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A CONFIGURATION STUDY BASED ON PERFORMANCE OF NASCENT VENTURES

A thesis presented in partial fulfilment of the requirements for the degree of

Doctor of Philosophy
in
Management

at Massey University, Palmerston North,
New Zealand.

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2017

ABSTRACT

This research provides explanations for the reasons why one group of entrepreneurs start a venture early, while a second group starts later to create their venture. It also considers what factors contribute to some entrepreneurs quitting the venture early while others quit later. There is a dearth of studies that have explicitly considered the performance for both starting and quitting over time from the same dataset. There are methods limitations when analysing nascent entrepreneurs developing new ventures which are limited by a focus on mainly regression analyses. Research is sparse for uncovering types of new venture by examining similar contexts of new venture performance from a multidimensional view. Data from a sample of nascent entrepreneurs (people in the process of setting up a venture) were analysed over a six-year period. An initial sample of 1135 nascent entrepreneurs was drawn from a US dataset, and then the second, and last years' interviews were used to assess their progress. There were 690 early starters amongst this group and 248 respondents were later starters. There were 219 respondents who quit their venture early compared to 51 who quit their venture later. The thesis focuses on explaining the relative importance of a variety of factors affecting performance for new ventures by explaining causal relationships beyond the correlation analyses perspectives. These factors are organised in terms of Gartner's (1985) framework of new venture creation. This framework suggests that start-up outcomes depend on the characteristics of the individual(s) starting the venture, the organisation that they create, the environment surrounding the new venture, and the process by which the new venture is started. The research also considers the strategy which is not part of Gartner's framework but considered important to understanding performance outcomes for nascent entrepreneurs. The research applies the method fuzzy sets qualitative comparative analysis (fsQCA), (Ragin, 2008) to compare nascent entrepreneurs and explores links between various configurations of attributes known as domains and new venture performance which is a contribution to knowledge on new ventures performance. This is important as the method provides better explanations of the combination of sets necessary to create recipes for performance. The results show for both early and late starters that when high need for achievement is coupled with better access to financial resources, and the absence of external support, then starting a new venture is likely to occur. This suggests that for nascent entrepreneurs, they need to have entrepreneurial personality trait need for achievement which is a

trait showing the propensity to be entrepreneurial, or be engaged in entrepreneurial activities and a clear access to financial resources. External support is not as relevant to starting new ventures when financial resources and need for achievement are present. The overall findings for configurations based on early versus late quitters suggest that unlike the later quitters, early quitters were limited in relation to financial resources and external support. The early quitters had a high need for achievement, at least moderate levels of specific human capital, limited external support and limited access to financial resources. In contrast, the late quitters had higher levels of specific human capital, higher levels of entrepreneurial intensity but limited external support which suggests that they were able to quit later because they had other options, such as other ventures or employment available to them.

Keywords: new venture performance, qualitative comparative analysis, configurations, asymmetry, new ventures, fsQCA

ACKNOWLEDGEMENTS

The research focuses on explaining the combination of factors affecting new ventures performance for those who start and those who eventually quit their venture from survey data. The Panel Study of Entrepreneurial Dynamics (PSED) in the United States was used for this research project. The survey focuses on new ventures and collected information on the respondents who were in the process of creating new ventures. I would like to thank the team of researchers and funders who made this data available to a wider audience by disseminating the data on the PSED website.

I would like to thank my supervisors, Dr Marco van Gelderen who stuck with this project all the way through from the outset and provided helpful feedback on the initial research proposal, the data analyses and drafts of the various chapters of the thesis. Thank you for facilitating discussions with researchers who are experts on particular aspects of the research process where I was struggling. Thank you to Prof. Martina Battisti who heard the initial germ of research ideas and then later agreed to join the supervisory panel. Thank you also for not always just considering my academic wellbeing, but helping in other aspects of the research journey as well. Thank you Prof. Lorraine Warren who agreed to step in as supervisor very late in my candidacy. Your feedback on the writing and the tips on adding pictures to help the reader was an invaluable contribution. Thank you for providing guidance on the PhD process overall, as well.

Thank you to my supervisors who were on the original panel Prof. David Deakins and Dr Karl Pajo who supported my research project and provided advice and guidance to steer the project. Overall, I appreciate the effort and dedication of all the supervisors who were instrumental in ensuring that my candidacy remained on track.

I would like to acknowledge the Venture and IT School at Wellington Institute of Technology who supported my research by providing time off work to pursue this research project. In particular, I would like to thank Mick Jays and Marcia Johnson. To my colleagues, Michael Keith, Xanthia Bollen, Cyril Peters and Greg Broughton, thank you for listening to me bleat on about the project. Thank you also to Dr James McKay who read and provided feedback on drafts of my chapters.

I would like to acknowledge the assistance of Prof Hans Guesgen, Chair in Computer Science at Massey University who provided me with an understanding of the logic and use of Set Theory. This understanding helped me to set up my data, and also interpret the analysis and results. I am also indebted to Dr Elisabeth Berger of Hohenheim University Germany, who provided information on the utility of QCA for analysing configuration research. Thank you for the advice and guidance about the software options available.

Thank you to the support staff at Massey University who worked behind the scenes. Thank you to Dr Greg Gilbert who provided assistance with my writing. Thank you for your time reading and providing feedback about ways to simplify my writing. There were some little gems that I will remember. Thank you to Sharryn Middleton and Brigit Eames for arranging administrative support for simple things such as application forms for conferences etc. I would also like to acknowledge the staff at Massey who created the helpful guides and processes to make PhD life easier.

I would like to thank my wife, Sharon Graves, who allowed me to spend countless days and weekends writing the thesis. I know that I have to make up for a lot of time missed. Thank you for being there for me throughout this process. I know I have a lot of washing up to do amongst other things that were neglected. Thank you so much for your understanding.

Thank you to my family, Daphne Zwiigelaar and Basil Zwiigelaar, Danielle Smith, Richard Smith, Rebekah Smith and Anthea Zwiigelaar, for your support and encouragement throughout the research process.

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Chapter 1 Thesis Introduction

1.1 Introduction

Nascent entrepreneurship is important because the process of creating new venture enables entrepreneurs to provide value and benefits to themselves, economies and the wider society (Beynon, Jones, & Pickernell, 2016; Reynolds, 1997; Reynolds & Curtin, 2011; Shane, 2008; Shane, Kolvereid, & Westhead, 1991). Studying nascent entrepreneurs provides opportunities to understand which characteristics are important to creating new ventures for future entrepreneurs' benefit (Kelley et al., 2015). Individuals who are in the process of setting up a new venture are termed *nascent entrepreneurs* (Reynolds, 1997) and are in the early stage of creating new or emerging ventures. The United States has approximately 20 million nascent entrepreneurs attempting to create new venture at any one time (Fairlie, 2012; Kelley et al., 2015; Reynolds & Curtin, 2009). While there is much attention from policy makers and governments to help nascent entrepreneurs, there are still difficulties in explaining the various factors that impact on the performance outcomes for new ventures from a holistic framing. These performance outcomes are called new venture performance (NVP) (Borges, Filion & Simard, 2013; Chrisman, Bauerschmidt & Hofer, 1998; Hofer & Sandberg, 1987; Sarasvathy, 2004). NVP is considered to be the outcome or a key indicator that a venture has started. Many possible outcomes of performance have been analysed to further develop models of NVP (Bamford, Dean & Douglas, 2004). They include groupings based on survival, growth and profitability (Michor, Harms, Schwarz & Breitenacker, 2010). For nascent entrepreneurship the key outcome is to get the venture started. The NVP models of the various performance options are still gaining support within the field of entrepreneurship. This research thus investigates the phenomenon of venture creation in order to explain how the pathways lead to various performance outcomes for entrepreneurs.

This chapter introduces the thesis topic and locates the research in the field of entrepreneurship, more specifically, new venture creation. It then discusses the appropriateness of the configuration approach, an approach which research has shown to be useful when investigating combinations and interactions of factors to explain performance outcomes. A configuration approach considers the interaction of multiple domains and its

effect on performance by studying the patterns or profiles of organisations, i.e. types of nascent ventures in the thesis (Delery & Doty, 1996). The domains consist of multiple variables which are connected on the basis of similar constructs or items (Harms, Kraus & Reschke, 2007). For example, there are a combination of variables used to form the environment domain. The chapter then focuses on the need for conceptual models for the study of nascent entrepreneurs' performance. The models suggest which factors are required to assess the similarities and differences in performance whilst entrepreneurs are in the start-up phase. This is a contribution to the literature as current research is lacking consistency in the models which explain new venture performance from comprehensive configurations, that is, more than three domains analysed together, especially from survey data (Harms, Kraus & Schwarz, 2009; Pinho and Sa, 2014; Short, Payne & Ketchen Jr., 2008) Research on new venture performance did not always take a comprehensive approach to studying factors affecting performance, which led to a limited understanding of interactions affecting performance (Davidsson & Honig, 2003; Edelman, Brush & Manolova, 2002; Lichtenstein, Carter, Dooley & Gartner, 2007; Samuelsson & Davidsson, 2009; Wright & Marlow, 2012). The purpose of the present study is discussed followed by the research problem and the research questions. The significance for the present study is then specified followed by an outline of the structure of the thesis chapters and, finally, a summary of chapters is presented.

1.2 Background to the research

Why investigate the performance differences of Nascent Entrepreneurs?

Often friends and family of the author of the thesis have discussed that they have decided to start a new venture. These discussions would then be followed up with their motivation and excitement at starting the new venture. Consequently, the venture idea and what prompted the idea to form the new venture is discussed. To the author this prompted a yearning to understand how this works for different types of entrepreneurs. Furthermore, the author also had an interest in developing new ventures as a result of previous experiences in starting a property investment company in 2003 and serving on the committee of the Capital Property Investors Association (CPIA) in Wellington, New Zealand between 2005 to 2013. Whilst the process of starting a new venture was relatively easy to do in 2003, there was a

lack of support for creating a successful new venture. The author joined the CPIA to get the support for creating the venture, as it provided property investment education and networking for property investors who were starting out, and ongoing support for experienced investors as well. These experiences have led the author to question whether there is a particular set of factors that affect those who start new ventures versus those who quit. This questioning led the author to consider the thesis in the context of the field of entrepreneurship and is the major motivation for doing the research.

Understanding the performance outcome of starting or quitting a new venture by nascent entrepreneurs while they are developing a venture is important in order to increase effectiveness in these endeavours (Busenitz, WestIII, Shepherd, Nelson, Chandler & Zacharakis, 2003; Reynolds & Curtin, 2011). Furthermore, this research also builds on knowledge about entrepreneurship for those entrepreneurs wanting to start a venture. Currently, definitions of entrepreneurship are varied depending on the focus of the research and there is thus no common agreement about a specific definition of ‘entrepreneurship’ (Baker and Welter, 2017, Wiklund, Davidsson, Audretsch & Karlsson, 2011). The focus this thesis takes is on new venture creation (Gartner, 1990, Reynolds & White, 1997). Further research is needed to establish how to support nascent entrepreneurs in their ventures and for those contemplating starting their own venture and particularly while the ventures are being created (Davidsson, 2008; Lin, Rogoff, Foo & Liu, 2015; Pinho & Sá, 2014; Reynolds & Curtin, 2011). Extant research in entrepreneurship has developed some good understanding about characteristics of these nascent entrepreneurs and what they do (see chapter 2 for details). Current research explaining new venture performance differences is still in its infancy within the field of entrepreneurship. Prior studies commented on being limited by a lack of representative samples (Davis & Shaver, 2012; Reynolds, 1997; Van de Ven, Ganco, & Hinings, 2013), discussed methods problems (Markova, Perry & Farmer, 2011; Patel & Fiet, 2010) or suggested how previous research had considered the phenomenon of new venture creation too simply (Davis & Shaver, 2012; Shane, Kolvereid & Westhead, 1991). There is a gap in our understanding of the combination of person and contextual factors that has an impact on performance for these new ventures.

As nascent entrepreneurship is a complex phenomenon, there is a need to understand how combinations of factors such as the entrepreneur, resources, environment, strategy and

entrepreneurial ideas interact to create these ventures (Gartner, 1985; Hoang & Gimeno, 2010). Furthermore, researchers suggested that because of the complexity of the formation and development of the new venture, the combination of factors needs to be investigated in the light of comprehensive theoretical frameworks (i.e. frameworks that account for many interacting factors) (Davidsson, 2008; Davidsson & Wiklund, 2001; Harms, Kraus & Schwarz, 2009; Short, Payne & Ketchen Jr., 2008).

The early nascent venture studies are useful as we have a more informed understanding of the key factors affecting performance (Gartner & Shaver, 2012). For example, we have a better understanding of the demographic profile of nascent entrepreneurs and their motivations. (These studies are discussed in the next chapter). There are now improved understandings of the various factors that affect new venture emergence. However, an understanding of the interaction of multidimensional relationships amongst key domains affecting the performance of nascent entrepreneurs from applying appropriate methods is still being developed. (These issues are elaborated in chapters 3 to 5 of the thesis). Examining how configurations relate to the performance of nascent ventures provides an extension of previous research in strategic management and organizational theory (Short, Payne & Ketchen Jr., 2008) and these configuration analyses have been applied to research in entrepreneurship too (Pinho & Sá, 2014).

Early studies on new venture creation had limitations in their research designs as entrepreneurship researchers focused the investigation on individual variables in relation to the performance outcomes. This led to limited information being presented to explain causal associations in relation to performance outcomes. That is, they explained the performance of new ventures by employing simple, univariate models (Davidsson, 2005; Davis & Shaver, 2012; Hindle & Klyver, 2011). One of the concerns related to this type of study is that not all of the important factors are accounted for and the explanations only represent part of the picture of venture emergence. (More information is presented on this issue in chapter 3). For example, the study design might consider the effect of personality on the performance of nascent entrepreneurs without simultaneously considering contextual factors such as the environment or the resources (Wiklund, Davidsson, Audretsch & Karlsson, 2011). This limitation meant that often the context of the new venture development was omitted from the

studies and thus offered limited explanations for causes of specific performance outcomes (Davidsson, 2005a; Gartner & Shaver, 2012). Other limitations concerned the use of linear relationships between the studied variables and the outcome. Often there were relationships of variables being assessed that were not linear in these models and thus not analysed appropriately (Aiken, West & Reno, 1991; Van de Ven, Ganco & Hinings, 2013). Furthermore, previous studies did not always consider that the relationship between key factors and the outcome might not have been symmetric i.e. that factors such as having high human capital is found to be positively associated to starting in one direction does not imply that low human capital will be negatively associated to the outcome leading to quitting. Consequently, the factors that led to starting in one set of new ventures might not necessarily lead to the same outcome in other similar new ventures because of contextual factors and the logic of asymmetry in explaining the connection to performance.

1.3 Research Problem and Research Questions

There are four areas that the thesis intends to investigate and add to an understanding of new venture performance for academic research in the field of entrepreneurship. Firstly, there are few studies that focus on the performance of starting a venture by studying a combination of multiple domains using panel survey data within the entrepreneurship literature. Previous research focusing on nascent entrepreneurs' venture performance has generally focused on single domains in explaining causality whereas very few offer comprehensive frameworks in explaining the emergence of the phenomenon (see for example; Harms, Kraus & Schwarz, 2009; Harms, Breitenacker & Schwarz, 2014; Kessler, Korunka, Frank & Lueger, 2012). The problem with single domain studies is their inability to explain the performance outcomes more holistically by taking account of the interactions of many domains (Dess, Newport, & Rasheed, 1993). The importance of grouping variables in this way is that it provides more powerful explanations of relationships within the grouped variables (Dean, Shook, & Payne, 2008). The view limits how the context can be analysed and thus provides a simplified assessment of the effect on performance. For example, if the environment is the only focus in relation to performance then other pertinent information such as personal characteristics are not addressed leading to a limited picture of performance. This limitation, amongst others, led contemporary researchers to consider

configurations that assess multiple domains at a given time and thus take account of more factors to explain performance differences.

Secondly, methods applied to the panel surveys did not make full use of the multidimensional aspects of the data in nascent entrepreneurship studies (Davidsson & Honig, 2003; Edelman, Brush & Manolova, 2002; Lichtenstein, Carter, Dooley & Gartner, 2007; Samuelsson & Davidsson, 2009; Wright & Marlow, 2012). Data that are rich in many aspects of the development of a new venture are required to describe the performance differences between factors that affect the performance outcome. One way of dealing with the complex multidimensional aspects of the data is to use the configuration approach. To date, configuration research which has been able to advance the configuration analysis of new ventures includes Harms, Breitenecker and Schwarz (2014), Kessler, Korunka, Frank & Lueger (2012) and Symeonidou et al. (2013) amongst others. (Refer to chapter 4 for a more detailed discussion on this topic). By using the configuration approach these articles have advanced the argument and provided a more systematic analysis to explain factors affecting performance in the entrepreneurship field. There is still a limitation in the methods employed to analyse nascent entrepreneurs who are developing new ventures. In particular, the research is sparse for uncovering types of new venture by examining similar contexts of venture emergence. In other words, examining how the ventures reach performance outcomes, when they are still developing, is still in its infancy. Furthermore, when the environmental as well as the contextual factors of the venture are applied, the results of configurations are not always clear about the cause-effect relationship between attributes and the outcome (Lin, Rogoff, Foo, and Liu, 2015, Pinho & Sá, 2014; Song et al., 2008). It is not always apparent which attributes had the largest impact on membership or results, which left unanswered questions about the cause-effect relationships. The direction of performance outcomes has been discussed and considered by previous researchers on new ventures by focusing on symmetry that considers cause effect relationships in one direction.

Thirdly, there is a discussion about symmetry and asymmetrical understanding of factors affecting performance outcomes. The discussion is presented in chapters 3 and 4. For example, causal symmetry is assumed in correlation analyses because correlations are by nature balanced (Byrne & Shepherd, 2015). If one models the inverse of low

performance, then the results of a correlational analysis are unchanged except for the sign of the correlation coefficients (Ragin, 2008). The distinction is important in relation to performance, and studying configurations from this perspective, was highlighted as a gap by Fiss (2011) in the theory development. Connections between the attributes of human capital and their effect on performance outcomes have been debated in the extant entrepreneurship literature and results have been mixed as to their effect on performance (Corbett, 2007; Dimov, 2010; Ployhart & Moliterno, 2011). These inconsistent findings for results based on human capital and performance highlight the need for more information on factors affecting performance in new venture studies. Chapters 3 and 4 explore the use of the fuzzy sets Qualitative Comparative Analysis (fsQCA) methods and focus on issues to consider with regard to framing a configuration approach for new ventures. The thesis develops these distinctions to address concerns about theory development not using robust methods to analyse and explain outcomes.

Fourthly, the present study considers the factors in relation to performance by examining the effects of core (imperative) and periphery (optional) distinctions. These terms are used in the analyses of configurations and will be explained in more detail later in the thesis. These conditions extend how we measure the attributes used to describe key conditions or factors in relation to performance. Core causal conditions are considered to be imperative to the set of outcomes being studied whereas peripheral conditions are optional. This discussion is considered in chapters 3 and 4. The distinction is important in relation to performance, and studying configurations from this perspective has been highlighted as a gap by Fiss (2011) in the theory development. Connections between the attributes of human capital and their effect on performance outcomes have been debated in the extant entrepreneurship literature due to inconsistent findings as to their effect on performance. These inconsistencies highlight the need for more information on core and peripheral connections between conditions and performance in new venture studies. That is the understanding of these conditions are important to show how these conditions affect performance. Chapters 3 and 4 explore the use of these methods and focus on issues to consider with regard to framing a configuration approach for new ventures. There is *variation of cause-effect relationships* between the factors that explain performance outcomes. There are gaps in our understanding - *correlation models for configuration*

analysis explanations are limited in the degree of variation to *high, medium or low*. The thesis develops these distinctions using core versus peripheral understandings to address concerns about theory development not using appropriate methods to analyse and explain outcomes.

1.4 Design of the Study

By combining current knowledge of the nascent entrepreneurs' personal attributes, their adopted strategy for creating their venture, the resources that they have available and their environment, the thesis has adopted a configuration approach to explain performance differences amongst groups of nascent entrepreneurs. The study investigates whether there are particular configurations, that is, relationships among elements or items representing multiple domains (Dess, Newport & Rasheed, 1993) that are typical of nascent entrepreneurs in order to explain how combinations of domains affect performance (i.e. for those who started versus those who quit the venture). The domains focus on the combination of variables or factors to provide underlying information about dimensions (Harms, Kraus & Reschke, 2007). These domains provide a better view of the combination of factors that lead to starting a venture versus those that lead to quitting the venture. Previous research provided understandings about the domains that influenced performance but were limited because they did not account for all of the elements required to understand how performance is affected when nascent entrepreneurs are developing their ventures. Consideration of the domains is to provide a better overall picture about the combined influences on performance.

In order to understand the effect of the differences between those nascent entrepreneurs who start versus those who quit their venture, the study uses the fuzzy sets Qualitative Comparative Analysis (fsQCA) method for framing a configuration study. FsQCA analysis follows the configuration approach, which makes possible the investigation of holistic interplays between elements (variables) of a fuzzy and non-linear nature (Fiss, 2007). This is helpful to focus on interactions between elements such as how strategy, environment and person affects performance within and across the domains. A distinction between fsQCA

and other methods of QCA is differentiated by fsQCA permitting for outcome and predictor variables to be on a fuzzy scale (continuous 0-1) rather than on a dichotomous scale (binary 0 or 1) (Woodside, 2013). FsQCA seeks patterns of elements that lead to a specific outcome rather than simply identifying correlations between independent and dependent variables (Ragin, 2008). In addition, the method enables the reduction of elements for each pattern; thus, configurations only include necessary and sufficient conditions in explaining the outcome configurations. This methodology is thus considered suitable in unravelling the intricate associations that develop between independent and dependent variables (Mikalef & Pateli, 2017). The method provides explanations of performance from an asymmetric viewpoint (Byrnes and Shepherd, 2015, Woodside, 2013). The asymmetric view considers causal links in opposite directions to explain the performance outcomes. In order to understand the causal links to performance for the set of starters versus the set of quitters the method adopted the fsQCA, which allowed for explanations of attributes leading to performance (e.g. starting new ventures). This approach will be used to provide information on the differences by comparing the venture outcomes at different times which follows a similar approach taken by Fiss, (2011), Hsieh & Kelley (2016), Kuckertz, Berger & Mpeqa, (2016) and van Gelderen, Thurik, & Bosma, (2006). The nascent entrepreneurs who develop their ventures early (quickly) are quite different to those who develop a venture later (slowly). The performance difference should shed light on what is required to start early. Configurations of later starters should provide information on requirements for starting later.

1.5 Research Questions:

1. How does the configuration of nascent entrepreneurs, their resources, the environment and new venture strategy affect the outcome of the start-up process?
 - a. Are there specific configurations that are different from each other?
 - b. Are there different configurations for those who start ventures early versus those who start later?
 - c. Are there different configurations for those who quit early versus those who quit later?

2. Do configurations lead to more than one pathway for new ventures? If so, how are these pathways causally connected?
 - a. Are there configuration differences when starting early compared to starting later based on core and peripheral conditions?
 - b. Are there configuration differences when quitting early compared to quitting later based on core and peripheral conditions?

1.6 Research Framework for the thesis

Research in new venture creation have developed new models and explanations for performance outcomes. The following frameworks were considered based on Bhave, (1994); Chrisman et al., (1998); Dencker & Gruber (2015); Gartner (1985); Miller (1987); Robinson and McDougall (2001) and Sarasvathy (2004). These frameworks have either been too broad or not comprehensive to explain the range of domains i.e. combined group of variables (Doty, Glick, & Huber, 1993), applicable to new venture creation. Furthermore, the difficulty for the entrepreneurship field is the inconsistent use of frameworks which have limited support for theory development according to Baker and Welter (2017) & Low (2001). As discussed earlier new venture creation is the organising of a new organisation according to Gartner (1985). This study focuses on the interaction of factors contributing to new venture creation. This study uses Gartner's (1985) framework for explaining new venture creation because it provides all the key domains and explanations for mapping variables to the domains that is useful to provide a comprehensive account of new venture creation.

Figure 1 p. 13 below illustrates Gartner's framework for the division of attributes for new venture creation. The framework has four dimensions: the person, the organisation, the environment and the process for creating the new venture. The domains individual/s, resources and environmental contexts are used (see sections 6.6 to 6.12 for the specific measures used in the study). The strategy is considered in relation to the organisation. Organisation is part of Gartner's model but not strategy; however, individual elements of the organisation, which are included in his model, are similar to strategy elements in other studies hence the strategy is included in this context. The person attributes include; need for achievement, entrepreneurial intensity and specific human capital constructs (see page 14 for

the theoretical framework, figure 2). These constructs have been shown to be important in explaining performance from previous research and is needed to explain the person dimension according to Gartner (1985). Frese and Gielnik (2014) meta-analysis on the need for achievement found that this trait is consistently positive associated with creating a new venture. Entrepreneurial intensity (EI) is defined as levels of engaging in entrepreneurship, where entrepreneurial intensity is considered as a function of the degree and frequency of entrepreneurship (Morris & Sexton, 1996). Liao, Murphy and Welsch (2005) validated the entrepreneurial intensity measures and Davis and Shaver, 2012 confirmed similar findings in relation to performance. Urban & Sefalafala (2015) found that the *entrepreneurial intensity* in conjunction with the entrepreneurial capabilities lead to successful new venture performance. *Specific human capital* is important in explaining performance. It includes industry knowledge, gained from prior work experience in the same industry as the new venture. They also include knowledge of how to manage a new venture (Colombo & Grilli, 2005).

The environment was considered based on the *dynamic environment* and the *munificence* in order to show how context shapes new venture performance. *The dynamic environment* focuses on the situation surrounding and affecting the organization. *Environmental dynamism* is considered to be important to create opportunities for the nascent entrepreneurs to create a new venture and has an effect on performance. Environmental dynamism is defined as the level of uncertainty and change in the environment (Edelman & Yli-Renko, 2010; Shane & Kolvereid, 1995; Cho, 2013). A *munificent environment* is characterized by growth and has an effect on the ability of nascent entrepreneurs to exploit venture opportunities. This affects their ability to start and when they start. Entrepreneurial munificence is characterised by a strong presence of family venture and role models (Andrews, 2009; Block et al., 2013; Gomezelj & Kušce, 2013; Shane & Kolvereid, 1995).

The resources focused on the ability for the entrepreneur to access *financial resources* for their new venture. Because they have limited funds at the start of their new venture, their ability to access resources is paramount to creating the new venture (Gartner, Frid &

Alexander, 2012) and is some of the key reasons attributed to them quitting the new venture, hence the need to include the construct in the study.

The strategy in the study focuses on factors such as *customer focus*, *innovation and Information Technology (IT) focus*, the quality of the product or service relative to competition and the marketing strategy. This focus considers the strategy factors assessed in the work by Carter, Stearns, Reynolds & Miller (1994) who outlined some key strategy factors for new ventures and builds on work by Dvir et al., (2010); Heirman & Clarysse, (2007); Marvel & Lumpkin, (2007); Parida et al., 2010; Symeonidou et al., 2013; Wang & Fang, (2012).

New venture performance is conceptualized as the start of a new venture or quitting the venture process (see section 6.8 for more details). These performance outcomes are assessed over time by considering the early start or quitting of the venture. Performance outcomes for later development of ventures are assessed by comparing those groups that started later versus those that quit their venture later.

The factors in the research framework (the independent variables which affect new venture starting or quitting, both early or later) were derived based on new venture outcomes and configuration theory, as well as on the existing empirical studies of new venture performance and configuration studies. New venture performance and configuration theory are discussed in detail in chapters 3 to 5.

While the study focus is on performance, not all of the factors that are available in the model were presented in the study based on Gartner's framework. Process is an area that has been specifically included in the framework, but has not been included in the study as there are variations in the way that it is conceptualised in extant literature. Process focuses on the activities or behavioural steps that the entrepreneur takes to start the new venture (Davidsson, 2005, Lichtenstein, Carter, Dooley & Gartner, 2007). The kind of activities included here are for example opening a bank account, registering a venture, getting a loan

amongst other activities. There is no common agreement on the steps or sequences for the activities for starting a new venture amongst the reviewed literature. Because there are variations in the focus on process and no clear agreement about which activities are important, process was considered but found to be conceptually difficult to assess in the present study. For example, (Reynolds, 2017) found that because there is no agreement about the definition of a firm birth it is difficult to then see how the different processes before the start and after the start of the firm contributes to the economic contribution. The present study focuses on performance outcomes rather than process outcomes.

Figure 1

Gartner's Static Framework Model of New Venture Emergence

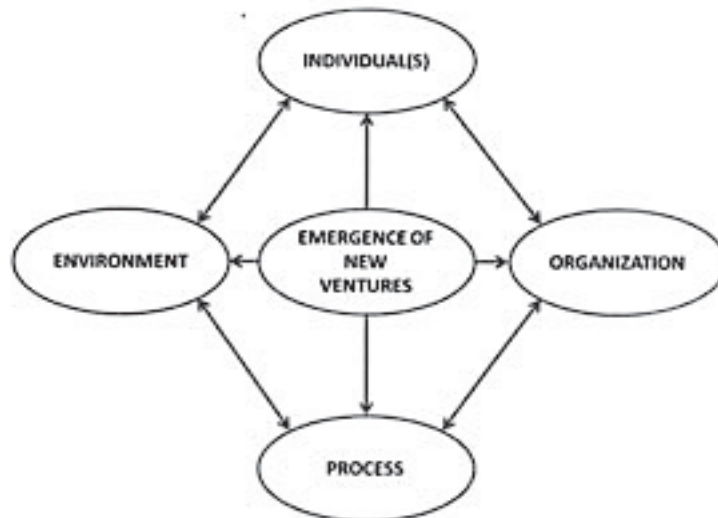


Figure 1 Gartner's framework of new venture creation (Gartner, 1985)

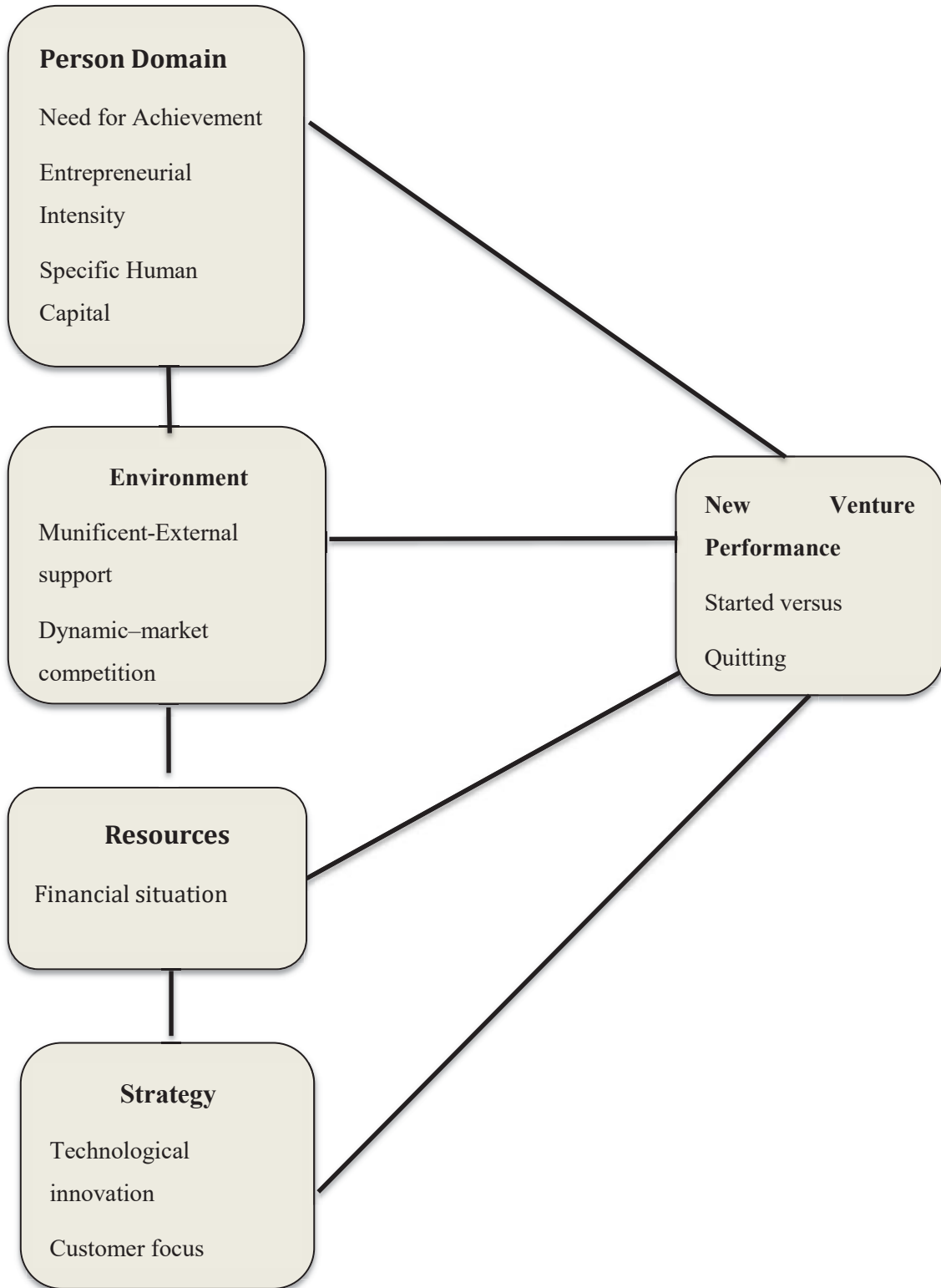


Figure 2 Research model for the study of nascent entrepreneurs' performance

1.7 Significance of the study

The present study is expected to add to existing knowledge about the factors affecting new venture performance using a framework for new venture creation developed by Gartner (1985). The investigation focuses on the domains on the person, their resources, their environment and their strategy. Strategy is not in his model but researchers such as Chrisman, Bauerschmidt and Hofer (1998), Sarasvathy (2004) and Miller (1987) added strategy to their research frameworks on new venture performance, thus it is included in the present study. The contribution focuses on the interaction of these domains in explaining performance variation. The study will empirically test the 'cause-and-effect' relationship between the domains and its effect on performance.

Secondly, the present study considers the time dimension of the venture development by analysing the performance differences at two periods based on early outcomes versus later outcomes to consider the configuration differences of the ventures. There is a gap in our knowledge of configuration frameworks which consider the time taken to develop a new venture (Harms, Kraus & Schwarz, 2009, Davis & Shaver, 2012). By contrasting the time taken to develop the venture early (quickly) or the venture later (slowly), the thesis considers what is required for a venture to develop quickly or slowly from the same group of nascent entrepreneurs. Recent studies such as Devece, Peris-Ortiz, & Rueda-Armengot, (2016) have considered the drivers of performance for success versus failure for necessity versus opportunity entrepreneurs in a recession and boom. It is important to understand the factors that contribute to performance within a specific context such as starting early as there should be different drivers of performance for those who start later. For those nascent entrepreneurs considering what to do to be successful, there should be some insights from this research to address what is appropriate for their context. The research in this area is sparse for considering the factors influencing these outcomes. Information presented in the study are important to understand these different groups. This research builds on previous work of Beynon et al. (2016), Fiss, (2011), Hsieh & Kelley (2016), Kuckertz, Berger & Mpeqa, (2016) and van Gelderen, Thurik, & Bosma, (2006), amongst others, to understand which combination of factors explains performance for early or later development of ventures

which should be helpful to support policy decisions as well. For policy makers, findings from the research should provide evidence to suggest the different factors affecting performance for starting or quitting early or later which could address contextual differences for the venture performance.

Thirdly, the research contributes to new venture performance by investigating those who start and those who quit from the same dataset. Prior research suggested that the factors leading to starting do not always lead to starting for all configuration outcomes for all nascent entrepreneurs (Bradley, Aldrich, Shepherd, & Wiklund, 2011; Byrne & Shepherd, 2015; Corbett, 2007). The present study investigates how this occurs and analyses which conditions lead to outcomes for starters versus quitters from the same dataset thus potentially building on the understanding of asymmetry in configuration studies gained from previous research. From a policy perspective the results should provide some guidance on the contextual factors considered to be important for performance i.e. starting or quitting. This research takes place during a significant economic downturn i.e. the Global Financial Crisis. As a result, there will be some insights gained about the differences in outcomes for these entrepreneurs based on the pre- and post financial crisis. The findings should provide more contextual information in order to inform better policies on the combination of factors affecting performance outcomes.

Finally, the thesis considers the effects of core (imperative) and peripheral (optional) distinctions which aid better understanding of the causal links to performance. Core causal conditions are considered to be imperative to the set of outcomes being studied whereas peripheral conditions are optional. By using core and peripheral distinctions the research intends to build on the work of Fiss (2011) who reconceptualised the way that management configurations are conceived and analysed. The distinction for the current study focuses on the distinct differences between the core conditions and the peripheral conditions as the result provides better understanding to explain patterns emerging from the configurations. For example, if core conditions are found on specific human capital, and there is a peripheral condition on external support, then the focus can be on the combination in the configuration. This provides better awareness and understanding of causal connections between the data elements in explaining performance (Ragin, 2008). Rather than just explaining high, medium

and low in the variable based approach there is a further understanding of the vital elements, the lesser important elements and the irrelevant elements to explain the outcome status. With this framing knowledge can be extended by explaining how important combinations of factors such as the combination of core and peripheral conditions for specific types of entrepreneurs' act in concert when developing a new venture which has implications for policy. Guidance can be offered about the need for certain conditions for creating better outcomes for new entrepreneurs. A complexity-informed research method was developed nearly 30 years ago by Charles Ragin (1987). *Qualitative Comparative Analysis (QCA)* is a research method which aims to study cases as a whole. The method is applied in the present study to extend configurations in entrepreneurship, specifically for new ventures. The core peripheral distinctions in the conditions contributes to knowledge in entrepreneurship by showing how combinations affect the configurations. This is important to understand and explain how core and peripheral conditions affect the outcomes for early versus later starters. It also explains how core and peripheral conditions combine to form configurations for early versus later quitters. Due to the complexity of entrepreneurial phenomena, which frequently requires researchers to take a configurational approach, the research methods also need to comply with the underlying assumptions of complexity. This thesis aims to explain the potential of applying the research method fsQCA to study complexity of the phenomenon creation of new ventures. The policy implications focusses on consideration of sets from the multiple configurations for new venture outcomes. Rather than showing only one direction of factors affecting performance, the study considers the causal connections to explain how this could be different for various contexts, thus explaining how performance based on time and opposite performance outcomes.

