empirical studies discussed have shown there is some evidence supporting a link between CE and effectuation. However, what has not been researched empirically is the process of how effectuation actually unfolds to generate and support CE activities. We thus have very limited knowledge of how innovative ideas might emerge and be

shaped by the means and contingencies present within existing organisations. By exploring this process, I aim to illuminate the role of effectuation in new product and service development for established organisations aiming to maintain or renew competitiveness.

Given the void in current research, I have the opportunity to contribute to CE and effectuation literatures by empirically investigating effectuation in CE. Specifically, my research explores how effectuation processes unfold to engender CE. This is a contribution to the literature because the CE context is different from that of new venture start-ups; the research setting for most effectuation research to date. In the corporate setting, potential entrepreneurs should have greater means, resources, and relationships in contrast to the restrictions faced by start-up ventures. By researching how effectuation processes unfold to promote innovation and entrepreneurship in larger corporations, researchers can begin to develop innovation strategies and best practice for corporate entrepreneurs and firms. Companies, shareholders, and CEOs recognise the need to continue to pursue innovation in order to remain competitive and this research will assist companies wanting to explore the best way for them to approach CE activities. Equally as important, this research will contribute to corporate entrepreneurship literature by using an effectual lens to provide insights into how CE activities unfold and emerge in firms. It potentially will contribute to our understanding of how CE unfolds as a result of individual entrepreneurial activities within large, established corporations. With scholars calling for more focus on the process that occurs in CE (Kuratko & Audretsch, 2013), this thesis is warranted and timely with the intent to provide empirical evidence on this phenomenon.

Purpose of this Study

The purpose of this research is to provide scholars and corporations with a clearer understanding of how effectuation processes unfold in CE. This thesis aims to

extend existing research on effectuation from its current focus on small and emerging businesses to corporate entrepreneurship or innovation within larger, established businesses. In particular, this study looks to investigate the extent to which effectuation processes engender innovation within larger firms. The formally stated research question is “How do corporate entrepreneurs use effectuation for innovation?” I empirically examine this question using an inductive, multi-case study research design that will provide rich qualitative data that enables theory building.

The following chapters discuss the literature on corporate entrepreneurship and effectuation, the research design and methodology used, the research findings, and implications of findings as well as conclusions regarding the research question.

CHAPTER 2 LITERATURE REVIEW

The focus of this chapter is to review research that is pertinent to the research question: “How do corporate entrepreneurs use effectuation for innovation?” In particular, there are two streams of literature that are most important to review: corporate entrepreneurship and effectuation. The following sections review these streams and conclude with a summation that clarifies how this thesis contributes to each stream and the overall entrepreneurship literature.

CORPORATE ENTREPRENEURSHIP

Corporate entrepreneurship (CE) can be described as the pursuit of innovation in order to renew established companies through encouraging longevity and competitiveness (Corbett et al., 2013). CE encompasses entrepreneurial behaviour that requires structural support and dedicated resources to develop different value-creating innovations (Burgelman, 1983, 1984; Kanter, 1985). For the purpose of this research, Hisrich and Antoncic’s (2001) definition of corporate entrepreneurship “entrepreneurship within an existing organisation” (p. 498) will be used.

History of Corporate Entrepreneurship (CE)

While research into entrepreneurship has traditionally been focused on new venture start-ups and their founders, CE investigates the entrepreneurial behaviours and processes that may occur within large corporations. Researchers acknowledge that entrepreneurs can be found in large corporations and are not merely individuals who start or own a business (Hisrich & Kearney, 2012; Kanter, 1985). By recognising that entrepreneurial behaviour is not only found within new businesses, scholars have become increasingly interested in the area of corporate entrepreneurship. This interest has generated research that shows companies incorporate CE activities for a variety of reasons including, producing wealth (Zahra, 1993), strategic renewal (Guth & Ginsberg, 1990), innovativeness (Baden-Fuller, 1995), heightened performance

(Lumpkin & Dess, 1996), and the generation of a competitive edge through effectively utilising resources (Covin & Miles, 1999; Ireland, Hitt, & Sirmon, 2003).

The concept of corporate entrepreneurship has evolved over the past 40 years with a variety of names and definitions (Corbett et al., 2013; Kuratko, 2010; Lumpkin & Dess, 1996; Menzel, Aaltio, & Ulijn, 2007; Urbano & Turró, 2013). Labels include intrapreneurship (Guth & Ginsberg, 1990), corporate entrepreneurship (Burgelman, 1984), and corporate venturing (Macmillan, Block, & Narasimha, 1986). Early CE scholars had difficulties agreeing on the domain of CE and this has led to several researchers attempting to define CE within literature (Corbett et al., 2013). Guth and Ginsberg (1990) addressed CE as being inclusive of two types of phenomena; corporate venturing and strategic renewal. Corporate venturing is defined by Guth and Ginsberg (1990) as the “birth of new businesses within existing organisations” in contrast to strategic renewal which is defined as the “transformation of organisations through renewal of the key ideas on which they were built” (p. 5). Zahra (1991) remarked that the concept of entrepreneurship within corporations could be either formal or informal innovations targeting new products or processes in order to create different businesses. However, for the purpose of this research corporate entrepreneurship is defined as “entrepreneurship within an existing organisation” (Hisrich & Antoncic, 2001, p. 498).

CE literature emphasises the importance of managers to the implementation of entrepreneurial actions within firms (Kuratko & Audretsch, 2013). Management plays a critical role in the engagement and implementation of CE strategy (Burgelman, 1984; Kuratko & Audretsch, 2013). Middle managers are particularly important because they direct resources and advocate CE strategy (Burgelman, 1984). Research shows that within the corporate environment numerous people in different positions can be involved in the entrepreneurial process (Rieple & Vyakarnam, 1994). One of the key

challenges facing corporations is recognising and empowering innovative employees to achieve their entrepreneurial capability within the business (Hisrich & Antoncic, 2001). Scholars have called for empirical research into how the underlying entrepreneurial processes unfold, specifically within CE activities such as new innovations and opportunities (Dess et al., 2003; Lumpkin & Dess, 1996). This thesis contributes to CE and effectuation research by investigating the processes used by corporate entrepreneurs within large firms.

Current Directions in CE Research

CE is a key element in a firm's organisational and economic success due to its beneficial effects on firm revitalisation and performance (Guth & Ginsberg, 1990; Zahra, 1991). As such, literature on CE ranges from examining entrepreneurial behaviour and orientation within existing firms (Hisrich & Antoncic, 2001) to focusing on new venture creation within established firms and corporate transformation through strategic renewal (Guth & Ginsberg, 1990; Morris et al., 2011; Phan, Wright, Ucbasaran, & Tan, 2009). Recently more focus has been applied to two particular streams of research within CE that have been labelled as representations of the CE domain; corporate venturing, and strategic entrepreneurship (Morris et al., 2011; Phan et al., 2009).

Corporate venturing. This stream of research involves studying the creation of new businesses within existing firms (Guth & Ginsberg, 1990). Corporate venturing (CV) encompasses the various stages and practices that are involved when new businesses are created and assimilated into a corporation's already existing commercial portfolio (Narayanan, Yang, & Zahra, 2009). Seen as crucial to future company advancement and viability, these new businesses may be integrated into the existing corporate structures of the firm or entirely new entities may be created to house the ventures (Burgers, Jansen, Van den Bosch, & Volberda, 2009). Venturing

processes are inquisitive by nature and create a fundamental challenge for companies whose systematised day-to-day activities are at odds with the explorative disposition of venturing (Burgers et al., 2009). However, by leveraging prevailing knowledge and resources, both ventures and the existing businesses can profit from the transaction (Covin & Miles, 2007). Sharma and Chrisman (1999) say that CV can be split into two categories of internal and external venturing. The process of internal venturing focuses on generating new businesses from within the existing corporate structure through internal product development, for example. The use of external venturing accounts for firms investing in new or young businesses created by external groups. These external activities can include buying or licensing externally developed technology for new project development or acquiring a business with a promising new product or service (Phan et al., 2009).

Strategic entrepreneurship. The second stream of literature in the CE domain is strategic entrepreneurship. This phenomena focuses on a firm's pursuit of innovation and renewal actions which support the corporation's capacity to take risks and compete (Kuratko & Audretsch, 2009; Morris et al., 2011; Phan et al., 2009). Strategic entrepreneurship encompasses a broad array of concepts such as strategic renewal, domain redefinition, sustained regeneration, business model reconstruction and corporate rejuvenation (Covin & Miles, 1999). Another key concept within strategic entrepreneurship is entrepreneurial orientation. Entrepreneurial orientation has been described as the way firms implement entrepreneurship processes through five key dimensions- autonomy, innovativeness, risk taking, proactiveness, and competitive aggressiveness (Lumpkin & Dess, 1996). Companies that incorporate these phenomena stand to gain a competitive edge over their competition through the use of innovations (Ireland et al., 2003). For example, a company, when faced with a changing market, could transition from simply a computer manufacturing firm into a

digital media software company as part of their strategic renewal thereby further developing their market and creating a competitive edge over the competition. The use of strategic entrepreneurship does not necessarily involve the creation of new businesses as incremental changes in existing products, services, and systems are also included within the broader scope of strategic entrepreneurship.

EFFECTUATION

Different from Causation

Effectuation was introduced by Sarasvathy (2001) to describe an entrepreneurial thinking process different from the traditional causation view of how entrepreneurs create new ventures. An entrepreneur working within the causation view would begin with the desired outcome, such as starting a new restaurant (Sarasvathy, 2001). Subsequently, the entrepreneur would search for means that would establish the business and achieve the desired outcome. In this scenario the search for means would involve the entrepreneur hiring a chef, designing a menu, and locating premises in order to enact the desired outcome - the restaurant (Fisher, 2012; Sarasvathy, 2001, 2008).

The causation model is driven by an implicit assumption that entrepreneurs can predict the future (Dew, Read, Sarasvathy, & Wiltbank, 2009). Stated differently, this model assumes, like traditional decision making theories, that entrepreneurs work within a predictable environment where comprehensive analysis and forecasting are used to realise a predetermined outcome (Sarasvathy, 2008). For example, in the case of the entrepreneur looking to start a restaurant the assumption that the location will be successful is based on the use of in-depth market research to position the business in an ideal area. Causation models are founded on the underlying assumption that to the extent an individual can predict the future, they can control it and set themselves up for success (Sarasvathy, 2001, 2008; Wiltbank, Read, Dew, & Sarasvathy, 2009).

The causation view has also been used to explain how individuals notice and act on opportunities for new ventures (Corner & Ho, 2010; Drucker, 1998; Read, Song, & Smit, 2009). In the example given above the woman using causation logic would have used market analysis and financial measures to act on the restaurant opportunity. This might involve requesting public feedback around branding and logo decisions, perhaps conducting surveys to help decide what price point the food should sit within as well as the use of pricing and promotion strategies to attract the targeted consumers interest. This causation approach assumes entrepreneurs will look to exploit opportunities based on what they expect to receive in profit and returns (Shane & Venkataraman, 2000). With these assumptions of traditional economic theories dominating entrepreneurial literature, most researchers within this field anticipate entrepreneurs evaluate the opportunities on the basis of potential return relative to the risk involved (Sarasvathy, 2008).

In contrast to causation, effectuation is defined as a process whereby an entrepreneur starts with a good idea, instead of a clear outcome, and uses his or her means to develop that idea into a viable business (Sarasvathy, 2008). For example, a good idea might be an Indian woman wanting to share her love for real, authentic Indian cuisine with more people (Sarasvathy, 2001). The woman would look to work with the means she has available to come up with any possible number of outcomes such as new product or service ideas. Means are distinctive resources accessible to each individual entrepreneur and include who the entrepreneur is (characteristics, background), what he or she knows (experience, education), and who he or she knows (Corner & Ho, 2010; Sarasvathy, 2001, 2008). Returning to the example, the woman's means could include a passion for Indian culture (who she is), exceptional culinary and people skills (what she knows), and having a friend who is a television producer (who she knows). The outcome that is eventually effectuated is strongly shaped by the people she interacts

with about the idea (who she knows) and especially any commitments others are prepared to make to help develop her idea further. Outcomes, such as new ventures or businesses, are also shaped through the process of combining an entrepreneur's existing means with resources from stakeholders such as the Indian woman's producer friend. These outcomes represent a shaping and refining of the entrepreneur's original idea or concept. For the Indian woman, one possible business outcome could be an Indian cooking television show if her producer friend is prepared to help develop this idea.

The underlying principle of effectuation is the application of non-predictive control in contrast to predictive methods (Sarasvathy & Dew, 2013; Wiltbank et al., 2009). Non-predictive control means entrepreneurs can't predict the future but they can work to control it. Specifically, entrepreneurs control the resources (means) available to them and try to manifest a venture from them. The effectual entrepreneur is able to shape or enact the environment, instead of having to take the environment as a given and predict what new products or services could be successful within it (Wiltbank et al., 2009). This principle highlights the idea that an expert entrepreneur can potentially generate new markets through introducing novel and innovative products and services, even though the market did not previously exist (Sarasvathy, 2001, 2008).

In sum, an effectuation process shows the entrepreneur utilising the resources around him/ her to control an unpredictable future and achieve an outcome (a new venture) (Sarasvathy, 2001, 2008). This is in contrast, to the causation model where an entrepreneur predicts an outcome (new venture) betting that it will be successful in an uncontrollable future (Chandler, DeTienne, McKelvie, & Mumford, 2011; Sarasvathy, 2001, 2008). As such, effectuation has transformed the way scholars understand entrepreneurship by questioning the universal use of a causation view of entrepreneurship (Berends, Jelinek, Reymen, & Stultiëns, 2014; Politis & Gabrielsson, 2011).

Principles of Effectuation

Effectuation is essentially a decision making process that utilises principles consistent with such a process as follows: means orientation, affordable loss, stakeholders and leveraging contingencies (Dew, Sarasathy, Read, & Wiltbank, 2009; Sarasvathy, 2001, 2008; Sarasvathy & Dew, 2005). Each of these principles is described in the below sections.

Means. The concept of means is a foundational principle of effectuation (Sarasvathy, 2008). As previously stated, effectuation holds that an entrepreneur begins with his or her personal means which include identity (who I am), expertise (what do I know), and connections (whom do I know) when looking to create a new venture from an idea (Corner & Ho, 2010; Fisher, 2012; Sarasvathy, 2008). Means can be thought of as a pool of resources accessible to the entrepreneur. Following on from the earlier example, the Indian woman's means could encompass her ability to create delicious authentic Indian food and confidence that other people could also enjoy her creations. Her means also include the television producer friend. In one potential scenario perhaps a coffee catch up with him takes place and the woman discusses her latest recipe and her desire to do something with it. The producer friend loves the concept and pitches it to his company with the woman eventually gaining a cooking section on the morning news station. This example highlights the way means potentially coalesce to create an outcome. Outcomes are shaped by the combination of means the entrepreneur has at his or her disposal.

Affordable loss. The affordable loss principle specifies that entrepreneurs make decisions about starting a new venture based on what they can afford to lose (Chandler et al., 2011; Dew, Sarasathy, et al., 2009; Sarasvathy, 2008). For example, an entrepreneur might decide he/she can afford to lose their house so capital is raised for a new venture through a bank loan with the house providing collateral for the loan. This is

in contrast to the causation model wherein entrepreneurs make decisions based on expected returns that could result from a prospective venture (Sarasvathy, 2008). By enacting the affordable loss principle, the entrepreneur effectively considers worst-case future scenarios, thereby controlling (limiting) the potential downside of venture founding (Read, Dew, Sarasvathy, Song, & Wiltbank, 2009; Sarasvathy, 2008). Returning to the Indian woman example, she may decide she is prepared to lose her savings, her spare time, and surplus money on this venture but is not prepared to risk her house or current 9-5 job. By setting these boundaries the woman is able to plan that even if the business fails and she loses her savings she will still have a home and a job. She will have decided what she can afford to lose when founding her venture.

Stakeholders. Stakeholders are people who might be prepared to contribute to the development of the entrepreneur's idea into a venture through committing resources such as skills, expertise, time, or money. Researchers (Chandler et al., 2011; Sarasvathy & Dew, 2005) describe stakeholders as partaking in both the perils and the remunerations of the venture, jointly with the entrepreneur. Effectuators do not select stakeholders based on preconceived ideas of what the venture should be or goals the venture has; instead they allow stakeholders who actually commit to actively develop the idea into a viable business. Effectual logic emphasizes the need for entrepreneurs to work with the input of stakeholders who are actively contributing over stakeholders who could potentially contribute (Chandler et al., 2011; Sarasvathy & Dew, 2013).