1.8 Organisation of the Thesis

The thesis is structured as follows: chapter 1 presents the background of the study, the problem to be addressed, justification for the study and introduces the conceptual model used by Gartner (1985) which will be used to frame the configuration analyses in this thesis (Table 1 p.19 presents the thesis overview). Chapter 2 presents a literature review on nascent entrepreneurship especially within the new venture creation sub-stream and studies of issues

and methodological challenges in investigating the nascent entrepreneurs. It focuses on studies related to nascent entrepreneurship, especially those relating to individual factors relating to performance. Chapter 3 because of the limitations of individual factors focuses on the configuration research approaches in entrepreneurship and the current debates on their usefulness for designing research on nascent entrepreneurs. Chapter 4 introduces the available configuration research in entrepreneurship and reviews the domains that have been used before for studying new venture performance. Chapter 5 reviews the literature on studies using the qualitative comparative approach (fsQCA) method and discusses how it works for configuration research. Chapter 6 presents the research methods for the study. The research methods involve analysing survey data obtained from nascent entrepreneurs using a panel survey from the United States. In addition, the chapter comprises the analyses, including the outcomes of the initial exploratory analysis (based on quantitative data), as well as the main analysis of fsQCA set-theoretic methods. Chapter 7 presents the results and findings of the fsQCA for early and late starters. Chapter 8 presents the results and findings of the early and late quitters. Chapter 9 presents the discussion based on the configuration for early and late starters and early and late quitters. It also presents the theoretical implications of the findings. Chapter 10 concludes the thesis by discussing the implications of the findings and limitations and recommendations of the study.

Table 1 Organisation of the thesis

| Structure | Chapter | Description |
|--------------------------|---|---|
| Introduction | Chapter 1: Introduction | The chapter introduces the topic and focuses on the background, problem, justification and the conceptual framework used for the study. |
| Literature review | Chapter 2: Literature review on Nascent entrepreneur and entrepreneurship Chapter 3: Configuration Approach and Assumptions Chapter 4: Configuration Approach in entrepreneurship Research Chapter 5: Qualitative Comparative Analysis | The literature on nascent entrepreneurship studies is presented to show the current state and gaps. The focus is on configuration approaches and assumptions showing key variables to study nascent entrepreneurs and the interplay of domains to explain performance This chapter explains the configuration approach in entrepreneurship to build on existing studies. The chapter shows how the method qualitative comparative can be used for a configuration study. |
| Methodology | Chapter 6: Methodology Chapter | The methodology chapter focuses on the study design, philosophical assumptions, methods of data collection, sampling strategy and data analyses are presented in the chapter to address the research problem. |
| Results | Chapter 7: Results Chapter for Early and Late Starters Chapter 8: Results Chapter for the early and later quitters | This chapter focuses on the findings of the research analyses for the early and later starters. This chapter focuses on the findings of the research analyses for the early and later quitters. |
| Discussion | Chapter 9: Discussion Chapter | The chapter draws on the literature review and discusses the relationship of results to previous work and the contributions that they make to what is known. |
| Conclusion | Chapter 10: Conclusion Chapter | The chapter discusses the implication of findings, the limitations and recommendations of the findings with an overall conclusion to the thesis. |

1.9 Chapter Summary

This chapter introduced the thesis topic which focuses on the factors impacting on new venture performance from a conceptual framework by Gartner (1985). It then considered how the configuration approach to studying new ventures is useful in investigating combinations and interactions of factors to explain performance outcomes. The chapter then focused on the need for theoretical and supportive frameworks for studying new venture performance. Research is needed to explain the factors required for examining similarities and differences between the types of new venture whilst they are in the start-up phase. The research problem and the research questions were specified, followed by the significance of the research and the thesis organisation formed the conclusion. The next chapter provides a review of the literature on nascent entrepreneurs and the theory on the nature of new venture.

Chapter 2 Nascent Entrepreneurs and Entrepreneurship

2.1 Chapter Introduction

This chapter provides a review of the literature on nascent entrepreneurship and nascent entrepreneurs in order to locate the current research within the new venture literature. This area of research is still focused on developing a better understanding of new venture performance, which is important because our current knowledge of the causes of venture creation is still limited. The definitions provided from the entrepreneurship field suggest that there is a distinction between entrepreneurship and nascent entrepreneurship. These definitions are discussed, and a working definition is offered for the thesis. Furthermore, the review focuses on the empirical studies investigating the nascent entrepreneurs and the creation of new ventures by focusing on the research on teams firstly, then the individual. New venture creation ‘...involves those events before an organisation becomes an organisation, that is, organisation creation involves those factors that lead to and influence the process of starting a venture’ (Carter, Gartner & Reynolds, 1996, p. 52).

The review uses the conceptual framework by Gartner (1985), which focuses on organising the dimensions of new venture creation. The early framework was a way of describing how the entrepreneurs and their venture creation worked in order to either form the new venture or provide descriptions of areas that led to its failure. There are four dimensions to the framework: a) *individual* – the person forming the venture, b) *organisation* – the kind of firm being started, c) *environment* – the situation surrounding and affecting the venture creation, and identifying the venture opportunity and acquiring the financial resources required to create the venture and finally d) *process* focuses on the steps that the entrepreneur goes through to develop the new venture. The conceptual framework is useful as a way of describing the dimensions of new venture creation and, by implication, the performance of new ventures (Figure 3 p. 27). The individual characteristics of nascent entrepreneurs, such as their personality, need for achievement, entrepreneurial intensity and human capital, are reviewed as part of the person perspective. The various strategies used for setting up a nascent venture are then investigated as part of

the organization perspective. The environment in which nascent entrepreneurs start their ventures is investigated followed by a review of the process of starting nascent ventures. The chapter concludes with a review of current debates about the performance of venture start-ups and the issues to be addressed by current research on new ventures.

2.2 Nascent Entrepreneurship

Some research considers nascent entrepreneurship and entrepreneurship as synonymous because entrepreneurship is often considered in terms of creating new ventures (e.g. Gartner, 1988). However, the more widely accepted view is that nascent entrepreneurship is a specific subset of entrepreneurship, just one demonstration that an entrepreneurial endeavour is occurring (Bhave, 1994; Borges, Filion & Simard, 2013; Liao & Welsch, 2008a; Reynolds & White, 1997; Sapienza & Grimm, 1997). There are many definitions for nascent entrepreneurship, and they are as varied as the process of entrepreneurship itself. The entrepreneurship literature comprises many terms used interchangeably for the phenomenon of nascent entrepreneurship, including ‘organisational emergence’, ‘pre-organisation’, ‘organisation in vitro’, ‘pre-launch’, ‘gestation’, ‘start-up’, ‘new venture creation’ and ‘founding and constructing’ (Carter, Gartner, Shaver, Gatewood, 1996; Delmar & Shane, 2004; Diochon, Menzies & Gasse, 2007; Kessler et al., 2012; Yang & Aldrich, 2012). The key argument is that these new venture owners are in the process of starting a venture and nascent entrepreneurship involves all of the activities about the start-up process (Carter et al., 1996; Gartner, 1985). The steps involved in enabling a venture to be established are considered to be part of the process. This is relevant for the current research, as previous research has provided insights into what nascent entrepreneurs do but entrepreneurship scholars are still developing an understanding of the relationship of the factors involved in creating successful new ventures.

2.2.1 History of New Venture Creation

The earliest developments of new venture creation as a distinct field within the context of entrepreneurship came from distinguished theories of Schumpeter in 1912 and 1934 (Schumpeter, 1912, 1934). Schumpeter (1937) in “The Theory of Economic Development”, where he considered new ventures as one of the key factors affecting

economic development. He considered that new venture creation is dependent on the entrepreneur's opportunity recognition process, and ultimately leads to technological change. He also considered that innovation and creative destruction are the most important elements of creating new ventures, and new venture creation could be a key factor for economic development. These ideas provided the initial theories for explaining the process of new venture creation within the context of entrepreneurship.

Landstrom, Harirchi and Astrom (2012) argue that in the last 30 years, entrepreneurship has become a more popular focus within the field of management studies. Early entrepreneurship researchers focused on the individual entrepreneur and attempted to describe their personality and traits as being particularly different to the rest of the general population. This is because research revealed that there were certain hallmarks or traits that differentiated the entrepreneur from the population. In his seminal work, Gartner (1989) disputed these results that steered research into entrepreneurship and away from characterising entrepreneurs as a personality type having particular traits that set them apart. He argued that researchers should pay more attention to the behaviour of entrepreneurs and, more specifically, those behaviours needed for the creation of organisations. Furthermore, he contended that the process of establishing a venture is not only shaped by the entrepreneur but is considered by studying the activities involved in creating the new venture. Similar reasoning was presented by Bygrave (1993) and Davidsson (2005), who suggested that the process of venture creation is multidimensional. The empirical evidence from the conceptual paper by Gartner's (1988) study suggested that the traits approach had flaws because the research often employed many varied definitions and samples, making it difficult to compare and generalise the findings. He asserted that the characteristics of a person might not be that important as there are as many different types of entrepreneurs as there are types of people.

Entrepreneurship scholars are inherently interested in studying the different factors and activities during the pre-emergence stage of a new venture as these activities are seen to lead to effectively launching the new venture (Busenitz et al., 2003; Townsend, Busenitz & Arthurs, 2010). Increased methodological rigour regarding the identification of nascent

entrepreneurs, i.e., people currently in the process of starting a venture (Reynolds & White, 1997) and the launch of large-scale empirical programmes (Reynolds & Curtin, 2009; Reynolds, Hay, Bygrave, Camp & Autio, 2000) have attracted many researchers to the study of nascent entrepreneurial efforts (Davidsson, 2005). Of particular interest to scholars has been the progress of these efforts towards venture emergence (starting an operational venture), as captured by the accumulation of various venturing activities. These activities, such as the achievement of a first sale (Newbert, 2005) or the establishment of an operating venture, are seen as necessary to starting a successful new venture (Davidsson & Honig, 2003; Samuelsson & Davidsson, 2009). New venture studies consider that nascent entrepreneurs pursue opportunities that are appealing to them (Dimov, 2010). That is, each venture is considered to develop to a certain stage and its failure to develop into a mature venture is attributed to an unwelcoming environment or not completing key stages for creating the new venture. The operational definition for the thesis is taken from Davidsson (2005), who defines the entrepreneurial process as all the cognitive and behavioural steps from the initial conception of an approximate venture idea or behaviour to the realisation of a new venture activity until the process is either terminated based on uncompleted steps, a decision to quit or has led to an up-and-running venture with regular sales. Entrepreneurs are in the process of starting or completing the steps and activities needed to start the venture.

2.2.2 Entrepreneurial Teams

Research on teams have been limited in the focus within entrepreneurship, especially on the dimension of research on types of entrepreneur in the area of entrepreneurial teams. Entrepreneurial teams are groups of individuals formed in an effort to secure particular outcomes and objectives (Cartwright and Zander 1968; Burn 2004; Ben-Hafaiedh-Dridi, 2010). By creating this formation, a decision has been taken that a group will more effectively and efficiently secure the targeted outcomes than an individual working alone would. Or a judgement had been made that key objectives may not result without working in partnership (Huici et al., 2011). Other examples of an entrepreneurial team are made up of individuals who jointly initiate a venture and are involved in its joint operation (Watson et al., 1995). An entrepreneurial team has also been described as two or more individuals

with financial concern jointly launching, actively involved and creating a venture (Kamm et al., 1990; Watson et al., 1995; Cooney, 2005; Chowdhury, 2005). One of the main purposes of a team should be to meet the needs and to obtain the lack of resources of new ventures (Ucbasaran et al., 2003). Based on this perspective, the decisions are taken in respect to the needs of the project and particularly to the source of those resources (Barney, 1993). During the 'start-up' phase of a venture, it is common that founders may not have direct access to the required resources. The rational process model posits that the expectation is that resources will be secured from team members or alternatively, from networks (Aldrich & Kim, 2007).

Ventures owned by teams tend to have a more diversified set of skills and competence bases to draw upon alongside broader social and venture networks, which can be used to gain the additional resources. Teams can also increase the authenticity of the venture, especially when they are trying to acquire financial resources (Fiet & Patel, 2008b). It is important to acknowledge that entrepreneurial teams are not exclusive to start-ups. However, there has been limited research exploring the dynamics of entrepreneurial teams (Ensley, Carland, & Carland, 2000) such as the process of effectively gathering and maintaining entrepreneurial teams (Birley and Stockley, 2000). Assertions that teams that are made up of members possessing different skillsets or complementary aptitudes, can positively influence the success of the team performance and, as a consequence, achieve more effective results in respect of the new venture (Utterback et al. 1988; Eisenhart and Schoonhoven 1990;). Lately, Decker, Calo, & Weer (2012) found a positive association between entrepreneurial careers and the need for positive stimulation from other persons. The issue in these types of assertions are that it is hard to determine how performance is affected by the combination of the team members. There is also research which suggests that the members contribute an uneven amount of passion and commitment to the venture because individual entrepreneurs can vary greatly in the intensity and foci of their passions (Breugst, Domurath, Patzelt, & Klaukien, 2012; Cardon, Grégoire, Stevens, & Patel, 2013). New Venture Teams (NVTs) may also vary in the extent to which members are similar or different in their individual entrepreneurial passions, as well as in the extent to which they are able to form a shared team passion for a common identity (Cardon, Post, & Forster,

2017). These studies suggest that the group performance and contributing factors to the new venture is useful and creates good outcomes. The difficulty though is to understand how much the individuals affect the outcome for the performance of the new venture. This is core to explain the influence on performance differences for different types of venture. The distinction between individual influences is important to determine who has the most influence on the venture creation. For the majority of new start-up ventures they are formed by one person or a familial team (895, 73% in US PSED2, Reynolds, 2011), and because there are these differences in passion (Cardon, Post and Forster) it is going to be more beneficial to study how individual nascent entrepreneurs impact on the new venture's performance, rather than teams.

The entrepreneurial team is not the focus of the current study as there are different contributions from the many people involved in the venture. It is quite difficult to research those differences and the commitment to the venture differs. Studying nascent entrepreneurs while the ventures are emerging is key to assessing progress and investigating the factors that lead to starting ventures versus those that lead to discontinuation or quitting. Considering that a new venture is regarded as an extension of the founder (Chandler & Hanks, 1994; Mintzberg, 1988; Peteraf & Shanley, 1997), it is reasonable to think of an emerging venture's knowledge, skills and experience (human capital) as connected to the nascent entrepreneurs. Whilst it is important to understand the group behaviour driving entrepreneurial performance it is also important that there be further investigation of individuals as sixty-nine percent of entrepreneurs in the United States stated they were motivated to start because they saw an opportunity and they are determined to increase their income or the level of freedom in their work (Kelley et al., 2015). This area is investigated later in the chapter.

There is a strong emphasis on trying to understand what nascent entrepreneurs contemplate when creating a venture, and this is key to this research. Extant research focused on creating ventures can be divided into early nascent entrepreneurial activities prior to the start-up period, and the early process period when entrepreneurs engage with their enterprise. As a result of the inconsistency across cases, a more precise definition of the start and endpoints is arguably not possible (Carter, Gartner, Shaver & Gatewood, 2003;

Delmar & Shane, 2004). The current research approaches have mostly been focusing on either investigating the entrepreneur at the beginning of the venture or on investigating the venture when in the start-up period. The focus has often been on these efforts individually, but the research needs to consider how these many dimensions affect venture performance in a more coherent way.

The next section reviews the constructs based on Gartner's framework, for the a) *individual* – the person forming the venture, b) *organisation* – the kind of firm being started, c) *environment* – the situation surrounding and affecting the venture creation, and d) *process* – the steps taken by the entrepreneur to start the venture (see figure 3 below). The studies focused on the effect of individual factors on performance which previous literature has found to be limited. There are still critical insights to be gained from these studies in relation to new ventures. These studies are thus investigated to understand their contributions to the extant literature.

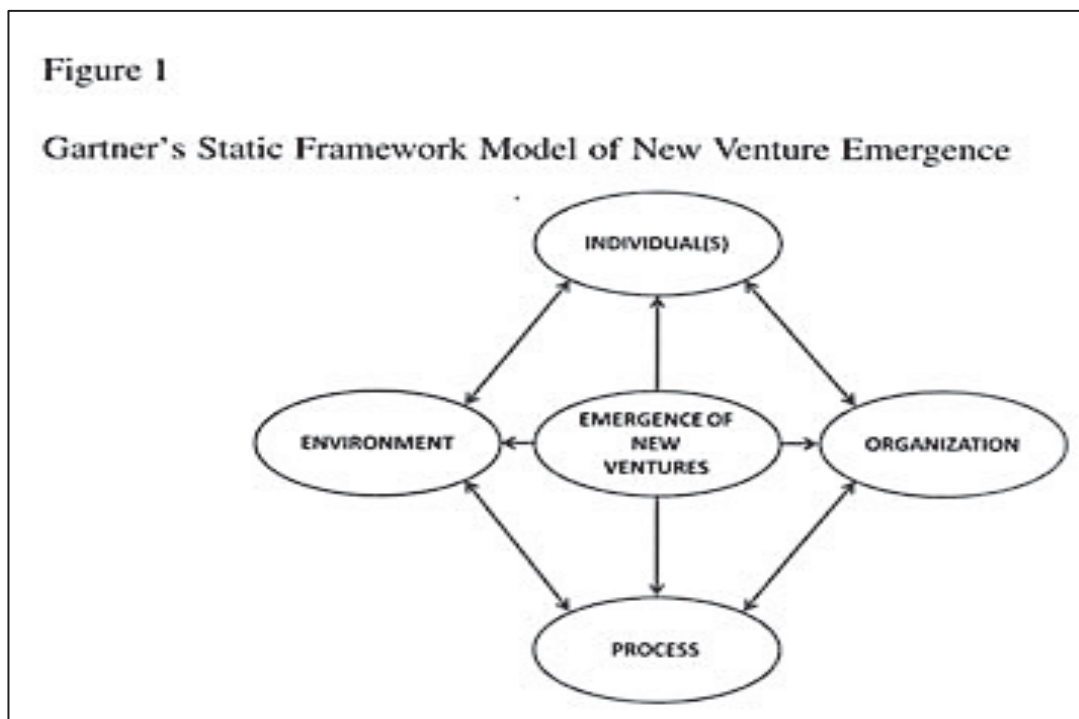


Figure 3 Gartner's framework of new venture creation (Gartner, 1985)

2.3 Individual- The Nascent Entrepreneur

According to Davidsson (2005), the term ‘nascent entrepreneur’ first appeared in the literature in a method-orientated conference paper by Reynolds and White (1992). A nascent entrepreneur is defined as someone who is (alone or with others) currently working on activities to start a new venture and expects to be the owner or part owner of the new firm. They are involved in the early stage development of a venture, and it is usually their first time. Moreover, they expend great amounts of energy in starting a viable venture (Aldrich, 1999; Delmar & Shane, 2004; Townsend, Busenitz & Arthurs, 2010). They have been actively seeking to start a new, independent firm in the previous 12 months (Cassar, 2014; Davidsson, 2005; Delmar & Davidsson, 2000; Reynolds & Curtin, 2009). The nascent entrepreneur is a key contributor to the development of their new venture.

A relatively common approach in early entrepreneurship research was to compare entrepreneurs, understood as venture founders or small venture owner-managers, with a comparison group of employed managers (e.g. Begley, 1995; Katz & Gartner, 1988; Keeley & Roue, 1990). Prior to the ‘real time’ study of the Panel Study of Entrepreneurial Dynamics (PSED)¹ and Global Entrepreneurship Monitor (GEM),² it was not clear whether the factors associated with individuals who succeeded in founding a venture were a cause or an effect of venture formation (Davidsson, 2005). One of the problems with this approach is that if a difference is determined, it is not clear how that should be interpreted because several possibilities are thrown up by the design (Davidsson, 2005, p. 70):

- “The propensity to engage in entrepreneurial behaviour. Those with higher propensity should, *ceteris paribus*,³ have a higher probability of ending up in the entrepreneurs’ sample.

¹ The Panel Study of Entrepreneurial Dynamics 2 (PSED 2) is the second iteration of the panel study surveying a representative sample of nascent entrepreneurs in the US from 2005-2011. The survey provides panel data made available by the Kauffman Foundation, a dataset that captures nascent entrepreneurs in the process of developing a new venture as suggested by Katz and Gartner (1988). The study was developed by a consortium led by Prof. Paul Reynolds (Reynolds, Carter, Gartner & Greene, 2004).

² Gem is a global study of entrepreneurs based on country specific information on participation in entrepreneurship.

³ All other things being equal.

- The ability to succeed in such behaviour. Those who are successful in entrepreneurial pursuits should, *ceteris paribus*, have a higher propensity of remaining as members of the group(s) sampled as entrepreneurs and therefore of being sampled.
- The propensity to persist when failure is imminent. Those who persist or stay in venture despite sub-standard performance (Gimeno, Folta & Cooper, 1997; Van Gelderen, Thurik & Bosma, 2006) should, *ceteris paribus*, have a higher likelihood of ending up in the entrepreneur sample.
- A variety of situational factors (i.e., not fundamentally person-based) that add to engaging, succeeding or persisting in entrepreneurship”.

In the 1990s, interest in studying the personal characteristics of entrepreneurs waned, although recognition of the vital role of the individual in the start-up process did not (Diochon, Menzies & Gasse, 2007; Hindle & Klyver, 2011). Sampling frames for nascent entrepreneurs were not easily accessible, requiring many resources to locate these nascent entrepreneurs (Davidsson, 2005; Markova, Perry & Farmer, 2011). The process was expensive, which is a factor limiting these studies. When the Entrepreneurship Research Consortium (ERC)⁴ began its real-time study of gestation (a process of giving birth to the venture), the individual was once again a prominent focus in the research (Reynolds, 2007b). Learning about emerging ventures through real-time study involves, by necessity an individual focus as the venture itself has yet to materialise. There are studies that consider various people who contribute when creating ventures, and there is recognition that the contributions differ for these individuals.

The previous section focused on defining the nascent entrepreneurship to describing what is known about it already and suggesting what the issues were for studying them in the past. The early research on nascent entrepreneurship was strongly driven by the focus on investigating the nascent entrepreneur versus the non- entrepreneur to explain performance. Nascent entrepreneurship focuses on the activities required to create the new venture. The real-time study of venture creation was stifled because there were previously limited

⁴ Entrepreneurship Research Consortium (ERC) is an international collaborative project involving nine countries and spearheaded by Paul Reynolds

longitudinal studies on nascent entrepreneurs (Delmar & Shane, 2004). The next section provides some background into what is currently known about these nascent entrepreneurs.

2.4 Background to Nascent Entrepreneurs

Thus far, there is reasonably good knowledge amongst researchers regarding which factors characterise nascent entrepreneurs. Previous research has found a positive association between certain characteristics of the nascent entrepreneur and the performance of the new venture (Acs & Armington, 2004; Zahra, Ireland & Hitt, 2000; Zahra, Neubaum & Huse, 1997). For example, there is better understanding about the nascent entrepreneurs' social background, level of education and psychological attitudes (Adams, Makramalla, & Miron, 2014; Cooper & Glaesser, 2012; Dimov, 2010; Frese & Gielnik, 2014; Karlsson & Moberg, 2013, 2013; Shane, 2008). The research shows that men and individuals with self-employed parents are overrepresented among those identifying as nascent entrepreneurs (Reynolds & Curtin, 2009). In addition, there is overrepresentation amongst those between 25 and 40 years old and/or are more highly educated than the general population and/or have previous experience of self-employment (Hindle & Klyver, 2011; Reynolds & Curtin, 2009; Rotger, Gørtz & Storey, 2012). The personal characteristics will be explored in this study to provide a view of the nascent entrepreneur in relation to entrepreneurial activity and performance. The constructs include the need for achievement, entrepreneurial intensity and human capital which in Gartner's framework is consistent with the domain of the individual. The constructs included here are based on the options that were available in the ERC/PSED survey. There is not always a clear indication of the theoretical rationale how these constructs were chosen instead of other measures within the ERC/ PSED. More information about the actual constructs and their theoretical foundations are presented in Gartner, Shaver, Carter, & Reynolds', (2004) handbook on the Panel study of Entrepreneurial Dynamics. The review thus focuses on the key constructs available for the individual entrepreneur.

2.4.1 Need for achievement

Empirical studies of the personality characteristics of entrepreneurs date back to McClelland's (1961) analysis of the entrepreneur's need for achievement, a trait considered to be an important indicator of future entrepreneurial activity (Davidsson, 1991; Kessler et

al., 2012; Korunka, Frank, Lueger & Mugler, 2003; McClelland, 1961; Reynolds & Curtin, 2009; Tang, 2007). Results from studies considering the personality of nascent entrepreneurs were mixed, which is partly due to different methods being chosen or inconsistent measures being used in the studies (Ginsberg & Buchholtz, 1989; Shane, Locke & Collins, 2003). Nevertheless, Shaver and Scott (1991) and more recently Frese and Gielnik (2014) meta-analysis on the need for achievement contend that this trait remains consistently positive in association with beginning a new venture. The need for achievement in relation to performance is important because linking entrepreneurs' personality characteristics with other characteristics should provide enhancements in our understanding of the contributions to performance. Taking into account the work by Gartner (1988), as discussed earlier, the approach regarding the entrepreneur's personality became potentially less important than other factors impacting on the firm's performance. Personality is only one of the characteristics that research has suggested is important. Since Gartner's suggestion to move away from the focus on personality (Gartner, 1988), there have been other studies that have investigated how personality affects performance. For example, the Austrian studies by Kessler et al. (2012) and Harms, Kraus and Reschke (2007) have considered the interactions of other domains along with personality in relation to performance and found a positive relationship with these attributes. (These studies are discussed in more detail in Chapter 4). Regarding the performance of nascent entrepreneurs, these studies have added to our understanding of the connection between personality and other domains considered important in the research.

Given the inconsistent findings regarding personality, behaviour has become more of a focus in nascent entrepreneurship research. Since there is a positive relationship between earlier research on the need for achievement and its effect on performance (DeCarlo & Lyons, 1979; Frese & Gielnik, 2014), it will be used in the current study as one of the contributing factors. The discussion on need for achievement is revisited in the next chapter investigating configuration research. As the previous actions taken to start a venture can affect the potential establishment of a new venture, this construct of entrepreneurial intensity is considered next.

2.4.2 Entrepreneurial intensity

Entrepreneurial intensity (EI) is defined as the varying levels of entrepreneurship, where entrepreneurial intensity is considered as a function of the degree and frequency of entrepreneurship (Morris & Sexton, 1996). Initially the concept was used to address the organisational level study units but was later validated by Liao, Murphy and Welsh (2005) focusing on individuals. They developed a scale which they have used in countries, such as the United States, Mexico, Russia, Poland, Romania, Hungary and several Baltic countries. Entrepreneurial intensity is borne from the idea that entrepreneurial behaviour may change because of its degree of innovativeness, pro-activeness and risk-taking attributes – an idea that emanated from the idea of Entrepreneurial Orientation (EO), which focuses on processes, practices, and decision-making processes in the development of a new venture (Morris and Sexton). The difference is that EO focuses on the inclination for someone to lead a new venture and be entrepreneurial, whereas EI focuses on the degree of entrepreneurship, the level of commitment and the focus in leading a new venture (Liao et al., 2005). Entrepreneurial intensity measures the focus and commitment of entrepreneurs towards their entrepreneurial ventures. Focus refers to the extent to which an entrepreneur foregoes certain pursuits in order to develop and own a venture and works to establish the venture (Liao et al., 2005). Commitment refers to the degree of dedication an entrepreneur expends in providing time and resources for venture creation and for nurturing the venture (Davis & Shaver, 2012). For example, in the creation of the venture, the nascent entrepreneurs will forego time spent on activities with family or friends, sacrificing this time to devote it to their venture. Entrepreneurs may also be committed to other people and connect with the values and goals of those people in creating the new venture. For example, they may work together to create the venture (Misra, Memili, Welsh & Sarkar, 2014). A firm's performance can be measured at a point in time by its entrepreneurial intensity score, suggesting there is a focus on trying to establish the new venture (Balasubramanian, 2011; Kuratko, Hornsby & Goldsby, 2007). Researchers have found that respondents who intend to sacrifice employment for new venture creation have a higher propensity to convey the intention of becoming entrepreneurs, thus affecting the likelihood of creating the new venture (Edelman et al., 2010; Kolvereid & Isaksen, 2006; Lin, Carsrud, Jagoda & Shen, 2013; Manolova, Brush, Edelman & Shaver, 2012;

Vinogradov, Kolvereid & Timoshenko, 2013). The levels of drive and frequency of prior entrepreneurship suggest higher commitment to the new venture.

Entrepreneurial intensity focuses on the motivation to start a venture and the level of drive (commitment), as well as the assistance provided in overcoming any hurdles when starting a venture. This understanding in the context of the new venture is important to determine how the intention to start a new venture and the entrepreneurial intensity relates to the actual start-up. Murphy, Liao and Welsch (2006) found that EI is related to environmental as well as individual-level antecedents. They found that entrepreneurial intensity is positively related to the successful new venture performance. Similarly, Davis and Shaver (2012) found that most respondents in their sample agreed that they would exert maximum effort and sacrifice time spent on other activities for the sake of establishing new ventures. This entrepreneurial intensity (commitment) resulted in the positive performance of the new venture. Similarly, Urban & Sefalafala (2015) found that the entrepreneurial intensity in conjunction with the entrepreneurial capabilities lead to successful new venture performance. The next section reviews the human capital of the nascent entrepreneur in the literature.

2.4.3 Human capital

Human capital theory was originally developed to estimate employees' income distribution from their investments in human capital (Becker, 1975; Mincer, 1958). Entrepreneurship researchers have adopted the theory and used it to contribute to better insights into the attributes of entrepreneurs and models to explain entrepreneurial success (see, for example, Chandler & Hanks, 1994; Dimov, 2010; Honig & Davidsson, 2000). Human capital (HC) is defined as the investment in skills and knowledge that boosts earning power (Mincer, 1958; Becker, 1975) and plays an important role in new venture formation (Stuetzer, Obschonka & Schmitt-Rodermund, 2013). The theory states that those individuals or groups who have greater levels of knowledge, skills and other capabilities will achieve greater performance outcomes than those who have lower levels (Ployhart & Moliterno, 2011). Human capital is likely to impact on the development of a venture idea and the organisation of resources. It increases the capability of owners to perform the generic entrepreneurial tasks of discovering and exploiting venture opportunities

(Reynolds, 2010; Shane, Kolvereid & Westhead, 1991) hence the focus on the owners human capital is the key focus to the review. For example, prior knowledge increases the owner's entrepreneurial alertness (Brown, Davidsson, & Wiklund, 2001; Davidsson, 1991; Dimov, 2010; Indrawati, Salim, Djumahir, & Djawahir, 2015; Ucbasaran, Westhead, & Wright, 2008), preparing them to uncover specific opportunities that are not apparent to other people (Brown, Davidsson & Wiklund, 2001; Davidsson, 1991; Dimov, 2010). For example, start-up experience provides the nascent entrepreneur with learning opportunities that can be exploited. Work experience provides skills that might function in the accomplishment of the many tasks that setting up a venture entails, for example in managing people (Bosma, Van Praag, Thurik & de Wit, 2004; Honig, 2001; Pennings, Lee & Witteloostuijn, 1998). Industry experience can be helpful in the perception and valuation of new venture ideas.

Education and workplace experience are the most common indicators of human capital used in labour force participation analyses: these characteristics have been associated with the success of entrepreneurs (Karlsson & Moberg, 2013; Martin & Smith, 2010; Marvel & Lumpkin, 2007). The general human capital considers the overall knowledge gained from formal and professional experience. Specific human capital however, is based on the capabilities of the nascent entrepreneurs can use to be entrepreneurial in the new venture. Specific human capital includes industry knowledge, gained from prior work experience in the same industry as the new venture. They also include knowledge of how to manage a new venture (Colombo & Grilli, 2005).

This specific human capital is the focus for many researchers studying new venture creation in order to investigate its effect on performance differences. An example by Rauch and Rijdsdijk (2013) found that specific human capital had a direct effect on venture failure, especially over the longer term. Their research suggests that high specific human capital provides better opportunities for success in certain contexts but limits the venture options further along in the process of creating the new venture. Having high specific human capital may be important for certain tasks at specific time periods during the developmental phase, and thus specific human capital has limited applications beyond these contexts (Debrulle,

Maes, & Sels, 2014; Honjo, Kato, & Okamuro, 2014; Marvel, 2013; Marvel & Lumpkin, 2007; Pennings et al., 1998). For example, having specific human capital based on knowledge and skills acquired in the prior venture might be limited when the entrepreneur is further along in the process of creating their new venture.

Additionally, specific human capital is also positively related to planning and venture strategy, which, in turn, positively impacts on success (Baum, Schwens & Kabst, 2011; Dimov, 2010; Schulte, 2004). Unger, Rauch, Frese and Rosenbusch (2011) conducted a meta-analysis of 495 studies related to human capital in entrepreneurship. They found that correlations were higher for human capital related to entrepreneurial tasks (specific human capital) than for human capital variables with low task-relatedness (general human capital), and thus their results support the importance of specific human capital compared to general human capital. The next section investigates the human capital literature by focusing on specific human capital which pertains to education and experience specific to a particular activity or entrepreneurial context (Becker, 1975).

2.4.4 Specific human capital

Entrepreneurial and industry experience

The recent arguments and findings suggest that the more specific components of human capital, i.e., those more closely related to the venture's context or to performing various venture creation activities, are more proximate and instrumental predictors of various new venture milestones, such as opportunity recognition (Corbett, 2007; Ucbasaran, Westhead & Wright, 2008). Findings from the Davidsson and Honig (2003) study support the role of formal education as well as previous start-up experience in deciding who among a cross-section of the general population would try to partake in any nascent activities in a sample of Swedish participants. This implies that the complex processes by which entrepreneurs learn from past experience are of significant importance in increasing our understanding of specific human capital, such as entrepreneurial and industry knowledge transfers, in the process of creating a venture.

The understanding of entrepreneurial experience is that previous experience of starting and managing entrepreneurial ventures can provide considerable expertise related to identifying and undertaking the steps, as well as navigating through the uncertainties associated with establishing and managing a new venture. However, the research conclusions are mixed with regard to entrepreneurial experience's effect on new venture performance. For example, research has found that prior entrepreneurial experience is associated positively with both becoming a nascent entrepreneur (Davidsson & Honig, 2003) and successfully starting a new venture (Criaco, Minola, Migliorini, & Serarols-Tarrés, 2014; Debrulle et al., 2014; Rotefoss & Kolvereid, 2005). Evans and Leighton (1989) found that prior self-employment is correlated with a greater likelihood of future self-employment. Within the nascent entrepreneurial process (start-up process), evidence shows that prior entrepreneurial experience can positively affect the venturing progress but has no effect on the likelihood of a first sale, viewed as an indicator of performance (Davidsson & Honig, 2003). With regard to new venture outcomes, evidence reveals that entrepreneurial experience positively affects initial firm size (Colombo, Delmastro & Grilli, 2004), firm growth (Bruderl & Schussler, 1990; Colombo & Grilli, 2005) and profitability (Bosma et al., 2004). Unfortunately its effect on new venture survival is negative as there are many options available to nascent entrepreneurs with more entrepreneurial experience, which reduce the tendency to stay with a venture in order to develop it (Bosma et al., 2004; Delmar & Shane, 2006; Delmar & Shane, 2004). There have been no effects found for new venture performance according to West & Noel (2009). This finding is still current but there are important other considerations as well. Overall, these findings might be the result of performance being complex and thus no individual variable is able to explain its effect. This suggests the need to study experience with other variables in a combination to determine possible explanations of performance.

Nascent entrepreneurs may possess expertise and skills that open up alternative choices of employment or venturing activities and create substantial opportunity costs that can raise the performance threshold of the current venturing efforts (Gimeno et al., 1997; Marvel & Lumpkin, 2007; Unger et al., 2011). Those with previous entrepreneurial experience may have other worthwhile venturing options and may thus evaluate the feasibility and promise of the currently pursued prospect with a more critical view. It is possible, therefore, that in

attempting opportunities with uncertain prospects of success, they evaluate the emerging promise of the option against such alternative career possibilities. Thus, nascent entrepreneurs with more entrepreneurial experience can be expected to abandon their effort early on based on opportunities that are less appealing for more prospective alternatives, as well as remaining committed and effective in pursuing those venture options that remain more appealing when they evaluate the possibility of success (Bakker, Shepherd & Davidsson, 2014; Dimov, 2010; Townsend, Busenitz & Arthurs, 2010). The other key measure of specific human capital is industry experience.

Industry experience provides profound knowledge of the value chain (industry insights) in which the venture will engage and thus a better understanding of the key stakeholders involved in the start-up process as well as ways to approach them (Cooper, Gimeno-Gascon & Woo, 1994). In many cases, the nascent entrepreneur may already have established relationships with critical stakeholders, such as potential customers, suppliers or other resource providers, and thus be in an advantageous position to capitalise on these relationships in the current venturing effort (Cassar, 2014; Coad, Frankish, Nightingale, & Roberts, 2014). Additionally, industry insiders are likely to have information, such as pricing, cost structure, market share, revenue and cost trends, which are generally remote to outsiders (Dencker & Gruber, 2015; Markman & Baron, 2003; Odorici & Presutti, 2013). Industry experience can allow the nascent entrepreneur to make better decisions and become more realistic in reaching specific venturing milestones (Lichtenstein, Carter, Dooley & Gartner, 2007; Townsend et al., 2010). In addition, industry experience can affect venture performance positively and lower the probability of the entrepreneur's exit from the venture (Gimeno et al., 1997; Van Gelderen et al., 2006).

There has been some inconclusive evidence that industry experience is associated with successful transition to a nascent to an early starter (Cassar, 2014), but no evidence of association with venturing progress (Samuelsson & Davidsson, 2009). For example, industry-specific experience may help an entrepreneur to recognise an opportunity in a domain that is related to the industry in which the venture is created (Dimov, 2010; Lee, Lee & Pennings, 2001). However, industry-specific experience may not increase opportunity costs in the same way as general human capital does because alternative employment opportunities are restricted

to the industry-specific experience (Davidsson & Honig, 2003; Gimeno et al., 1997; Schenkel, D'souza, & Matthews, 2012). Moreover, specific human capital is not easily transferred to other contexts, which means venture failure can be limiting for owners with high specific human capital (Rauch & Rijdsdijk, 2013). This finding shows that high specific human capital not only supports those who start new ventures. It also suggests that nascent entrepreneurs with high specific human capital are not always likely candidates to start a venture because of the various options available to them. As they have specialised knowledge and skills in an industry, this might limit the performance of the venture. Therefore, the implied, contextual knowledge provided by prior industry experience as a resource for guiding the nascent entrepreneur's efforts towards venture emergence is not always beneficial to starting a new venture.

The effects of specific human capital in relation to performance will assist in explaining how much context and prior knowledge and skills affect performance outcomes. Thus far the literature suggests that it is the combination of the context and the amount of human capital that affects performance. There is a gap in understanding the conditions under which specific human capital affects performance, which could be addressed by using the causal recipes offered by the fuzzy sets Qualitative Comparative Analysis (fsQCA) (Ragin, 2008, Fiss, 2011, Woodside, 2013). By using a combination of attributes related to human capital, the study intends to build on the human capital theory for nascent entrepreneurs. The next domain in Gartner's framework is organisation (types of ventures), which, in the review, focuses on the strategy nascent entrepreneurs use for creating their ventures. This is discussed in the next section.

2.5 Organisation- Strategy of the nascent entrepreneur

The conditions surrounding the beginning of a venture partly emerge from activities and choices made prior to starting the organisation, that is, in the prelaunch or start-up phase, and thus become imbedded in the activities and strategy of the venture in the future (Carter et al., 1996). The strategy is thus considered to be the actions taken and choices made about the nature of the venture before it is created (Chandler & Hanks, 1994). When a strategy is interpreted as a consistent sequence of activities (Mintzberg, 1979), prelaunch activities and early development activities can be analysed utilising a strategic perspective. The founders' strategic intent subsequently directs and orients the exploitation, development and leverage of the firm's

resources and competences (Brush, Edelman & Manolova, 2008; Keeley & Roure, 1990; Shan et al., 2014; Van Gelderen & Frese, 2000).

The strategy and outcomes of firms have been extensively researched within the management literature for many decades (Covin & Slevin, 1989a; Miller & Friesen, 1983; Mintzberg, 1979). Studies focused in this area show that strategy is a key component of a firm's performance (Sandberg & Hofer, 1987). Firms in the start-up phase potentially encounter many difficulties in organising and directing their resources in line with their objectives as these can be blurred, insecure and uncertain when resources are sporadic (Gartner & Liao, 2012; Jones & Jayawarna, 2010; Van Gelderen & Frese, 2000). To limit the potential impact, nascent firms implement different and opposing strategies. Some firms operate on an iterative pattern while others have robust plans to reduce uncertainty (Bakker et al., 2014). These different strategies for new ventures shape the behaviour of the nascent entrepreneurs and also their persistence in reaching their goal of creating a venture.

Van Gelderen and Frese (2000) researched the personal strategies of owners/founders of new ventures and their relation to performance and environmental uncertainty. The results suggest a positive association between a dynamic process for strategy and performance that is similar to Sandberg and Hofer's (1987) study. Venture owners who perform poorly employed a reactive strategy, with poor performance leading to increased use of reactive behaviours. High performing venture owners start out focusing on the most crucial issues (critical point strategy), with high performance leading to a more top-down (complete planning) approach. Strategy use was dependent upon the type and level of environmental uncertainty, which consequently leads to the quality of the performance.

The most comprehensive work on new venture strategies is the cumulative effort of many scholars building upon the work of their forerunners, the result of which is a collection of well-established entrepreneurial strategic foci according to Gras & Lumpkin (2012). The earliest line of enquiry for research based on the strategies adopted by new venture was the large-scale data collection efforts in two US states: (1) the 1986 Pennsylvania New Firm Survey and (2) the 1986–1987 Minnesota New Firm Survey. In these surveys, respondents from more than 2,500

new ventures were asked to define and list the 13 most important attributes in their firms' strategic focus. The strategic foci were drawn from previously established strategic attributes (e.g. Dess & Davis, 1984; Hambrick, 1983) and were chosen based on their appropriateness for new ventures (Chaganti, Chaganti & Mahajan, 1989; MacMillan & Day, 1988). The predecessors of this line of research included studies that tested, revised and advanced the list of these strategic foci. Carter, Gartner and Reynolds (1994), for example, studied strategy and revealed the presence of six new generic venture strategy archetypes: price emphasis, market sensitivity, technology, product distinctiveness, site appeal and service. Among the most recent, thorough and highly regarded studies in this line of inquiry is the Panel Study of Entrepreneurial Dynamics 2 (PSED 2).

Through an extensive evaluation of previous studies, developers of the PSED 2 derived a set of ten strategic foci used in new ventures. These are: lower prices; quality products or services; serving those missed by others; being the first to market a new product or service; undertaking a more efficient venture of marketing and promotion; occupying a superior location and customer convenience; promoting more contemporary, attractive products; ensuring there is technical and scientific expertise in the start-up team; developing new or advanced product technology or process technology for creating goods and services; and ensuring there is a development of intellectual property, such as patents, copyrights and trademarks. These ten new venture strategies were adopted by Gras and Lumpkin (2012) in their study to discover their applicability in a social entrepreneurship context. They investigated whether the strategies deemed important by social entrepreneurs differed from those of commercial entrepreneurs. They found that strategies focusing on serving missed customers, marketing/promotion and intellectual property were deemed more important by social entrepreneurs' performance than commercial entrepreneurs (Shane & Kolvereid, 1995). In the studies by Gras and Lumpkin and Shane and Kolvereid, for strategy as it affects performance, not all measures are equally important to entrepreneurs. Recently, Block, Kohn, Miller, & Ullrich (2015) found that German start-ups show that necessity entrepreneurs are more likely than other entrepreneurs to use a cost leadership strategy and are less inclined to use a differentiation strategy leading them to create their new venture successfully. The next domain considered important in Gartner's framework for venture creation is the environment and is reviewed in the next section.

2.6 The Environment Domain

The environment is important for studying new venture performance and has an impact on the ability of the nascent entrepreneur to progress their venture. In Gartner's framework, he considers the environment as a key dimension for explaining the context for starting the venture. The environment is considered in terms of its effect on how ventures will succeed and under what conditions. One perspective on the environment sees it as an external set of conditions to which the new ventures must adjust (Aldrich, 1999). The influence of the environment is particularly strong '... when firms are small relative to competitors and when they have few slack resources' (Miller, 1987, p. 689), and this is characteristic of new ventures (Block, Thurik, Van der Zwan & Walter, 2013; Covin & Slevin, 1989; Edelman & Yli-Renko, 2010; Gartner & Liao, 2012; Korunka et al., 2003). There are different terminology applied to various aspects of the environment such as munificence and dynamism which will be considered next.

2.6.1 Munificent environment

Characteristics of the environment, for example, may influence strategic and personal variables. In munificent environments (which are characterised by a high growth rate), growth strategies may be possible for new ventures since incumbents will be less likely to react than in stagnating environments (Timmons, 2011). Entrepreneurial munificence is characterised by a strong presence of family venture and role models (Andrews, 2009; Block et al., 2013; Gomezelj & Kušce, 2013; Shane & Kolvereid, 1995), a diversified economy in terms of size of companies and industries, a rich infrastructure and the availability of skilled resources, a solid financial community, and government incentives to start a new venture (Tang, 2007). Previous research has examined the dimensionality (Gnyawali & Fogel, 1994), motivation (Hopp & Stephan, 2012) and intentionality effects (Edelman al., 2010) of entrepreneurial munificence in the new venture creation process.

A munificent environment allows entrepreneurs to achieve growth by capitalising on abundant resources and capabilities (Miller & Friesen, 1983). In a friendly and benign environment, entrepreneurs are at all times alert to opportunities (Covin & Slevin, 1989; Dencker & Gruber, 2015; Indrawati et al., 2015; Shane & Kolvereid, 1995). Entrepreneurs

competing in a munificent environment use favourable government policies, abundant financial resources, positive social attitudes and stable economic conditions to ‘switch on’ their attentiveness to profit opportunities (Delmar, McKelvie, & Wennberg, 2013; Edelman & Yli-Renko, 2010; Vinogradov et al., 2013). As a result of this evidence, the current study will include the measures that consider favourable government policies, abundant financial resources, positive social attitudes and stable economic conditions based on the munificent environment in order to assess the connection to performance.

One way of investigating the munificent environment was developed by Tang (2007), who considered the effects of entrepreneurial munificence on nascent venture. Findings from the study confirmed a strong relationship between environmental munificence and alertness, especially when the entrepreneurs had high levels of self-efficacy in performing the roles and tasks of new venture creation. In turn, entrepreneurial alertness is related to the continuance, behavioural and affective commitment of entrepreneurs, which thus affects performance positively (Tang, 2007).

2.6.2 Environmental dynamism

Opportunities arise in the environment under conditions of high uncertainty and turbulence (Gartner & Liao, 2012; Gelderen & Frese, 2000; Huang, Ding & Chen, 2014; Terjesen, Patel & Covin, 2011). Environmental dynamism is defined as the level of uncertainty and change in the environment (Edelman & Yli-Renko, 2010; Shane & Kolvereid, 1995; Cho, 2013). For example, changes in technologies or customer needs serve to create attractive ‘interstices’ or openings (Penrose, 1959a) that new firms can exploit. Because of the turbulence that is introduced into the environment and the selection mechanisms in dynamic environments (Dess & Beard, 1984), new firms also have a greater ability to successfully challenge industry incumbents. Environmental dynamism suggests what the level of uncertainty and change in the environment is (Dess & Beard, 1984), and reflects the likely existence of opportunities in the nascent entrepreneur’s environment to create a new venture.

Nascent entrepreneurs’ perceptions of market opportunity arise from the dynamism in their environments. As nascent entrepreneurs interpret and make sense of their environments, the

greater the level of environmental dynamism and the more likely they are to perceive that there is an unmet customer need and that it is possible to challenge industry incumbents (Gartner & Liao, 2012; Shane & Kolvereid, 1995). The stronger these perceptions, the greater will be the intention to create a venture and the more energy nascent entrepreneurs will invest in starting a firm leading to performance. Dynamic environments are associated with the high unpredictability of customers and competitors and high rates of change in market trends and industry innovation (Dess & Beard, 1984a; Miller, 1987). Environmental dynamism thus creates the possibility for nascent entrepreneurs to construct images of potential market opportunities and these perceptions will lead the entrepreneurs to initiate and persevere in conducting start-up activities. As individuals have varied expectations and assessments about the environment, it is not the actual environmental dynamism that is important in predicting efforts at venture creation but the perception that opportunities exist in the market (Arenius & Minniti, 2005; Edelman & Yli-Renko, 2010).

Miller and Friesen (1983) argued that entrepreneurial-type strategies are likely to be more successful when addressing customers that place a premium on innovation and unique services that characterise a dynamic environment. In such dynamic environments, where demand constantly shifts, opportunities become abundant and performance should be highest for those firms that have an orientation for pursuing new opportunities because they have a good fit between their strategic orientation and the environment. In other words, there would be an expectation of an alignment of an entrepreneurial intensity with a dynamic environment to create positive performance implications (see for example, Morris & Sexton, 1996; Urban & Sefalafala, 2015) . Firms more content with existing operations, however, are less likely to benefit from a dynamic environment because market demand might shift away from the firm's products and negatively impact on performance (Cai, Liu, Deng & Cao, 2014; Frank et al., 2010). Empirical observations support this notion. Zahra, Neubaum and Huse (1997) found that there was a strong positive relationship between nascent entrepreneurs and performance among firms in dynamic environments, whereas these relationships were largely negative among the firms present in static and impoverished environments. Similarly, van Gelderen and Frese (2000) found that innovative strategies in uncertain (unpredictable and dynamic) environments were associated with higher performance.

To understand how nascent entrepreneurs deal with dynamic environments, Arenius and Minniti (2005) found no difference between objective and subjective variables focusing on the environment. Subjective measures include information gained from respondents' perceptions of the situation. The responses are studied based on perceptions of the activity in their current venture environment. Objective measures are harder to assess in relation to nascent entrepreneurs as the nature of the venture is developing, thus many aspects are still in the process of development (Arenius & Minniti, 2005). The focus is on how the dynamism in the environment impacts on the nascent entrepreneurs to start or discontinue their new venture. There is a need in the literature to consider how the dynamic environment shapes the performance of new ventures by considering the degree of dynamism with other factors. Identifying a venture opportunity and access to financial resources for the new venture are considered in the following sections.

2.6.3 Identifying a venture opportunity

In the process of the exploitation of opportunities, individuals acquire resources and engage in activities that change prices and provide information to others (Delmar & Davidsson, 2000). Venture opportunities are spotted or considered when there are demands that are unfilled, which is known as opportunity recognition. Opportunity recognition and opportunity-directed behaviour are at the core of entrepreneurial efforts in both new and existing ventures (West III & Meyer, 1997). In the absence of market confirmation, the validity of the entrepreneur's perception is not clear: no knowledge can be gained from the prices, and therefore the production plans and inclinations of individuals are not updated (Shane, 2008). The riskiness of the opportunity considered does not only affect start-up performance but also conditions the relevance of the founder's distinct knowledge endowments. The riskier the opportunity, the greater the performance of the start-up, above and beyond founder characteristics (Dencker & Gruber, 2015). Assessing and identifying the opportunity is important when developing a new venture as the identification of the opportunity affects the eventual development and performance of nascent entrepreneurs. Lately, Hsieh & Kelley (2016) found that nascent entrepreneurs level of prior industry experience, orientation to risk, access to information in the environment are linked with the perceived innovativeness of the opportunity. Researchers focussing on opportunity recognition consider the ability to organise these resources and

translate this into the venture (Carter et al., 1996). The next perspective in the framework is about acquiring financial resources.

2.6.4 Acquiring financial resources

New venture resources include finances, human capital and full time equivalent staff (FTEs) (Brush et al., 2008; Jones & Jayawarna, 2010; Kor, Mahoney & Michael, 2007; Shan, Cai, Hatfield & Tang, 2014). As human capital was considered earlier in the person section, the focus of this review is on the financial resources of the nascent entrepreneur for the venture. In the early stages of the formation of new ventures (Lichtenstein, Carter, Dooley & Gartner, 2007), not many extra new FTEs are required as the venture is still growing and funds are limited (Bruderl & Schussler, 1990). The nascent entrepreneur is the main participant in the venture (Gartner, 1989). Hence, there is less focus on FTEs in this stream of literature (Reynolds, 2010). However, accumulating resources, particularly financial resources are a critical entrepreneurial activity in the process of starting a venture as they provide support for the identification of venture opportunities and building the organisation (Abbasian, Yazdanfar, & Hedberg, 2014; Alvarez & Busenitz, 2001; Bamford, Dean, & McDougall, 2000; Liao, Welsch, & Moutray, 2008).

New ventures and nascent entrepreneurs depend on resources such as financial resources to create products or services and obtaining other resources in order to establish and grow their firm. Financial resources are the cash and money assets of the venture, as well as enabling the attraction of money into the venture (Gartner, Frid & Alexander, 2012; Hsu, 2007; Pollack, Rutherford & Nagy, 2012). A relatively small proportion have venture capital funding, and in these early stages only a distinct minority have even applied for bank finance (Cassar, 2010; Mallin, Cumming & Cressy, 2013; Shane, 2008). Studies focused on the resources of nascent entrepreneurs have found that they use their own finances and the financial resources of their friends and families, known as bootstrapping, to resource the new venture (Eckhardt, Shane & Delmar, 2006; Gartner, Frid & Alexander, 2012; Jones & Jayawarna, 2010; Reynolds, 2011; Senyard, Baker, Steffens & Davidsson, 2014; Shane, 2008). Because they have limited funds at the start of their new venture, their ability to access resources is paramount to creating the new venture (Gartner, Frid & Alexander, 2012) and is some of the key reasons attributed to them quitting the new venture.

Gartner et al. (2012) found that entrepreneurs who are able to acquire external financing of any kind (monitored or unmonitored) are significantly more likely to have started a venture or remain in the new venture creation process. Eckhardt et al. (2006) found that in relation to deciding on venture finance, nascent entrepreneurs as candidates for external finance based their perceptions of market competition, market growth and employment growth on subjective indicators. In contrast, financiers base funding decisions on the objective verifiable indicators of venture development, such as the completion of organising activities, marketing activities and the level of sales of the venture (Abbasian et al., 2014; Kim, Aldrich, & Keister, 2006; Mallin et al., 2013). The drivers for how to use these funds tend to be quite different, but there seems to be a recognition that the justification for loans for new ventures from formal channels such as banks are challenging for nascent entrepreneurs (Gartner et al., 2012; Kim et al., 2006).

Nascent entrepreneurs face challenges because of the liability of newness, and also their lack of experience counts against them if they have no track record of successfully founding a new venture (Bruderl & Schussler, 1990; Nagy, Blair & Lohrke, 2014). Financiers face risks in backing and approving loans to nascent entrepreneurs with no history of entrepreneurial success. Hence, they will limit their financial backing of new ventures. There is an association of new ventures failing with a lack of further access to financial support (Blanchflower & Oswald, 1998; Erikson, 2002; Jones & Jayawarna, 2010; Kasturi, 2014; Shane & Stuart, 2002; Stubner et al., 2007). Given this situation, there is a need to further explore how nascent entrepreneurs gain access to finance and develop the ability to raise support for new ventures in various contexts.

2.6.5 Building an organisation

At a certain stage, the level of activity and resource commitment will reach a point considered to be equal to formation in biological gestation (Katz & Gartner, 1988). Entry into the new venture creation process is thought to involve serious effort in order to create a new firm and normally involves many activities as plans are developed and resources gathered to form the new venture. Entry into the start-up process, disengagement from a new venture and the birth of a new firm are part of the transition to new venture creation. Based on the literature,

there is no common agreement between researchers regarding the theoretical definition or the operational indicators of these transitions. The lack of consensus might be a source of disagreement about some basic patterns (Reynolds & Curtin, 2010). Research by Gordon (2012) has considered the actions in relation to these transitions and the processes related to the formation of new ventures in Australia. While this research has contributed to a wider understanding of the actions required to complete the process of starting a new venture, there are still insufficient studies to provide wider generalisability for the findings. The argument for considering when they quit or transition to a new venture is a temporal issue (timing) and has had limited focus in previous research. The difficulty in explaining these transitions will depend on the model that is being used and there is a lack of a unified set of indicators for process development.

Davidsson & Gordon (2012) reviewed a number of articles that focused on sub-streams based, first, on the processes of starting a venture, second, on the antecedents and, finally, the individual from a method's viewpoint. They discovered that the number of articles in the 'process' sub-stream was somewhat smaller than the other two. The majority in the sub-stream (28 articles) address exploitation of opportunities in the environment whereas only nine investigated discovery as a result of being in a particular industry. The latter articles revealed that a relatively non-systematic search for opportunities and processes initiated by a particular idea rather than by a pre-existing desire to become a founder-manager are more common than systematic, textbook-like processes (Gartner, 2004; Honig & Davidsson, 2000; Singh, Knox & Crump, 2008). In combination with results from other types of research (see, for example, Henley, 2007) this emphasises the importance of choosing samples of nascent entrepreneurs and emerging firms based on behaviour rather than intentions. However, those ventures based on systematic search may achieve improved outcomes. The next section investigates the ways that research on new venture creation has been studied, with a focus on various performance outcomes.

2.7 New Venture Performance

Performance in the literature focuses on the varied determinants of success for new ventures. Although predicting new venture performance and success can be difficult, there is a need to consider how the outcomes have been captured in research. Of particular interest to

scholars studying new ventures has been the progress of nascent entrepreneurs' efforts towards venture emergence (Delmar & Davidsson, 2000; Lichtenstein et al., 2007; Reynolds, 2011; Rotefoss & Kolvereid, 2005). These studies suggest that the groups are interested in starting a venture with colleagues who have similar expectations of the opportunities available. The colleagues display similar commitments to the venture's opportunities.

Before reviewing the explanations for the different types of outcomes, it may be useful to describe the various types of performance indicators that researchers in new venture creation have been using. With regard to performance, there are many ways of operationalising the outcomes in relation to nascent entrepreneurs. There are articles that focus on progress, on financial measures and on outcomes. The articles that were chosen, represent a sample of dominant perspectives based on the type of performance being considered. (Please refer to Table 2 p.51 for more information on this.) The following section focuses on each of these performance measures.

2.7.1 Performance based on progress

The articles in this area focus on the ability of the nascent venture to reach a particular milestone, such as the one by Delmar and Shane (2004). They assessed the performance of entrepreneurs in their ability to reach a particular milestone, such as completing a venture plan. This idea focuses on the progress the entrepreneur makes in reaching particular milestones en route to forming a new venture. Some of the activities include the development of venture plans, opening a bank account and registering the venture. Accumulation of gestation activities between two or more points in time is another performance outcome (Davidsson & Honig, 2003; Delmar & Shane, 2004; Reynolds, 1997; Reynolds & Curtin, 2009). This outcome investigates progress or development. The time stamping of the activities has been computed for new variables, such as duration (time elapsed from the initial gestation activity), recency (time from most recent activity) and efficiency (average time between activities) (Alsos & Kolvereid, 1998; Carter et al., 1996; Lichtenstein et al., 2007; Stuetzer, Obschonka, Brixy, Sternberg & Cantner, 2014).

Performance has been investigated by assessing the accumulation of various venturing activities, such as the achievement of a first sale (Brush et al., 2008; Pitkänen, Parvinen & Töytäri, 2014; Reynolds & Curtin, 2009). The research findings have been varied regarding the amount of the gestation activities that are considered to be steps required to create the new venture. The set of gestation activities being studied or the sequence of them is not currently agreed in the literature. It is, thus, difficult to have a clear set of generalised options for using the gestation activities, which has been highlighted by Gordon (2012) and Markova, Perry and Farmer (2011). Progress in this area is useful for understanding the set of gestation activities necessary for nascent entrepreneurs to start a new venture. Some limitations attributed to the PSED data may make the creation process appear more directional and linear than in reality because once a gestation activity is considered to be complete, there is no later elaboration or modification on that specific dimension because it is not revisited in later administrations (Davidsson, 2005). The next performance outcome assessed relates to financial measures as it affects new ventures.

2.7.2 Financial measures of performance

Financial performance has been used to study new ventures based on objective indicators of the process of venture creation. Examples here include dichotomous dependent variables, such as achieving first sales, profitability or a positive cash flow by a certain time interval (Abbasian, Yazdanfar, & Hedberg, 2014; Cooper et al., 1994; Delmar & Davidsson, 2000; Hopp, 2015; Newbert, 2005; Reynolds, 2011), as well as continuous measures of levels of sales or profitability among those who have reached the market (Carter et al., 1996; Delmar & Shane, 2006; Delmar & Davidsson, 2000; Eckhardt et al., 2006; Liao, Welsch & Tan, 2005). The difficulty of using financial performance for studying nascent entrepreneurs is that because the venture is still developing the first sale, it does not accurately capture the performance of new ventures (see Newbert, 2007). The problems with first sales are that they could be a result of previous venture activity or have been taken from family members (Davidsson, 2006; van Gelderen, Bosma & Thurik, 2005). For example, first sales might be taken as an indicator of being started, but many people start a venture based on an activity for which they previously received money informally (for example, bookkeeping or repairing computers) (Bhave, 1994).

2.7.3 Outcome measures of performance

The performance outcome for assessing new ventures has also been considered by investigating the stage of development or the founding of an operating venture. In this group of studies, the self-reported status of the venture, in terms of 'terminated', 'still trying' and 'operational' for example, is used. These labels were used in Parker and Belghitar's (2006a) study, which is useful for assessing progress in different time periods. There are concerns with self-reported statuses as shown, for example, by Diochon et al. (2007), who found that a sizable proportion of cases self-assessed as operational in one wave were reported as 'still trying' (i.e. not yet operational or terminated) in the next study wave. This potentially may reflect an actual reversal in the venture's development. These were dichotomized into a 'terminated' vs. 'continuing' status. The continuing status combines 'operational' and 'still trying' cases (Brush et al., 2008). Based on similar reasoning, Gartner and Liao (2012), in their study, termed this outcome 'persistence'. A similar study by van Gelderen et al. (2006) considered the outcomes of 'starters' versus 'quitters' using Gartner's framework to explain the outcome. Another method, in which the performance outcome was organised in these studies, was to dichotomise it by contrasting 'operational' with the other two options combined, or having the 'terminated' category only (Lichtenstein et al., 2007). Davidsson and Gordon (2012) referred to this way of organising the outcome as 'getting operational' or 'achieving operational status'. The advantage of this operationalisation is that the middle option – 'still trying' – is not included as an outcome and thus avoids the issue of trying to explain performance for this category. The explanation is difficult because there are many reasons why they are still in this phase or way of understanding of what is happening to them. For example, they may not yet have the resources, or they may still be working on the venture concept.

Table 2 Various Performance Measures used in Nascent Entrepreneur Studies

| Article | Progress | Financial measures | Outcome status | Advantage of this outcome formulation |
|---|--|-----------------------------|-----------------------|--|
| Delmar and Shane (2004)* | Reaching a milestone apart from a first sale, profit or cash flow – such as product completion. | | | The advantage of this operationalisation is that milestones can suggest the developmental level of the venture. |
| Davidsson and Honig (2003). Alsos & Kolvereid (1998); Carter et al. (1996); Diochon, Menzies & Gasse (2008); Lichtenstein et al. (2007); Stuetzer, Obschonka, Brixy, Sternberg & Cantner (2014) | Accumulation of venturing activities between two or more points in time Time stamp of activities, duration, recency and frequency | | | By measuring the accumulation of activities, it is possible to show the number of activities required to start a venture and when this occurred. By measuring the accumulation of activities, it is possible to show the number of activities required to start a venture and when this occurred. |
| Brush et al. (2008), Pitkänen, Parvinen & Töytäri (2014), Reynolds and Curtin (2009), Reynolds (1997) | | Achievement of a first sale | | Assessments of first sales show when the potential start of the venture occurred. These are objective measures of performance, which provide more accurate information of the status of the venture or profitability. |

| | | |
|--|---|---|
| <p>Abbasian, Yazdanfar & Hedberg (2014); Cooper et al. (1994); Davidsson & Honig (2003); Delmar & Davidsson (2000); Delmar and Shane (2006) Gartner et al. (2012); Hopp (2015); Newbert (2005); Reynolds (2011) Cassar (2014); Kolvereid & Isaksen (2006);</p> | <p>Continuous measures of sales levels and profit. Funding assessment for new ventures</p> | <p>Assessments of first sales show when the potential start of the venture occurred. These are objective measures of performance which provide more accurate information of the status of the venture or profitability.</p> |
| <p>Parker and Belghitar (2006a)</p> | <p>Founding of a venture</p> | <p>Self-reported measures are useful for separating those who are in different stages of the process of venture creation.</p> |
| <p>Liao and Gartner (2006), Lichtenstein et al. (2007), Gartner & Liao (2012),</p> | <p>Dichotomising into Terminated vs. Continuing (combines operational and still trying)</p> | <p>The middle category, 'still trying' can be difficult to study, as there are NEs who take a long time to start or are always in this stage that is why combining it with starters can be useful.</p> |
| <p>van Gelderen et al. (2006)</p> | <p>Started vs. Quit</p> | <p>Overall this is helpful to show the different outcomes and provide potential reasons for either outcome.</p> |

**Note:* these studies are not comprehensive but a range of different types of performance outcomes being assessed for the review.

The outcome measures are not complete for all purposes. There are different ways of assessing performance based on the questions being considered and the sample level, such as individuals or groups. The outcome measures have limitations or call for the careful consideration of study design in interpreting the findings. A question regarding outcomes relates to what proportion actually manages to create an up-and-running venture. Across four studies, Parker and Belghitar (2006a) reported 33% to 48% as being operational within 12 months of the first interview. There are inconclusive findings regarding the attrition rate or the length of time it actually takes to create a venture that could be considered to have started (Hindle & Klyver, 2011). The research was based on an analysis of time taken as beginning at the conception date rather than the time beginning from the first interview. Reynolds (2007) reports that after seven years, roughly one third each in the US PSED report had an operational status, were terminated or were 'still trying'. Between a half and a third of nascent entrepreneurs reach operational status according to Reynolds (2007a). As it is quite a lengthy process, it is prudent to collect longitudinal data to evaluate the performance differences over time, which potentially could be seven years.

Perceptions of the creation of a new venture by participants and/or those of other participants in the venture have often been used to define the status of founding by entrepreneurship researchers (see for example, Cassar, 2014; Kolvereid & Isaksen, 2006; Lichtenstein et al., 2007). An example of this type of outcome is the study by Carter, Gartner and Reynolds (1996) who operationalised nascent entrepreneurs as the venture is operational if they are actively organising. Alternatively, they halted the start-up activities, in which case they were no longer nascent (quit). The industry or venture type in which the start-up is involved generally determines the operational definitions with regard to whether a venture is started. This requires the researchers to request supplementary information from the respondents about the definitions that they use (Hindle & Klyver, 2011).

There needs to be an assessment of changes over time (Davidsson, 2005; Markova et al., 2011), and treatment of the outcomes for both starters and quitters need to be considered together

in order to explain the differences. Furthermore, Gartner and Shaver (2012) suggest that to consider entrepreneurial activity within specific situations, most entrepreneurial efforts do not always have an outcome of ‘success’ per se. Many such entrepreneurial endeavours do, however, and a clearer understanding of both ‘successes’ and ‘failures’ offers ‘hope and tangible recipes for individual action’ (Gartner and Shaver, 2012, p.665). In this study, the outcome will build on understanding the performance differences of those who quit and those who have started a venture. There is a need to understand the connections to venture emergence while the entrepreneurs are still in the process of defining and refining the new venture (Bhave, 1994; Bylund, 2015; Davidsson, 2005a; Reynolds & White, 1997). The issues considered important for studying the new venture process are discussed in the next section.

In spite of considerable uniformity in the empirical evidence regarding ‘who’ a nascent entrepreneur is (the individual traits and background of venture founders), the limited analytical ability of studying individual level factors encouraged scholars to pay attention to what the founder ‘does’ (Davidsson, 2005; Davidsson & Gordon, 2012). However, these empirical investigations were criticised because they investigated one variable to explain phenomena rather than explaining more complex interactions with multiple variables (Diochon et al., 2007; Gartner & Shaver, 2012). Nascent venture performance needs to be studied by considering the interactions of variables from a multidimensional perspective because individual variables describe only a single dimension of the phenomenon and cannot be investigated alone (Gartner, 1985). Different ventures use different activities and undergo different stages, but still achieve the same outcome, i.e. getting started. To understand the factors affecting performance, a configuration approach can help as it considers the interrelationships of domains. The configuration approach provides better methods as it seeks to assess a combination of factors. In order to understand the issues considered to be important for investigating nascent entrepreneurs who are starting a venture, the following chapter reviews the methods and some unresolved issues in studying nascent entrepreneurs.

2.8 Chapter Summary

This chapter reviewed the literature on nascent entrepreneurship and nascent entrepreneurs in order to locate the research within new venture creation literature, more specifically performance. The definitions provided in the entrepreneurship field suggest that there is a distinction between entrepreneurship and nascent entrepreneurs. These definitions were discussed and a working definition was provided for the thesis. The section on nascent entrepreneurship also highlighted gaps in the literature on the effects of performance for nascent groups. It was found that the research is sparse on group performance, although an article by Cardon, Post and Forster (2017) highlighted the difficulties of studying teams as passion and commitment to the venture can vary greatly in the intensity and foci of their passions (Breugst, Domurath, Patzelt, & Klaukien, 2012; Cardon, Grégoire, Stevens, & Patel, 2013). This makes it hard to understand the effects of individuals effort to the venture and overall there are more new ventures started by individuals and families rather than teams.

Furthermore, the chapter provided a review using the conceptual framework by Gartner (1985), which focuses on organising the dimensions of new venture creation. The framework has four dimensions: the person, the organisation, the environment and the process for creating the new venture. In the review, the individual – the person forming the venture focussed on the personality based on the need for achievement. The other person factors include entrepreneurial intensity and specific human capital. Entrepreneurial intensity is about the commitment and entrepreneurial drive to create their venture. Specific human capital, it was suggested, is a useful construct in relation to performance because there are clear connections between the measures and the performance.

The organisation was the second focus of the review. This looked at the kind of firm being started. The strategy of nascent entrepreneurs has specific attributes. This is one way of describing the type of organisation being started, and was used here to show how it worked in Gartner's model.

The third domain environment for Gartner's model focuses on the situation surrounding and affecting the organization. A munificent environment characterized by growth has an effect on the ability of nascent entrepreneurs to exploit venture opportunities. This affects their ability

to perform. Environmental dynamism is considered to be important to create opportunities for the nascent entrepreneurs to create a new venture and has an effect on performance.

The fourth domain process considered the steps taken by the entrepreneur to start the venture and was reviewed by considering the location of the venture, and the financial resources available for creating the new venture.

The current debates about the performance of venture start-ups and the issues to be addressed by the thesis comprised the last section of discussion. Performance for nascent entrepreneurs is not easy to consider and issues of measurement accuracy were considered in the last section. The issue of assessing those who started versus those who are still starting was untangled. The choice of two options for the outcome variable was addressed as it is difficult to consider those who are 'still trying' conceptually. There are calls to consider the effects of changes over time, which the research will address by considering multiple waves. There is scope to consider these outcomes by studying multiple domains with more efficient methods.

The review highlighted that the context affected how the independent variables affected the outcome variables for example in the case of individual. It is not enough to present the effect of individual effects on the performance outcome as contextual information is not captured. A way to capture the multiple variables is by using a method called the configuration approach, which assesses multiple variables simultaneously (refer to figure 8 page 256 for the configuration model). The next chapter addresses the issues associated with methods for assessing the performance of nascent entrepreneurs.

Chapter 3 The Configuration Approach – Usefulness and Assumptions

3.1 Chapter Introduction

This chapter reviews the research on the configuration approach in the context of new ventures from configuration analytical methods that are currently emerging in the entrepreneurship literature. Configurations are defined to be new ventures that are characterised by four domains, which are analysed as wholes and mutually influence each other (Miller, 1987). The focus in the review consists of the domains of the person, resources, environment and strategy. The justifications for the usefulness of configuration approaches over other types of research approaches such as the universal or contingency approaches in the application to new ventures are then explored. The context for using the configuration approach is then discussed. The literature regarding important aspects for conducting a configuration research project for new ventures is examined. For example, the assumptions that are pertinent to conducting configuration research, such as fit, reductive mechanisms and equifinality, are explored. These assumptions are explored to determine how they can be applied to the current study and reveal the connections between the approach and its usefulness for creating a study of configurations. Suitable methods for applying a configuration approach are considered in the current study. The chapter concludes with a summary of the usefulness and assumptions of the configuration approach.

3.2 Background to the Configuration Approach

Three approaches have been used to study new venture performance. They are the universal, the contingency and the configuration approaches (Short et al., 2008). Each of the approaches is considered sequentially in the following sections. There is also a focus on the strengths and weaknesses in relation to studying new venture performance. The following figure, figure 4 presents the different options of approaches for studying performance and each section is then discussed.

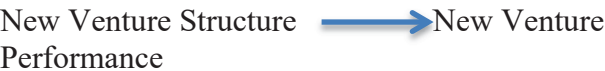
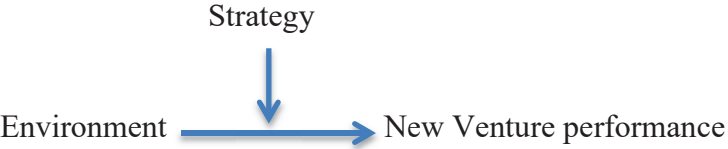
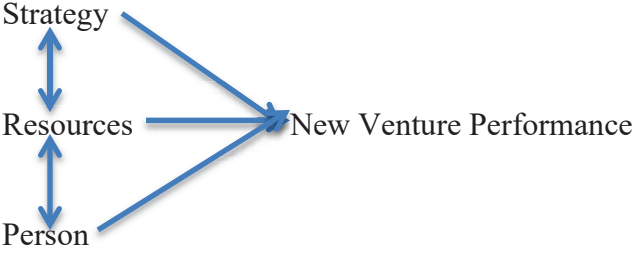
| Model | Approach |
|--|---|
|  | <i>Universal Approach</i> 1 variable and the outcome |
|  | <i>Contingency Approach</i> 2 variables and the outcome |
|  | <i>Configuration Approach</i> 3 or more variables and the outcome. |

Figure 4 Models of the different approaches

3.2.1 The universal approach

The universal approach is the oldest and one of the most popular approaches to the management field and has been transferred to the entrepreneurship field too. It is also known as the functional approach. According to the universal approach, all ventures require the same rational management process and the administration of all ventures, public or private, large or small, new or old (Robinson & McDougall, 2001). The universal approach is based on two main assumptions. The first assumption suggests that the purpose of ventures may vary, for example, venture, government, education, or religion. Core management processes remain the same across all organisations or new ventures. Successful managers and nascent entrepreneurs are therefore interchangeable among new ventures of differing purposes. The second main assumption contends that the universal process can be reduced to a set of separate functions and related

principles. Universal approaches suggest that each predictor, known as the independent variable, has a separate, additive, independent or main effect on the criterion, known as the dependent variable of interest, which is not contingent upon or moderated by the values of any other predictor variable(s) (Aiken, West & Reno, 1991).