Leveraging Contingencies. Leveraging contingencies is the idea that if life hands you lemons, you make lemonade (Duening et al., 2012; Sarasvathy, 2008). In effectual logic this means that instead of evading the unexpected, an effectual entrepreneur will use and leverage unexpected events in order to apply control within an evolving situation (Sarasvathy, 2008). Leveraging such events may mean reshaping the entrepreneur's idea to take advantage of the unexpected. Continuing on from the earlier

example, the Indian woman could have discovered that many of her favourite traditional cooking ingredients were simply not widely available to the New Zealand public making the cooking show idea redundant. This unexpected event could have spelt disaster for the Indian woman but she saw an opportunity and instead began to import her favourite spices and ingredients from her Indian suppliers into New Zealand. Effectuating entrepreneurs are aware that life is unpredictable and this includes all aspects of business. In order to build a successful enterprise the entrepreneur must adapt to the unexpected and use it to their advantage (Chandler et al., 2011; Sarasvathy & Dew, 2013).

Empirical Evidence of Effectuation

Sarasvathy and her colleagues initially researched effectuation in the context of new venture start-ups (Sarasvathy & Dew, 2005, 2013) and addressed the way in which entrepreneurs and non-entrepreneurs managed perils and remunerations (Dew, Sarasathy, et al., 2009; Read, Dew, et al., 2009; Sarasvathy & Dew, 2005). Results from initial studies showed high levels of support for effectuation being demonstrated by venture founders; particularly within highly uncertain environments (Sarasvathy, 2008; Sarasvathy & Dew, 2005). For these earlier studies, the researchers predominantly employed think-aloud experimental protocols to examine how entrepreneurs dealt with challenges within a venture founding scenario. The key findings indicate that expert entrepreneurs use effectual logic more often than causal logic and tend to adopt a means-based approach, choosing to draw on their means to develop their ideas into viable businesses (Sarasvathy, 2008). Moreover, entrepreneurs consider what they can afford to lose, engage with strategic stakeholders, and leverage contingencies (Read, Dew, et al., 2009; Sarasvathy, 2008). A meta-analysis revealed a substantive and positive correlation between an emphasis on means and new venture performance (Read, Song, et al., 2009). Fisher (2012) provided evidence support for several effectual

dimensions including leveraging contingencies, means, and affordable loss in the actions of entrepreneurs from the case studies examined. Brettel, Mauer, Engelen, and Küpper (2012) show strong support for both the leveraging contingencies and the affordable loss principles, with the latter demonstrating a positive impact on the outputs of R&D in highly inventive conditions.

More recently, empirical research has expanded to include studies of effectuation outside of new venture start-ups. Investigations have begun to link effectuation with internationalising companies (Svante, 2011), implementing national policies targeting particular sectors (Kaufmann, 2013), finance (Wiltbank et al., 2009), research and development (R&D), (Brettel et al., 2012), marketing (Read, Dew, et al., 2009), social entrepreneurship (Corner & Ho, 2010) and internal corporate venturing (Evald & Senderovitz, 2013). Findings from these studies have demonstrated strong support for effectual principles. A recent article has provided the first formal assessment of effectuation as a theory and has suggested several areas for improvement including further research conducted by independent scholars (outside the core experts of effectuation) to help develop effectuation theory (Arend, Sarooghi, & Burkemper, 2015). This thesis takes a step towards answering the call to develop effectuation through providing further independent empirical research.

Effectuation and Corporate Entrepreneurship

Importantly for this thesis, research exploring effectuation in the corporate entrepreneurship domain is limited to only two conceptual (Duening et al., 2012; Svensrud & Asvoll, 2012) and three empirical studies (Evald & Senderovitz, 2013; Mthanti & Urban, 2014; Werhahn et al., 2015). Svensrud and Asvoll (2012) theorised that effectuation processes are valuable in the early stages of opportunity development to facilitate innovation within large corporations. Their model hypothesises how key effectual principles such as affordable losses, stakeholders, and leveraging

contingencies, can create value when seeking entrepreneurial opportunities within large corporations.

Regarding empirical findings, a relationship between effectuation and entrepreneurial orientation, an important outcome within CE literature, was verified thereby providing further evidence of the need for effectuation to be explored within the broader CE domain (Mthanti & Urban, 2014). Internal corporate venturing has also been shown to incorporate effectual logic throughout the process of new business opportunity development (Evald & Senderovitz, 2013). However, this particular research was conducted within the setting of SMEs as opposed to large businesses which are the focus of this thesis. A new concept labelled “effectual orientation” with multiple dimensions has been recently developed and tested through factor analysis, providing an operationalisation of effectuation for quantitative research (Werhahn et al., 2015). However, this quantitative study focuses on the attitudes or behaviours required to encourage effectuation as a strategic direction and does not explore how the innovation process unfolds, which this thesis investigates.

Given the limited research on effectuation in the domain of CE and the growing need for established corporations to maintain or renew their competitiveness, the purpose of this thesis is warranted and timely. Again, the purpose of this research is to explore how effectuation is used in innovative projects within established companies. It is with this purpose in mind that I propose the following research question: “How do corporate entrepreneurs use effectuation for innovation?”

SUMMARY

Effectuation research has focused mainly on new start-up ventures as opposed to corporate entrepreneurship within existing firms and corporations. Research on effectuation within corporations is limited to a small amount of conceptual articles and empirical studies (Duening et al., 2012; Evald & Senderovitz, 2013; Mthanti &

Urban, 2014; Svensrud & Asvoll, 2012; Werhahn et al., 2015). Initial empirical evidence indicates a positive relationship between effectuation and entrepreneurial orientation. Research has also shown that effectual logic is used within new business ventures of existing companies (Evald & Senderovitz, 2013; Werhahn et al., 2015), demonstrating effectuation in use beyond Sarasvathy's (2001) original context of startups.

By further exploring effectuation in the corporate context, this research contributes to entrepreneurship research in two ways. First it illuminates how entrepreneurial processes function within established organisations. Scholars have recognised this area as currently being under-researched and have called for further studies into how the entrepreneurial process unfolds in CE (Kuratko & Audretsch, 2013) This is important for future research as it will provide empirical evidence around whether or not effectuation exists within corporate entrepreneurship and how the process differs from start-ups. In comparison to start-ups, corporate entrepreneurs potentially have more access to resources such as money, people and technology as well as different restrictions on time which could affect how individuals within CE apply effectual logic. Second, effectuation provides a conceptual lens different from that assumed in existing research – the rational/ economic or causation perspective. The use of a different conceptual lens seems likely to reveal emergent elements of CE that have not been revealed in existing research. All told, given the lack of research on effectuation in the domain of CE, the purpose of this thesis seems well timed and merited.

The following chapter explains the methods used in this research to investigate the research question that steers this study.

CHAPTER 3 RESEARCH METHODS

Chapter 3 describes the methods used to explore the research question that guides this thesis. The chapter describes the research design including the multiple case study approach, data collection techniques, and data analysis. It is important to note that limitations of the research design are explained in Chapter 5.

RESEARCH DESIGN AND CASES

Research Design

The research design is a qualitative, theory inducing approach to addressing the research question. Qualitative research is used across numerous disciplines, fields, and topics as a way to explore the comprehensive and multifaceted processes, behaviours, and actions involving human beings in a specific domain (Roller & Lavrakas, 2015). Qualitative research thus is useful to explore corporate entrepreneurship because the subject is multifaceted and comprehensive and requires an approach that can capture what scholars have described as a very complex phenomenon (Kuratko & Audretsch, 2013; Rieple & Vyakarnam, 1994). Also, qualitative methods can surface surprising understandings if not much is known about the topic or prior studies are scarce (Richards & Morse, 2007). Therefore, qualitative research is ideal to explore the extent to which corporate entrepreneurship reflects effectuation processes because this topic is under-researched as illustrated in the literature review chapter.

Within this broader design, I develop multiple case studies that enable identification of patterns (Eisenhardt, 1989) with respect to how effectuation processes might be at work in corporate entrepreneurship. Such a design is used in existing research on corporate entrepreneurship to explore and better understand entrepreneurship in a corporate setting (Belousova & Gailly, 2013). The use of case studies is appropriate because this design facilitates theory building (Eisenhardt &

Graebner, 2007) which is the purpose of this research. Specifically, the purpose is to identify any effectual mechanisms or processes underlying corporate entrepreneurship.

Case studies involve compiling data on specific cases in order to complete an in-depth study and, for multiple cases, comparison across cases (Patton, 2002). Cases are not constrained to individuals but can also include groups, corporations, projects, neighbourhoods, cultures or even countries (Creswell, 2009; Denzin & Lincoln, 2011). Case studies are units of analysis and can be developed for an episode in a company's life. (Stake, 1978).

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. The companies represented multiple industries which helped to enhance the generalisability of the findings. Personal acquaintances of the researcher were contacted and asked to identify innovation projects suitable for this research based on specific criteria developed for case selection as recommended by Patton (2002). The criteria ensured cases would be appropriate for the research question (Orcher, 2005). Also, the intent of the criteria was to ensure that cases embodied the same phenomenon; ensuring consistency in evidence for theory development (Taylor & Bogdan, 1998). Criteria for the projects included the following: 1) Does this company employ 100 or more employees? 2) Has this company been in operation for at least 5 years? 3) Has the identified innovative project been completed within the last 12 months? The criteria reflected the need for the research to take place within a large, established corporation and for the project details to still be fresh in the minds of the participants in order to enable accurate recall.

Three cases were developed for this study. There is no set rule for number of cases (Eisenhardt, 1989) and theoretical saturation was achieved with the three cases (Orcher, 2005), consistent with previous qualitative research that produced patterns in entrepreneurship (Corner & Ho, 2010). Descriptive details of the cases are given in Table 1.

DATA COLLECTION

I collected both primary and secondary data. Primary data were obtained through interviews with individuals closely involved in each of the innovation projects. Specifically, I obtained interviews from the initiator/ developer of the project as well as another person identified by the initiator as being vital to the project. All participants were at management level or higher (see Table 1 for participants' titles). Interviews were semi-structured in order to allow the participant's point of view to be clearly expressed and the data acquired to paint a rich picture (Flick, 2009; Richards & Morse, 2007; Seidman, 2006). I designed interview questions to surface participants' experience with the innovation processes and are included in Appendix A. Interviews were approximately 45-80 minutes in length and I digitally recorded and personally transcribed each one. Interview data provided detailed evidence of how innovation unfolded and the role of effectuation in these projects.

I also collected secondary data as background information to enrich and enhance the reliability and trustworthiness of interview data (Creswell, 2007; Flick, 2009; Orcher, 2005). I sourced data from archival documents including newspaper articles, website materials, company documents, and advertising materials. I used information from these documents to verify timelines and other important details about the innovation projects.

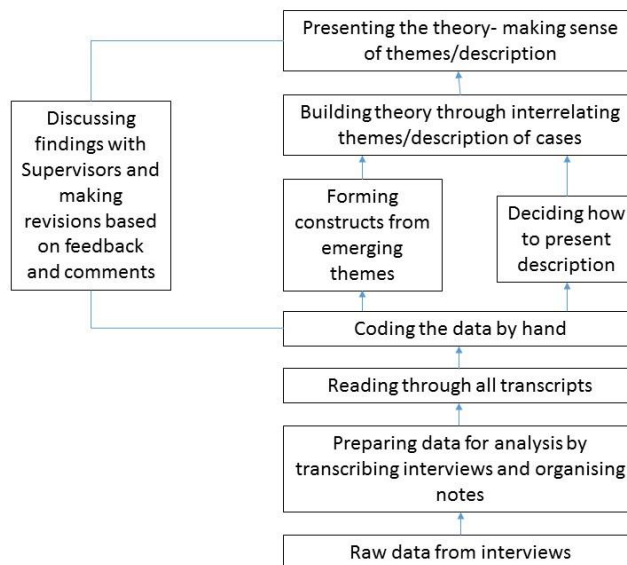
Table 1: Description of Cases

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 ANALYSIS

Interpreting data sits at the centre of qualitative research (Creswell, 2007; Flick, 2009; Richards & Morse, 2007). While there are many ways in which data can be interpreted, there is no one single, ‘right’ way or method to follow to build theory (Patton, 2002). Thus, I did two things to ensure a scholarly approach to data analysis. First, I followed the data analysis process recommended by Creswell (2009) as seen in Figure 1 below (please note that the figure is meant to be read from the bottom up). While the figure suggested a linear process for building theory, in practice the process was iterative in nature because the boundaries between the phases were fuzzier than appears in the figure. Throughout the research I was moving back and forth between phases. The phases of data analysis from this study are described in detail in the following sections. Second, I completed the data analysis consistent with exemplars of multi-case research from the published literature (Galunic & Eisenhardt, 1996, 2001).

Figure 1. Data Analysis Process



Adapted from Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (p. 185), by J. W. Creswell, 2009, Thousand Oaks, CA: Sage

Coding

Coding is the process of interpreting and organising textual material by labelling the data into categories so that all data relevant to a category can be retained and revisited until patterns emerge (Creswell, 2009; Flick, 2009; Richards & Morse, 2007). There are many names and coding approaches including open coding, axial coding, selective coding, theoretical coding, line-by-line, and thematic coding (Flick, 2009). I used a process of coding advocated by multiple scholars, beginning with open codes and then implementing expanded codes (Creswell, 2007; Richards & Morse, 2007; Singh, Corner, & Pavlovich, 2015).

Open coding. Open coding is considered to be the starting point when looking to create theory and is one of the first steps required to interpret data and phenomena in order to build concepts (Flick, 2009). Open codes are a few, very broad categories that can be applied to portions of text (Creswell, 2009). In this study, I developed five open codes initially based on an initial reading of transcripts and key concepts from current literature. These open codes included “effectuation”, “the spark”, “quirks in the process”, “strategic intent of the project”, and “outcomes / consequences”. Transcripts were read a second time and open codes were applied to the text.

Expanded coding. The next step of coding involved breaking down open codes into more detailed codes. This process is known as expanded coding (Creswell, 2007; Richards & Morse, 2007). Expanded codes represented more detailed concepts within open codes as well as possible relationships and processes. Margin notes helped facilitate expanded coding. An example of an expanded code within the open code of effectuation was “affordable loss”, a concept from effectuation research that captures individuals’ thinking about an innovation in terms of what they can afford to lose if the innovation fails.

Within and Cross Case Data Analysis

Following on from coding, I completed within case analysis (Eisenhardt & Graebner, 2007). It involved identifying patterns within each case that suggested constructs or relationships relevant to corporate entrepreneurs and their possible use of effectuation (Corner & Ho, 2010; Galunic & Eisenhardt, 2001). Once within case analysis was complete, I moved to cross case analysis. This involved the use of replication logic to induce patterns or common threads (Richards & Morse, 2007) across cases concerning how corporate entrepreneurship may have reflected effectuation (Yin, 2003). Specifically, a pattern identified within one case was posed as a hypothesis and tested against evidence in the other cases. Throughout the analysis, I drew upon existing literature to inform and refine emerging patterns in the data. Use of existing research in this fashion is consistent with established practice for generating theory from data (Eisenhardt, 1989).

A final step in analysis of qualitative data is theorising (Creswell, 2007; Patton, 2002; Singh et al., 2015). Theorising is often a step beyond patterns which involves induction of processes or graphic depictions of patterns in the data (Patton, 2002; Singh et al., 2015). I used this analytical tool in the present study as can be seen in the next chapter.

ETHICS AND TRUSTWORTHINESS

Ethical Considerations

Researchers are required to adhere to ethical principles designed to keep participants free from physical and psychological distress when embarking on a research project (Orcher, 2005). Researchers also need to respect participants and research sites by not placing participants at risk of any harm (Creswell, 2007, 2009; Flick, 2009). In light of these ethical issues, I enacted the following procedures. First, I sent an application for ethical approval for this research to the Auckland University of

Technology Ethics Committee. Approval of this application, number 14/340, was granted on the 6th of November 2014. Second, I provided participation information sheets (see Appendix B) and consent forms (see Appendix C) to all participants prior to the interview, consistent with AUT ethic procedures. The participant information sheet offered significant information with reference to the nature of the study and assisted the potential participants' decisions about taking part in the study. The consent form drew attention to the key concerns for participants. The concerns highlighted that the participant could withdraw from the study at any time without consequences, participation was completely voluntary, pseudonyms would be used for both individuals and corporations, and interviews would be recorded. The consent form also made certain that both parties' rights were protected through a formal, written agreement.