The universal approach assumes that linear relationships between equally independent success factors (March & Sutton, 1997) and the new venture performance exist and are maintained under any conditions. Covin and Slevin (1988) and Miller and Friesen (1982) applied this narrow focus to investigate various relationships, such as entrepreneurship and performance. Similar studies have applied the approach to entrepreneurship and organisational structure (Chrisman et al., 1998; Covin & Slevin, 1988, Leask & Parker, 2007).

Graphically, this can be represented as follows:

New Venture Structure  New Venture Performance

Theorists adopting this perspective posit that in entrepreneurship, for example, there are effects on the organisations' structure and their performance (Chrisman et al., 1998; Covin & Slevin, 1988, Leask & Parker, 2007). This finding is important to understand because this type of study was limited in the way it analysed a complex relationship leading to the outcome, venture performance. There are more considerations needed to study performance, such as, for example, the interdependencies between environment and strategy. The relationship between these variables might not be linear, as suggested above, and this could limit the findings.

Studies focusing on the question of whether entry barriers constrain the formation of new ventures, as opposed to the impact on performance, are the focus of studies adopting a universal approach (Robinson & McDougall, 2001). The issues raised about the universal approach concern the fact that the approach does not essentially fully account for the multidimensional nature of forming new ventures. The approach is based on singular causation that is that only one variable has a causal effect on another. The approach also considers that variables have linear relationships with each other, which is too simple in order to make causal connections to outcomes on performance. For complex relationships, such as firm performance, further variables need to be considered that are important to explain or predict the outcome. Accounting

for one variable does not lead to a holistic assessment of the contributors or predictors of performance (Donaldson, 1987). There could be confounding aspects that are not taken into account in this limited view. If only one variable is studied and others are not, potentially the results could lead to spurious claims about the cause-effect relationship between the one variable acting on the outcome (Aiken et al., 1991; Hair, 2011).

In universal studies, the interdependencies are not taken into account (Dess et al., 1993). For example, if we consider the new ventures without considering their experience in earlier formed venture and other key factors, such as context, environment and strategy, then claims might be made that are not fully reflected in the attributes leading to the performance outcome. In this scenario, different attributes could be compared, leading to performance without looking at the interdependencies for the data. Depending on the strategy taken, some nascent entrepreneurs may fail to complete the steps needed to start a venture because of a combination of contributing factors (Carter et al., 1994). These factors cannot be explained simply by analysing them in isolation, as there are interdependencies in relation to other key contextual factors, such as the environment and resources. Gartner and Shaver (2012b) reviewed the literature on nascent entrepreneurs and found that literature within this stream has revealed mixed results in relation to performance. They found that the limitations of the research were often a result of explaining performance with simplified unidimensional relationships between the factors and the outcome being studied. To overcome some of these limitations, the contingency approach builds on the universal approach foundations and is the next approach to be reviewed.

3.2.2 The contingency approach

The contingency approach presumes that the strength and direction of the relationship between one factor and new venture performance can be affected by another factor (Harms, Kraus & Reschke., 2007). Understanding how new ventures develop from a range of domains studied simultaneously is of interest to gauge the effects on performance. The examination of more than one domain is required. The contingency approach builds on the universal approach by offering a focus on the interaction of two domains. A conceptual model of the contingency approach was developed by Kieser and Kubicek (1994) in management. This looks at all the contingency relationships in a model. Whilst this is not the area of new venture research, the

model captures the essence of the approach and is used here to illustrate how the approach is useful for the new venture performance research. In essence, nascent entrepreneurs are managers of their ventures and are therefore similar to managers (Begley, 1995; Miner, 1990). According to the model, the formal structure of a venture defines the roles of its members in a specific way and thereby directs their behaviour to a certain degree. The performance of the venture thus depends on the degree to which these role definitions enable members to cope with the requirements resulting from the context of the new venture. The arguments tend to be more complex than the universal approach.

The contingency approach implies interactions rather than simple linear relationships, which is the basis of the universal approach (Drazin & Van De Ven, 1985; Li, Zhang, & Chan, 2005; Van de Ven et al., 2013). This means that the contingency approach analyses the relationship between the independent and dependent variables by considering the moderator of these relationships, such as the strategies used by the entrepreneur starting the new venture. These strategies are considered to be moderator variables when studying the inception of the firm. In a universal approach, the causal sequence looks at the context of the new venture in relation to the environment or vice versa. The context considers the entrepreneurial strategies in relation to the environment in assessing the performance of the new venture. The sequence thus changes from:

Environment  New Venture Performance

Figure 5 Direct effects based on universal approach

To:

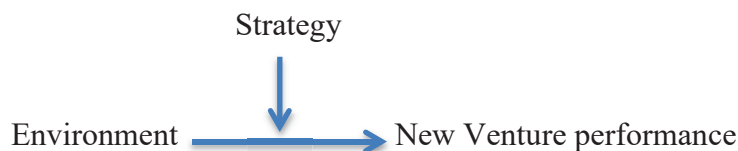


Figure 6 Example of the contingency approach

According to Miller (1987) a few criticisms can be levelled against the contingency approach. They are, firstly, that the research tries to focus on certain aspects of the sample and target the sample to see whether differences in the relationships exist in the sample. The other

assumption considers that there can be only one way to succeed in specific environments based on one pathway (equifinality) (Doty, Glick, & Huber, 1993; Gresov & Drazin, 1997; Payne, 2006a). Similarly, Hambrick and Mason (1984) argued that some success factors applied in combination might influence performance negatively when used together or their impact may depend on factors that are not included in the study. Additionally, the contingency approach disregards changes in contingencies or views it as being fixed; consequently, it is not capable of presenting organisational development (Harms et al., 2007). This limitation is important given that the nature of the nascent ventures as dynamic are still developing (Christian Hopp & Sonderegger, 2015; Lichtenstein et al., 2007; Newbert, 2005). The contingency approach is limited because it does not fully help to explain performance differences or outcomes such as types of new ventures. It does not account for the interaction of more than two domains and does not provide a detailed model to analyse the complexity of performance.

In the context of new venture research, the universal and contingent effects relationships tend to be linear (Schoonhoven, 1981), which does not totally explain the relationships for new ventures performance. The relationships impacting on the outcome can be non-linear or curvilinear (Corbett, 2007). For example, the relationship between the founder's human capital and performance is curvilinear (Dimov, 2010). As nascent entrepreneurs' knowledge and skills (human capital) increase, the likelihood that they will succeed is high, but it reaches a point where they are able to use their knowledge and skills for other ventures or in new employment. They thus opt to either move or quit the current venture (Bamford, Dean & McDougall, 2000; Chrisman et al., 2005; Robinson & McDougall, 2001). Without understanding that the nature of the interactions could be non-linear, the research could be limited in accounting for causal connections to the outcome, which is a shortcoming of contingent and universal studies. Furthermore, these types of studies are limited in the way they account for the assessment of the factors contributing to the new venture performance.

In order to explain and predict the performance of new ventures there has to be an approach that is capable of analysing multiple domains that take into account the contexts and other factors that impact on the outcome, i.e. dependencies as well as interdependencies of domains (Gartner & Shaver, 2012b; Kieser & Kubicek, 1994; Patel & Fiet, 2010). The approach has to consider

that the relationships between variables/domains and the outcome can be non-linear, which means the analyses have to be able to accommodate this approach (Miller & Tsang, 2011; Payne, 2006a; Tabachnick & Fidell, 2007). From the above discussion, there is a clear issue that both the universal and contingency approaches are lacking in their treatment of interactions of variables between each other and the outcome being studied. There has to be an approach that takes account of the interactions and covers multiple perspectives when accounting for performance.

3.2.3 The configuration approach

One approach that offers a solution to the limitations of the contingency approach is the configuration approach, which was developed in the early 1970s and made a serious impact on venture studies, especially in the areas of organisation and strategy research (Miller, 1987). One definition of configurations describes an organisation as a complex entity that can be characterised by four domains consisting of a certain number of variables mutually influencing each other. Another definition of the configuration approach is based on the idea that firm types can be recognised as consisting of groups of similar personal, structural, strategic and external characteristics (conceptual domains) that must be analysed as a whole (Miller, 1996). A common definition of the configuration concept was not clearly agreed amongst researchers and thus impeded progress of the configuration research (Miller, 1987). Meyer et al. (1993, p.1175) contend that a configuration is ‘... any multidimensional constellation of conceptually distinctive characteristics that commonly occur together’.

The configuration model considers the relationships of dependencies and interdependencies between the variables to identify the factors affecting performance. In assessing these dependencies and interdependencies, it is possible to see how the variation of variables influences the overall configuration. For example, if a strategy is changed then the impact might affect other domains. Changes in the strategy can affect or limit how the entrepreneurs use their resources, which consequently leads to a potentially different outcome to the one originally conceived in their venture idea (Barney, 1986; Block, Kohn, Miller & Ullrich, 2015; Covin & Slevin, 1989b; Dess et al., 1997). This perspective supports a stronger theory development to enhance the ability to explain and predict NVP, while at the same time integrating various theoretical approaches in entrepreneurship research (Low, 2001). There were calls to be more

explicit about the connection between the data and theory, which were not always adhered to in the research on entrepreneurship. These calls were made in order for the research to advance theory development and also to build on current constructs with better overall consistency (Davidsson, 2005; Davidsson & Gordon, 2012; Markova et al., 2011). These calls have now begun to be considered and are the focus of discussion of configuration studies.

According to Harms et al. (2009), compared to universal approaches (which assume that performance can be increased by a certain strategy) or contingency approaches (which assume the direction and strength of the association between a strategy and performance can be influenced by the intra-organisational and extra-organisational context), the configuration approach has several advantages. Firstly, researchers can investigate associations between the domains (groups of interconnected variables) and new venture performance (Davidsson, 2005; March & Sutton, 1997). The investigations can provide better outcomes by using samples that are theoretically sound. There is a connection between the theory and the chosen sample. New ventures are assessed based on the theory-data match being able to make more effective inferences about those relationships with validated domains (Short et al., 2008). For example, the study of innovative new ventures might only consider part of the sample that focuses on being innovative rather than all participants in the study. It is sensible to sample only participants that are of importance for the study. Secondly, the all-inclusive perspective that focuses on the assessment of multiple configuration domains simultaneously allows researchers to consider investigations into the relations of many varied potential success factors. Dess et al. (1993, p. 776) posit that ‘a configuration contains relationships among elements or items representing multiple domains’. By investigating more than two domains (relating to person, structure, strategy and/ or environment) simultaneously, the configuration approach considers more finely tuned models than the contingency approach, which is restricted to the analysis of the interaction between two domains. These restrictions are not able to account for many interaction effects that are necessary to explain the various factors affecting the performance outcomes of nascent ventures.

The configuration research is unique relative to other research in the way it approaches three main aims of research on new ventures: description, explanation and prediction (Short et al.,

2008). Configuration research offers description of organisations not by focusing on firm-level dimensions such as age and size but by identifying groups of firms that resemble each other along important factors that have similar patterns (Short, Payne & Ketchen, 2008). For example, a configuration approach to understanding new venture performance differences might focus on similarities within and differences between types, such as nascent information technology firms. Wiklund and Shepherd (2005), for example, focus on the configurations of IT firms. In this context, the research focuses on describing the relationships between the types of nascent firms based on their performance, whether they are starters or quitters, relative to other technology firms.

Miller (1987) selected four domains for organisational configurations: environment, organisational structure, leadership and strategy in order to explain the configurations. Within each domain, the variables are not connected in a linear way: the configuration approach allows analysis of models to not only include the investigating of dependencies but also the interdependencies between them (Dess, Newport & Rasheed, 1993; Harms, Krauss & Schwartz, 2009; Payne, 2006b). It is helpful to know which domains have a stronger causal connection to the outcome in order to determine where to place the emphasis for different configurations. However, it might be only part of the picture for the explanation of domains leading and interacting with each other in relation to new venture performance. Currently the domains have not been supported by enough studies in the context of new ventures (Harms, Breitenacker & Schwarz, 2014; Kessler, Korunka, Frank & Lueger, 2012; Lin, Rogoff, Foo & Liu, 2015; Symeonidou, Autio & Leiponen, 2013). Explaining the domain differences for the different firm types is important in order to know more about the conditions under which new ventures are created. Miller's domains have been used as a starting point and other domains have been added for explaining performance outcomes such as new venture performance. It is useful to capture the domains to provide a context for new venture formation.

Prediction of the outcome of new ventures is another area that is a focus of configuration research. There are many ways of operationalising the outcome variable, but for prediction, the main one is survival. One example of research on prediction was conducted by Symeonidou et al. (2013), who considered the capability of new ventures. The study examined survival by

tracking new ventures longitudinally, starting at the initial communication of start-up intentions and continuing with the transition into active venture. It was defined by the actual start of venture activities (registration of a new venture) and included the ensuing survival or failure of the new venture (Kessler et al., 2012). This study is revisited later. The advantage of this type of study is that the configuration analysis can cope with the intricacies of investigating changes in venture performance over time and can also model the predictions. For ventures still in the process, it is useful to enable changes to be accounted for over time. This relates to calls for researchers to focus on developing research while nascent entrepreneurs are in the process of starting their venture with longitudinal data as it provides a context for predicting performance over time (Davidsson, 2005a; Delmar & Shane, 2004), and changes in configurations can be studied closer to the time of development of the venture, which reduces hindsight bias.

The advantage of configuration approaches is that organisations can be better recognised via ‘identifying distinct, internally consistent sets of firms than by seeking to uncover relationships that hold across all organisations’ (Ketchen, Thomas & Snow, 1993, p. 1278). This assumption also gives rise to configuration research’s fundamental explanation for organisational success and failure. There are many approaches, such as the resource-based theory by Alvareza and Busenitz (2001), which have been considered based on configurations approaches. Edelman and Yli-Renko (2010) highlight the importance of firm-level features such as resources and unique capabilities as drivers of performance. Configurational research contends that some configurations fit better than others within any given context and thus are more successful (Short et al., 2008). Configurational research points to the accurate determination of which sets of firms will reach the outcome status, be it performance, survival or growth, under a particular set of circumstances (Dess et al., 1997; Miller, 1987). This is important for understanding what sets of conditions/domains are applicable to similar types of new ventures for explaining performance variation.

This section reviewed the definitions of the configuration approach and then investigated some of the key goals of configuration studies, namely description, explanation and prediction. The current study focuses on explanation. In this thesis, this focus is helpful for showing how configurations work in addressing the shortcomings of universal and contingency approaches.

The major focus of the thesis is on explanations for new venture performance rather than description or prediction because the understanding of the issues affecting performance is still developmental. Explanations of causal links between domains and their relationship to the performance, i.e., the new venture performance, are important to understand how these linkages affect performance. The configuration approach can offer assistance in exploring these domains as it uses multidimensional approaches. The following section considers the assumptions that are important for new venture research, focussing on configurations.

3.3 Assumptions for Configuration Studies

To study the performance of new ventures using the configuration approach, there are some assumptions that need to be made. The configuration research needs to include the assumptions of fit, reductive mechanisms and equifinality (Harms et al., 2009; Miller 1981, 1987). These assumptions are examined in sequence in the next section in order to understand what they are and how they need to be treated to design a useful configuration study. This is pertinent to the current study, as an awareness of these assumptions will help to shape the current study design.

3.3.1 The assumption of fit

Fit is defined as the level of reliability between multiple domains (Nadler & Tushman, 1980). There are many assessments of fit between domains, but the argument is that the assessment of fit is important for configuration analyses (Doty, Glick & Huber, 1993; Markman & Baron, 2003; Van de Ven & Drazin, 1985). Fit is central to the configuration approach because the alignment of internal factors with each other (for example, person factors and internal strategy) and with external demands (environment) means that the multitude of potential variable patterns are reduced to a few 'fitting' firm types (Miller, 1987).

Andrews (2009) posits that in the configuration approach, fit results from the interaction of not only two, but also three or more domains, thereby going beyond the contingency approach. For example, Timmons (2011) contends that a fit between founding team, resources and opportunity influences the success of the new venture creation process. There are also multiple domains of focus when studying new ventures, which is a stipulation for the configuration approach (Harms et al., 2009). This is important to note given the research focus and exploration of types of new ventures. In order to examine fit, there has to be evidence that more than one

domain in the analysis exists that can point to performance for the configuration analysis. In entrepreneurship research, the performance implications and the correlates of a multitude of variables have been analysed. This suggests that multiple domains on their own and simultaneously can influence NVP. The study design should include more than one domain and be able to account for fit between the domains and the outcome, i.e., new venture performance. This is an area that is not always explicit in the literature about configurations, but there are some thorny discussions about the options for these assessments of fit (Doty et al., 1993; Markman & Baron, 2003). Explanations of fit between domains are offered in studies so that the evidence provided is considered in the context of the specific fit between domains to avoid overgeneralised findings.

3.3.2 The assumption of reductive mechanisms

Miller (1981) defined the assumption of reductive mechanisms, which states that there are only a set number of empirically observable firm types. There are many ways of reaching performance; however, a number of economic, institutional and technical forces reduce the number of conceivable organisational forms and strategy options to a limited number of existing configurations (Payne, 2006b; Short et al., 2008). The configuration approach posits that there may be different groups of new ventures that can perform equally well. Nascent entrepreneurs have had previous experiences in other firms where they were employed, and thus use similar strategies and structures as the ones that were successful in their previous employment, which tends to be limited and, in so doing, reduces the options for the new ventures, leading to reductive mechanisms (Bhide, 2000). New ventures are limited by the economic conditions when the entrepreneur designs and forms strategies for their new ventures; therefore, there are only limited options available to them. The options for the new ventures for strategy and structure are limited to a few types. This is important to know so that the expectations of types of firms available are not considered to be too different from each other and that the nascent entrepreneurs will limit what they create based on what they have experienced before. The awareness of reductive mechanisms suggests that when nascent ventures are formed, there are limits as to the ventures created, which is a key consideration for the context of the research study. Configurations of new ventures are thus limited to a few options and only a few options should be available.

3.3.3 The assumption of equifinality

Equifinality is based on the assumption that ‘only one path to success is assumed to be relevant and is searched for. In fact there may be many ways to succeed in the same environment...’ (Katz & Kahn, 1966, p. 6). Two issues are addressed by equifinality. Firstly, there is a limited number of firm types that can be equally successful when a system reaches the same final state, forms different initial conditions and is created by various pathways (equifinality) (Gresov & Drazin, 1997; Leask & Parker, 2007a). In order to differentiate or examine new types of ventures, there must be firms that are noticeably different from each other. Secondly, with regard to configurations, there must also be more than one option for reaching the performance, i.e. starting or quitting (Fiss, 2007; Glick, Huber, Miller, Doty & Sutcliffe, 1990; Gresov & Drazin, 1997; Marlin, Ketchen Jr. & Lamont, 2007; Payne, 2006b). These two points are key to the assumption of equifinality. Equifinality requires that firms have equally high levels of performance given similar strategy, structure and environmental conditions.

Equifinality also assumes that two or more organisational configurations can have an equal chance of reaching high performance (Fiss, 2007; Gresov & Drazin, 1997). Different strategies and structures may be equally effective according to the assumption of equifinality (Payne, 2006). Without a clear option for a specific type of customer contact, new ventures using a direct sales force and new ventures using indirect sales may be equally optimal. Equifinality is a necessary condition to prove that there are various firm types (new ventures with direct and indirect sales).

There are still certain concerns about the equifinality issue as it relates to testing its presence in the context of configurations. The methods used for creating configurations and analysing them has mostly employed regression analysis. Unfortunately, the standard regression analysis does not account for equifinality (Drazin & Van De Ven, 1985). In regression analyses interaction effects assess the nonlinear relationships, and it is assumed that the relationship holds for all observations being investigated. It does not help to explain how different paths can lead to the same outcome, which is the key argument for equifinality. The premise that there are many pathways leading to an outcome is in direct opposition to the conventional methods of using multivariate regression analyses, which are designed to analyse one path for all observations

being investigated (Aiken et al., 1991). This construct, i.e. equifinality, is still considered to be developing as research methods improve to account for the many pathways by which it is possible to reach an outcome (Byrne & Shepherd, 2015; Marlin et al., 2007). Research using the configuration approach has made strides through considering the multidimensionality of data to explain performance. Further research is still required to account for the equifinality issue, although debates by Fiss (2007) and Gresov and Drazin (1997) have pointed to ways to do this. The next chapter will consider how new venture configuration studies have dealt with the issues and assumptions of configurations. The importance of this chapter for the thesis as a whole is to highlight and discuss what is needed to conduct a configuration study for new ventures by considering where previous research was limited and which assumptions to include in the current study.

3.4 Chapter Summary

The review investigated what the configuration approach entails compared to the universal and contingency approaches and why this approach is beneficial to new ventures research. The main point being that the configuration approach examines the interaction of a group of domains to explain performance rather than examining one domain at a time, which is the limitation of the other approaches. The discussion focused on the requirements for conducting a configuration study. These requirements are fit, reductive mechanisms and equifinality in order to investigate how to frame such a study and to assess what is already known about these issues. There are more considerations, such as which domains are required for a configuration study of new ventures. These and the issues around current studies investigating configurations are considered in the next chapter.

Chapter 4 Configuration Approach in Entrepreneurship Research

4.1 Chapter Introduction

This chapter reviews empirical and theoretical studies that focus on configuration studies based on new ventures in entrepreneurship. This area has received limited support in the extant entrepreneurship literature and thus the contribution for the current study will also be considered. A review conducted by Davidsson and Gordon (2012) found that there are not many frameworks investigating new venture creation which have been validated by sufficient empirical studies in the entrepreneurship field. Examining how new ventures are formed and the characteristics of successful entrepreneurs will provide a deeper understanding of the types of nascent entrepreneurs. It is especially important to determine those types who start a venture versus those who quit given the same set of factors. Davis and Shaver (2012) found in their review that the studies investigating new venture performance had often cited connections between individual factors and new venture using unidimensional data that were not as powerful in determining performance outcomes.

Despite the need for the types of studies that focus on more than one factor for explaining performance, there is currently a limited number of studies that consider the development of new ventures from using multidimensional data i.e., studying multiple variables simultaneously to explain performance. Possible reasons for the dearth in these types of studies are that they are difficult to conduct and methods for studying multidimensional data based on new ventures are still gaining support within the entrepreneurship field (Cassar, 2014; Davidsson, 2005; Markova, Perry & Farmer, 2011). There is a concern that research attempting to explain new venture performance has not always used methods that fit the study designs and thus generalisations of findings have been limited (Doty et al., 1993; Drazin & Van De Ven, 1985; Dvir, Sadeh & Malach-Pines, 2010; Van de Ven, Ganco & Hinings, 2013). Harms, Kraus and Reschke (2007) argued that the configuration approach provides promising options needing to be addressed for entrepreneurship as its benefits as an approach have been acknowledged in strategy and management fields. Furthermore, the configuration approach has been applied in management research over many years. However, this approach is an emerging area in the entrepreneurship

field (Fiss et al., 2013; Harms et al., 2014). Additionally, the configuration approach provides options that are able to explain the simultaneous connections of multiple variables in relation to new venture performance.

This chapter thus focuses on studies and challenges about the configuration approach. The chapter focuses on the extant literature to contextualise the current study that considers a useful framework for explaining the interactions of multidimensional data to explain performance for new ventures. The chapter reviews what we know about research on nascent entrepreneurs in the context of new ventures when applying a multi-domain approach, i.e. more than one domain being studied at a time to explain performance contexts. The performance of those who start versus those who quit provided by studying data over the same period of time. The conceptual domains which are groupings of variables underlying key dimensions for explaining performance such as: person, resources, strategic and environmental characteristics are examined to study the configuration research that focuses on explaining the performance of new ventures (Korunka et al., 2003).

The discussion then focuses on issues raised about the configuration approach for entrepreneurship, the methodology, sampling and outcomes for new ventures. A summary of the main points covered concludes this chapter.

The next section investigates domains for a comprehensive framework by firstly discussing the search criteria for choosing configuration studies based on new venture performances. It then focuses systematically on the review of research on the domains, person, resources, the environment and strategy. These domains relate to the framework discussed in chapter two on nascent entrepreneurship. It supports the extension of Gartner's (1985) model on new venture performance which situates the creation of new ventures across dimensions by adding strategy from other more recent models as suggested by Harms et al., (2009); Miller, (1987); and Sarasvathy, (2004).

4.2 Criteria for choosing studies of New Venture configurations

The focus now turns to current empirical research using configuration analysis. The research chosen was based on the empirical studies of new venture configurations published between 1989 and 2017. These articles are displayed in Table 3 p. 74. The research was systematically considered, and entrepreneurship journals accessed following a systematic search in the EBSCOhost database using the terms:

‘configurations of new ventures’, ‘nascent venture configurations’ and ‘start-up configurations’ was conducted. As a next step, the following criteria were established to determine an article’s inclusion: (1) simultaneous examination of more than two factors at a time (2) cluster analysis and/or three-way interaction had to be employed to empirically find firm types (Aiken et al., 1991) and (3) the study had to be focused on start-ups and/or nascent ventures. Furthermore, articles which were not published in the entrepreneurship journals but were referred to in the resulting articles, as well as textbooks and conference papers, were also considered for their relevance to the research. In addition, all the journals that published one of these articles were also searched to find other studies. There was a shift in the number of configuration studies or studies that focused on new ventures from a configuration perspective using regression from 2016 onwards. The studies using a configuration perspective used the QCA method instead. These studies are explored in more detail in the next chapter.

Table 3 Configurations Studies on New Ventures with Domains

| Author | P* | R | S | E | Sample/size | Method | Findings |
|------------------------|----|---|---|---|----------------------------|------------------|---|
| Gartner et al., 1989 | X | X | X | X | 106 Start-ups | Regression | The underlying premise of this research is the belief that there is no single type of entrepreneur and that the organizations, behaviours, and the environments in which and that the organizations, behaviours, and the environments in which entrepreneurs create their venture vary widely. These differences among entrepreneurs and their NBVs are their venture vary widely. These differences among entrepreneurs and their NBVs are what are significant and interesting. |
| Woo.,et al.1991 | X | X | | | 510 Start-ups | Cluster Analysis | The results showed that different classification criteria did result in different groupings. In particular, classification based solely on goal orientation demonstrated the most pronounced differences from the results of the other classifications. Second, they found that none of the three pairs of groups modelled closely the craftsman opportunist delineation as suggested in the literature. |
| Carter., et al.1994 | | | X | X | 2653 Nascent Entrepreneurs | Regression | The results show that the number of activities, kinds of activities, and the sequence of these activities have a significant influence on the ability of the NE to successfully create a new venture. There are behavioural differences between those NEs who succeeded versus those who failed. |
| Stearns., et al., 1995 | | X | | X | Start-ups (1-6 yrs.)1900 | Logit regression | The findings indicate that survival chances are associated with strategy and location and by the two-way interactions of industry by strategy. Although the three-way interaction test of industry, strategy, and location did not indicate statistical significance, there are specific instances where survival chances of the new firm appear to be modified by industry and location. |

| Author | P* | R | S | E | Sample/size | Method | Findings |
|--|----|---|---|---|---|-------------------------|--|
| Korunka, Frank, Lueger, and Mugler, 2003 | X | X | | X | 1169 Nascent Entrepreneurs and Start-ups | Cluster Analysis | Three start-up configurations were found which reveal different patterns of personality characteristics. These patterns are interpreted in the context of aspects of the environment, the resources, and the start-up process. |
| Heirman, et al., 2004 | X | X | X | X | 99 Research based start-ups | Cluster Analysis | Four different starting configurations namely; 'venture capital backed start-ups', 'prospectors', 'product start-ups' and 'transitional start-ups'. VC backed start-ups are a minority while of firms start as prospectors. Market complexity and growth prospects influence the probability of starting with venture capital. |
| Mugler, and Kessler, 2004 | X | X | | X | Start-ups 627 Austria and 778 Czech Republic | Regression | The findings point to cluster solutions for both countries which are similar to each other with 2 cluster solutions for each country. There are significant differences on the individual level for each country. There were also deviation between characteristics of start-ups in the traditional market and young market. |
| Frank, Lueger and Korunka, 2007 | X | | | X | Research based start-ups 4 studies in Austria | Multiple regression | Overall, the data from the four studies confirms that a meaningful assessment of the value of personality traits is only possible in conjunction with additional influencing factors in the founder's environment, resources and processes. The results suggest that especially for the development of venture start-up intentions it is necessary to take measures to promote personality characteristics in schools and universities. It is not possible to predict the long-term success of a venture by evaluating the personality factors of the venture founder in early stages of the start-up process. |
| Stam and Elfring, 2008 | X | X | X | X | 90 Start-ups | Hierarchical regression | Using an original data set of 90 new ventures in the emerging open source software industry, found that the combination of high network centrality and extensive bridging ties strengthened the focal link. Among firms with few bridging ties, centrality weakened the relationship between entrepreneurial orientation and performance. |

| Author | P* | R | S | E | Sample/size | Method | Findings |
|------------------------------|----|---|---|---|--|-------------------------------|---|
| Dvir et al., 2010 | X | | X | | Israeli New Ventures and early entrepreneurs, 74 ventures and 88 Nes | MANOVA and LSD post-hoc tests | Person-Organization fit, the match between individuals and the organisations in which they work, has been extended to the fit between entrepreneurs' personalities (EP) and the ventures profiles (VP) they manage (EP-VP fit), and its relationship to the venture's success. Entrepreneurs in low novelty and low technological uncertainty ventures tended to exhibit behaviours characterizing Type A personality. Also, high novelty high technological uncertainty ventures were significantly more successful on measures showing potential for building the future to low novelty and low technological uncertainty ventures, while on measures reflecting short-term success. The results are in favour of the low novelty, low technology groups. Entrepreneurs are more attracted to ventures that fit their personality and the way they manage the new ventures is affected by their personality traits. |
| Edelman and Y'li-Renko, 2010 | X | | X | X | 114 Nascent entrepreneurs Nascent Entrepreneurs in the USA | Structural Equation Modelling | The article explains the roles that both objective environmental conditions and entrepreneurial perceptions of opportunity and resource availability play in the process of firm creation. Using longitudinal data on nascent entrepreneurs, their hypothesis, entrepreneurs' opportunity perceptions mediate between objective characteristics of the environment and the entrepreneurs' efforts to start a new venture. There was no similar finding on a mediating effect for perceived resource availability. These findings have important implications for further theory development in entrepreneurship as well as for practice and education in the field. |

| Author | P* | R | S | E | Sample/size | Method | Findings |
|---|----|---|---|---|-----------------------------------|--|--|
| Hoang and Gimeno, 2010 | X | | X | | New Ventures conceptual paper | | A new theory is developed that views organizational founding as involving a role transition. The construct of the founder role identity, concentrates on how identity centrality and complexity affect individuals' ability to exit a work role to undertake founding activities. Individuals are challenged to cope with the founder role requirements and include the new role into an overall self-concept. Configurations are investigated of how founder role identities influence persistence, and the far-reaching outcomes of dormancy and successful founding. |
| Gruber, Heinemann, Brettel, and Hungeling, 2010 | X | X | | X | 230 Technology based ventures | Structural Equation Modelling (PLS) and Cluster Analysis | The resource-based view (RBV) theory suggests that a firm's resources underlie its ability to achieve competitive advantage. However, extant work in this stream has examined the characteristics that resources must have in order to yield rents, while efforts to specify the crucial connection between resources and value creation have been sparse. Analysing data obtained from 230 technology ventures with partial least squares (PLS) structural equation modelling and cluster analysis, this study seeks to improve understanding of the resource-performance link in two main ways. Based on a careful measurement of resources and capabilities in a well-defined functional area (sales and distribution), they show how resources and capabilities contribute to performance in that functional area. Second, they identify four clusters of firms deploying various configurations of resources and capabilities. Among the four configuration solutions, two are associated with superior (equifinal) performance outcomes. |
| Parida, Westerberg, Ylinpää and Roiminen, 2010 | X | X | X | X | New ventures and SMEs 171 and 291 | Multiple regression | The results were achieved by using empirical data from two independent samples of new ventures and show that network relationships have quite different effects in the two samples. While networking is overall positively linked to EO and performance for small firms, no positive effect from networking is found new ventures' EO and performance. Both samples have a strong link between EO and performance. |

| Author | P* | R | S | E | Sample/size | Method | Findings |
|--|----|---|---|---|--|-------------------------------------|---|
| Hakala and Kohtamaki, 2011 | X | X | X | X | 164 Start-ups | Structural Equation Modelling (PLS) | The paper found support for firms combining many strategic orientations perform better than those only targeting a customer orientation. Software companies can be divided into 3 groups based on different configurations namely; customer (CO), technology (TO) and entrepreneurial orientations (EO). The groups are described as <i>servants</i> (high CO, low TO, and low EO), <i>players</i> (intermediate levels of CO, TO and EO) and <i>integrators</i> (high levels of CO, TO and EO). They differ based on the organisational learning capability and performance. |
| Safón and Escribá-Esteve, 2011 | X | X | X | X | 140 CEO company and franchised entrepreneurs | Structural Equation Modelling (PLS) | This article contributes to the understanding the role external risk perceptions play in decisions regarding the combination of company-owned and franchised units in the hospitality industry, and to knowledge of the impact of specific CEO characteristics on perceptions of environmental uncertainty. We examine the effects of tenure, an entrepreneurial nature and the innovative attitude of the CEO on the perception of external risk, and address the direct and indirect consequences of such perceptions of external risk on the configuration of the network of outlets. Our results show a significant relationship between the characteristics of the CEO and the perception of risk but, contrary to expectations, risk perception is associated with a lower degree of franchised outlets within the ownership mix. |
| Kessler, Korunka, Frank and Lueger, 2012 | X | X | X | X | 227 Nascent entrepreneurs | Logistic regression analysis | They found that characteristics of the person (i.e., risk-taking) affect founding success, but not survival. At the same time, resource and environment aspects did not show an effect on founding success or survival. Finally, their results confirm that aspects of the founding process serve to explain both founding success and survival. |
| Wang and Fang, 2012 | X | X | X | X | 1510 Start-ups | Regression | The authors found that different aspects of the network structure impacted innovative performance. They found that environmental uncertainty contributes to this impact. Overall, the authors find that network structure, innovative performance and environmental uncertainty together contribute to a contingent view of the conditions under which network boundary conditions impact innovative performance. |

| Author | P* | R | S | E | Sample/size | Method | Findings |
|---|----|---|---|---|--|--|---|
| Hopp and Stephan, 2012 | X | X | | X | 590 Nascent Entrepreneurs | Probit regression | Past research has mostly concentrated on cross-national comparisons, cultural values and the direct effects of culture on entrepreneurial behaviour, but in the main found inconsistent results. This research adds to the stream by turning attention to community-level culture and cultural norms. This research hypothesizes indirect effects of cultural norms on venture emergence: Community-level cultural norms (performance-based culture and socially supportive institutional norms) impact important supply-side variables (entrepreneurial self-efficacy and entrepreneurial motivation) which in turn influence nascent entrepreneurs' success in creating operational ventures (venture emergence). The research supports fine-grained understanding of how culture, especially perceptions of community cultural norms, influences venture emergence. The embeddedness of entrepreneurial behaviour is important and its immediate antecedent beliefs in the local and community contexts. |
| Alcantara and Kshetri, 2013 | X | X | | X | 2328 Start-ups and young firms | OLS Ordinary Least Squares regression | Although there has been an increase in the popularity of social entrepreneurship, previous studies have paid little attention to for-profit entrepreneurs' motive of making a contribution to the society, that is, societal motivation. In this study, the focus was on societal motivation and analyses its link with for-profit ventures' outcomes, such as likelihood of novelty, external financing, size, and sales. Using samples of Japanese entrepreneurs, they found support for our hypotheses that new ventures established by for-profit entrepreneurs with societal motivation are more novel and that these ventures achieve larger size and sales compared to the ventures of other for-profit entrepreneurs who lack such motivation. However, it also indicates that the ventures of for-profit entrepreneurs with societal motivation receive less external financing compared to those with merely economic motivation. |
| García-Villaverde, Ruiz-Ortega, and Ignacio Canales, 2013 | X | | X | X | 253 CEOs Technology start-ups in Spain | Linear Regression analysis | This paper investigated the complexity between Entrepreneurial Orientation (EO) and performance. It explored the effect of threat of imitation, a key external factor to explain competitive dynamics, and thus highlights effectiveness of EO. The accounts of the role of upstream (technical) and downstream (marketing) capabilities are explored as they impact on effectiveness of EO. Results indicate under threat of imitation, downstream marketing capabilities enhance tapping into opportunities resulting from EO, which positively affects performance. Conversely, upstream technical capabilities do not affect EO when imitation threats exist in the environment. The complexity between EO and performance can be better understood using a configuration approach. |