Trustworthiness

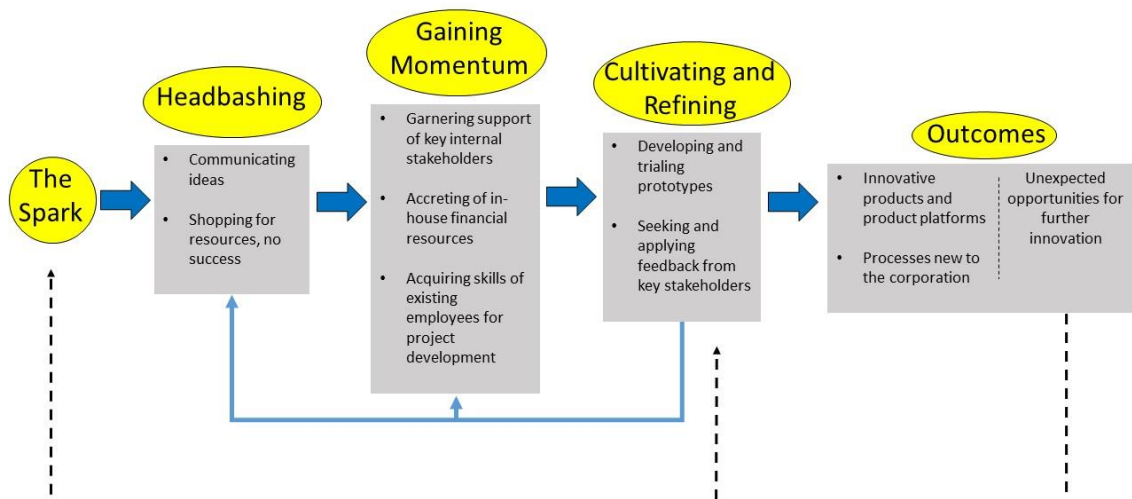
I used Lincoln and Guba's (1985) approach for ensuring the quality of this qualitative research. They suggest thinking about quality by determining the trustworthiness of the study and offer the following criteria to be assessed: credibility, transferability, and consistency. I ensured credibility by using methods and procedures within the data collection and coding stages that have been established by leading qualitative scholars. Credibility was also enhanced by using more than one data source. I addressed transferability by being methodical when collecting, interpreting and analysing data. I safeguarded consistency by providing description of the steps taken for coding and data analysis so that the study could be replicated by other researchers.

In conclusion, the purpose of this chapter was to describe the methods used to explore the research question "How do corporate entrepreneurs use effectuation for innovation?" The following chapter presents the findings relative to this question.

CHAPTER 4 FINDINGS

“How do corporate entrepreneurs use effectuation for innovation?” Chapter 4 presents findings on this research question abstracted from qualitative evidence. I found three patterns that address the question, one overarching pattern and two others (“affordable loss” and “innovation through control”) that fit within the broader one. Figure 2 provides details of how the overarching pattern unfolds and Table 2 provides additional support for it. In particular, the examples shown in Table 2 illustrate how the pattern unfolded across cases.

Figure 2. Effectuating Corporate Innovation



OVERARCHING PATTERN: EFFECTUATING CORPORATE INNOVATION

An overarching pattern emerged across the three cases and is labelled “effectuating corporate innovation”. This pattern illustrated how an innovation began and was subsequently developed and grown somewhat organically to create outcomes of value in a corporate environment. Innovations began with ideas from individuals within the corporation and were effectually shaped using innovators’ means into products. The overarching pattern underscored how initiators, collaborators and key

stakeholders were vital to progressing projects. “Effectuating corporate innovation” unfolded over time in stages which are depicted in Figure 2. 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.

The overall pattern took anywhere from 3 to 18 months to unfold. The time frame varied across innovations for two reasons. First, the length of time from initial idea to viable product reflects how long it took initiators to gain preliminary support for the idea in terms of funding and access to needed 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 within the company 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. I next describe each of the stages in the overarching pattern depicted in the figure.

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

Stages	Patterns	Supporting quotes
Spark	<p>-Ideas from individuals, not group</p> <p>-Informed by outside influences (i.e., customers, trends)</p> <p>-Ideas pursued because they were fun or cool</p>	<p>Crowdsourcing challenge case “So I knew about crowdsourcing and quite liked the idea of going to the outside world (to get innovative ideas).”</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.”</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.”</p>
Headbashing	<p>-Communicating ideas</p> <p>-Shopping for resources with no success</p>	<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’.”</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.”</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.”</p>

Stages	Patterns	Supporting quotes
Gaining Momentum	<ul style="list-style-type: none"> -Garnering support of key stakeholders -Accreting of financial resources -Acquiring skills of key collaborators 	<p>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’.”</p> <p>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.’”</p> <p>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.”</p>
Cultivating and Refining	<ul style="list-style-type: none"> -Developing and trialing prototypes -Seeking and applying feedback from key stakeholders 	<p>Crowdsourcing challenge case “‘You’ve got to take other people’s feedback about how to mould and shape and get it right. And that’s what we’ve done really.’”</p> <p>Coffee app case “‘We did a lot of user testing with the design.’”</p> <p>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.”</p>
Outcomes	<ul style="list-style-type: none"> -Innovative products and product platforms -Processes new to the corporation -Unexpected opportunities for further innovation 	<p>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.’”</p> <p>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.’”</p> <p>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.’”</p>

Stage 1. The Spark

Effectuating corporate innovation began with a “spark”. This stage involved the emergence of an interesting idea from an individual, the initiator, about something that could create value in his/ her corporate setting. Data showed the spark flowed from the initiator’s interests and personal affinities such as a love of innovation and technology. Interesting ideas were promising and/ or fun and seemed worth pursuing as opposed to concrete plans to achieve defined goals. Such an approach is consistent with effectuation principles (Sarasvathy, 2001). For example, in the crowdsourcing challenge case, the idea came from the initiator’s own interest in innovation happening more widely in the business environment outside of his corporation. 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 & 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 fascination with technology combined with his prior knowledge and experience of innovation.

There was some variation across cases with respect to the spark stage. The spark originated with individuals at lower levels of their organisations in the crowdsourcing challenge and coffee app cases. This implied a more bottom-up effectuating corporate 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 envision the company as a one-stop shop for media and advertising services. The Board backed his idea and developed the notion of a digital platform that could facilitate multiple services, a huge change from the single service the company was offering at the time. As such, the effectuating corporate innovation process was more top down, involving communicating the idea to lower level employees and gaining their support for implementation as expressed in the following quote.

“A lot of people have been here for twenty years and kind of just accept the same-old, same-old and what I say to people is ‘It’s not about working harder, it’s about working smarter’.”

Stage 2. Headbashing

The next stage in the overarching pattern was “headbashing” as shown in Figure 2. Headbashing involved the initiator engaging in but not having a great deal of success in activities to bring attention to his idea. The figure indicates two main activities that initiators engaged in but had limited success with initially: communicating the idea to key corporate stakeholders in order to garner support for it and shopping for resources within the company. Initiators encountered roadblocks and lack of interest in their ideas that initially thwarted the idea’s further development. The headbashing stage thus was consistent with existing research which shows that the first stages of corporate innovations are characterised by resistance to an idea, internal corporate politics, and difficulties in obtaining resources (Hisrich & Kearney, 2012). However, the headbashing stage revealed a difference between effectuation in corporate and new venture settings, in new ventures the entrepreneur / initiator has the freedom to find stakeholders and resources from a wide pool of contacts and networks (Sarasvathy,

2001, 2008). He or she is not limited to resources available within a particular corporate context.