| Author | P* | R | S | E | Sample/size | Method | Findings |
|--|----|---|---|---|---|---|---|
| Symeonidou, Leiponen, Autio, and Bruneel, 2013 | | X | X | X | 775 Nascent entrepreneurs | Survival Analysis using Cox proportional hazard model | Using the longitudinal Kauffman Firm Survey of US start-ups they found that investing either in R&D, Marketing or Production capability configurations improves start-ups chances of survival, however, this pattern is different across industries. Moreover, findings show that simultaneous development of different capabilities exposes start-ups to a higher risk of quitting due to the liability of newness. |
| Harms, Breiteneker, and Schwarz, 2014 | X | X | X | X | 6722 Sole proprietors Nascent entrepreneurs | Latent Class Analysis | Cluster 1-2 "unambitious startups": Cluster 1-3 focuses are based on "resource-intensive startups". They found three new venture configurations. Cluster 2-1 is "cautious simple new ventures": Cluster 2-2 is "innovative professional new ventures": Cluster 2-3 is considered to be "reluctantly learning new ventures". Further there are a certain number of start-ups which exit the market within the first four years. The venture types are more differentiated and empirically driven the commonly used "opportunity" vs. "necessity" differentiation. Initial cluster membership shapes, but does not impact, the future development of startups. |
| Pinho and Sá, 2014 | X | X | X | | 73 New ventures | ANOVA | This paper examined the influence of individual and relational factors on new ventures' performance. Particular emphasis is placed on entrepreneurs' personal attributes and venture relationships (both social and institutional). There was support from central government, from sector associations and from a financial institution evidenced by the difference of means along three categories of entrepreneurial performance (low, moderate and high). There were consistent findings in for the entrepreneur's family support, previous knowledge about potential customers and previous experience in venture. The influence of the entrepreneur's personal characteristics, such as personal qualities; intuition was reflected in innovative and unique venture and need for self-achievement, was also observed. The study suggests that entrepreneurial performance is the result of a combination of personal and context-based factors and neither can be explained by a single set of entrepreneurial personal characteristics nor a set of more or less institutional relationships. |

| Author | P* | R | S | E | Sample/size | Method | Findings |
|---|----|---|---|---|---|--|--|
| Semrau and Werner, 2014 | X | X | X | | 379 Nascent Entrepreneurs | Multiple Logistic regressions | It is anticipated that entrepreneurs should profit from network relationships. Research addressing the association between entrepreneurs' network characteristics and their performance, however, thus far produced inconclusive results. To explain these inconsistencies, the study investigates the resource returns connected to network size and relationship quality. Using a sample of 379 nascent entrepreneurs, results indicate that increasing network size and relationship quality produces reduced marginal returns in respect of access to financial capital, knowledge and information, and more venture contacts. Additionally the returns vary strongly by resource type. |
| Sullivan and Ford, 2014 | X | X | | X | 174 Nascent Entrepreneurs | Poisson regression | Entrepreneur networks, serve as a means to acquire and find needed resources. Network theory and resource-dependence theory are used to explain how resources are sourced and addressed in the development of developing new ventures. Network structure and content play a key role in the early development of the ventures ability to gain needed resources. |
| Nunez, 2015 | | X | | X | solo 587 Nascent entrepreneurs family 287team 181 Nes | Multi-level longitudinal model regression | Using the PSED II dataset, they examined the role household income impacts on consumer-oriented start-ups by individual (solo), family-based (family), and non-family based start-ups (team). Their research question is: Does household income impact firm emergence, and if so, is emergence impacted differently based on start-up configuration? Results indicate that household income has a significant impact on average firm emergence and on emergence growth rates for solo and family firms. Significant role for family firms. Furthermore, household income is not a significant predictor of start-up activity completion for teams. |
| Lin, Rogoff, Foo, and Liu, 2015 | X | X | X | X | 239 Chinese entrepreneurs New ventures | Hierarchical regression | This empirical study tested the impact of four types of entrepreneurial context on the growth and success rates of new ventures in China and related the findings to the theory and practice of entrepreneurship dating back 2,500 years to ancient China. Entrepreneurial context was conceptualized as being composed of family, social, venture and institutional components. The impact of entrepreneurial context on entrepreneurial activity can be divided into two layers, internal factors (e.g. family context) which are similar to "yin" in the traditional Chinese philosophy, whereas external factors (e.g. venture, social and institutional contexts) were "yang". Through a multi-research methodology, the study considered the importance of integrating Chinese history into the development of management theory |
| (Colombelli, Krafft, & Vivarelli, 2016) | | X | X | X | 1090 young French start-up firms | Maximum likelihood Estimates-Survival analysis | Reasons why entry as an outcome is not necessarily good and the evidence showing that innovative startups survive longer than their non-innovative counterparts. In this framework, researchers show that empirical analysis shows that longer survival is achieved when startups operate successfully in both product innovation and process innovation, which is imperative. Moreover, this study extends microeconomic perspective and discusses the key role of the environment within which innovative entries occur. The study strongly supports the proposition that the creation and survival of innovative start-ups should become one qualifying point of the economic policy agenda. |

| Author | P* | R | S | E | Sample/size | Method | Findings |
|----------------------------|----|---|---|---|---|---------------------|---|
| (Zane & DeCarolis, 2016) | X | X | | X | Model | Conceptual model | The model focuses on the relationship between specific components of an entrepreneur's social network and gaining three key resources (human capital, financial capital, and alliances) required for a technology-based new venture to reach the phase of commercialization. Specifically, they disaggregate the social network of founders into four specialized sub networks: academic, industry, finance, and family and highlight the benefits of each for resource acquisition. They discussed the strength of ties versus breadth of contacts in association to the acquisition of resources. Social network theory is used to explain the model. |
| (Lee, Paik, & Uygur, 2016) | X | X | | X | Sample of 4240 international new ventures Korean firms | Regression | This study explores the relationship between the gender of the owner and export performance of international new ventures (INVs) analysing four mediating devices: venture capital financing, upstream firm-specific advantages, downstream firm-specific advantages, and country-specific advantages. Empirical findings are threefold: (1) female-owned ventures are disadvantaged in accessing venture capital, but venture capital finance is not positively correlated with their export performance; (2) male-owned ventures achieve better export performance by better innovation and marketing capabilities (i.e., mediation effects) than female-owned peers; (3) while gender is not related to the home-region endpoint of exports, the country endpoint of exports within the Asia-Pacific region is positively affected with the INVs' export performance. |
| (Teixeira & Forte, 2017) | X | | | X | Sample of 2423 final-year students, enrolled in 32 fields of study, | Regression Analysis | This paper developed an integrated intention-based framework and investigated the impact of fields of study on entrepreneurial intentions. The study found that, beside the attitude towards starting a new venture, fields of study, considered at a deep level, are relevant (direct and indirect) predictors of entrepreneurial intention. They showed that there is a high hidden opportunity for new venture creation in fields of study related to creative and leisure activities (e.g., Arts and humanities, or, more specifically, Literature and linguistics, History and archaeology, Audio-visual techniques and media production, Sports, and Architecture and town planning), Law, and Health (most notably, Pharmacy and Veterinary). Significant differences were found in the level of intention between students of various fields of study showing that universities should be more focused on entrepreneurship education on students in other subject area than venture or engineering/technology sciences. |

*Note:

P is for Person, R is for Resources, S is for Strategy and E is for Environment

4.2.1.1 Specifications of the configuration approach in the context of new ventures 1989-2017

4.2.2 Making sense of configuration domains

To support accurate descriptions and predictions, characteristics that are specific to new ventures have to be captured. If the search for specific features is aided by theory, the opportunity to discover configurations that are not just statistical artefacts but are able to be of narrower relevance can be increased. argued that identifying configurations starts with identifying domains, that is, conceptually related groups of variables that are recognised as important issues in a number of disciplines in organisation science and have been empirically shown to influence each other and impact firm performance. These domains are also relevant in the context of entrepreneurship and new ventures to help understand how these domains affect performance.

Frameworks that underpin new venture performance or an understanding of the set of factors required to create new ventures is still in its infancy (Harms, Kraus a& Schwarz., 2009; Harms, Breitenecker & Schwarz, 2014; Kessler et al., 2012). In the extant entrepreneurship literature, a survey of integrative frameworks- frameworks that consider combination of important dimensions taken together (Gartner, 1985; Chrisman and Bauerschmidt, 1998; Mugler, 1998; Sarasvathy, 2004) suggests that the domains ‘individual’, ‘resources/structure’, ‘strategy’, and ‘environment’ are relevant for describing new ventures. This framing is akin to Miller’s (1987) who proposes the domains ‘leadership, ‘structure’, ‘strategy’, and ‘environment’, but which can be adapted to capture the individual attributes of new ventures. These frameworks provided the first frameworks linking the characteristics of the entrepreneur to the process of what they do to form the new venture (Landstrom and Astrom, as cited in Hindle and Klyver, 2011).

Some studies have also focussed on the *structure* as a domain that is useful in assessing factors leading to performance. The structure refers to the way that the venture is organised. These studies tend to focus on the small venture owner who has an existing venture rather than on nascent venture. The owner-manager has an

important influence on the outcomes of the venture (Leaptrott & McDonald, 2008; Reynolds et al., 2004) but because of the simple structures of the venture might make it difficult to meet the assumptions of a configuration analysis. In a research scenario where all new ventures have simple structures, it may be difficult to identify different types of nascent ventures with regard to structure (Harms et al., 2009). It might be more difficult to analyse the *structure* given the small size, low number of employees (mostly the nascent entrepreneur) and the location of venture owned which tend to be in only one location. Hence, this review will not be focussing on the structure domain. Normally domains are used for a framework to study the outcome in configuration studies.

Harms et al., (2009) have called for comprehensive frameworks to study relationships or interactions between domains for new ventures. There are currently fragmented views about the connection of domains to the outcome because research has focused on configuration approaches utilising theory that focuses on simple accounts of factors affecting the performance of new ventures. Research on the resource-based view theory using multiple domains has had mixed findings because the researchers have not always applied the same methodology even though it is a configuration approach being used. The research is still quite sparse considering the overall accounts of the domains leading to new venture performance. The comprehensive framing thus considers key aspects of domains taken together to form a better understanding of the interconnections between more than one domain being considered in relation to performance.

There have been further accounts of comprehensive framing in later studies such as Kessler et al. (2012), Harms et al. (2014), Nunez, (2015), Symendiou et al. (2013) and Sullivan and Ford, (2014), but they are still in the early phases of development. In their studies they framed their approach by investigating founding success and new venture survival that provided a better overall understanding because it captured comprehensive configurations. This is important for the thesis, as the comprehensive assessment of configurations for new venture research will add to a better understanding of causal links to founding success. The domains for this review thus consider the main ones that researchers have found to be helpful in explaining new venture performance for nascent entrepreneurs (see figure 7 p. 85). The next section focuses on a review of research using these domains in the context

of new ventures. The domains begin with a focus on the person, then the resources, followed by strategy and finally the environment, which is derivative of frameworks focussing on new venture development such as Gartner's model (1985). Strategy is not included in the model but is included in the study as later frameworks have suggested it to be important to capture the direction for creating the new venture.

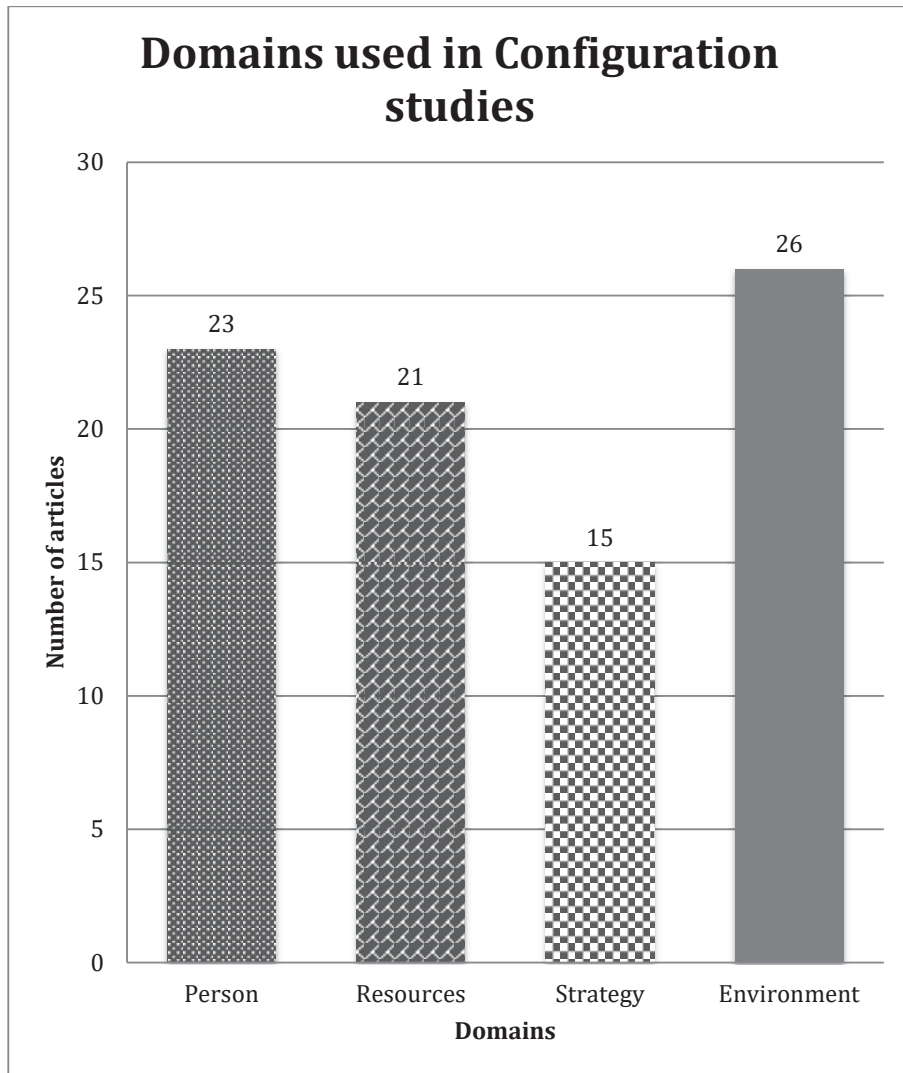


Figure 7 Analysis of domains in nascent entrepreneurship configurations

4.2.3 The Person (Nascent Entrepreneur)

Entrepreneurship research recognises that the characteristics of the entrepreneur play a particularly vital role in new venture creation (Reynolds et al., 1997). In new ventures, the entrepreneurs are the focal point of attention as they use their personal traits, aspirations, imagination, and abilities to start up the venture (Cassar, 2014; Davidsson, 2005; Delmar & Davidsson, 2000; Reynolds & Curtin, 2009). In this review 23 out of 32 (72%) articles placed the focus on the person domain (refer to table 4 following). Four articles were similar in the way they analysed the person domain (Frank, Lueger, & Korunka, 2007; Harms et al., 2014; Kessler et al., 2012; Korunka et al., 2003). The remaining 19 articles focused on the person domain revealing different ways of operationalising their person variables. For the remaining 19 articles, the focus was on the personal characteristics of the founder, their personality 11 of 19 (58%), their motivation to start a venture 18 of 19 (95%), and their experience 14 of 19 (74%) and their role identity (Hoang & Gimeno, 2010). Education was examined in 13 of the 19 studies (68%), with similar results for age, 12 of 19 (63%) and gender 12 of 19 (63%). Hakala and Kohtamäki (2011) and Sullivan and Ford (2014) assessed learning. Variables that were used to specify personality traits of the entrepreneur are ‘need for achievement’, ‘risk-taking propensity’, ‘independence’ or ‘internal locus of control’ and ‘personality’ (Carter, Gartner & Reynolds, 1996; Stearns et al. 1995; Symeonidou, Autio & Leiponen, 2013).

Table 4 Person Domain Focus

| Authors | Age | Gender | Personality | Skills/Experience | Motivations |
|-------------------------------------|------------|---------------|--------------------|---|---|
| Gartner et al. 1989 | No | No | No | Opportunities for advancement in previous work Previous work experience to new venture | Interest in starting a venture before creating current one Chances of survival of venture |
| Woo, Cooper and Dunkelberg, 1991 | No | No | No | Level of formal education Prior managerial experience Prior venture ownership | Goals To do the kind of work wanted Working independently Making money Successful venture |
| Heirman and Clarysse, 2004 | No | No | No | Human capital -team size -sector experience -management experience -hired guns-experts with 10 years management experience | Entrepreneurial motivation -autonomy -proactiveness -main motivation to start company |

| Authors | Age | Gender | Personality | Skills/Experience | Motivations |
|--------------------------|-----|--------|--|---|---|
| Mugler and Kessler, 2004 | No | No | Need for achievement Risk taking Personal initiative | Human capital Level of education Occupational experience | Self-realisation motive, Income motive |
| Stam and Elfring, 2008 | No | No | No | <i>Human capital</i> Industry experience, start-up experience, and managerial experience <i>Social capital</i> Extra-industry and intra-industry connections | Entrepreneurial orientation |
| Dvir et al., 2010 | Yes | Yes | Entrepreneur traits Manager traits Jung's Investigator Holland's Type A behaviour Attachment Styles Openness to Experiences Risk Taking | Education No of prior ventures | Meeting planning goals |

| Authors | Age | Gender | Personality | Skills/Experience | Motivations |
|--------------------------------|------------|---------------|----------------------------|---|--|
| Hoang and Gimeno, 2010 | No | No | Founder role concentration | No | Role identity and centrality impact on founding. |
| Edelman and YLI-Renko, 2010 | No | No | No | Education industry experience prior venture experience networks and support | Perceptions versus opportunities impacting on persistence. |
| Parida et al., 2010 | No | No | No | No | Entrepreneurial Orientation Risk taking propensity, Proactiveness, Innovativeness |
| Hakala and Kohtamaki, 2011 | No | No | No | Learning Experimentation, Learning from past experience and Knowledge sharing | Entrepreneurial orientation |
| Safón and Escribá-Esteve, 2011 | No | No | No | Tenure founder | Innovative attitude |

| Authors | Age | Gender | Personality | Skills/Experience | Motivations |
|--|-----|--------|----------------------|--|---|
| Hopp and Stephan, 2012 | No | No | No | Human capital Highest Qualification Labour market experience Entrepreneurial Experience | Motivation Self-efficacy |
| Alcantara and Kshetri, 2013 | Yes | Yes | No | Job experience Venture experience Qualifications | Societal Motivation versus for-profit without Societal Motivation Economic Motivation Innovative versus imitative |
| García-Villaverde, Ruiz-Ortega and Ignacio Canales, 2013 | No | No | No | Upstream capabilities downstream capabilities | Drivers of imitation are evaluated. Entrepreneurial orientation |
| Pinho and Sá, 2014 | Yes | Yes | Need for achievement | Social and venture networks Job experience Venture experience Qualifications | Proactiveness Entrepreneurs intuition about innovation of venture risk propensity |

| Authors | Age | Gender | Personality | Skills/Experience ^e | Motivations |
|---|-----|--------|-------------------------------------|---|--|
| Semrau and Werner, 2014 | Yes | Yes | No | Education Industry experience prior venture experience networks and support | Necessity entrepreneur opportunity entrepreneur |
| Lin, Rogoff, Foo, and Liu, 2015 | Yes | Yes | No | Education industry experience prior venture experience networks and support | Indirect measures of motivation from social, family, government support |
| (Lee, Paik, & Uygur, 2016) | No | Yes | No | Experience, Knowledge Entrepreneurial capability | Gender differences in the new venture creation for innovative new ventures. |
| (Teixeira & Forte, 2017) | Yes | Yes | No | Education | Measures of entrepreneurial intentions. |
| Frank, Lueger and Korunka, 2007 | Yes | No | Need for achievement | No | Entrepreneurial intentions Locus of control Risk propensity |
| Harms, Breitenecker, and Schwartz, 2014 | Yes | No | Need for achievement Internal | Network Knowledge, Full-time experience | Personal initiative motivation |

| | | | | | |
|--|-----|-----|--|--|--------------------------------------|
| Kessler, Korunka, Frank and Lueger, 2012 | Yes | Yes | Need for achievement | Human capital Experience in managing a venture | No |
| | No | No | Need for achievement Risk taking Personal initiative | Human capital Level of education Occupational experience | Self-realisation motive, Security |

Studies investigating the person domain questioned asked the participants about the motivation for setting up a new venture. They were asked whether the opportunity to satisfy their goals was their main motivation (Woo et al. 1991, Gartner et al. 1989), or to conduct the kind of work to which they had always aspired, or to make money or by the threat of losing their previous job or by their unwillingness to work for somebody else (these were given various names such as: independence, safety, proactiveness and autonomy as seen in table 4 page 87 above). A recent study by Alcantara and Kshetri (2013) considered societal motivation of nascent entrepreneurs using samples of Japanese entrepreneurs. They found support for hypotheses that new ventures established by for-profit entrepreneurs with societal motivation are more novel and that these ventures reach larger sizes and sales compared to the ventures of other for-profit entrepreneurs who lack such motivation. However, their findings suggest that the ventures of for-profit entrepreneurs with societal motivation received less external financing compared to those with merely economic motivation. Other studies focusing on the person investigated the level of entrepreneurial, managerial and industry-related experience related variables of the nascent entrepreneurs. These studies had different foci depending on the underlying research questions and samples that they were addressing. For example, Frank et al. (2007) investigated personality factors in relation to start-up intentions. The sample consisted of school students and university students who started research based ventures. They studied the importance of age of the students starting the venture and then tracked the various stages in relation to start-up success. Thus, their use of applying human capital measures was quite different because their sample was different to the normal distribution of other entrepreneurs.

There were a few studies that had a clear focus on human capital theory. For example, Korunka, Frank, Lueger and Mugler, (2003); Mugler and Kessler, (2004); Frank, Lueger and Korunka, (2007) and Kessler et al. (2012) have all focused on the configuration approach with a focus on the human capital theory. A group of articles used the same person variables, which always included 1) need for achievement, 2) risk-taking propensity, 3) internal locus of control, 4) self-initiative and 5) motivation as they were a series of studies building on each other and

referred to as the 'Vienna Studies' (Frank, Lueger & Korunka, 2007; Kessler & Hienerth 2002; Korunka et al., 2003; Harms et al., 2014; Kessler et al., 2012 and Mugler & Kessler, 2004). The authors chose the first three of these variables since a number of studies investigating the differences between entrepreneurs and non-entrepreneurs showed that they were important (Korunka et al., 2003). Each of the focal variables addressed a different theory and was assessed using seven or eight items such as risk-taking propensity (Frese, 1998). For need for achievement, Pinho and Sá (2014) found that the influence of the entrepreneur's personal characteristics, such as intuition was reflected in innovative and unique venture and need for achievement affected performance. The study suggests that entrepreneurial performance is the result of a combination of personal and context-based factors.

Recently there has been a focus on the entrepreneurial orientation (EO) of the entrepreneur which considers the processes, structures and behaviours of firms that are characterised by innovativeness, proactiveness and risk-taking (Covin & Slevin, 1989, Miller, 1989). Studies by Parida, Westerberg, Ylinenpää and Roininen (2010); Stam and Elfring (2008) and Wiklund and Shepherd (2005), have all focussed on the connection between the EO of the entrepreneur in relation to their performance. They have confirmed a positive relationship between EO and performance. They arrived at different results because of their use of different methods compared to previous studies and how they operationalise their measures of EO. Previous studies considered only individual variables compared to performance. The studies by Parida, Westerberg, Ylinenpää and Roininen (2010); Stam and Elfring (2008) and Wiklund and Shepherd (2005), found support for the EO theory by making use of multiple measures and a clear progression was achieved compared to previous universal studies. Their results therefore provide a better understanding of factors affecting success from multivariate interactions and new venture performance. The entrepreneurial intensity measure was not addressed directly in studies using configurations. Entrepreneurial intensity (EI) however, has been developed from the EO construct as described by Liao, Murphy et al. (2005) and Morris and Sexton (1996) and there has been confirmation from their studies that EI affects performance for new ventures.

The review findings with regard to person is inconsistent with a similar review conducted by Michor, Harms, Schwarz and Breitenacker (2010) and Short et

al., (2008) which focused on configuration studies for new ventures and small to medium enterprises. In Michor et al.,'s study they found fewer articles, 15 out of 34 articles (44%) focusing on the person domain unlike the current study which had 23 out of 32 articles (72%). Their conclusion was that the management style was a focus for the studies that they reviewed and that the review covered more mature firms and teams. As the focus in this study is on new ventures, the differences can thus be explained by the different emphases on the types of venture that they concentrated on. Their studies were based on mature firms and also covered an earlier period. Since their review focussed on articles up to 2006, there was a shift of focus on EO after suggestions by Wiklund and Shepherd (2005) to include this construct in future configuration studies. There is a positive performance association between the EO and performance for nascent ventures. The Austrian set of articles by Frank, Kessler and Fink (2010); Kessler et al., (2012); Korunka et al., (2003), Kessler et al., (2014) looking at person, offer a good approach to building on the configuration research as their studies used similar person variables. This is needed to develop a set of generalisable findings and where there is a gap within the research presented as many configuration studies tend to be fragmented in the use of variables focussing on the person domain.

The current study will not focus on all aspects of personality per se, but on the need for achievement which in McClelland's (1961) analysis of the entrepreneurs was a trait considered an important indicator of future entrepreneurial activity. Configuration studies such as Kessler et al., (2012), Frank et al., (2010b); and Korunka et al., (2003) have shown that need for achievement is considered important in order to provide support for configurations of new ventures. This indicator is also important as measuring characteristics of the nascent entrepreneur based on their need for achievement in relation to performance should provide insights into the connections with other domains to explain how connections between them affect performance. General human capital was a focus in the research with some studies including variables that measure specific human capital. There have been inconsistent findings across the studies which have not been fully explained, based on uni-dimensional relationships between human capital and performance. The next section focuses on the resources of the nascent entrepreneur as the domain is important in relation to new venture performance.

4.2.4 The Resources

In this review of configuration studies, figure 7 p.85, shows that 21 of the 32 (66%) articles, focused on the resources of the nascent entrepreneurs. Resources associated with the nascent entrepreneurs are important in the context of new ventures because the likelihood of success increases with the availability of these resources (Eckhardt et al., 2006; Shane & Stuart, 2002). For the configuration studies the variables were allocated to financial resources based on access to financial circumstances, full-time equivalents based on part-time or full-time status of the employees and in their study, they also included human capital resources, based on the knowledge, skills and abilities of the nascent entrepreneurs.

The variables that focused on the ventures' resources were aimed at enquiring into its financial circumstances. For example, sources of capital, involvement of venture capital, total amount of money needed to set up the company, debt ratio or ratio of research and development expenditures to cost of goods sold, were all being assessed. Furthermore the firms' financial capital was analysed which was the case for the following studies: Frank, Lueger and Korunka, (2007); Kessler et al., (2012), Korunka and Kessler, (2004); Mugler and Kessler, (2004); Symendiou et al., (2013) and Harms, Breitenecker, and Schwarz (2014). These studies found that financial resources were important determinants of developing new ventures. Lately, Nunez (2015) found that a higher household income (access to finances) has a significant impact on average firm emergence and on emergence growth rates for new ventures. Apart from financial resources, several studies also focused on non-financial resources such as full time equivalent status (FTEs) the skills nascent entrepreneurs possess and technology or patents (e.g. Wang and Fang, 2012). Other studies focused on the network ties of nascent entrepreneurs and how this affects resources, thus impacting on performance (Colombelli et al., 2016). Moreover, certain variables were only found in specific studies that focused on IT for example, such as the importance of computing in a firm (e.g. venture, point-of-sale- or telecomputing) or the type of start up being either an academic or a corporate spin-off (Parida et al., 2010; Stam & Elfring, 2005 and Wang & Fang, 2012, Zane & Decarolis, 2016).

In the studies that considered financial resources, there was support found between financial resources and performance of nascent entrepreneurs (Frank,

Lueger and Korunka, 2007; Kessler & Hiernath, 2002; Kessler et al., 2012, Korunka & Kessler, 2004; Mugler & Kessler, 2004; Symendiou et al., 2013). Few studies build on a consistent set of items focusing on resources with other domains in the articles focusing on configuration research. In the thesis the financial resources of the founder will be analysed to build on the Austrian studies showing how the resources as well as other domains such as strategy, environment and person interact to form a comprehensive configuration (Frank, Lueger & Korunka, 2007; Kessler & Hiernath, 2002; Kessler et al., 2012, Korunka & Kessler, 2004; Mugler & Kessler, 2004). The focus based on resources in the context of nascent entrepreneurship is often also considered in relation to the strategy of the nascent entrepreneur. The next section thus reviews the strategy stream of literature on configurations of new ventures.

4.2.5 The Strategy

Strategy is a key requirement in the context of configuration research as established by Miller (1987). The imprinting hypothesis is based on Stinchcombe (1965) who posited that new venture performance is influenced to a great extent by the conditions at the time of the founding and that because these conditions are important it impacts on the ways in which the new venture is started. Furthermore, he postulated that "...organisations which are founded at a particular time must construct their social systems with the social resources available" (Stinchcombe, 1965, p.168). As they build new organisations, founders draw on components from their political, cultural, and economic contexts. These political, cultural and economic components may persist for years, decades, or even centuries, thus creating a connection between the specific historical context of founding and the organisation's later strategy for creating the venture. This idea, known as the organisational imprinting hypothesis, eventually became a major source of inspiration for organisational ecologists who made it the basis of one of their main lines of research (Aldrich & Yang, 2014; Stinchcombe, 1965). However, because organisational ecologists study populations of organisations rather than individual organisations, their use of the organisational imprinting hypothesis has focused not on founding processes but on population-wide patterns (Aldrich, 1999). The population-wide patterns focus on collective processes rather than, for example, on founding or strategies for individual organisations such as nascent firms. The

important connection is the founding context, political, cultural and economic– is important and impacts the new venture later as it is developing.

Firms in the start-up phase potentially encounter many difficulties in organising and directing their resources on their objectives as both could be blurred, insecure and uncertain when resources are sporadic (Knight, 1921; March, 1988). Some firms operate on a cycling pattern, they change often, and others have robust plans to reduce the uncertainty that developing a new venture involves (Chwolka & Raith, 2012; Delmar & Shane, 2003; Hiatt & Sine, 2014, Vesper, 1980). A review on this issue based on 24 empirical studies over the last 20 years revealed that about 80 per cent of the analysed studies could identify a positive relationship between strategic planning and firm performance among small venture (Short et al., 2008).

According to figure 7 p.85, 15 of 32 articles (47%) analysed in this review examined the strategies chosen by the nascent entrepreneurship in their sample. There were quite a few variations for strategy variables in the studies. There were three main strategies that emerged from the studies (refer to table 2). They are the companies' entry/growth strategy, market positioning and the importance of research and development for them. In order to identify the entry strategy, researchers asked their respondents if they perceive themselves to be pioneers in their field or followers, who strive to differentiate themselves in other ways. One article by Stearns, Carter, Reynolds and Williams (1995) explicitly focused on examining the strategy differences between urban and rural firms. The findings indicate that survival chances are associated with strategy and location and by the two-way interactions of industry by strategy. Although in their study the three-way interaction test of industry, strategy and location did not indicate statistical significance, there were specific instances where survival chances of the new firm appear to be modified by industry and location. Additionally, some articles researched the companies' definition of their target market (e.g. niche, high-end). The strategy in this context focuses on the ways of running the venture such as how they will target particular customers. Dvir et al., (2010) found that in high novelty and high technological uncertainty ventures, the entrepreneurs had higher educational qualifications and loved challenges. They were also more committed, entrepreneurial, creative, intuitive, investigative, and ambitious than those in low novelty and low technological uncertainty ventures thus increasing the new venture

performance. They were in addition found to be dreamers and risk-takers. These strategy differences affect the performance of the venture as those with high novelty and high technological uncertainty will provide various options for customers which are an important strategy option for dealing with changing markets. Recently Colombelli, Krafft, & Vivarelli (2016) found that innovative startups survive longer than their non-innovative counterparts which is potentially helpful to understand that startups do not always survive for the same reasons. The innovative strategies are important when the strategy is for a long-term survival.

The four elements of the competitive positioning of firms that were applied most frequently in relation to strategy are: the company's pricing strategy (Heirman & Clarysse, 2004), the quality of the product or service relative to competition (Hakala & Kohtamäki, 2011; Semrau & Werner, 2012), the marketing strategy (Hopp, 2012; Wang & Fang, 2012) as well as the product or service portfolio breadth (Carter et al., 1994; Hoang & Gimeno, 2010). Moreover, a number of articles examined how firms try to differentiate themselves by offering a distinctively new product, i.e. outperforming competition through innovativeness (Dvir et al., 2010; Marvel & Lumpkin, 2007; Wang & Fang, 2012). The third group summarised all measures related to research and development and technology (Heirman & Clarysse, 2007; Parida et al., 2010; Symeonidou et al., 2013; Wang & Fang). The focus that companies place on research and development was one of the most important issues with several articles applying different variables. Researchers also considered how new technologies are used in current processes and how the process of developing new venture ideas is organised.

There is a gap in the strategy literature for configurations, which is partly due to the focus of previous research. As the articles in this review used a sample with a limited focus, for example, the strategy of IT industry, their focus differs compared to the non- IT ventures. Innovative strategies might not work in the same way for new retail ventures such as shops which means that the strategy choice affects performance (Harms et al., 2009). The focus for the thesis will be on key strategy factors such as customer focus, innovation and IT focus, the quality of the product or service relative to competition and the marketing strategy. This focus considers the strategy factors assessed in the work by Carter, Stearns, Reynolds & Miller (1994) who outlined some key strategy factors for new ventures. The next

section discusses the domain environment in the context of configurations research.

4.2.6 The Environment

In Figure 7 p.85, 26 of the 32 (81%) articles under review focussed on the environment as one of the key domains for their study. The role of the environment in the context of new ventures is important to consider in the configuration approach (Miller, 1987). In the 1950s and 1960s, management scholars began to develop theories that linked the organisation to its environment. A decade later Andrews defined the environment of a venture organisation as “the pattern of all the external conditions and influences that affect its life and development” (Andrews, 2009, p. 19) and identified five dimensions: technological, economic, physical, social and political. Studies of nascent ventures consider the environmental context as it either enhances or limits entrepreneurial activity (Hindle & Al-Shanfari, 2011). This is important to know as Lee and Peterson (2000, p. 402) contend, similar to Andrews that: ‘...larger societal factors such as cultural, economic, political and social forces can combine to create threats or opportunities in the environments where entrepreneurs operate’. The environment of the start-up process includes both micro social (e.g., family restrictions, support) and macro social (e.g., social networks based on earlier occupational experiences) aspects (Korunka, Frank, Lueger and Mugler, 2003). Additional strong environmental influences could result in a push condition (e.g., Mugler & Kessler 2004; Frank, Korunka & Kessler, 2007), defined as a specific, strong necessity to start a new venture, for instance, because of a previous job loss. Another environmental influence is the existence (or non-existence) of role models, both in the micro social (parents as entrepreneurs) and the macro social contexts (Korunka et al., 2003; Mugler & Kessler, 2004). These aspects of the environment both have an impact on new venture abilities to achieve success and because of the need to understand the context for creating the new venture there is a need to study this domain too, in the configuration study.

Due to the importance of the environment, and of the impact it may have on new ventures, this domain must be included in a configuration analysis of new ventures (Short et al., 2008). Characteristics of the environment, for example, may influence strategic and personal variables. Apart from a broad range of variables to

analyse the basic characteristics of the market, measures were adopted to understand the competitive situation the companies have to face, the importance of networks as well as the dynamism, hostility, munificence and heterogeneity of the environment (Edelman & Yli-Renko, 2010; Kessler et al., 2012; Parida et al., 2010). Factor analysis was used in the studies to investigate the industry affiliation of the companies investigated in order to understand the importance of the underlying dimensions and their effect on performance. In this context, several articles also researched the stage of development and growth potential of the industry in order to assess it for its performance. For example Stam and Elfring (2008) investigated the connections of software firms within the IT industry, and Symeonidou et al., (2013) considered the munificence in high technology start-ups. Variables that aimed at measuring the geographic scope (location) the companies were operating in were also commonly applied in the context of the environment and performance (Alcantara & Kshetri, 2013; Lin et al., 2015; Pinho & Sá, 2014; Stearns et al., 1995).

Currently, there are insufficient consistent sets of scales focussing on the environment in the context of new venture research. Potentially this is because the focus of studies is different, and/or the aspect of the environment being assessed was specific to an industry or a region. For example, not every study looked at 'push factors' but those who considered these aspects considered it to be key variables in the environment domain (Frank, Lueger & Korunka, 2007; Harms et al., 2014; Kessler et al., 2012; Korunka et al., 2003). This is potentially an advantage, but also poses some challenges for researchers in this area as the findings are not easily comparable and conclusions formed are not generalisable. In order to understand how the environment can be considered, Edelman and Yli-Renko's (2010) study provides two views that were considered in entrepreneurship which is the creation and discovery view. While they did not come up with the original ideas of the creation or discovery views they provide information on the environment differences. The "creation" view, is based on entrepreneurial perceptions and socio-cognitive enactment processes of the entrepreneur. They create the venture based on their vision and conception of the venture idea. In the "discovery" view, objective environmental conditions are said to be the basis of finding entrepreneurial opportunities and this influences eventual entrepreneurial action. The study by

Edelman and Yli-Renko thus considered the interrelationships among environmental conditions, entrepreneurial perceptions, entrepreneurial action, and outcomes. Challenges still remain to determine a set of measures for the environment that is appropriate for nascent ventures. While there are inconsistencies with regard to how it is measured there is a clear need to examine the environmental domain in the context of new ventures as the context shapes how the venture is created (Dess & Beard, 1984; Gomezelj & Kušce, 2013). The outcome is different depending on the environmental situation for the nascent venture in combination with other contextual factors. In order to analyse these various effects of domains on the study outcomes, careful selection of the choice of methods were needed. The next section thus focuses on the methods for studying new venture configurations.

4.3 Configuration Methods, Sample and Source of Data

There are many methods for developing and testing configurations. In a review of the articles available on configurations in entrepreneurship, Short et al., (2008) established that there were sixteen articles which were presented without supporting data as they were conceptually developed configurations. The rest of the articles in their review use various methods comprising inductive and deductive empirical methods. Ketchen, Thomas and Snow, (1993) found that inductive procedures are numerically derived groupings, whereas deductive procedures are driven by classification schemes based on a theoretical argument.

Configurational research faced a series of criticisms in the late 1980s and early 1990s. Bacharach (1989) asserted that typologies leave unanswered important theoretical issues of causation and contingency which is a discussion considered earlier. Strategy researchers have also had many issues with the approach, as researchers were not always clear about the way that they derived their measures and thus generalisations of the findings were stifled (Ketchen Jr. & Shook, 1996; Short et al., 2008). Other concerns related to methodological rigour. For example, Fiss (2007) argued that cluster analysis used for the configuration research has been subjective as the method left the judgement of configuration groups/ clusters to the researcher. The choice of cluster analysis was seen as potentially flawed in deriving groups. Since then there has been some substantial progress in the field of management and organisation research emerging in entrepreneurship with new

methods being introduced to deal with the concerns raised about the rigour of the configuration methods (Davidsson & Gordon, 2012; Fiss et al., 2013; Hak, Jaspers & Dul, 2013; Short et al., 2008).

According to the articles that have been included in this review there is a clear preference for methods using regression analyses (refer to table 3 p.74-83). Eighteen out of the 32 articles (56%) used regression, log linear, poisson or multiple regression analysis methods in their studies. One study used ordinary least squares analysis for survival analysis (Symendiou et al., 2013) another used latent class analysis (LCA) (Harms et al., 2014) and four articles (14%) used structural equation modelling, more specifically partial least squares (PLS) (Edelman & Yli-Renko, 2010; Gruber, Heinemann, Brettel & Hungeling, 2010; Hakala & Kohtamäki, 2011 and Safón & Escribá-Esteve, 2011). Three studies (10%) used cluster analysis (Woo et al., 1991; Korunka et al., 2003 & Heirman et al., 2004), one study by Pinho and Sá (2014) used an ANOVA and another by Dvir et al., (2010) used a MANOVA. There was also one theoretical paper. Predominant methods used in the articles applied regression analysis to assess and create the configurations. Regression analysis for analysing configuration type studies is generally problematic because it uses linear approaches to predict outcomes which are appropriate for predicting linear associations or linear relationships among multiple variables (Aiken et al., 1991). However, the configuration analyses tend to analyse relationships amongst variables/ domains that are not linear, for example human capital. Furthermore, it does not consider interactions between domains as it is path dependent. Variables are analysed in one path in the direction of the outcome, for example performance (Aiken et al., 1991; Robinson & McDougall, 2001). In a configuration study the aim is to provide an analysis of the interdependencies of the domains being studied. Changes between domains as well as the causal link to the outcome being studied (e.g. survival) should be analysed. As a consequence, these methods are not really addressing the goal of configurations which is to analyse and explain the connection between the various domains.

The configuration analyses require methods that moderate techniques such as regression and structural equation modelling that capture linear relationships in favour of techniques such as cluster analysis, Q-sorting and repertory grid techniques that facilitate classification into groups and analysis of variance that

diagnose the differences between groups (Miller, 1981, 1987). There has been some seminal work that has been able to point to how this can be done. In Ketchen Jr. and Shook's (1996a) work they expanded on one of the methods to clarify and provide guidance to researchers on the use of cluster analysis methods which is a method that was widely used by researchers studying configurations. Earlier, there were concerns in the strategic management field that the way that cluster analysis was being used by researchers was not consistent and that they were not providing enough clarity in the methods used to derive their cluster groups (Short et al., 2008). Research by Gruber et al., (2010) has considered using PLS, which is a form of structural equation modelling that deals with small sample sizes and cluster analysis for their study on configurations considering the impact of resources and performance to overcome earlier concerns. They developed useful additional arguments to understand the connection between resources and performance. They were limited in the assessment of the interactions of their domains and performance, mostly because testing the validity of the results was difficult. Fiss (2007) argued that the way that the clusters were derived left the judgement of cluster groups up to the researcher when conducting exploratory cluster analysis. Fiss (2007) offered some suggestions for ways to address these issues. These suggestions are considered in the next chapter in the review of Qualitative Comparative Analysis for configuration studies. Hair et al., (2011) have elaborated on the approach and associated challenges in conducting cluster analyses and offered suggestions to improve on these. They provided guidance on how to construct the clusters from an empirical validation as well as a theoretical method with tests for the group differences of the clusters being formed which is one of the major criticisms levelled against the method (these are discussed further in the methodology chapter).

The key function or contribution of configurations is the requirement to explain performance by assessing the interaction of domains on each other as well as on the outcomes (Miller, 1987). From this review it is clear that not all of the studies have been able to find 'true' configurations of new ventures because the choice of methods was inappropriate for assessing the interaction between domains i.e. they used linear regression for assessing interactions. Some of the assumptions that underpin the configuration studies have not been met in many of these articles

either by the choice of methods used or by the choice of variables or the limitation of the samples.

There was a clear description of the size and unit level of the sample in each of the studies. The sample sizes of the studies ranged between 90 (Stam & Elfring, 2008) for the smallest, through to 6722 for the largest (Harms, Breiteneker & Schwarz, 2014). However, it was not always clear how the findings related to specific theory or how the interpretations should be made. Once the results were presented, some of the discussions using the configuration approach did not clearly explain the connection of the results to theory or what the implications of the findings were for practice or policy. The controls were not always described in the methods section of the studies. There is a theory/data mismatch which results from researchers not providing sufficient information about the scales that they developed and also how they related to the sample. For example, it is not always clear if the findings relate to the whole sample or just a subset of the sample which has also been highlighted by Markova et al. (2011). The sample for the current research will use nascent entrepreneurs still developing their venture and quitters at early and late stages of development. The sample level is thus at the level of the venture although at this stage of development the venture and the entrepreneur are inextricably linked. Many of the ventures are one-person ventures. Since there is a need to explain performance outcomes the next section investigates the studies focussing on the performance outcomes within the context of configuration research for new ventures.

4.4 Study Outcomes

Study outcomes focusing on configuration research are often assessed by the outcome of starting or being in the process of starting which is a key goal in order to explain the *performance* of the firm (Short et al., 2008). Bamford, Dean and McDougall (2000) defined performance based on the ability to achieve a set, or necessary outcomes, which suggests that the venture has started. In the context of new ventures, financial performance should reflect and measure the change of the financial state of a venture, or the financial outcomes that result from its decisions. The execution of those decisions, as well as values of future opportunities for the venture created during the measurement period is of research interest.

In order to meet these requirements for measuring performance, which considers the complexity of venture, performance should be regarded as being multidimensional (Wiklund & Shepherd, 2005). It requires approaches that consider the outcome from more than one measure to reduce claims such as only using the first sales as a measure of starting. This is fraught with error as the first sale might have come from family or friends (Brush, Edelman et al., 2008; Pitkänen et al., 2014). Furthermore, the first sale does not signify the active beginning of a new venture. A first sale in conjunction with other measures is more helpful in the assessment of performance (Reynolds, 2004). Thus the multidimensionality of new venture performance requires the use of multiple measures (Wiklund & Shepherd, 2005).

According to empirical research external factors such as industry conditions, account for roughly 19 per cent of a firm's performance results (Ruefli & Wiggins, 2003). Objective performance measures such as sales growth, on the other hand, were less prone to common method bias and are especially helpful in assessing a venture's financial performance. A potential drawback is that objective indicators are often both difficult to obtain and interpret in the context of new ventures (Chandler & Hanks, 1994). For new venture research the focus is on factors considered to be important to get started. Performance indicators for studying the nascent ventures tend to focus on the subjective indicators because the venture are still in early development with no really strong objective indicators as yet. Subjective measures such as type of industry i.e. the manufacturing industry take into account the external conditions of venture such as manufacturing and high technology, are particularly useful for assessing the broader, non-financial dimensions of performance. The classifications of industry type tend to be subjective because the classification varies because industry classifications depend on the situation for which it is collected or researched. The data are generally more accessible than objective indicators from ventures and have been shown to exhibit strong reliability and validity (Dess et al., 1997). In this research, the main focus is on *new* ventures' performance, therefore the review considers only those studies that relate to indirect performance or subjective measures.

In the context of new ventures, the measures of performance is important as nascent entrepreneurs ventures' need to be considered along more than one

dimension (refer to table 2 p.74-83). There is more than one effect on new venture performance for nascent ventures. For the current review 13 of the 32 (41%) articles explored the types of new venture ventures. For example, Gartner, Mitchell and Vesper (1989) assessed the new venture venture (NBV) taxonomy using the individual, organisational, environmental and process domains. They focused on assessing types of firms from exploring patterns in the data. Another study have considered the impact of personality type in the context of resources, environment and the start-up outcome (e.g. Korunka et al., 2003). If specific new venture types can be identified, more specific options can be provided to help new ventures with start-up support.

As for types assessed in these studies, the construct survival as a measure of performance was also studied in 9 of the 32 articles (28%). An example of a useful study in this group is by Kessler et al., (2012) who analysed the process of new venture performance by examining survival over a time span. The research focuses on the performance which begins with the initial communication of start-up intentions, continued with the transition into active venture and was defined by the actual start of venture activities (registering a new venture), and included the ensuing survival or failure of the new venture (Kessler et al., 2012). They found that characteristics of the person (i.e., risk-taking) affect founding success, but not survival. At the same time, resource and environmental aspects did not reveal an effect on founding success or survival. In order to examine how different capability configurations are formed, Symeonidou et al., (2013) analysed this phenomenon in relation to the survival of new ventures in the manufacturing and service industry. Capabilities are classified as either operational or dynamic. An operational capability can be defined as a group of routines that allow an organisation to create significant outputs of a specific type whereas dynamic capabilities are those that build, integrate or reconfigure operational capabilities (Teece & Pisano, 1994; Winter, 2003). Symeonidou et al. (2013), found that start-ups that invested either in research and development, marketing or production capability configurations improved the start-ups' chances of survival. In their study, the main performance outcome considered performance from the perspective of surviving the process of development to becoming a new venture. However, this pattern was different across industries. Furthermore, they found that simultaneous development of different

capabilities i.e. dynamic or operational, exposes start-ups to a higher risk of exit due to the liability of newness that these firms face. The advantage of these two studies is that they also assessed the survival of nascent entrepreneurs with methods such as the survival analysis using the Cox proportional hazard model that offer explanations for survival over time, which is a key goal for studying the nascent entrepreneurs.

The remainder of the studies reviewed were based on performance. One study looked at patent rate, two were review articles by Harms et al., (2009 & 2007), and the seven remaining studies looked at multiple measures of performance such as growth and sales (Carter et al., 1996; García-Villaverde, Ruiz-Ortega & Ignacio Canales 2013; Parida, Westerberg, Ylinenpää, & Roininen, 2010 and Stam & Elfring 2008). The performance domain or outcome was not assessed in a consistent manner either. There were some similarities in the choice of variables used, but there were inconsistencies in the study outcomes. Interactions among individuals, firms and environmental variables, or those moderating the effect of individuals, firms and environmental variables, are where significant effects are going to be found. The value of such findings will be to point out the possibilities of entrepreneurial activity within specific situations because while most entrepreneurial efforts do not result in success per se, many such endeavours do, and a clearer understanding of both successes and failures can offer options for individual action. Before addressing the discussion on a possible method to adopt for the thesis, the issue of frameworks for applying and organising these domains for new ventures will be discussed.

4.5 Frameworks for New Ventures

Interestingly there are further fundamental challenges that still faces new venture researchers when studying configurations. Some relate to the discussions on the use of what constitutes important dimensions that are relevant for new ventures. There are key research areas that were described earlier from the domains person, resource, environment and strategy perspectives. Thus far the research on new ventures does not always offer comprehensive configurations and there is thus a call from Harms et al., (2009) and Davidsson (2005) to do so. These calls were made in order to move the field to more theory-driven or phenomenon-driven research that

considers combinations of factors with which to explore new venture performance. Whilst the research to date has been improving in its development of theory and methods in entrepreneurship (see for example, Frank, Lueger & Korunka, 2007; Harms et al., 2014 & Kessler et al., 2012), the research still requires comprehensive approaches for detecting configurations. This will help to explain the performance differences with a better overall understanding of the domains and their interactions with each other for nascent entrepreneurs (Chrisman et al., 1998; Gartner, 1985; Miller, 1987; Robinson & McDougall, 2001 and Sarasvathy, 2004). Chrisman et al., (1998) suggested that the model by Sandberg and Hofer, for new venture performance be extended to include the resources and the organizational structure, processes, and systems developed by the venture to implement its strategy and achieve its objectives. Robinson and McDougall, (2001) suggest that new venture researchers focus on the models of new ventures by applying new venture performance (NVP) $\propto f(E, S, I, S*I)$. NVP they suggest is a function of the entrepreneur (E), the strategy (S), the industry (I), and the fit between strategy and industry (S*I). Similarly, Sarasvathy also focused on these domains but suggested that the focus should be on the entrepreneur and the interaction of the internal characteristics and the environment while the new venture is forming. Miller (1987) proposed the domains 'leadership', 'structure', 'strategy', and 'environment', but it may be more appropriate to capture the particular characteristics of new ventures by assessing their person, resources strategy and environment.

As suggested by the earlier work of Gartner (1985) and the above models the thesis investigates a comprehensive model that situates the new venture based on the entrepreneur person, the context of a new venture start-up and performance (refer to figure 1). The model's aim is to place the entrepreneurial performance outcome into context, and to show how the different components of entrepreneurship i.e. individuals 'person' (NEs), environment (context), strategy (organisation type) and resources (financial context) interplay to determine the performance of entrepreneurial ventures, i.e. starting versus quitting. There is an assumption that the relative accomplishment of a particular performance outcome is characterised by its fit with that of the individual(s), the strategy (organisation type) and the environment.

Using the domains of person, resources, strategy and environment to assess performance outcomes, the study will use aspects of previous models to organise the configuration framework utilising the assumptions that are presented in Figure 2. Since this is an emerging area, there are not many established frameworks which have consistently been used and thus validated which focuses on interactions between key variables with respect to performance outcomes, or concentrate on relatively narrow empirical contexts (e.g., more homogeneous samples of ventures) and restrict the generalisations to that specific type of context (Davidsson et al., 2006, Harms et al., 2009). Using the configuration of the above domains the thesis analyses these domains and will use parts of the model for NEs with the entrepreneur strategy being included to take account of the importance of how they conceive their venture idea (organisation). As suggested earlier there is a method that can investigate the configuration of new ventures that takes account of the assumptions required for detecting new venture types of attributes and is thus helpful in analysing performance outcomes. The method is called fuzzy sets Qualitative Comparative Analysis and is the focus of the next chapter.

4.6 Chapter Summary

The focus of this chapter was on using a configuration approach to analyse new ventures and the benefits of this approach were discussed. There was an examination of the various domains which were suggested for new ventures as suggested by Chrisman et al., (1998); Gartner (1985); Gruber and Dencker (2015) Miller (1987); Robinson and McDougall (2001) and Sarasvathy (2004). These domains are person, resources, strategy and the environment. They were discussed based on their usefulness, considerations for studying new ventures, the issues for new ventures and the current findings from the extant literature.

The review for the current study focused on the person domain in 23 articles (72%) in the context of only nascent ventures. The focus in the person domain was on personality, motivation and human capital. There is still some work to consider regarding the motivation with other domains to explain performance. With regard to the domain resource, 21 of the 32 articles (66%) focused on the resources of the nascent firm or the structure of the firms. The variables were allocated to administrative structure, planning and control and resources. On the whole the

review shows that the financial resources are the current focus of the majority of studies in this set. There is still a need to determine how the financial resources impact on the configuration types being formed. With regard to the domain strategy, 15 of the 32 articles (47%) analysed in this review examined the strategies chosen by the companies in their sample. The domain environment was discussed in 26 articles (81%) and the focus from previous studies considered the environment in relation to the heterogeneity, dynamism and market share. These constructs have been analysed in various ways depending on the industry and location of the study. Challenges still remain to determine a set of measures for the environment that is appropriate for nascent ventures, indicating that the outcome is different depending on the environmental situation that the nascent entrepreneurs are facing.

Current methods were considered and found to be limited. It did not always investigate how interactions of the domains combine to explain and show it affects performance. One approach which offers a solution is the fuzzy sets Qualitative Comparative Approach (fsQCA) which is reviewed in the next chapter and also in the methodology chapter. The next chapter focuses on the literature on qualitative comparative analyses by showing how the method works and investigates recent studies that have used the method.

Chapter 5 Qualitative Comparative Analysis

5.1 Chapter Introduction

This chapter investigates the literature on the qualitative comparative analysis (QCA) which is a method used for analysing configurations of organisations. Fiss (2007) introduced QCA to the field of entrepreneurship in order to show how the method can be applied to the configuration approach. Previous research using the configuration approach has been limited in the way it analysed configurations. The chapter thus considers the core ideas of the method and how it works for explaining comparative performance differences, which is a key argument in this thesis for explaining new venture performance.

The chapter focuses on an explication of how and where the QCA bridges potential limitations of previous methods for explaining configurations and new venture performance. It has significant benefits as a method for analysing configurations because it is able to study attributes using positive, negative and or neutral relations to the outcome measure based on the configurations that are being assessed. It is able to show and provide evidence of *equifinality*, which suggests that there are multiple paths leading to the outcome being assessed (Gresov & Drazin, 1997; Payne, 2006a). It is further able to assess non-linear relationships amongst the attributes, which is helpful where non-linear relations are studied. This has been limited in previous research due to the methods used. The method, QCA, is able to distinguish core and peripheral conditions. The method evaluates the relationship between the necessary (core) conditions, strong connections versus also connected, but not necessary (peripheral) conditions, i.e. weaker connections which have an effect on the outcome (Fiss, 2011b; Ragin, 2008). For example, it explains how the relationship for the combination of conditions such as the environment, strategy and individual combine to explain causal links to the outcome. It is able to assess the relationships between attributes using set theory to understand an asymmetric relationship between the outcomes. The asymmetric relationship explains not only the positive outcomes but the opposite as well because of the set theoretic logic underlying the method (Byrne & Ragin, 2009b; Ragin, 2008). This is thus useful to explain success and quitting outcomes. fsQCA is able to offer ways to assess causal

connections and patterns in the data where previous methods used to assess configurations have been limited.

The chapter begins with an account of set theory and how it works in relation to the social science and entrepreneurship research, as this is one of the core components for QCA. The next section focuses on a definition of the QCA and how it works in the context of configurations. The next section focuses on the studies that have used QCA in entrepreneurship or venture- related fields. Please note that there is a paucity of research studies looking at nascent venture performance using QCA, hence the review looks at a wider range of studies in the management field as well. The studies are thus used as a way of showing how to apply the method for the current study. The research focuses on the design, theory and samples using the QCA with the subsequent section providing advantages of the method compared to other methods used for configuration studies. This review is thus limited to focusing on the connections between how the researchers used the method to tackle their research and not on the content per se. The chapter concludes by showing the gaps in the research of configurations using QCA and shows how the thesis builds on the configuration theory using QCA for new ventures in entrepreneurship.

5.2 Set Theory

Set theory defines the relationships between attributes and the outcome in terms of sets rather than variables which is the conventional approach to studying configurations (Jenson, Leith, Doyle, West, & Miles, 2016; Marx, Cambré, & Rihoux, 2013 & Ragin, 2013). The use of sets is based on the works of Zadeh (1965) and has evolved from mathematics where the sets are presented with Venn diagrams explaining the commonalities in the diagram versus that which is outside the set connection (differences). The advantage of this approach means the sets specify a predefined relationship to the outcome making it possible to consider the size of effects relative to the outcome. This makes it possible to define specific instances of set membership which is important to show when the cases and outcome are aligned.

Qualitative Comparative Analysis uses set theory to establish connections between the attributes that are similar in the set of those who start a venture, for example, and assesses the differences based on set criteria (Balodi & Prabhu, 2014;

Greckhamer, Misangyi, & Fiss, 2013; Ragin, 2008; Schulze-Bentrop, 2013). The criteria will be dictated by the theory and data connections. For example, in assessing performance the researcher would assess which attributes are present or absent in the configuration to explain the set of outcomes (refer to figure 6 below). This is similar to variable-based approaches where the higher the correlation between variables the stronger the association with the outcome. In QCA, the *presence* of an attribute suggests the connection to the outcome started or in the process of starting as a set of those outcomes (Beynon et al., 2016; Schulze-Bentrop, 2013). Researchers studying configurations consider cases or firms as the configuration of attributes and should be analysed holistically as groups (Meuer & Rupiatta, 2017; Miller, 1987). This understanding is important to show not only that there are connections between attributes and the outcome, but also that the predefined sets provide more detailed information about the number or presence of particular attributes that affect an outcome. This builds a better picture around the interaction effects of the attributes on the outcomes (Fiss, 2007). This is helpful to show not only that conditions are present, but also the degree to which these combinations contribute to the performing sets being investigated.

Early research about configurations was not always able to say whether the performance is a cause or result of a particular set of attributes which limits theory development. This left unanswered questions about the causal connection between attributes and the outcome being studied because of the limitations of the methods used to study the phenomenon (Byrne & Ragin, 2009b; Marx et al., 2013; Rihoux & Ragin, 2009). There were also some gaps in the understanding of the theoretical support for configurations. The next section illustrates how sets are used for analysing attributes in relation to configurations.

5.2.1 Two set theoretic analytic illustrations

Figures 8 and 9 below present two Venn diagrams to illustrate the two analytic strategies involved in finding commonalities of attributes to an outcome. The first strategy is used to investigate cases sharing a given outcome (nascent entrepreneur cases which have started). The second strategy is to investigate cases that share a

specific causal condition⁵ or a combination of conditions (configurations), and assess whether these cases show the same outcome (e.g. whether person, strategy and environment impact on the outcome started) (Ragin, 2008, p. 18). This thesis focuses on the second analytic strategy which relates the outcomes and attributes based on configurations. The second strategy examines occurrences of a specific causal condition or combination of conditions which comprise a subset of occurrences of an outcome. With the explicit occurrences, it is possible to connect theory with more focus on explaining the number of cases with connections to sets (Byrne & Ragin, 2009a; Marx et al., 2013). See figure 9 following for an illustration of this idea.

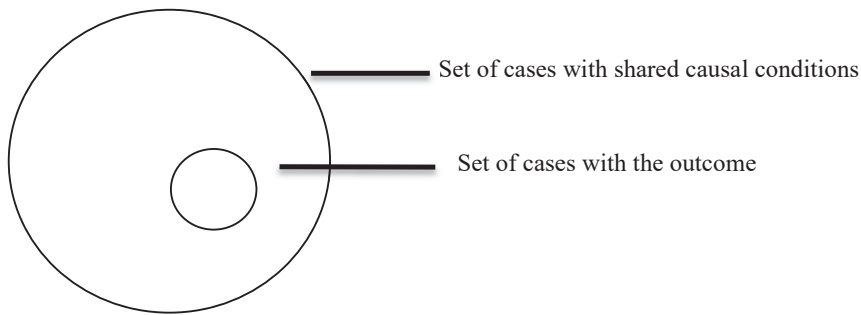


Figure 8 Venn diagram identifying causal conditions when shared by an outcome

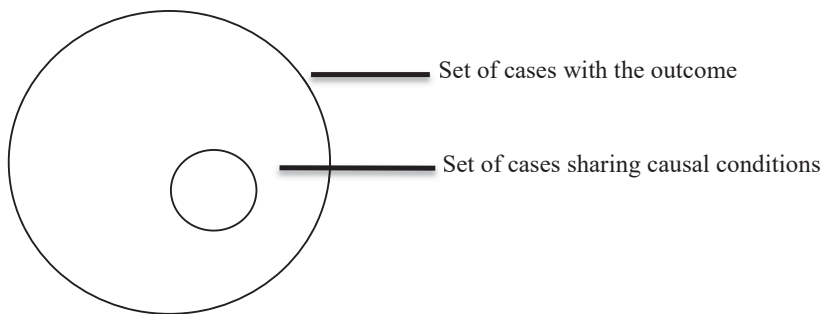


Figure 9: Venn diagram assessing whether cases with similar causal conditions share similar outcomes

⁵ Causal conditions describe in some way an attribute of a case that explains the analysts account or explanation of the outcome, e.g. new venture performance (Ragin, 2008).

The sets for creating causal conditions are created by following certain rules to apply the underlying logic. Firstly, the sets are created from some substantive knowledge of theory pertaining to the set and cannot be merely transferred from variables or domains to sets (Fiss, 2011; Ragin, 1998). Prior knowledge about the connection of the theory between the attributes and the outcome is considered when creating the sets. See figure 8 as an illustration for this idea. For example, in the creation of sets for strategy the attributes leading to the outcome are considered where there is a clear pattern that distinguishes boundaries or levels or kind of strategy or degree of having a particular strategy. In this way, the sets are defined and organised based on criteria which are predefined based on supporting theory (Byrne & Ragin, 2009a; Greckhamer, Misangyi & Fiss, 2013; Ragin, 2008). The boundaries follow the logic where those with a clear strategy are combined into performers' set and those respondents without a clear strategy are grouped into the non-performers' set.

The logic is not the same for variables as for sets. For sets, the treatment and assessment of the boundaries for each set helps to connect the theoretical knowledge to the statistical analyses for each set which is not the case for the variable-based approach (Byrne & Ragin, 2009a; Crilly, 2013; Marx et al., 2013; Munoz & Dimov, 2015; Rihoux & Ragin, 2009). The set-theoretic methods differ in its treatment as they do not disaggregate cases into segmented, analytically particular instances, but rather they treat configurations as various sorts of cases (Ragin, 2008). There is thus a connection between seeing the cases and the attributes as connected, which is helpful for researching smaller data samples, often the case in entrepreneurship research. This is helpful to be able to describe with stronger expression of causal relations, where connections exist between the attributes and outcomes.

The sets have a further distinction over other forms of assessing performance. For high performing firms, for example, cases are assessed for similarity to the other cases having the same attributes and consistency for that set. The analyses of sets then combine to provide a sufficiency and consistency score (Fiss, 2011a; Greckhamer, Misangyi & Fiss, 2013). Sufficiency scores relate to the amount of commonality required at a particular level amongst the cases in order to be considered a member in a set. It is not sufficient to say that the scores are similar as the results need to reflect how much similarity exists. For example, fuzzy sets

logic considers the continuous scale scores between 0 and 1 (Rihoux & Ragin, 2009). These scores provide meaningful assessment of the connection between the attributes and their relation to the set being assessed (consistency). Generally, thresholds are needed based on substantive knowledge to determine the connection of the variables to sets (coverage) (Ragin, 1998). Providing grades or shades of difference or similarity can extend the scores. In the case of similar performance criteria can be imposed on the data that performance above a certain score (<0.5) is considered to be high and below a certain point it is either low (>0.3) or average (greater than 0.3 but below 0.5). Providing grades or shades of difference or similarity can extend the scores. This is important to show degree of similarity within a performing set, for example showing how different levels of the same condition lead to different outcomes given a different causal recipe (Balodi & Prabhu, 2014; Ragin, 2008). The ability to show this information is helpful for the current study to show not just for starting firms but the degree to which they are configured in the set of performers. To examine configurations of attributes, set theoretic methods use Boolean algebra, a notation method that allows mathematical analyses of rational statements (Fiss, 2007; Crilly, 2011; Kuckertz et al., 2015). The ways to create the sets are considered in the next section.

5.2.2 Creating Sets from data

A transformation is required to provide scoring that is on a common scale so that the comparison of variables into sets can be formed, which are generally at 0 or 1 for crisp sets (binary) and continuous coding of between 0 and 1 for fuzzy sets (Fiss, 2007; Ragin, 2008; Beynon et al., 2016). For example, for crisp sets of starters on attributes lower than a threshold of say 0.5 the attribute for that group is set at 0. For sets of starters of attributes at, or above 0.5 the sets are given a score of 1. There could also be intermediate levels of set membership such as partial membership where the attributes are at the midpoint or median of the scale. In this case an intermediate level of the outcome is possible, that is on the midpoint, for example on 0.5 (Roig-Tierno, Huarng, & Ribeiro-Soriano, 2016; Zadeh, 1965). The boundaries are created from theoretical knowledge or some underlying framing of the sets. The sets are created for each attribute assessed in the framework or model being specified for analysis (Rihoux & Ragin, 2009). It is important to determine the connections between the boundaries from theoretical knowledge as this helps

explain theoretical connections to the statistical findings which then aids in explaining the causal links more substantively. If we are able to supply information about the effects of human capital, for example and the outcome sets, then when constructing the sets, we can define the thresholds at useful levels in order to explain the statistical link to the theoretical connection. Knowledge of specific human capital theory is helpful to determine where the boundaries should be to create sets and also suggests thresholds. The next section looks at a special case of sets referred to as fuzzy sets.

5.2.3 Fuzzy Sets

Fuzzy sets are an extension of crisp sets by allowing membership scores in continuous intervals between 0 and 1 (Byrne & Ragin, 2009a; Ragin, 2008). Thus, for the QCA-type studies, the data needs to be transformed to create scores between 0 and 1. For example, an entrepreneur could have a membership score of 1 in the set of innovative start-ups but a score of 0.9 in the set of actual starters (see for example, Ferreira & Dionisio, 2016). The reason for the lower score could be that the venture has not been fully formed or nascent, and is still in the early formation phase of the venture. The idea of fuzzy sets is to allow scaling of the membership scores, thereby creating partial or fuzzy membership (Kuckertz, Berger, & Mpeqa, 2016a; Mandl, Berger, & Kuckertz, 2016; Ragin, 2008; Roig-Tierno, Huarng, & Ribeiro-Soriano, 2016). In fuzzy sets full membership in a set 1, scores close to 1, i.e. 0.8 or 0.9 indicate strong but not completely full membership in a set. Scores less than 0.5 but greater than 0 (0.2 or 0.3) indicate that the object is more out than in for a set, and therefore considered to be below average members of the set (Beynon et al., 2016; Devece, Peris-Ortiz, Rueda- Armengot, 2016; Mikalef & Pateli, 2017; Peltoniemi et al., 2014). A score of 0 indicates full non-membership in the set (Rihoux & Ragin, 2009). Fuzzy sets are thus considered to be quantitative and qualitative in their assessment of sets. The score of 0.5 is a qualitative anchoring which creates the point of maximum ambiguity between being a member versus a non-member for an object (Byrne & Ragin, 2015; Fiss, 2007; Ragin, 2008; Rihoux & Ragin, 2009). Scores above 0.5 suggest a membership status of the outcome or set being studied and membership below 0.5 is outside the set or is a non-member.

5.3 What is Qualitative Comparative Analysis?

Qualitative comparative analysis (QCA) differs from correlational techniques in that it is grounded in set theory. QCA came from the field of political science and was developed by Ragin (1998) in order to make better cross-case analyses. QCA is useful when studying explicit connections and for analysing complicated causation defined as “a situation in which an outcome may follow from several different combinations of causal conditions, that is, from different causal ‘recipes’” (Ragin, 2008, p. 23). For example, a researcher might have reason to believe that there are several different configurations that account for successful new ventures. QCA determines causal connections between conditions, e.g. attributes within cases connected to an outcome. Each case is a member of several theorised configurations. The cases are thus analysed together as there are different configurations that are causally relevant (Rihoux and Ragin, 2009, Delbridge & Fiss, 2013). This is advantageous when sample sizes are small (Greckhamer et al., 2013; Meuer & Rupietta, 2017; Rihoux et al., 2013). By using QCA it is possible to analyse the conditions which lead to the outcome started for example (the QCA procedure is described in more detail in table 27 in the appendix).

The units of analysis are the configurations and not any single cases or the individual conditions (Rihoux & Ragin, 2009). QCA can identify the pivotal recipes by investigating cases with various configurations of conditions that are causally relevant (Rihoux & Ragin, 2009). That is the object or element inside a domain is either in the set or outside the set making up the domain. This ultimately leads to explanations of the causal complexity and connections between the relevant conditions and the outcome (Ragin, 1998). The complexity of the set relationship on the outcome being studied is considered using set theory as described above (Mandl et al., 2016). The advantages of QCA are explained in the next section.

5.3.1 Advantages of QCA

The advantage of fuzzy sets allows for defining qualitative states while assessing differing levels of membership between total inclusion and total exclusion of attributes (Fiss, 2007; Ragin, 1998; Ragin, 2008). This enables one to capture differences in kind and degree in the phenomenon being studied such as comparisons of pre and post global financial crisis effects on venture emergence.

The study by Devece, Peris-Ortis & Rueda-Armengot, (2016) for example, considered necessity driven entrepreneurship versus opportunity derived entrepreneurship to investigate which kind of approach works best given the environment; pre, and post GFC. Differences in kind, focus on comparative performance differences, that is, start-ups versus failure or termination (Balodi & Prabhu, 2014). Another advantage relates to difference in degree, which considers performance variation such as, for example, very high performance versus high performance (Fiss, 2011a). Instead of just presenting the sets as having started or quit the analysis can also present the grading of how far along they have been started or quit and what are the necessary conditions. QCA is able to compare cases and drop certain cases that are not related to the outcome being determined. It assesses the level of agreement of cases that match the combination of successful configuration pathways (Rihoux et al., 2013b; Rihoux & Ragin, 2009). Attributes that match the combination will be shared in the set of successful outcomes. In the study of performance, levels of performance are differentiated in a way that the sets are formed of similar levels of performance based on comparisons of degree of similarity versus difference using measures of coverage and consistency.

Fuzzy sets can account for these levels of membership but require substantive knowledge and theoretical guidance in the construction of the breakpoints (Byrne & Ragin, 2009b; Ketchen & Bergh, 2011; Ragin, 2008). The breakpoints serve to provide richer descriptions of the relative magnitude of the outcome. Owing to the connection of attributes and cases creating the sets, there is less reliance on the sample size being large enough to analyse clear differences. Furthermore, it does not make assumptions based on data being selected from a probability distribution (Fiss, 2011a). This means that the sample does not have to be representative of the population of interest to explain outcomes. QCA uses substantive knowledge to create sets rather than the sample mean, reducing the need for having a representative sample (Delbridge & Fiss, 2013; Fiss, 2011a). This is important in entrepreneurship research where sample sizes tend to be relatively small (Gartner & Shaver, 2012; Markova et al., 2011).

There is guidance offered in respect to consistency thresholds for cases related to configurations. Consistency in this context refers to the degree to which cases correspond to the set-theoretic relationships expressed in configuration

solutions. With regard to sets the idea is to show the proportion of cases consistent with the outcome. Ragin (2008) provides guidance on the thresholds for consistency thresholds. Fuzzy sets require that the researcher specifies the breakpoints for each set with some awareness of the underlying logic for forming the sets (Kask & Linton, 2013a; Ragin, 2008). The setting of the breakpoints is known as the calibration of the sets from interval variables into sets using criteria for the breakpoints.

Once the calibration has taken place for all the conditions, a truth table is created which provides all the options for the logical configurations. The next step involves creating a truth table once the independent and dependent measures have been transformed into sets. The truth table is a data matrix with 2^k rows, where k represents the quantity of causal conditions for the analysis (Fiss, 2011a). Each configuration produces its own row in the truth table, which shows the outcome and the table lists all possible combinations (Rihoux & Ragin, 2009). The next step according to Fiss (2007) and Rihoux & Ragin (2009) involves finding what is similar and consistency/agreement between the theoretical configurations that explain the outcome that the researcher is assessing. In the thesis the outcome being assessed is new venture performance for those who start versus those who quit the venture. The process of reducing the sets of conditions to create the configurations for the logically simple solution is completed using the Quine- McCluskey algorithm (Fiss, 2011; Ragin, 2008; Rihoux & Ragin, 2009). The algorithm assesses a condition and states that a condition is unnecessary for configuration when there is no difference when the condition is present or missing (Woodside, 2013). This determination makes it possible to assess connections of causally relevant sets which improve on current theory development.

5.3.2 Studies using QCA for Configuration Analysis

This section reviews the studies that have used Qualitative Comparative Analyses (QCA) studies in entrepreneurship and venture related fields. It considers the theory that they used, the method, the sample, the analysis with findings and the limitations. The studies chosen for review represent what is currently available in closely related research areas, therefore the review focus is limited. Remembering that the current study is concerned with the explanation of possible causes for the

performance of nascent entrepreneurs, the review focuses on the ways that the QCA studies have employed their analysis strategy. The articles were chosen from the compasss.org website which is dedicated to the research and scholarly contribution of QCA. The pertinent section of the website, *Applications in Venture and Economics* was used for the selection of the most applicable articles using QCA. Articles that were included had to be based on the new ventures or small venture. The EBSCO database with the search terms ‘configuration research using QCA’, and ‘configuration theory using QCA’ was also used. A further refinement of the search led to the following articles in table 5 being chosen. Please see the next page for the list of articles and information regarding the focus of these articles.