An example of the issues involved with the first headbashing activity, communicating the idea, was clearly seen in the Coffee app case. The initiator first communicated the idea to the General Manager charged with approving innovative projects. This GM was against the idea. He described it as “stupid” and “doomed to fail”. The innovation GM’s assessment was a significant roadblock to taking the idea any further initially. In fact, this roadblock stymied the development of the idea for a couple of weeks and had other senior level GMs not stepped in, the project would have been completely abandoned. This example highlighted how without support from top-level management the initiator would find it very difficult to move forward with the development of any idea for corporate innovation. Obtaining endorsement or support from senior management is noted as being one of the most valuable resources a corporate entrepreneur can acquire (Morris et al., 2011). However, the qualitative evidence accumulated for this research shows a mechanism --- communicating the idea – that is part of a process whereby initiators (corporate entrepreneurs) obtain endorsement/ support. Also, this evidence highlights the effectual nature of corporate innovation in that the initiators sought the support of internal stakeholders in order to progress the innovation. The notion of stakeholder support is a foundational principle of effectuation (Sarasvathy, 2008). Despite the GM’s initial resistance to the idea, it ultimately did gain momentum towards development thanks to backing from several other high-level managers that the initiator secured through his ongoing communication of the idea. These other high-level managers deemed the coffee app to be “a really cool idea” and gave their approval and ultimately the resources needed to proceed with the project.

The crowdsourcing challenge highlighted the second key mechanism of headbashing – shopping for resources (without success at first). In that case, the initiator found himself “hammering away” for 8-9 months trying to find the financial and human resources needed to develop his idea. In these months, he was not able to source any people, funding or other resources due to the lack of initial support for the idea. Without the capability and manpower the initiator was unable to develop his idea into a tangible innovation project.

Across the cases, some variation occurred in the headbashing stage. The initial period of time spent in this stage provided an indication of the level of support the initiator had for the innovation project within the corporation. The time spent initially in this stage was comparatively short in two of the cases, the coffee app and digital platform. In the digital platform case one of the key stakeholders involved with the innovation noted how “fortunate” the project was for the Board to quickly allow “the investment into the product and the people to develop it”, which demonstrated the high level of support for the project. Both the coffee app and digital platform cases had quickly garnered support from those in charge of prioritising and allocating resources which was reflected in the two cases moving swiftly from headbashing to the gaining momentum stage in the pattern. However, the length of 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 to garner support for the idea but it was deemed to be “too risky” by those he spoke to initially. The innovation was initially seen by upper management as too much of a departure from how the company had traditionally operated and the idea was too much of a gamble to pursue. This demonstrated how the initiator had no support from senior management for some time so the project spent the longest period in the headbashing stage.

Stage 3. Gaining Momentum

Figure 2 showed the headbashing stage followed by the “gaining momentum” stage. Ideas gained momentum when they moved from being just an idea to being a tangible innovation project supported by skills and financial backing from key stakeholders within the company. Across all three cases, the gaining momentum stage showed three mechanisms used to transform ideas into innovation projects: garnering support of key internal stakeholders, accreting in-house financial resources, and acquiring skills of existing employees for project development.

First, initiators garnered internal stakeholder support to develop their good idea into an innovation project. Once committed to the project, internal stakeholders became the entrepreneurial team that nurtured and guided the innovation project; helping to acquire other resources needed to ensure further development. The fact that internal stakeholders within these corporates played a role in transforming ideas into fundable projects is consistent with the effectuation principle that stresses the need for stakeholders to facilitate the growth and development of a new venture (Sarasvathy, 2008; Sarasvathy & Dew, 2005). Evidence showed stakeholders had formal connections with the innovator and were sourced from within the corporation. This is in contrast to new venture cases where stakeholders could be drawn from less formal connections such as friendships, acquaintances and other personal networks (Sarasvathy, 2001, 2008). The key internal stakeholders that emerged for each of the cases 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 prioritised 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 yada 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 digital platform case illustrated how vital internal stakeholders were to the innovation process. When the company made the decision to move forward with the innovation, one of the Board members utilised a business connection, a talented digital designer he knew. He recruited and employed this connection to design and develop the digital platform. Over the course of a year, the designer transformed the initial idea into a digital platform that enabled the company to expand its product offerings from the single product it had been offering 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, thereby enhancing the digital platform with skills in project management and process streamlining. The development of the digital platform through the accumulation of stakeholders and their expertise is consistent with effectuation logic wherein commitments from stakeholders help to eliminate uncertainty and control future outcomes (Dew, Read, et al., 2009; Sarasvathy, 2001, 2008). The network of stakeholders and corresponding commitments grow and produce results that reflect the collection of commitments (Sarasvathy, 2001, 2008) consistent with evidence provided across the three cases.

The second mechanism was the accretion of in-house financial resources. Initiators and key stakeholders were well aware they needed money to develop the promising idea into a project and potentially a product. The crowdsourcing case illustrated the importance of this second mechanism in that no progress was made for the initial 8-9 months because financial backing was unavailable. Finally, the accretion of in-house funding from one of the company's GM's helped shift the project from just an idea into a project that was centred on the notion of a crowdsourcing challenge for the New Zealand public. This initial in-house funding gave the idea legitimacy such that other internal resources became available, including access to advertising, media campaigns, and needed skills.

The final mechanism for gaining momentum was the acquisition of skills of existing employees for project development. All three cases in the study required specific skills to progress the innovation from an idea to a tangible product. For instance, the skills acquired for the coffee app included those from a software designer found within the digital innovation team in the corporation who was able to generate the code needed to build the app. For the crowdsourcing challenge, marketing, promotional, legal and technical skills were required and predominantly were sourced from the initiator's business unit as well as through his connections within the corporation. Skill acquisition moved the ideas into prototype products/ processes ready for testing.

Within the "gaining momentum" stage there was very little variation across cases.

Stage 4. Cultivating and Refining

The next stage in the effectuating corporate innovation process is labelled the "cultivating and refining" stage. Figure 2 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 in this stage to develop and refine products. The prototype app was trialed on 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 is 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 just a little bit of polish that makes it feel engaging and I don’t know, special.”

The cultivating and refining stage in Figure 2 has a blue feedback arrow emanating from it back towards 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 innovation technology 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 2 is “outcomes”. Evidence from all three cases showed multiple outcomes as depicted in the figure. Clearly, the coffee app case resulted in a new product/ service for the company. The digital platform case resulted in a platform that enabled 6 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. The crowdsourcing challenge ultimately became an internal process which facilitated access to and vetting of innovative ideas. For example,

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 additional benefits for existing customers. In contrast, the digital platform case developed new products to offer additional products to existing customers and to secure new customers.

Figure 2 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 had led to three new working apps at the time of data collection. These new apps were generated from the ideas of the winners and had required new technology development and novel customer safety measures in order to implement them. An unexpected outcome evident in the coffee app case was a new symbol for innovation and customer service in the company. The new symbol was a stand-alone mobile coffee unit used for external public relations events as well as for internal company events.

Finally, Figure 2 depicted a dashed line feedback arrow emanating from outcomes back to the cultivating and refining and spark stages of the effectuating corporate innovation process. This arrow suggests that outcomes led to further refinements in products but also sparked ideas for new innovations. The digital platform case provided a particularly interesting illustration of how one innovation can spark other opportunities 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 innovation they did not “imagine” that writing workflows for clients would be a service they would offer. This example highlighted how a new business idea was sparked from the platform provided by the initial project. I now turn to a description of the other two patterns that fit within the overarching pattern.

AFFORDABLE LOSS

A pattern labeled “Affordable Loss” surfaced from the data and was reflected within the overarching pattern. Affordable loss is a concept associated with effectuation in the new venture context and describes how an entrepreneur thinks through the financial implications of starting up a business (Read, Dew, et al., 2009; Sarasvathy, 2001; Sarasvathy & Dew, 2005; Wiltbank et al., 2009). Specifically, an entrepreneur thinks about what he/she is prepared to lose should the venture fail and invests up to that amount (Chandler et al., 2011; Dew, Sarasathy, et al., 2009; Sarasvathy, 2008). The amount the innovator is prepared to lose is “affordable” for the entrepreneur or within his or her means (Sarasvathy & Dew, 2005), such as the value of the entrepreneur’s house in the new venture start-up context. This concept is only just beginning to be explored in the context of corporate entrepreneurship/ innovation with only one empirical study having been completed, to my knowledge (Mthanti & Urban, 2014). However, Mthanti and Urban (2014) primarily focus on how effectuation moderates the relationship between performance and entrepreneurial orientation as opposed to how effectuation unfolds within the innovation process.

In contrast, the causation view of entrepreneurship says that entrepreneurs think about financial implications based on expected returns (Sarasvathy, 2008; Sarasvathy &

Dew, 2005; Shane & Venkataraman, 2000). Expected returns are calculated by estimating returns for the best, most likely, and worst case scenarios, multiplying the three return figures by the probability of each scenario happening and adding up the products to give an overall expected return (Sarasvathy, 2001, 2008).