Table 5 Articles on QCA in Entrepreneurship/ Venture

| Article | Industry research area | Sample Size | Type of design | Theories | Level | IV | DV | Focus of the Research |
|--------------|---|-----------------|----------------|--|--------------|---|---|--|
| Fiss (2007) | Hypothetical Organisations | Not provided | QCA | Configurations on theory, Complementaries theory, Complexity theory, Resource based view | Organisation | Efficient production system High rate of product innovation Heterogeneous environment Hierarchical control structure | High performance | The study adds to understanding of set theoretic methods for use in configurations research of organisations. Fiss argues that set theoretic methods using QCA offers some more support to the analysis of configurations by providing an option for assessing equifinality. The relative importance of each path on the outcome is able to be assessed. He demonstrates how QCA can address issues of limited diversity, complementaries theory, complexity theory and resource based view. |
| Fiss (2011a) | UK technology manufacturing firms Management | 205 respondents | fsQCA survey | Miles and Snow Typology And a Core and Periphery distinction | Organisation | Structure Large size Formalisation Centralisation Complexity Strategy Differentiation Low cost Environment Rate of Change Uncertainty | High Performance Very High Performance | The theoretical perspective developed supports the argument of the Miles and Snow typology. It also supported the detailed analysis for demonstrating the connection between a causal core, periphery, and asymmetry which then provided support for mid-range theory showing how causal processes work for typologies. |

| Article | Industry research area | Sample Size | Type of design | Theories | Level | IV | DV | Focus of the Research |
|------------------------|---|--|----------------|--|----------------------------|---|----------------------------------|--|
| (Crilly, 2011) | MNEs (multinational enterprise) were chosen from the natural resources, chemicals, high technology, industrials, and foods sectors. International Venture | The data set contains 148 semi-structured interviews with senior executives from 13 MNEs. Documentary evidence and 298 interviews with managers and stakeholders | fsQCA | Resource dependency theory | Organization | Local R&D intensity Host-country collectivism Government influence Developed host country Global Slack Global revenue Home-country collectivism | Scope of Stakeholder orientation | Although theory stresses external stakeholders' control over resources, internal control by the corporate parent can limit local stakeholders' perspectives. The findings provide a mid-range theory combining normal explanations, investigating environmental factors, and an internal-stakeholder perspective, focused on the roles of the parent corporation as owner and resource provider in predicting stakeholder orientation. |
| Kask and Linton (2013) | Primary data from founder, CEO and expert scholars to benchmark the cases. Small Venture and Entrepreneurship | 16 Swedish start-ups | QCA | Inheritor originator gambler artists tourist technician intruder copycat | New ventures and Start-ups | -Entrepreneurial orientation -Invention -Radicalness -Dominant design | Venture mating/venture mating | They found that different solutions lead to high chances of forming venture relationships. They found that EO and or radical invention when the dominant design is not present allow a better chance of building venture networks. The second possible solution is EO and high invention radicalness needs to be absent at the same time as a dominant design is present to allow for better chances of venture mating. |

| Article | Industry research area | Sample Size | Type of design | Theory/ies | Level | IV | DV | Focus of the Research |
|----------------------------------|---|-----------------|---------------------------------|--|--------------------|--|--------------------------------|--|
| Chandra Balodi and Prabhu (2014) | Primary data to survey UK young firms and Indian Young firms International venture and entrepreneurship | 21-UK 70-Indian | Survey QCA | Configurations on theory and Entrepreneurial orientation | Firms | Highly dynamic technological environment -highly dynamic competitive environment -Corporate Development Strategy -New Product development strategy -External integration Structure -Internal integration Structure -Managers high growth experience -Entrepreneurial Orientation | Performance - Multiple measure | In all five configurations for the UK context, firms adopt high external integration, and employ inorganic development strategies, exhibit high internal integration, or do not operate in a highly competitive industry. These firms carve out niches, enjoy strong linkages with supply chain partners, and have strong enough reputations that their environment is not highly competitive. Among the nine Indian configurations, a large number of managers with high-growth experiences are absent in eight, high internal integration is lacking in six, and high external integration is missing in five. |
| Peltoniemi (2014) | Books, reports and websites Technology and Strategic Management | 58 | Multi-stage/ Longitudinal fsQCA | Firm survival over the industry life cycle. | Video game devices | Innovativeness Early Entry Experience from related industries | Firm survival or Non-survival | They found that innovation provides consistent survival more in the mature stage of the life cycle. Experience accumulated within the industry becomes less impactful in the mature stage, and the benefit shifts to <i>de alio</i> participants only after shakeout, i.e. exit. These findings relate to technological uncertainty, the role of internal and external knowledge, and the construction of sufficient technological performance. |

| Article | Industry research area | Sample Size | Type of design | Theory/ies | Level | IV | DV | Focus of the Research |
|---|---|--------------------------------------|----------------|---|------------------|--|-------------------------------|--|
| Kuckertz et al. (2015) | Four sources from GEM, Better life index OECD, Hofstede measures on culture and Index of Economic Freedom | 23 economies | fsQCA | Entrepreneurship theory and configurations on theory | Global economies | Necessity-driven entrepreneurs (NDE) and opportunity-driven entrepreneurs (ODE), | Entrepreneurial activity (EA) | They investigated the effects of culture, economic freedom and well-being on entrepreneurial activity (EA). They used a fuzzy-set qualitative comparative (fsQCA) analysis to identify unknown mixtures of predictors of EA in 23 innovation-driven economies. The analysis identifies various necessity-driven entrepreneurship (NDE) and opportunity-driven entrepreneurship (ODE), showing different configurations explaining EA, and suggests a role model for policymakers looking to secure a high proportion of ODE in a particular economy. |
| Munoz & Dimov (2015) | Sustainability new ventures | 45 sustainable newly formed ventures | fsQCA | Venture development in terms of actions, exchanges | | Prior Knowledge Sustainability Orientation Intention and Value Creation | Idea, Action and Exchange | They found that two distinct opportunity development paths, based on their analyses. Initially, the conformist, operates in an uplifting context as sustainability conveyor. The second, insurgent, path operates as a change agent contrary to an establishment that is not favourable to sustainability ideals. |
| Mas-Tur, Pinzo, Porcar & Sanchez-Masferrer (2015) | GEM El Salvador 2012 | 198 new ventures | csQCA | Exploration of new venture performance in South America | Ventures | Innovation Educational attainment Advisory Services Age and sex | Success based on profit | This study focused on El Salvador venture from the GEM data to understand causes of failure from the assessment of education, age and sex, innovation and use of professional advisory services. The findings indicate that the first group of failed venture did not innovate, sought non-professional advice although they had a degree of education. The second group despite innovating, had a male owner under 40 years old and did not have higher education. The third group did not use professional services, took advice from friends and family and were male under 40 years old. The last group were innovative, did not use |

any advisory services.

| Article | Industry research area | Sample Size | Type of design | Theories | Level | IV | DV | Focus of the Research |
|---------------------------------|---|---|----------------|--|--------------------------|--|--|---|
| (Beynon et al., 2016) | Innovation investment in manufacturing firms in different countries | 63 manufacturing firms in different countries | fsQCA | Contributes to knowledge on innovations to market | Country – wide firms | In-house-R & D External R & D External-Knowledge Training Physical Capital | Market introduction of Innovations | This article considers the relationship between various drivers of innovation and market preparedness for innovation. The study examined the consideration of different sets of conditional variables, findings point to the importance of individual variables amongst causal recipes, and shows a range of variations in the drivers towards market introduction of innovation between sets of countries. This study also considers the effect on causal recipes in fsQCA when including/excluding a condition variable. |
| (Ferreira & Dionísio, 2016) | Innovations in the European Union | 28 EU Countries | fsQCA | Contribution to understanding innovation for economic performance. | Country level innovation | Human resources Research systems Finance and support Firm investments Linkages and entrepreneurship Intellectual assets | Innovation results Economic effects | This study investigated the relation between the level of innovation and the economic effects and applies a fuzzy-set qualitative comparative analysis to investigate the relation between six conditions and two different outcomes. The findings suggest that research systems, linkages and entrepreneurship, and intellectual assets are necessary conditions for the outcomes of a high level of innovation and positive economic effects. The main sufficient condition for both outcomes are a good research system. |
| Kuckertz, Berger & Mpeqa (2016) | Necessity driven versus opportunity driven NEs | 63 different countries | fsQCA | Entrepreneurship theory and configuration on theory | Economic Freedom (EF) | Factor-driven, efficiency-driven, and innovation-driven economies | Entrepreneurial activity (EA) | The research addresses the question of how policy makers might design specific components of economic freedom (EF) to most effectively encourage high levels of entrepreneurial activity (EA). Given that entrepreneurship is a multifaceted phenomenon, the study analyses the effects of four components of EF on EA and relies on fuzzy-set qualitative comparative |

analysis (fsQCA) to do so. There are differences between opportunity-driven entrepreneurship and necessity-driven entrepreneurship. The results suggest that the effects of EF differ depending on the developmental stage of an economy and the kind of EA in question. The results illustrate that simple explanations imply that high levels of EF trigger high levels of EA regardless of a country's developmental stage, are not appropriate.

Focus of the Research

| Article | Industry research area | Sample Size | Type of design | Theory/ies | Level | IV | DV |
|---|---|---|----------------|--|--|---|--|
| Devece, Peris-Ortiz, Rueda-Armengot, (2016) | Necessity driven versus opportunity driven NEs in Spain | Nascent entrepreneurs in five periods GEM data in Spain | FsQCA | New venture performance and innovation opportunity recognition | Country level firms in recession and in prior boom | Opportunity Necessity Innovation Recession | Entrepreneurial activity (EA) |
| | | | | | | | The study focuses on two moments in Spain's recent economic cycle: the 2008 economic crisis and the economic boom prior to this recession. To identify the basic entrepreneurial characteristics (opportunity recognition and innovation) and drivers of entrepreneurship (necessity vs. opportunity) that increase the probability of success for new venture during these two periods. Findings show that necessity-driven entrepreneurship is less effective during recessions and that innovation and opportunity recognition are more helpful as success factors during intervals of recession than during intervals of wealth. Results reveal that the entrepreneur's perception of opportunities may be unhelpful in more prosperous times. |
| Deutscher, Zapkau, Schwens, Baum and Kabst (2016) | Journal of Venture Research | 91 founders and CEOs of German High technology ventures | fsQCA | Entrepreneurship theory and configuration on theory | New ventures | Entrepreneurial Orientation (EO), Market Orientation (MO) Learning Orientation (LO) | Growth Based Performance |
| | | | | | | | This research focuses on a configuration perspective and analyses the combined effects of Entrepreneurial Orientation (EO), Market Orientation (MO) and Learning Orientation (LO), on performance growth of high-technology firms. The analyses used fsQCA and a moderated regression analysis. Results suggest that performance is dependent on configurations |

where firms high on EO, MO and LO perform better than other configurations. Results suggest that other combinations of configurations of EO, MO and LO also improves performance leading to discussions about the more detailed understanding of which configurations lead to success.

| Article | Industry research area | Sample Size | Type of design | Theory/ies | Level | IV | DV | Focus of the Research |
|--|--------------------------------------|---|---|--|-------------------------|---|--|--|
| Gieure Buendia-Martinez, (2016) | & Spanish Translation sector | 46 small and medium-sized firms and self-employed entrepreneurs in the Spanish T&I sector | Fs/csQA | Entrepreneurship theory and configuration theory | Firms and self-employed | Entrepreneurial education, Venture Background media Size Gender Economic Investment | Survival | This article presented an empirical analysis exploring the determinants of the survival of firm or self-employed workers in the Spanish translation sector.. The findings produced different causal paths that predict the survival of the translation and interpreting firms or self-employed entrepreneurs. |
| Gupta, Malhotra, Czinkota & Foroudi (2016) | Marketing and international IT firms | 649 resellers for IT firms | Structural Equation Modelling and fsQCA | Complexity theory and marketing theory | IT firms and resellers | Competitiveness of brand -local infrastructure -local relationship -local support -local capabilities Competitiveness of reseller -brand leadership -brand value -marketing support -product demand enhancement | Marketing innovation -approach to market -channel of communication -product delivery -service delivery | This article used complexity theory to investigate the relationship between competitiveness and innovation in the marketing practises of large manufacturing firms who provide their branded products in a foreign market by working with a network of local small and medium-sized enterprises (SMEs) as resellers of their brand. Findings point to a successful venture relationship between a brand and its resellers enabled when competing in a competitive market. Innovativeness in the marketing projects of the brand is attributable to the contributions made by the brand to its competitiveness. |

| | | | | | | | |
|-------------------------------|------------------------------------|-----------------------------------|---------------|---|--|--------------------|--|
| Ho, Plewa and Nhat Lu, (2016) | High tech manufacturing in Germany | Strategic venture units 766 cases | MRA and fsQCA | Resource Based View- resource complementarity | Market orientation Relationship orientation Technology orientation | High profitability | The MRA results show impact of strategic orientations on profitability, whereas the fsQCA results indicates many combinations of strategic orientations leading to high profitability. The study contributes and illustrates the benefits of fsQCA for examining the complementarity of strategic orientations and offers conceptual and empirical support for previously understudied combinations. |
|-------------------------------|------------------------------------|-----------------------------------|---------------|---|--|--------------------|--|

| Article | Industry research area | Sample Size | Type of design | Theories | Level | IV | DV | Focus of the Research |
|---------|------------------------|-------------|----------------|----------|-------|----|----|-----------------------|
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|--|--------------------------------|-----------------------|-------|--|--|---|--------|---|
| Rey-Marti, Ribeiro-Soriano, Sanchez-Garcia, (2016) | Social enterprises In Spain | 51 social enterprises | fsQCA | Social entrepreneurship and job creation | | Educational attainment Relevant training Professional experience Family history Financial support | Growth | This research explores how contingent factors of social enterprises impact on job creation. This study investigates the influence of the factors on venture size by using fuzzy-set qualitative comparative analysis (fsQCA) to analyze data from social enterprises. The analyses found that the most imperative factors for job creation for social enterprises. Social firms that create jobs receive financial support and have an entrepreneur with experience. In contrast, social enterprises that normally do not create jobs also do not get financial support and have a founder with low levels of experience and relevant and professional training |
|--|--------------------------------|-----------------------|-------|--|--|---|--------|---|

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|------------------------|--|-------------------------------|-------|-------------------|-------------|--|----------------------------|--|
| Xue, Yuan & Shi (2016) | Chinese manufacturing sector Joint Ventures | 268 JV in manufacturing firms | fsQCA | Complexity theory | JV partners | Competence trust Goodwill trust Guanxi Specific investment Extorting rent cost Partner selection cost | JV opportunistic behaviour | The research aim was to adopt two dominant and complementary perspectives of transaction cost economics and relational exchange theory to identify transaction cost-related factors and elements of relational exchanges as critical factors affecting partners' opportunistic behaviour for JVs. Seven configurations for transaction cost-related factors and elements of relational exchanges were found to explain partners' opportunistic behaviour. This study provided insights into how transaction cost-related factors and elements of relational exchanges combine to account for opportunism in JVs. It also contributed by providing evidence for the causal patterns of factors to managerial practice by showing what causes JV |
|------------------------|--|-------------------------------|-------|-------------------|-------------|--|----------------------------|--|

opportunism, so that effective measures against opportunism can deliver better JV partnerships.

| Article | Industry research area | Sample Size | Type of design | Theory/ies | Level | IV | DV | Focus of the Research |
|----------------------------|--------------------------|---|-------------------|--|------------------------|--|---|---|
| Mikaléf and Pateli, (2017) | Journal Venture Research | of 274 international firms | PLS SEM and fsQCA | Entrepreneurship theory and configuration theory | IT international Firms | Dynamism Heterogeneity Hostility IT-enabled dynamic capabilities Firm size | Competitive performance | A central question for researchers and practitioners is whether and how IT (information technology) can help build a competitive advantage in uncertain environments. To address this question, the present study seeks to empirically explore the relationship between IT-enabled dynamic capabilities and competitive performance. By drawing upon recent thinking in the strategy and IT management literatures, this paper argues that the impact of IT-enabled dynamic capabilities on competitive performance is mediated by organizational agility. Using survey data from 274 international firms and by applying structural equation modelling (SEM), outcomes suggest that IT-enabled dynamic capabilities facilitate two types of agility, market capitalizing and operational adjustment agility, which in sequence enhance competitive performance. The confluence of environmental factors is examined by fuzzy-set qualitative comparative analysis (fsQCA). The results of fsQCA reinforce and refine findings of the PLS analysis concerning the limits and conditions to which IT-enabled dynamic capabilities add value. |
| Munoz & Cohen, (2017) | Planning venture | 36 sharing firms in the sharing economy | fsQCA | Typologies for venture start-ups, investors and policymakers | Venture | Governance Mission Resources Funding Interaction Technology Platform | Sharing planning, modelling and doing venture | This research uses rigorous comparative method, fs/QCA, to assess the venture models of 36 firms in the sharing economy. Leveraging a rich set of qualitative data, the analysis considered seven dimensions of sharing economy venture models drawn from extant research, revealing a typology comprising five ideal types that together account for the constellation of possible, empirically-relevant venture models in the sharing economy. The emergent dilemmas and paradoxes as well as implications of these typologies of |

venture models for startups, investors and policymakers were discussed. Results, presented show that regulation and policy for the sharing economy is difficult mainly because the variation in venture models used has varying negative and positive impacts for communities.

5.4 Description of the Articles

Table 5 above provides a summary of the nine articles found in the search that used either the QCA or the extension fsQCA for analysing their research problem. There are three articles that used QCA analysis namely; Fiss (2007), Kask and Linton (2013), and Balodi and Prabhu (2014). The other articles by Fiss (2011), Crilly (2011), Peltoniemi (2014) and lately Kuckertz, Berger, and Allmendinger (2015), Deutscher, Zapkau, Schwens, Baum and Kabst, (2016), Devece, Peris-Ortiz, Rueda-Armengot, (2016), Kuckertz, Berger, and Mpeqa (2016), Gieure & Buendía-Martínez, (2016), Xue, Yuan & Shi (2016) Mikalef and Pateli, (2017) and Munoz & Cohen, (2017) used fuzzy sets QCA, which is an extension of the crisp set option as explained earlier, by providing more options for the outcome being studied. The current study will build on these studies by showing the causal connections from the research model and show the interactions of the domains for performance outcomes. The next section focuses on the study designs used.

5.4.1 Study designs used

The various designs for the studies habitually used cross-sectional survey analysis for the data collection with the exception of Peltoniemi (2014) who used secondary data from books, reports and websites. Kask and Linton (2013) used primary data from CEOs and then used experts to benchmark the cases. Fiss (2007, 2011) focused on generic organisations for the initial study and then proceeded to look at management for the later article focusing on high technology firms. Crilly (2013) investigated international venture in their study. Kask and Linton's study was situated in the field of entrepreneurship with a focus on start-ups. Balodi and Prabhu's (2014) study straddles both the entrepreneurship field and international venture as it compares young firms in India and the UK. The study by Kuckertz et al. (2015) considered entrepreneurial activity by creating sets based on different economies cultural differences and exploring the different configurations. Studies focussing on the performance of start-ups such as Balodi and Prabhu's (2014) and Kask and Linton's (2013) studies, could have provided more impetus to the problems that they were addressing by providing longitudinal analyses. There have been calls to study the outcomes of new ventures over time with longitudinal

analyses from Dess et al., (1993) and Davidsson and Gordon (2012) for example, in order to gauge the effects of change over time while nascent entrepreneurs are in the process of setting up their venture. There were issues of design in many instances, as it was not apparent whether performance was a cause or an effect of configuration membership.

One example of a study that used a longitudinal design using QCA is by Peltoniemi (2014) where the focus was on technology firms and management. In it they focused on the changes of the video game industry over a period of time. This is advantageous because the fsQCA analyses then presented a richer discussion of causal connections and could show when there were substantive changes over time in the attributes being studied. The analyses offered more understanding to causal linkages and configurations were offered with more clarity about the peripheral and core conditions for the outcomes being studied. It could also offer some information on the changes which had the most impact on the outcome over time. There is a need for more of these types of studies to confirm links and also to provide support for findings connected to configuration theory.

5.4.2 Theory and typologies

Core to these articles are the need to have adopted a configuration approach as the main method of the study. All of the articles described in some way, how their study addresses configurations within the context of the theoretical contribution it was making or building on the theory if it was an exploratory study. The article by Fiss (2007) proposed that in the tradition of the resource based view, researchers have often assessed resources from an individual standpoint frequently disregarding how the value of resources depends on the presence of other resources. He asserted that the way they were configured with one another and the nature of these relationships has not been fully explored empirically. The distinction is important as it suggests that methods employed before had limited theory development especially in explaining performance.

In this thesis this distinction between core and periphery will be able to point to useful configuration attributes that are considered to be imperative (core) and those which are not as necessary (peripheral) which would add to the current entrepreneurship literature in relation to the causal structure of the configurations.

This is useful to fill the gaps in our understanding of causes versus effects in certain configurations that addresses the gap in our understanding of where attributes affect causal paths to performance. Addressing performance is important with the realisation that there are certain paths that lead to performing new ventures, such as equifinality (Gresov & Drazin, 1997).

Since Fiss' (2011) call for research on core and peripheral distinctions there has been other studies undertaken which have used the QCA method to address their research questions. The theories addressed by these articles include the following; Crilly (2011) investigated research for predicting stakeholder orientation in the multinational enterprise. Using a combination of induction and fuzzy set theory he developed theory on the conditions that shape subsidiaries stakeholder orientations. The study findings help to provide a mid-range theory about the combination of existing explanations addressing environmental factors, internal stakeholder perspective, led by the role of the owner and resources provided by parent corporation to predict the stakeholder orientation.

Kask and Linton (2013) focused their research on start-ups chances of connecting with marketing partners. They focused in their study on the venture relationship literature and provided extension of theories that often looked at either the firm or the market, but were not focused on the combination. For Kask and Linton's (2013) study they were able to combine different theories, focused on inner firm conditions and others based on market conditions. The configurations of management style, invention features and market situations, link previous theories from different starting positions. The study also focuses on Entrepreneurial Orientation (EO) as there is a positive association to performance established by previous studies explained earlier (e.g. Wiklund & Shepherd, 2005). The EO debate is advantageous in certain situations while in other situations it can be beneficial to have a more conservative management style. Similarly to Kask and Linton (2013), Balodi and Prabhu (2014) have also researched the theory of EO but in a comparative analysis between India and UK firms. Using a QCA they were able to assess configurations of UK and Indian firms in the starting phase. Because the focus was different the outcomes from their study differ from Kask and Linton. Apart from the study differences these two studies were able to provide more substantive connections to paths that lead to performance using the EO theory. For

example, the studies were able to show how *periphery* and *core conditions* impact on the outcomes that they were assessing. With the help of QCA they were able to assess intermediate levels of agreement as well, which is a progression in explaining the causal linkages.

Studies such as Wiklund and Shepherd's (2005) for example while also employing a configuration approach were not able to provide the theoretical sophistication showing the causal links between the attributes of EO to performance. In their study they were able to show how configurations were formed and their results presents levels of multivariate domains such as environment at various levels. They were able to differentiate by assessing high, medium and low levels. The QCA studies by Chandra Balodi and Prabhu (2014), Kask and Linton (2013b), Kuckertz et al. (2015), Kuckertz et al. (2016) and more recently Deutscher, Zapkau, Schwens, Baum, and Kabst, (2016) were able to show more sophisticated theoretical support for the formation of causal connections between the domains and within the domains and the outcome. By using the QCA method it also provided more information to add to mid-range theories and provided a more focused theory. The mid-range theories are focused on creating constructs or domains and matching data. These mid-range theories provide some support for levels of degree and kind of outcomes which is more powerful and sophisticated in explaining how configuration outcomes link to interactions of attributes too. Configuration theories using the QCA and fsQCA in these studies are powerful in showing where combinations of attributes lead to the outcomes and also reveal a degree of consistency. Because QCA maps the theory for developing the sets it provides a more transparent view of the connection between sets and theory (Ragin, 2008). The theoretical development provided better application than previous regression based methods, which extends the understanding of the interactions of the attributes (conditions) and the degree of connections to the outcome using set theory.

5.4.3 Samples

There is a perennial debate about the adequacy of samples, sample sizes and the need for assessing power to determine the degree of the significance of effects on the outcome being studied. The debate about sample size is not undisputed

within the extant literature in entrepreneurship (Davidsson, 2008; Davidsson & Gordon, 2010; Markova et al., 2011) with researchers calling for specific information on the relationship of the sample and the unit of analyses being made clear in the research.

Issues have been encountered regarding certain methods that use a configuration approach to solve research problems with smaller samples; this is often the case in entrepreneurship research (Davidsson, 2008; Hofer & Sandberg, 1987; Landstrom et al., 2012; Markova et al., 2011). Regression analysis tends to be sample dependent as predicting outcomes for the analysis requires samples large enough to allow for sufficient statistical power to explain the effects on the outcome (Byrne & Ragin, 2009a). When samples are small what can usefully be generalised as true effects on the outcome being studied is limited performance. This is important to know as a configurational research method has difficulties with samples affecting the available study options. For example, Stam and Elfring (2008) were limited in their ability to specify and generalise their findings using the hierarchical regression method on their sample of 90 nascent entrepreneurs. As their sample was extremely small they experienced difficulty in assessing the configurations emerging from the data.

QCA treats cases and attributes as sets therefore overcoming the issue regarding sample sizes needing enough power for statistical analyses. QCA offers an advantage when researching entrepreneurship compared to other methods as it deals with the smaller samples by treating the cases and attributes as connected sets (Ragin, 2008). In the studies under review not all were clear regarding what their sample units were for in the analysis. In new venture research there are calls for samples to be adequate for the method employed in order to build on arguments about constructs at the correct levels (Gartner & Shaver, 2012). In order to provide generalizable findings the samples need to be adequate for the method used and findings about constructs can only be connected if the level of analyses is understood (Davidsson & Gordon, 2012). In each of the eleven articles the sample information is provided and there is a clear connection to the unit of analysis. While most of the studies comprised small samples they were able to show the consistency and coverage levels for each of the configurations formed. There was a clear discussion about the level of agreement of the attributes and the outcome

being studied. Fiss (2011) encountered some limitations when testing the effects of models for his regression analyses. The tests were an issue as a result of the smaller sample, but the overall analyses method could be validated with cluster analyses. Size was not the only issue that posed certain challenges for configuration analyses when looking at new venture performance and methods employed were also challenging to analyse these configurations. The next section considers the outcomes when using QCA.

5.4.4 Performance outcomes

The types of performance outcomes being studied varied amongst the selected sample of QCA studies. Outcomes as they relate to organisations are considered in relation to the set of high performing organisations (Woodside, 2013). This thesis will assess the outcomes in relation to the set of starters versus those who quit in their attempt to create a new venture. The performance measures are further assessed to recalibrate them to common scales which are a requirement to create sets of starters versus sets of quitters. They are mostly multidimensional following the research suggestion that performance be measured using more than one measure (Wiklund & Shepherd, 2005).

The research using QCA are described to show how they have dealt with performance for their research. This casts light on possible ways to consider in the current study outcomes using the QCA method. There were various ways of assessing the outcome, for example Crilly (2011) investigated multinational stakeholder orientation while Kask and Linton (2013) investigated venture networking and others looked at performance such as Fiss, (2007), (2011) and Balodi and Prabhu, (2014). Peltoniemi (2014) investigated the firm's survival or non-survival in the gaming industry. Kuckertz et al., (2015) considered the entrepreneurial activity of the 23 various innovation-driven economies. Those who investigated performance considered the measure as either a multi-measure in the case of Balodi and Prabhu, (2014) and Kuckertz et al (2015) or they considered the levels of performance at different levels as binary options (crisp sets). Lately, Devece

Fiss (2011) investigated high performance and then assessed very high performance as a separate analysis to understand qualitative comparative

differences for his outcome variable. These assessed fuzzy sets meaning sets between 0 to 1, or on a continuous scale. He found that being able to differentiate these outcomes added more information about the causal links for high performing versus very high performing configurations for his study. The focus on this type of performance measure is useful to show how the sets can be configured for the current study. Knowing that sets can be extended to cover not just starters, but various levels, will build on new venture performance outcomes. In the case of the focus by Fiss there are options to theorise the connections of sets under certain conditions which provided contextual insights regarding the theory-performance connections. Configuration contexts are shown linking attributes to performance which is an area in the entrepreneurship literature that needs further investigation. In the current study this information will be used to develop an understanding of the domains for person, strategy, environment, resources and performance by showing how various timing of starting or quitting can be causally connected. This would answer calls in the extant entrepreneurship research to present the time dimension of configurations (Harms, et al. 2009). In essence, there are options to show how early starters configurations differ from the later starters. Furthermore, the early quitters can also be assessed versus the later quitters. This provides more specific options for explaining performance differences. Investigating early starters will enhance theoretical understanding of conditions which are relevant to initiate an early new venture and consequently later starting configurations should provide insight into the conditions relevant for starting later.

5.5 Chapter Summary

This chapter focused on the research into Qualitative Comparative Analysis (QCA). It provided information about the limitations of previous methods used for analysing configurations and certain information on previous issues that were not adequately addressed by other configuration methods. The next section focuses on a definition of QCA and how it operates. The QCA is a comparative analysis method that uses fuzzy sets to group similar attributes showing a causal pattern that can explain set membership (Greckhamer et al., 2013; Rihoux et al., 2013; Rihoux & Ragin, 2009). For example, beginning configurations with sets of attributes that are connected for starters are compared to other cases with similar attributes. A key

advantage of QCA relates to the way it treats attributes and cases as connected sets and consequently the sample study size does not have to be high. Fiss (2011) highlighted the fact that the use of core and peripheral conditions is helpful in configuration research to provide an understanding of causal links. The QCA studies in this review followed his advice and have provided further information regarding the causal outcomes of their studies with core and peripheral information.

Overall, the analyses of the available studies using QCA mainly used cross-sectional designs focusing only on one performance outcome. Performance was assessed by Fiss' (2011) study, which defined grades of performance such as high and very high. Balodi & Prabhu (2014) studied performance using a multi-measure item for comparison between UK and Indian start-ups and Kuckertz et al., (2015) considered the effects of culture, economic freedom and well-being on entrepreneurial activity. What is missing from the literature is a study of configurations of nascent entrepreneurs' performance differences over time using fsQCA to extend the equifinality debate. This will also explain a more focused theory between performance and attributes being assessed to enhance understanding of the conditions for performance of those who are successful versus those who quit.

Chapter 6 Methodology

6.1 Chapter Introduction

This research project uses secondary data taken from the Panel Study of Entrepreneurial Dynamics (PSED) (Reynolds & Curtin, 2011). A major contribution of the research in entrepreneurship is the way that fuzzy sets Qualitative Comparative Analysis (fsQCA) is applied to compare nascent entrepreneurs and explore links between various configurations of attributes known as domains and new venture performance. The chapter addresses the methods used for the analyses and discloses the procedures used. This chapter begins with information about the dataset used for the analyses of the thesis in order to provide a context for the sample of respondents. There is a brief summary of the survey approach adopted for the PSED, a description of the study participants, explores the economic as well as entrepreneurial activity patterns in the United States of America during the years 2005 to 2011 and a review of the key measures are presented. Consequently, the two critical phases of data analysis: *phase 1* – the hierarchical cluster analysis is used to validate the organising research framework of the domains of person, resources, environment and strategy in order to elaborate on the new venture creation process. Cluster analyses was used as it is useful to identify and explore groups from sample data and to reduce the number of constructs to nine (Hair, et al. 2011) The cluster analysis also identified a reduced set of constructs for use in the fsQCA which is limited to the use of nine constructs in the fsQCA software. *Phase 2* –the fsQCA was conducted for two waves of the panel survey administration waves 2, year 2006 and wave 6, year 2011; each wave is described and justified in the analysis section. *Phase 3* describes how sensitivity analyses were conducted using the data to ensure the validity of the methods chosen. The chapter concludes with a discussion of the ethical review process and a summary of the key methods used in the research.

6.2 Study Design

This study is conducted adopting a *critical–realist paradigm* (Fleetwood, 2005; Miller & Tsang, 2011) and analyses the relationships between the venture attributes, configurations and new venture performance. The primary aim is to explain the theoretical relationships as developed from the research framework between the configurations and performance. The research explores the configurations in order to show the causal linkages of attributes affecting the different nascent entrepreneurs' groups performance. Theory is critically evaluated by constructing the domains using empirical data based on the supporting literature (Miller & Tsang, 2011) largely through deductive reasoning. There is an acknowledgement that all human action, and by implication venture performance, can never be expected to be fully deterministic. The choice of research paradigm is closely connected to the adopted methodology (Ragin, 1998). The following section provides a justification for the empirical research design that is appropriate for the realist paradigm and details the methods used.

6.3 Epistemology

The thesis focuses on understanding the nature of entrepreneurs forming new venture and the attributes that causally connect to create performing configurations. In order to understand this, the research considers the configurations from a social perspective that sees the nature of the constructs as not being exact but a way for research to make sense of the area being studied (Sarasvathy, 2004). The research thus explains the nature of the reality for new ventures and therefore uses instruments such as surveys to collect vital accounts of nascent entrepreneurs in the process of starting their ventures (Miller & Tsang, 2011). There are other methods of researching these accounts such as cluster analyses methods. However, cluster analyses methods for studying configurations have been limited because of the use of researcher judgement to create clusters (Fiss, 2011, Short et al., 2008).

The ability to add to theory of new venture creation using configurations and the use of QCA is helpful to our understanding of the social phenomenon of performance differences of nascent entrepreneurs. The knowledge generated from the research is limited by the understanding of social constructions such as performance (Miller & Tsang, 2011). There are clear accounts of nascent entrepreneurs starting new ventures and there are clear instances of the performance

being different for the nascent entrepreneurs. By exploring the links between various configurations of domains and new venture performance for starters or quitters the study considers a sample of the groups of nascent entrepreneurs. The reality is that the formalisation of constructs/ domains is a limited representation as it is not possible to study all nascent entrepreneurs (Fleetwood, 2005). The study is able to explain the sets of attributes in the research and also explain the performance differences of more than one type of performance. Ragin (2008) has argued that the nature of a social phenomenon such as performance is able to be examined using set theory to define the constructs with direct connections to the theory. The sets are formed by connections that are based on attributes that are causally connected to the outcome from multiple paths. The configuration approach provides ways to show how multiple domains act together to explain group differences of attributes acting on the outcome based on the analyses of the sets (Fiss, 2011, Ragin, 2008) (refer to chapter 4). The sets aid in explanations about the causal relationships of configurations which thus provides a platform for knowledge to be surveyed in a different way to previous accounts that consider configurations for new ventures.

6.4 Sample strategy

It is very difficult to achieve a representative sample of new ventures or nascent ventures because the ventures are still in the formation stage and there are thus no registers capturing these ventures. This was a problem highlighted in work by previous researchers where they lamented the limited accessibility of a representative sample, thus making it harder to advance research in this area (Dean, Shook, & Payne, 2007; Markova et al., 2011; Reynolds & White, 1997) In this thesis, the performance of new ventures was investigated over three waves of survey data. The first wave of data, year 2005 data is used for describing the sample as this is where the comprehensive set of key demographic information is collected from respondents; following this, two further sample waves are used in the analyses. In order to investigate venture performance, i.e. start-ups and quitters, it is important to capture the nascent ventures in the process of being created from a sample that can provide longitudinal data (Katz & Gartner, 1988).

6.4.1 Panel Study of Entrepreneurial Dynamics

The thesis used the Panel Study of Entrepreneurial Dynamics (PSED) which is a United States based representative sample of nascent entrepreneurs. The survey is used as a secondary source denoting that the data collection was undertaken prior to this study. It provides information on the same sample of nascent entrepreneurs tracked and surveyed annually to ascertain their progress towards venture creation. The survey provides panel data made available by the Kauffman Foundation: a dataset that fulfils the requirement of capturing nascent entrepreneurs in the process of developing a new venture as suggested by Katz and Gartner (1988). Finding a representative sample of nascent entrepreneurs was quite difficult before the advent of panel surveys due to nascent entrepreneurs being unregistered. The author of this project considered collecting this data for a New Zealand context but found that it was an expensive process and potentially a difficult one with limited success for the research on types of new ventures, especially since there are no accurate venture registers holding information on formations of new ventures while these ventures are developing. Other similar projects have also been started such as the Comprehensive Australian Study of Entrepreneurial Emergence (CAUSEE) in Australia, and PSED in Canada, the Netherlands, Sweden, China and Austria amongst others. The author chose the US PSED 2 dataset because it provides a rich account of nascent entrepreneurs whilst in the process of developing their ventures and at the time of study, it was the second iteration of the survey which provided a useful sample of nascent entrepreneurs. Nascent entrepreneurs are extremely difficult and costly to sample by comparison with small venture owners as there are no ready sampling frames of emerging venture (Reynolds, 1997). The latest version, PSED 2 dataset, which is available for analysis from the PSED website <http://www.psed.isr.umich.edu/psed/data>, was used in this research as it is considered to be a comprehensive survey of nascent entrepreneurs providing coverage of topics which fit the research objectives of the current study. The dataset comprises six waves of panel data of which only three are the focus of this study (2006-2011) (Reynolds & Curtin, 2011) (refer to table 6 below for an overview of the sampling and survey processes). The survey covers topics on the reasons for nascent entrepreneurs' choice of venture as well as their motivations and plans to create the venture. It also covers topics investigating the help and support that

nascent entrepreneurs received for making decisions and provides information on prior experiences with venture. Further information on the actual questions that the survey covered can be found by referring to appendix B table 19 p. 288. For comprehensive information on the PSED questionnaire refer to the following references (Carter, Gartner, Shaver & Gatewood, 2003a; Reynolds & Curtin, 2009).

Table 6 Data Collection Strategy Overview

| Data Collection Strategy | | | | |
|---------------------------------|---|------------------|-----------------------|---|
| Year | | Year | | |
| 2005 | | 2006-2011 | | |
| Wave 1 | Description of Collection Activity | Wave 2 -6 | Venture Status | Description of Collection Activity |
| Stage 1 | Identification of a representative sample | | 1. Started new firm | Follow up interview every 52 weeks |
| Stage 2 | Interview 60 minutes | | 2. Active Start up | |
| Stage 3 | Follow up phone interview | | 3. Quit venture | If quit venture then follow up questions on why |

There were three stages to the survey data collection for the PSED data in the screening interview of wave 1 year 2005/6. The first stage, screening identified a representative sample of those actively involved in the new firm creation process, the nascent entrepreneurs. They were identified from phone interviews completed with adults from a representative sample of households that met four criteria: 1) they considered themselves as involved in the firm creation process, 2) they have engaged in some start-up activity in the past 12 months, 3) they expected to own all or part of the new firm, and 4) the initiative had not progressed to the point where it could be considered to be an operating venture (Reynolds & Curtin, 2011).

The second stage involved the respondents completing a 60-minute phone interview that covered a wide range of topics related to the initiation of a new firm.

A commercial survey firm completed the screening for the sample of eligible nascent entrepreneurs and the University of Michigan Institute collected the detailed data for Social Research. The topics that were covered included:

- information on the nature of the venture,
- start-up activities implemented on behalf of the new firm,
- incorporation into venture registries,
- the nature of the start-up team,
- helping networks, sources and amounts of financial support,
- evaluations of the immediate context, competitive strategy and growth expectations,
- and details of the motivations, perspectives, self-descriptions and,
- background and family context of the responding nascent entrepreneur.