Evidence from the cases of corporate innovation studied here showed initiators and their entrepreneurial teams used affordable loss thinking as opposed to thinking about expected returns. Affordable loss was reflected in the early stages of the overarching pattern as the original key stakeholder in each case, the manager(s) who agreed to fund the project, decided the amount of money to invest. Specifically, these managers considered the consequences of the project failing and decided to invest resources into the project in light of possible failure. The digital platform case provides a good example of how affordable loss thinking was embraced in the early stages of the project. When the “one-stop shop” idea was introduced, the Board’s first action was to weigh up what they might lose if they invested in the project. The members of the Board reasoned that the core business activities would not be severely affected if the project failed because the umbrella structure of the company meant the core activities were operated separately and would therefore be protected should the project fail. As such, the Board members thought they would only lose their investment in the project, not their core business. When the moment came for the company to make the decision of how much investment they could afford, the Board of Directors was prepared to invest retained earnings but no more in the project. The business had expanded and grown significantly over the previous 5 years, tripling the number of employees so the Board had substantial retained earnings to invest in the innovation.

However, 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, & 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.

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 minimised time invested and used potential original stakeholders’ questions and concerns to refine the idea and come up with solutions for any issues. He was ultimately able to address initial 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

The final pattern surfaced from across all three cases that I labeled “innovation through control”. Specifically, innovation was characterised by the company maintaining control of key aspects of the process whereby ideas were developed into

products/ services. Evidence demonstrated that control was maintained in two concrete ways. First, innovations were funded from existing sources within the corporation including current department budgets and retained earnings. In the crowdsourcing case, for example, the initial funding was provided by a colleague of the initiator who had a considerable budget at his disposal.

“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’”.

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 & Dew, 2005) so 100% internal funding of innovations ensured control. 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).

Also, control through funding was achieved by keeping investment in innovations to a minimum. By investing as little as possible the corporations controlled potential losses, keeping them to a minimum. 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 on top of their business as usual jobs 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.”

The phenomenon of minimal investment again made corporate innovation similar to effectuation given that theory says an entrepreneur or innovator controls

outcomes by reducing the potential issues or problems through minimising costs (Read, Dew, et al., 2009; Wiltbank et al., 2009).

The second concrete way in which corporations maintained control was by sourcing the skills and talent needed for the innovations from within the corporation, usually from within the initiator's own department. This attempt at control was seen in the coffee app case, the company exclusively used internal skills and talent from a variety of business units for the innovation project. In the case of the digital platform, the company also restricted the use of skills and talent to within the corporation in order to keep control and ownership. Control was further maintained by the Board's decision to employ an individual they believed had the key skills required to help build the digital platform, thus moving those needed skills inside the company within its control. This approach is in contrast to the new venture situation wherein the innovator /entrepreneur has the scope to draw on the skills of anyone he or she knows in order to develop an idea into a viable product or venture (Sarasvathy, 2001, 2008).

The following chapter, Chapter 5, discusses the major findings of the thesis and their contribution to the literature. It also discusses implications of the findings and limitations of the research.

CHAPTER 5 DISCUSSION

The purpose of this thesis was to investigate how effectuation plays a role in corporate entrepreneurship. In particular I addressed the research question of “How do corporate entrepreneurs use effectuation for innovation?” This was a contribution to the literature in that the CE process is under-researched (Belousova & Gailly, 2013; Kuratko & Audretsch, 2013; Kuratko et al., 2015) and effectuation is a different conceptual framework from that implied in most existing CE research, the causation or rational/ economic framework. Chapter 5 discusses the major findings of this thesis and their contribution to existing literature. The chapter also presents implications of the findings and limitations of the research.

Findings provided evidence showing that corporate entrepreneurs do use effectuation to progress their innovative ideas to viable products/ services. Figure 2 illustrated an effectual process underlying the innovation projects examined in this study and in particular reports effectuation mechanisms key to developing the projects. This is a contribution because it shows how innovation unfolded organically over time and existing research rarely reports on how such a process evolves (Duening et al., 2012). Instead existing literature mainly focuses on the contribution and role of management within the CE process (Belousova & Gailly, 2013; Turner & Pennington, 2015). Also, findings illustrated how effectuation in the corporate setting may differ from the new venture context. Differences are summarised in Table 4 below. One key overarching difference between the corporate and new venture contexts is that corporations limited stakeholder connections and funding to options within the corporation, in order to ensure control of the innovation. This is in contrast to effectuation in new venture settings where the entrepreneur/innovator has the freedom to find stakeholders and use resources from any available connection (Sarasvathy, 2001,

2008; Sarasvathy & Dew, 2005, 2013). Further key differences are described in Table 4 below.

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 2)	<ul style="list-style-type: none"> -Innovations 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

IMPLICATIONS FOR WIDER LITERATURE

Findings have two implications for the wider entrepreneurship literature. First, empirical support of effectuated corporate entrepreneurship offers a perspective different from that which prevails in existing literature. Current literature demonstrates a highly rational/ economic perspective applied to corporate entrepreneurship (Duening et al., 2012; Kuratko & Audretsch, 2013). The highly rational approach assumes that corporate entrepreneurs predict what innovations are likely to be demanded by customers and then compute expected returns in order to assess whether or not such innovations are worth investing in. Current findings suggest an effectuation perspective as a promising, alternative perspective that could be applied to future research on corporate entrepreneurship. For example, effectuation could be a valuable approach to studies wanting to explore CE activities in fast changing and uncertain environments. Does a focus on control (i.e., effectuation) instead of prediction (i.e., causal) lead to greater innovation in uncertain environments? An effectuation perspective could also be used to examine how affordable loss, or the focus on what the 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 maximising returns increase the amount of CE activities within corporations?

The second implication is that three effectual mechanisms identified in the data provide potential insight into the micro-activities or micro-processes that can engender corporate entrepreneurship. As a reminder, the three mechanisms were as follows: garnering support 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, & Wright, 2011; Teece, 2016). For example, future research could examine the extent to which these mechanisms are related to important outcomes such as speed of product development, number of product/services/process innovations and the financial performance of the 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? Does variation in the order of stages affect the outcomes of innovation projects?

Findings also have practical implications for corporate entrepreneurs. First, surfaced mechanisms were vital to progressing ideas into actual innovation projects within the studied corporations. These mechanisms may serve as guidelines for practice if verified by further empirical research. Further research could implement a quantitative research design to validate these mechanisms as useful guidelines for the larger population of corporations.

Second, the actual stages identified in Figure 2 could be used to create milestones for innovation projects. For example the 'spark' stage could perhaps be formalised through twice yearly brainstorming sessions to encourage creative individuals to come forward with novel ideas. Corporations could create innovation milestones that reflect Figure 2's stages to assess progress of innovation projects. The stages in Figure 2 could also inform future research. Scholars could trace innovation projects to identify the percentage of projects that fail to achieve the milestones represented by these stages and identify which stages prove most challenging to the progress of innovative ideas. Also, scholars could look for any common characteristics of projects that failed in particular stages of the innovation process.

LIMITATIONS

As with all research, this study has limitations. I identify three. The first limitation derives from the qualitative research design. It was useful for inducing theory but findings cannot be generalised to the population of corporations seeking to innovate like findings from quantitative research can be. Findings thus are best considered exploratory in nature. Future research thus could test the extent to which the surfaced effectual process and mechanism hold true for a large sample of corporate entrepreneurship projects.

The second limitation is its focus on New Zealand corporations. Generalisability of findings may be limited because data was collected only in this one country. New Zealand has a small population and the vast majority of businesses are small and medium sized 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 countries with a different definition, this limitation could inspire future research to assess the extent to which present findings generalise to large businesses in different national contexts. Do the same patterns identified here surface in other, larger countries where large companies are defined as 500 or more full time equivalent employees? Does variation in the size of corporations expressed in number of full time equivalent employees make a difference to how effectuation processes unfold? Are current findings relevant only to developed countries like New Zealand or is the process of corporate entrepreneurship different in developing countries? Future research could expand this exploratory research through additional research that builds on and tests the initial theory developed here.

The third limitation has to do with the possibility of recall bias given the retrospective nature of the study design. I worked to minimise this potential limitation through introducing study criteria that required the innovation project to have been

completed in the 12 months prior to data collection. This ensured the project would still be relatively fresh in the minds of all 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 (up to 50 years) (Berney & Blane, 1997).

In conclusion, this thesis extends research on effectuation through exploring the innovation process in corporate entrepreneurship and reveals how effectuation in corporations differs from the new venture context. In particular this thesis provides initial empirical evidence of how effectual processes unfold in corporate entrepreneurship thus providing an initial step toward theory development in this under researched area (Dess et al., 2003; Duening et al., 2012; Kuratko & Audretsch, 2013; Turner & Pennington, 2015). The study helps to extend corporate entrepreneurship beyond the prevailing causal / rational 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.

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APPENDICES

Appendix A: Interview Questions

1. Could you describe your role in the project and what you believe innovation is in this corporation?
2. Could you provide an in-depth explanation of what the innovation project was and how it unfolded?
3. How did you initially get the idea for this innovation?
4. What were the first steps you took towards developing the idea?
5. How did you cope with any setbacks during the development of the innovation?
6. Who did you collaborate with and why?
7. How did collaborators affect the process and the innovation?
8. What was the strategic reason for the innovation project?

Appendix B:**Participant Information Sheet****Date Information Sheet Produced:**

30th September 2014

Project Title:

Effectuation in Corporate Entrepreneurship

An Invitation:

Greetings, my name is Jennifer Jarman and I am a Masters student at the Business School at AUT University in Auckland, New Zealand. I am conducting this research because I am interested in innovation and entrepreneurship. In particular, I am interested in the decision-making processes of individuals involved in innovation. I invite you to participate in research that explores innovation and share your experiences of it. Your participation is strictly voluntary and this will neither advantage nor disadvantage you in any way. If you participate in this research project, you can decline to answer any questions or withdraw any time prior to the completion of data collection.

What is the purpose of this research?

The purpose of this research is to examine how decision-making processes work in innovative projects within the creative industries. Information gained by this study can suggest effective practices that could be used by other New Zealand companies to improve international competitiveness. Researchers have rarely focused on understanding how decisions are made in the process of innovating. There is a possibility that the findings of this research be written up and submitted to academic conferences and academic journals.

How was I identified and why am I being invited to participate in this research?

You have been invited to participate in this research project because you are a founder or an employee working for _____. You are over 18 years of age, have fluency in English, have worked for _____ at least one year and been involved with an innovative project within the last 12 months.

What will happen in this research?

You can participate in this research by signing the consent form provided to you with this information sheet. It will be an informal talk that will happen at a time and place suitable to you. The questions will explore your experience of the innovation project.

The interviews will be tape recorded for the purpose of transcribing. I may also take some notes which will help me analyse the data. You can refuse to answer any questions in the interview, ask me to stop recording or taking notes, without stating any reasons. You can withdraw from the research at any time up to the end of data collection. Pseudonyms will be used for the organisation, individual and groups participating in all final data used in the research. Also, the data that will be reported is aggregate data;

identifying patterns across multiple organisations. As such, idiosyncratic organisations and people are not easily identifiable.

If you wish to participate in this research, you will be asked to sign a Consent form provided with this Participant Information Sheet. You can return the signed Consent Form to me before the interview.

What are the discomforts and risks?

It is possible to feel uncomfortable in sharing some parts of your experiences. If you found this to be the case for you, the following section outlines how to alleviate the discomfort. Some personal information, such as your gender, educational background, and years of work experience will also be collected. There is some minimal risk of being identified through the responses that will be quoted in the research. The steps that I will take to minimise these risks as far as possible are described in the next section.

How will these discomforts and risks be alleviated?

Under no circumstances will you be pressured to give any information against your will. If you should feel uncomfortable, you can remain silent for any question(s), decline to answer any question(s), ask me to stop recording or taking notes without giving any reasons. All participant responses, including personal information, will remain strictly confidential. I will report findings in a way that the risk of you being individually identified through the responses is minimised as far as possible. For example, the names of the participants, any organisations or people mentioned in the transcribed interviews and notes will be replaced with false names. Moreover, what gets reported in the manuscripts generated from the research are aggregate patterns of decisions about innovation across all those individuals and businesses involved in the research, not individual details. As such, it would be difficult to identify a particular person or organisation. Any descriptions that may lead to identification of a person or organisation will be changed or deleted during transcribing of the interviews. Any identifying information related to persons or organisations will be blacked out in the transcripts and notes. Interview transcriptions will be sent to you for review prior to analysis.

Please note that while the above steps will be taken to maintain participant confidentiality as far as possible, there will be some risk of being identified through your participation and responses given. For example, if you have shared your experiences with others and this information is available in the public domain, such as, blogs, websites, and media interviews.

What are the benefits?

Your participation will help me understand how individuals working for corporations make decisions that lead to the creation of novel ideas. Your perspective will be valued and will make a real contribution to the business community, especially other New Zealand businesses that are trying to innovate and be successful in the midst of global competition. Your participation will also help to make an academic contribution because it can contribute knowledge to a topic that has not been researched to date.

How will my privacy be protected?

The data from the transcriptions will be used for my thesis publication and possible future academic publications. Again, these publications will only report aggregated patterns across all individuals and companies involved in the research, not individual details. False names will be also used in transcripts to conceal the identity of any other individual(s) or organisation(s) mentioned in the interview. The personal data about the participants will be deleted as soon as it is no longer required for the purposes of the study and the unidentified data and consent forms will be stored securely in the researcher's AUT supervisor's office (Professor Trish Corner). All data and consent forms will be stored in separate locked cabinets, and after a period of six years will be securely destroyed.

What are the costs of participating in this research?

There are no financial costs of participation. You will only be asked to participate in an interview at a time of your convenience. The duration of the interview will be two hours approximately. However, if there is a need, I may request some further clarifications from you. This would likely be done through a phone call or email. The interview will be audio taped and transcribed.

What opportunity do I have to consider this invitation?

You will have 1 week to consider this invitation and then to either accept or decline to participate in this research project. If you wish to seek further details, ask any more questions or want to clarify any point regarding this project, please do not hesitate to contact me. You can either talk to me in person (by appointment), email me on missjarman@gmail.com or call me on 0220262483.

How do I agree to participate in this research?

You can join the study after reading and understanding the information provided to you on the Participant Information Sheet and signing the Consent form provided to you with the Participant Information Sheet. You can return the consent form to me prior to or at the interview.

The signed and returned consent form will indicate that you wish to take part in this research and that you are participating with full knowledge of the purpose of this research.

Will I receive feedback on the results of this research?

Once the research is completed, I will make the summary of the research available to you. You can indicate on the Consent form whether or not you will like to receive a copy of the summarised, aggregated research findings. If you wish to receive the summary, you will have to provide your email or postal address details on the consent form.

What do I do if I have any concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Principal Researcher, *Jennifer Jarman*, missjarman@gmail.com, or on 0220262483.

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEK, *Kate O'Connor*, ethics@aut.ac.nz, and 0064-9-921 9999 ext. 6038.

Whom do I contact for further information about this research?

Researcher Contact Details:

Jennifer Jarman,

Masters of Business student, Faculty of Business & Law, Auckland University of Technology (AUT)

Phone: 022 026 2483

Email: missjarman@gmail.com

Approved by the Auckland University of Technology Ethics Committee on 6th November 2014, AUTEK Reference number 14/340.

Approved by the Auckland University of Technology Ethics Committee on 6th November 2014, AUTEK Reference number 14/340.

Appendix C:

Consent Forms

Interviews



Project title: *Effectuation in Corporate Entrepreneurship*

Researcher: *Jennifer Anne Jarman*

- I have read and understood the information provided about this research project in the Information Sheet dated _____ 2014.
- I have had an opportunity to ask questions and to have them answered.
- I understand that notes will be taken during the interviews and that they will also be audio-taped and transcribed.
- I understand that I may withdraw myself or any information that I have provided for this project at any time prior to completion of data collection, without being disadvantaged in any way.
- If I withdraw, I understand that all relevant information including tapes and transcripts, or parts thereof, will be destroyed.
- I agree to take part in this research.
- I wish to receive the summarised findings from the research (please tick one): Yes No

Participant’s signature:

Participant’s name:

Participant’s Contact Details :

.....
.....
.....
.....

Date:

Approved by the Auckland University of Technology Ethics Committee on 6th November 2014
AUTEC Reference number 14/340

Note: The Participant should retain a copy of this form