The topics are presented in Table 20 in the appendix B.

The third stage involved the follow-up phone interviews which were also about 60 minutes in length. Careful scheduling allowed the initial contact for the first follow-up to occur 52 weeks following completion of the initial detailed interview, with the second follow-up after 104 weeks, and so forth until the last wave. The topics of the interview changed depending on the status of the venture at the time of the follow-up. Those nascent entrepreneurs that reported that they had disengaged from the fledgling venture (quit) were asked a few questions about start-up activity and a few items about the reasons for their decision to quit. All others received most of the interview schedule provided in the first interview, which provided the option to update their case file with any new activity or changes in the start-up team or financial structure. They did not receive most of the modules related to enduring features of the responding nascent entrepreneur (such as self-descriptions and family background) which were asked in the first comprehensive interview.

6.4.2 Participants/ respondents

The target sample for the thesis is nascent entrepreneurs in the starting phase of setting up and developing their venture. The unit of analysis is the nascent entrepreneurs who are the owner of the new venture. The method of analyses uses

both the venture level and the individual level to create the sets for analyses which is an advantage of the method (Byrne & Ragin, 2009; Rihoux et al., 2013). The understanding is that these entrepreneurs are still in the process of creating the venture, thus the venture is not fully formed at this stage. In 2005, the initial screening of the nascent entrepreneurs found 1214 screened into the survey from 31,845 telephone calls from a representative sample of the United States population. This represents a 3.85% rate of response to the telephone survey.

6.4.3 Missing and Excluded Data from the Sample

In this thesis 79 cases (7% of the sample) were excluded from the analysis due to high numbers of missing data on key variables. The exclusion of cases followed suggestions by Tabachnick and Fidell (2007) who suggest that where there are 5% or higher rates of missing responses on key variables these missing values should be excluded from the analyses. This resulted in a final sample size of 1135 useable cases. Missing data that were below the 5% range for key variables were subjected to mean substitution by conducting an analysis of missing at random versus not missing at random tests in SPSS version 23. Missing not at random cases, cases where the responses were missing for many variables were inspected more closely as they present issues for data analysis. Overall, there were missing cases on 3% of cases on individual items which was substituted using mean substitution as this method is considered appropriate in the literature for dealing with missing values (Field, 2013; Tabachnick & Fidell, 2007).

6.4.4 Extreme Scores

The method chosen for analysis, uses cluster analysis for exploring types of configuration groups. Other options such as K-means clustering, Centroid clustering and ANOVAs were considered but were limited or unsuitable based on the type of data presented (Field, 2013). According to Ketchen Jr. and Shook (1996a, p. 445) “Ward's method [a cluster analysis method] is best suited for studies where (a) the number of observations in each cluster are expected to be approximately equal and (b) there are no outliers”. The variables with extreme scores were recoded, in some cases and the outliers were assessed from the frequency analyses for each variable by using box and whisker plots. Extreme scores were recoded to within one data point from the next extreme score on a variable to reduce the discrepancy on the

scale (Field, 2013). Extreme scores were found on experience, age and industry tenure. The categories were recoded to reduce undue influence on the data. Extreme cases can skew the distribution on the variables, thus distorting and biasing the results of the analyses.

6.4.5 Demographic Information of Participants

The tables below present information on the key demographic information for the sample of respondents in the thesis. Often demographic information is used to understand the composition of the sample and their characteristics; this is important to explain the differences and similarities of the groups. Key demographic information on the gender, age, ethnicity, marital status and highest level of education are presented in table 7.

Table 7: Demographic Information of Respondents

| | N | % |
|------------------------------------|-------|------|
| Gender | | |
| Male | 704 | 62 |
| Female | 431 | 38 |
| Total | 1,135 | 100 |
| Age | | |
| 18-24 years | 94 | 8.3 |
| 25-34 years | 208 | 18.3 |
| 35-44 years | 270 | 23.8 |
| 45-54 years | 322 | 28.4 |
| 55-64 years | 186 | 16.4 |
| 65 and over | 55 | 4.8 |
| Total | 1,135 | 100 |
| Ethnicity | | |
| White | 854 | 75.2 |
| Black | 135 | 11.9 |
| Other | 130 | 11.4 |
| Refused | 16 | 1.4 |
| Total | 1,135 | 100 |
| Marital Status | | |
| Married/Cohabiting | 694 | 61.1 |
| Single | 28 | 2.5 |
| Unmarried | 413 | 36.4 |
| Total | 1,135 | 100 |
| Highest Level of Education | | |
| No qualification or secondary only | 671 | 59.1 |
| Undergraduate Qualification | 290 | 25.6 |
| Post Graduate Qualification | 174 | 15.3 |
| Total | 1,135 | 100 |

The age range of the sample was between 18 and 83 years with a mean age of 43 years. This is similar to studies reported by Manolova, Edelman, Brush &

Rotefoss (2012); Reynolds, Carter, Gartner & Greene (2004); van Gelderen, Thurik & Bosma (2005). In their samples, the age range of participants is between 18 and 65 years that are to be expected considering that retirement age in most countries is about the age of 65. The majority of the sample participants in the thesis were white (n=854, 75.2%), male (n=704, 62%) and married or cohabiting (n=694, 61%). In the sample, forty one percent of respondents had an undergraduate or post-graduate degree and fifty nine percent of respondents had no qualification or only secondary qualifications. Table 8 presents more key demographic information on the sample of respondents deemed important to study entrepreneurs, namely the type of venture that they are starting and their household income.

Table 8 Further Demographic Information of Study Participants

| | N | % |
|---------------------------|-------|-------|
| Type of Venture | | |
| Retail Store | 148 | 13.0 |
| Consumer Service | 399 | 35.2 |
| Health Service | 80 | 7.0 |
| Manufacturing | 65 | 5.7 |
| Construction | 78 | 6.9 |
| Real Estate | 59 | 5.2 |
| Venture Consulting | 82 | 7.2 |
| Other Type of Venture | 222 | 19.6 |
| Missing | 2 | .2 |
| Total | 1,135 | 100.0 |
| Household Income | | |
| Under \$US 60,000 | 545 | 48.0 |
| \$US 60,000- \$US 149,000 | 423 | 37.3 |
| \$US 150,000 or more | 97 | 8.5 |
| Don't Know | 70 | 6.2 |
| Total | 1,135 | 100.0 |

Other key variables used in similar studies to describe the characteristics of the entrepreneur and the venture includes the type of venture and the household income. The highest percentage of venture types that NEs planned to start was in

consumer services with thirty five percent, followed by retail stores thirteen percent. *Household income* ranged from under \$US 19,000 to \$US 500,000 or more per annum. The median income for this sample is between \$US 60,000 and \$US 79,000 (187, 16.5%) with the majority of respondents reporting that they had a household income at that level too (between \$US 60,000 and \$US 79,000). The level of household income is similar to studies conducted by Edelman, Brush, Manolova & Greene (2010); Reynolds & Curtin (2011) who reported similar findings in their studies. In order to research these new ventures, it is useful to understand the context of the economic environment in the United States of America for both the entrepreneurs and the consumers during the survey period. The following section thus explores the economic as well as entrepreneurial activity patterns in the United States of America during 2005 to 2011.

6.4.6 Context of Entrepreneurship in United States of America

In 2008, the United States (U.S.) economy declined into its worst economic slump since the Great Depression of the 1930s. This slump, later called the 2008 global financial crisis, was initiated by the bursting of the housing bubble in mid-2006, and the liquidity crunch in the shadow banking system in late 2007. There is no consensus on the immediate or primary causes of this crisis; the Financial Crisis Inquiry Commission arrived at different conclusions. This financial crisis proved to be a serious threat to the U.S. and global economic growth. Extant literature in entrepreneurship provides a reasonable idea of how an external shock like the Global Financial Crisis (GFC) affects the amount and makeup of venture start-ups in an economy. However, evidence is still sparse on how nascent entrepreneurs—i.e., individuals who are currently actively involved in a developing start-up (Davidsson & Gordon, 2012; Reynolds, 2009)—and their emerging ventures are affected by a macroeconomic crisis.

6.4.6.1 Growth in the Economy

Figure 10 below shows the quarterly growth rate in the U.S. based on the Gross Domestic Product (GDP) per capita (seasonally adjusted annualised rates). The GDP is the total worth of goods created and services delivered in a country during one year. The National Bureau of Economic Research (NBER) Venture Cycle Dating Committee (the authority on dating venture cycles) reported that the U.S. economy officially went into recession⁶ in December 2007. The growth rate in the first quarter of 2008 became negative (-1.8% seasonally adjusted annual rate), but the last two quarters of 2008 and the first quarter of 2009 were the worst time of the recession. In the last quarter of 2008, the economy shrank by 8.9% (annual rate).

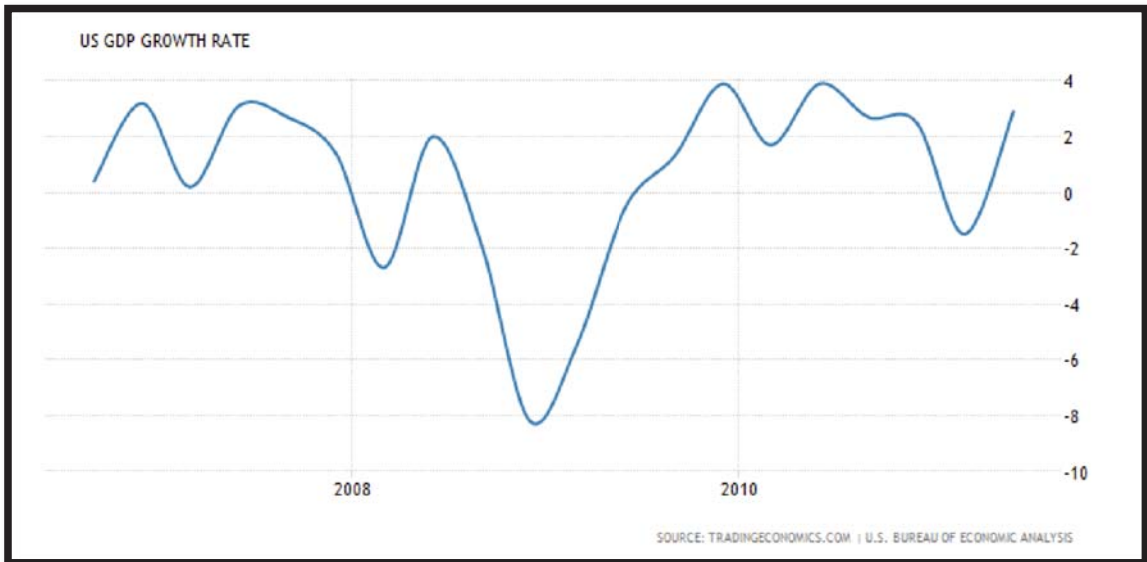


Figure 10 Quarterly Real Growth Rate (Seasonally Adjusted Annual Rates)

The response to the crisis was complex along many dimensions. Initially, the U.S. government bailed out a variety of firms in a program known as the Troubled

⁶ The technical indicator of a recession is two consecutive quarters of negative economic growth as measured by a country's gross domestic product (GDP). A recession is characterised by high unemployment, stagnant wages, and fall in retail sales, a recession usually does not last longer than one year (Cowling, Liu, Ledger, & Zhang, 2015).

Assets Relief Program (TARP). The aim of the program was to restore liquidity and confidence to the financial markets and the economy. In the next steps, governments around the world implemented stimulus packages by borrowing and investing in various programs. These packages increased the government demand for goods and services and as a consequence increased production in the economy. The aims of these programs were to increase production, create jobs and achieve higher employment levels. The United States alone enacted two stimulus packages for a total of about \$US1 trillion in 2008 and 2009. The American Recovery and Reinstatement Act (ARRA) of 2009 was signed into law on 17 February, 2009, and included about \$787 billion in spending on infrastructure, education, health, energy, federal tax incentives, and unemployment benefits. In contrast banks were very wary of giving out credit as a consequence of the causes of the financial crisis. Several regulatory legislations were also introduced to solve the vulnerabilities of the financial system in the long-run and avoid another similar crisis in the future. As a result, it was important to understand whether ongoing start-ups terminate at a higher than normal rate and/or become less innovative and growth-oriented because of the crisis. If so, policies to keep start-up endeavours going (unchanged) may be warranted on similar justifications as handouts to consumers (Wanna, 2009) or tax changes to help small venture survive (Smallbone, Deakins, Battisti, & Kitching, 2012). If nascent ventures go unaffected and unchanged during the crisis, such expenditure of public funds would not be justified.

Banks were less inclined to provide credit during the period of the financial crisis. For this purpose, the US Federal Reserve and central banks globally bought more than \$US2.5 trillion of government debt and troubled debt and distressed assets from banks to make credit available (Kelley, Ali, Rogoff, Brush, Corbett, Majbouri & Hechavarria, 2011). They thus increased the money supply to avoid deflationary risk. Deflation lowers the wages, which combined with unemployment reduces the aggregate demand for goods and services thus impacting negatively on a recession. There were thus regulatory legislations introduced to address the weaknesses of the financial system over the longer term and limit similar crises in the future. As a result of the interventions the economy started growing in the third quarter of 2009 and the National Bureau of Economic Research (NBER) Venture Cycle Dating Committee reported that since June 2009 there were four quarters of positive growth and increased by more than 4% in two quarters (see figure 11).

Even though the growth rate was positive, and despite these positive outcomes the unemployment levels were 4.5 % in 2007 and remained close to 10% at the end of the recession and into 2010 as seen in figure 11 below. The unemployment rate improved to 9% in the final quarter of 2011 and improved more steadily in the latter part of 2011 getting closer to 8%.

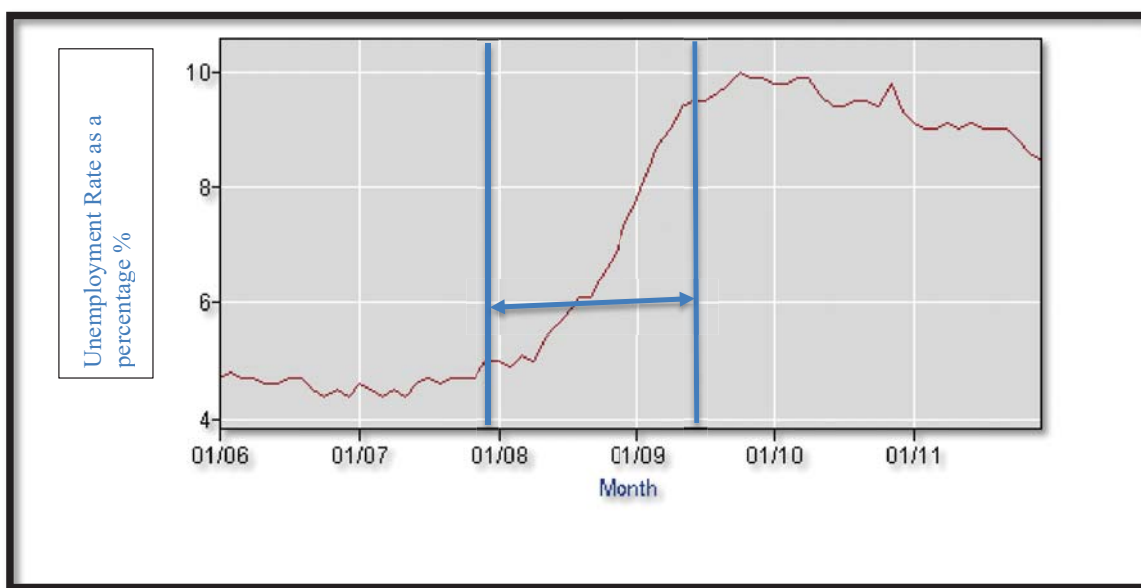


Figure 11- Unemployment Rate, in Percent between 2006 and 2011

6.4.6.2 Entrepreneurial Activity

The focus on entrepreneurial activity is a key measure to understand how many new ventures are being created. The entrepreneurial activity measure as applied by the United States uses the Kauffman Index of Entrepreneurial Activity which measures the rate of venture creation at the individual owner level. The period from 2006 to 2011 is analysed as this is the period for the current study. The percentage of the adult, non-venture-owner population beginning a venture on a monthly basis, the Kauffman Index describes information of all new venture owners, including those who own incorporated or unincorporated venture and those who are employers or non-employers (Fairlie, 2012). The Kauffman Index is calculated from matched data from the Current

Population Survey (CPS), a survey conducted monthly by the U.S. Bureau of the Census and the Bureau of Labour Statistics.

To create the Kauffman Index, all individuals between ages twenty and sixty-four who do not own a venture as their main job are identified in the initial survey month. By matching CPS files for the subsequent month to create a two-month survey pair, it is then determined if these individuals own a venture as their main job with fifteen or more usual hours worked per week in the following survey month. These monthly entrepreneurial activity rates then are averaged to calculate an average monthly estimate for each year. The Kauffman Index of Entrepreneurial Activity improves over other possible measures of entrepreneurship because of its timeliness, dynamic nature, inclusion of all types of venture activity, exclusion of “casual” venture, and information on owner demographics.

Table 9 Index of the Entrepreneurial Activity of the United States between 2005- 2011

Kauffman Index of Entrepreneurial Activity (2005-2011)

| Year | Male | | Female | | Total | |
|------|-----------------------|-------------|-----------------------|-------------|-----------------------|-------------|
| | Entrepreneurial Index | Sample Size | Entrepreneurial Index | Sample Size | Entrepreneurial Index | Sample Size |
| 2005 | 0.35% | 276,836 | 0.24% | 320,362 | 0.29% | 597,198 |
| 2006 | 0.35% | 274,825 | 0.23% | 316,781 | 0.29% | 591,606 |
| 2007 | 0.41% | 271,807 | 0.20% | 314,441 | 0.30% | 586,248 |
| 2008 | 0.42% | 272,218 | 0.24% | 312,167 | 0.32% | 584,385 |
| 2009 | 0.43% | 276,445 | 0.25% | 315,254 | 0.34% | 591,699 |
| 2010 | 0.44% | 277,387 | 0.24% | 315,884 | 0.34% | 593,271 |
| 2011 | 0.42% | 273,887 | 0.23% | 312,259 | 0.32% | 586,146 |

Notes: (1) Estimates calculated by Robert W. Fairlie, UC Santa Cruz using the Current Population Survey.

(2) The entrepreneurship index is the percent of individuals (ages 20-64) who do not own a venture in the first survey month that start a venture in the following month with 15 or more hours worked.

Evidence suggests that small- and medium-sized firms experienced reduced employment during the GFC (Cowling, Liu, Ledger, & Zhang, 2015). Results from the Kaufmann survey as seen in the table reveal an increase in total entrepreneurial activity of 0.32% in 2008, increasing to 0.34% in 2009 and staying at that rate in 2010. In 2011 the rate declined back to 2010 levels of 0.32% as the unemployment rate improved from early to late 2011. This finding suggests that the entrepreneurial activity increased to beyond the pre GFC entrepreneurial activity rate, where it previously ranged between 0.29% in 2005 and 2006, to 0.30% in 2007. In contrast to the results from the Kauffman survey, results from the Global Entrepreneurship Monitor (GEM) reveal no sharp or general decline in response to the GFC as regards the proportion of the adult population engaging in nascent ventures (Kelley, Bosma, & Amoros, 2011).

The literature on exits of established young/small/independent venture tends to focus on either the *vulnerability* or the *resilience* of such firms; the previous focus deriving from liabilities of smallness and newness, while the latter is normally attributed to greater flexibility and adaptability (Bruderl & Schussler, 1990; Nagy et al., 2014; Smallbone et al., 2012) The results are equivocal of both views. In line with the vulnerability thesis, exit rates are normally higher for young and small firms (Rauch & Rijdsdijk, 2013; Yusuf, 2012). However, in line with the resilience position, such firms appear less negatively affected by a macroeconomic crisis (Bakker et al., 2014; Bradley et al., 2011) Further, evidence from the United States shows that the survival of start-ups does not vary markedly over the venture cycle (Headd & Kirchoff, 2009). Recent research by Cowling et al. (2015) also suggests that small firms affected negatively by the GFC rebounded quickly.

The literature on unemployment and new firm formation is equally varied. Depending on the specific context and method of the study, the relationship may be positive, negative, or neutral (Blanchflower & Oswald, 1998; Cassar, 2010; Evans & Leighton, 1989; Kolvereid & Isaksen, 2006; Shane, 2008). This literature also points to a solution to the issue. High levels of unemployment reflect on relatively poor demand conditions as well as restricted access to external funding, which should reduce new firm formation. Equally, higher unemployment means that more people have reason to find alternative income which is consistent with studies by Deakins, Sullivan, & Whittam, (2000); Gartner et al., (2012); Mallin et al., (2013). In a generally flat labour

market, this would stimulate more venture start-ups, especially of the income-substitution type.

This suggests that the total number of start-ups may turn in either direction as a result of a macroeconomic crisis. However, the types of individuals and venture that make up that aggregate figure would likely change, with a decrease in venture with high capitalization requirements and high growth potential. This is also what a closer examination of the evidence suggests. Studies finding negative overall effects give more weight to start-ups of “higher quality,” pursued by those with more work experience (Grilli, 2011). In their demonstration of negative effects of the GFC, Klapper and Love (2011) include only limited liability companies, thus excluding large numbers of simpler venture. Similarly, Davidsson et al. (1999) focused on the collective job contribution of start-ups, finding the marked decline that is to be expected when the proportion of higher ambition start-ups drops. While reporting an increase in total numbers, Paulson and Townsend (2005) also provide direct evidence of the crisis stimulating simple start-ups with very low initial investment. Similarly, the GEM data show that the GFC was associated with a downturn in perceptions of opportunity and an increase in the proportion of necessity-based start-ups (Kelley et al., 2011). Further, reductions in sales growth were more pronounced in ventures with founders having high human capital (Cowling et al., 2014).

Findings about the negative effect of the GFC on the nascent entrepreneur and their venture performance in Davidsson & Gordon’s (2015) was not as hypothesized and their main effects were *not* supported by the data, despite the appropriate research setting. The surprising absence of direct effect of the GFC crisis on nascent entrepreneurs and their ventures is the most interesting and most important finding based on their study. In more unequal areas in the US, the number of bank establishments per capita was lower, this effect being stronger during the 2007–2008 financial crisis according to research by Braggion, Dwarkasing & Oneng (2017). Further, when prompted to explain what happened in hindsight, most nascent entrepreneurs did not report negative GFC effects. In contrast, most start-up efforts were not much affected, and therefore they went on with (emerging) “venture as usual” throughout the crisis. A macroeconomic crisis may be controllable for nascent ventures because they are often locally focused and only indirectly impacted by global- and

national-level influences (Julien, 2007). Whilst in the nascent stage, they are not yet completely integrated in the economy at all. This may make the choice of not responding to the crisis much more feasible than for young, established firms with substantial fixed costs.

In all, although there are many examples of creativity and flexible adaptation in venture creation processes, one should not assume that this must generally be the reason why they make it through a crisis seemingly unscathed. The prevalent absence of response to macroeconomic crisis does not necessarily mean the nascent ventures are not vulnerable, and their ability to avoid failure does not necessarily suggest creative resilience. In order to understand the various effects of the context of the nascent entrepreneurs' performance for the sample chosen for investigation, this section considered the US context for creating these new ventures by considering the economy including the GFC, the unemployment levels and the entrepreneurial activity rates. The economy shrank by 8.9% in 2008, unemployment levels were 4.5% in 2007 and remained close to 10% at the end of the recession and into 2010 and dropped to 8% by 2011. The entrepreneurial activity index which measures entrepreneurial participation of new ventures as a proportion of the population was 0.32% in 2008, increasing to 0.34% in 2009 and staying at that rate in 2010. In 2011 the rate declined back to 2010 levels of 0.32%. The period was one of the toughest to start a new venture, yet some were forced to create the opportunity as a response to unemployment. The next section provides information on the way measures were constructed for the configuration domains and constructs for the present study.

6.5 Analysis Strategy

The research project adopted three separate statistical analyses briefly outlined in table 8. Table 8 below shows the relationship of the analyses to each other and the phases for each separate analysis. The methods are described in more detail later for each analytical phase. Principal components factor analyses were used for preliminary analysis to investigate the appropriateness of the measures for the main analyses. This was conducted to ensure that the measures used are valid and reliable. The first set of analyses uses hierarchical cluster analysis in order to answer the research question, 1a Are there specific configurations that are different from each other?

Hierarchical cluster analyses are useful to explore whether groups exist in the data that are different from each other on key attributes, followed by K-means cluster analysis to validate the groups with a guide from the research framework for the domains being investigated (Ketchen Jr. & Shook, 1996).

They are subsequently assessed with an ANOVA to determine statistically distinct and significant groups based on the cluster analysis (This is presented in the appendix table 27). It is important to ascertain whether there are different types of venture for the configuration analysis. Secondly, the configuration analysis, which is the main focus of the study, used fuzzy sets Qualitative Comparative Analysis (fsQCA), which is a mixture of quantitative and qualitative analysis methods to answer the research questions (Kuckertz, Berger, & Allmendinger 2015, Deutscher, Zapkau, Schwens, Baum and Kabst, 2016 and Kuckertz, Berger, and Mpeqa 2016). As the ventures are at different stages and phases of development entering the survey, previous studies by van Gelderen et al., (2005) have found that one way to control for this effect is to assess the entrepreneurs in a subsequent year. At this point the nascent entrepreneurs would have all had one year of attempting to start their venture, hence wave 2, year 2006, is used for the initial wave. Wave 6, 2011, is used for the analyses as Reynolds et al. (2007) have found that it takes approximately seven years to start a new venture (refer to table 9).

Other design options were also considered, such as the true longitudinal design and the true experimental design. However, this was not possible for two reasons. Firstly, software developments using QCA with a time dimension were only in their infancy at the time of conducting the research, which limited the option for full longitudinal analysis. An article by Hak, Jaspers, and Dul (2013) considered identifying temporal sequences of gestation activities to study configuration changes over time. They have outlined how this could be achieved. The option to study each wave of data was considered but the research focus was on finding interactions based on early starters versus later starters and considering causal differences based on configurations. The performance differences from the initial conception to a realistic time that most ventures would be expected to have started based on prior research findings was one of the foci (Bruderl & Schussler, 1990; Reynolds, 1997). The design by Peltoniemi et al., (2014) was considered, although in their research, the focus was on considering survival which is not the current research focus and the configuration changes from

wave to wave were not as pronounced in their study which limited the findings. Other methods were considered for the current study such as the use of longitudinal growth models which was helpful in explaining and accounting for changes over time in the study by Samuelsson and Davidsson (2009). They examined the process differences between innovative and imitative start-ups with the application of longitudinal growth modelling (LGM). The LGM makes full use of the longitudinal data in relation to both independent variables and dependent variables being evaluated at several different points in time. The method is useful for assessing growth over time, but is limited in its assessment of interactions of variables leading to performance from configurations. From the literature review, methods such as correlation based methods such as regression analyses were considered for the current analysis, however, it was found to be inappropriate as a result of limited ability to explain the effects of interactions between the domains and the outcome. It does not account for the causal complexity of the domains (Ragin, 2008, Fiss, 2011). The other limitation is based on the sample size. When the size is reduced beyond a point it makes it difficult to assess the effects accurately (Aiken et al., 1991; Byrne & Ragin, 2009), hence the current fsQCA method was chosen (refer to appendix C p. 304 for the detailed steps of the fsQCA for this study). Thirdly, the last analysis phase investigated the sensitivity of results in order to determine the validity of the fsQCA analyses in explaining the outcome. The analyses consider whether the method used was robust and can be cross-validated to enable explanations of findings.

Table 10 Outline of the Analysis strategy

| | Wave 1 | Wave 2 | Wave 6 |
|---------------|------------------------|---|---|
| | Year 2005/6 | Year 2006/7 | Year 2010/11 |
| Method | Descriptive Statistics | Validate Measures using Principle Components Analysis | Validate Measures using Principle Components Analysis |
| Phase 1 | | Cluster Analyses | |
| Phase 2 | | Fuzzy Sets Qualitative Comparative Analysis | Fuzzy Sets Qualitative Comparative Analysis |
| Phase 3 | | Sensitivity Analyses | Sensitivity Analyses |

6.6 Research Framework for the Study of Nascent Entrepreneurs Performance

Drawing on the conceptual framework by Gartner (1985) the theoretical framework used in the thesis considers the nascent entrepreneurs- individuals, the environment, and the financial resources which are part of the process in Gartner’s framework. Finally, strategy is assessed as part of the organisation being formed which is not strictly part of the model, but variables included in his model relate closely to strategy variables in similar studies such as Carter et al. (1994). Strategy is considered to be important to nascent entrepreneurs and this inclusion follows similar configuration studies to address new venture performance. Process and motivation were not added to the model—the present study focused on the performance outcomes and because of the results achieved in the cluster analyses the motivation variables were not included.

The attributes included in the model (listed in figure 12 p.162) are summarised and related to the domains suggested by the literature review. The person domain focuses on attributes for the need for achievement, entrepreneurial intensity and specific human capital. The environment domain focuses on munificence- which is provided by external support variable and dynamism in the environment is provided by the variable market competition. The domain resources in the framework, is based on the financial situation. The strategy focuses on two

variables; innovation technology strategy and the other is the customer focus strategy. The performance or outcome considers those nascent entrepreneurs who start or quit their venture. The resulting research model is given in Figure 12.

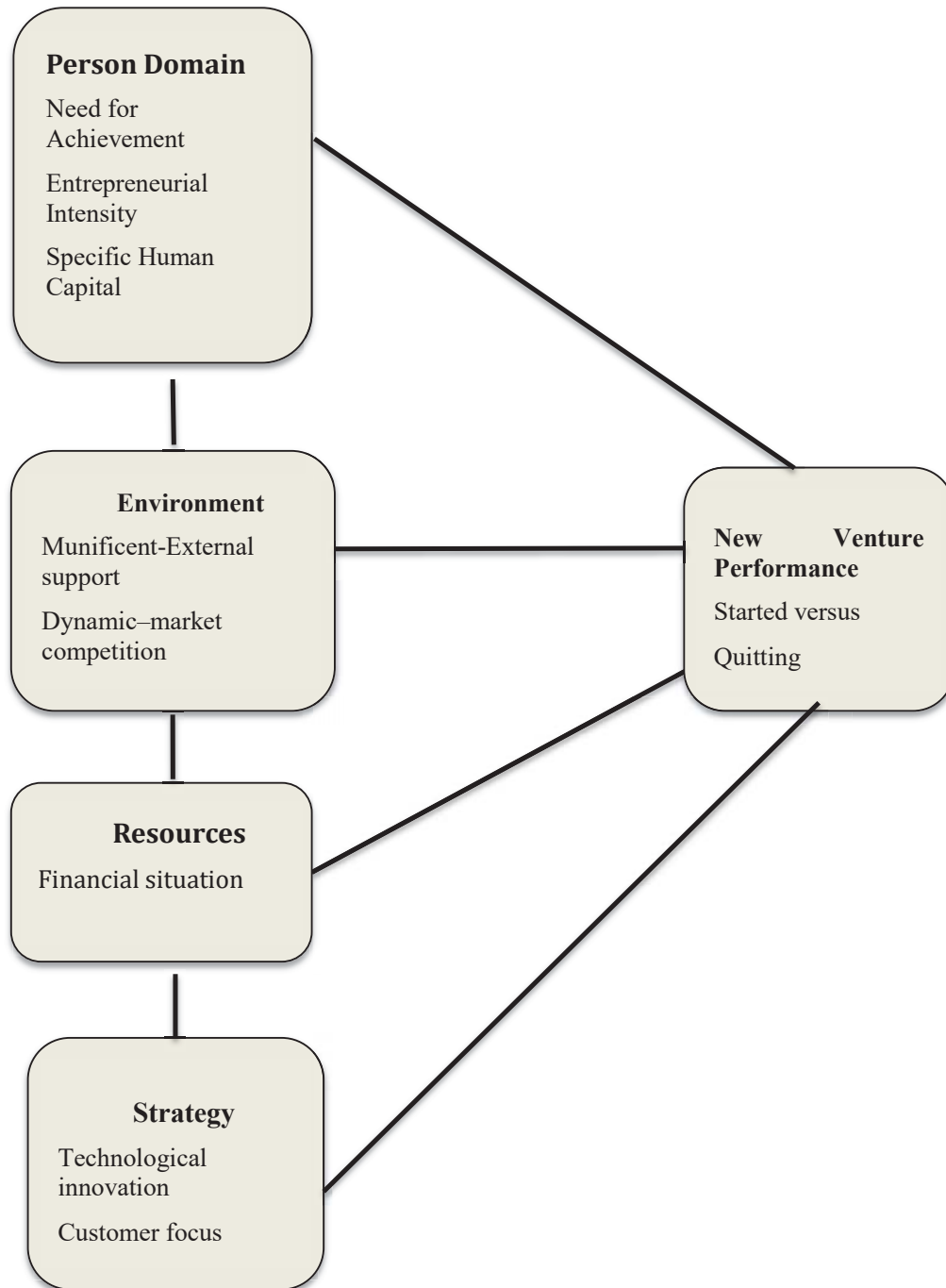


Figure 12 Research model for the study of nascent entrepreneurs' performance

6.7 Measures for the Configuration Study

This section describes how the relevant items and scales were constructed for use as indicators and measures of key constructs explored in the configuration analysis. In order to answer the research questions, the data had to be split between start-ups and those in the process of starting and those who quit their venture. Key measures used for the study were organised from Gartner's model and of those derived from similar earlier studies or were analysed from statistical validation using a deductive approach. The section thus starts with a description of the dependent variable (new venture performance) and then systematically discusses how the other key measures were created. The configuration domains namely, person, resources, environment and strategy frame the measures used in the study. Included in each of these domains are constructs, which are created by grouping items that closely relate to theoretical or statistical measures, such as taxonomies. Typologies are derived groupings of variables that are organised from analysing underlying similarities (Short et al., 2008). The analysis uses the framework provided by Gartner (1985) with the strategy, which later models suggested were important factors for new venture performance. In order to create and validate these measures the analysis used principal components analysis. The idea is to reduce a large number of variables to a smaller number of components. In this case, constructs were created, by reducing multiple variables that are connected with each other based on common underlying information. To reduce the variables to common components, data collected from the 1135 participants were subjected to a Principal Components factoring with varimax rotation, as suggested by Fidell and Tabacknick (2007). In order to be included in the study, the constructs had to meet one of two criteria. Firstly, the eigenvalues for the construct needed to be above 1 for it to meet the dimension threshold (Field, 2013; Hair et al. 2011). Secondly, the constructs had to be at the 0.7 Cronbach's alpha to meet Nunnally & Bernstein's (1994) reliability threshold.

6.8 Dependent Variable- Venture start-up

The dependent variable for this study is new venture performance, which is assessed for starters and quitters. The performance variables are considered from the information provided in the interviews and previous knowledge to determine the

status. This information is taken from the telephone survey that asked the entrepreneurs to select the current status of their start-up from a variety of descriptive statements. The response options in the survey were 'new firm', 'active start-up', or 'quit'. As with previous research on emerging firms (Davidsson & Gordon, 2012), a trichotomous dependent variable provides options for the three potential different stages a start-up may experience being operational, being persistent and termination. In this study, the options were reduced to include only a dichotomous outcome for use in a series of three fsQCA analyses comparing each possible outcome against the new venture performance. The new firm and active start-up categories were combined to create, the *starters* category. Table 11 presents information on the outcomes for each of the three waves and the sample sizes and percentages for waves based on their performance status. The first wave identifies the sample as comprising nascent firms. In consequent waves, the respondent was asked to describe the current status of the venture which suggests progress or decisions not to progress the venture. Note that early starters were excluded from the analyses of later waves as their configurations might affect the study outcomes. Those who have already started will be quite different to those still in the process of starting their venture. In order to control for this situation their data were not used in later waves (n= 50).

Table 11 Performance Statuses of the Nascent Entrepreneurs

| Wave | 1 | 2 | | 6 | |
|-----------------|----------------|----------------|----------------|----------------|----------------|
| | 2005 | 2006 | Percent | 2011 | Percent |
| Status | Numbers | Numbers | | Numbers | |
| Starters | | 690 | 60.8 | 248 | 26.3 |
| Quitters | | 219 | 19.3 | 51 | 4.5 |
| Total | 1135 | 909 | | 299 | |
| Percent in | | | | | |
| Survey | 100% | | 80% | | 31% |
| Unknown status* | | 226 | 19.9 | 786 | 69.3 |

Note. *Unknown status respondents cannot be surveyed, hence investigated, as they have not responded to calls to be surveyed. It is thus unknown whether they are still in the process, a new firm or have quit the venture.

Table 11 above show results of the wave 2 analyses, 2006 which revealed a change in sample numbers from n= 1135 in the initial wave of the survey in 2005, to n= 909 for the 2nd wave in 2006. Attrition is the result of non-response to the follow-up interview that occurred approximately 52 weeks after the initial interview, with the loss of 226 cases (20%) from years 2005 to 2006.

6.9 Independent Variables- PERSON (NE)

The PSED data were examined for constructs representing the domain of the individual (person or nascent entrepreneur) that prior research has indicated are influential for new venture performance. Six key constructs were identified, one related to *personality*, three related to *motivation* and two related to *human capital*. Indicators used to measure each of the constructs and measurement properties are presented below.

To investigate the underlying structure of the person domain as connected and framed by Gartner's framework the study investigated constructs for motivations captured by the measures entrepreneurial intensity and need for achievement and their specific human capital. These were initially assessed from prior literature and the strongest supporting results from previous studies scales/

constructs were used as a guide to assess constructs in this study. The analysis thus focused only on the strongest measures from previous research and connections to the Gartner framework. The final aspect of the person, specific human capital, was also analysed, as these are key indicators that relate to whether entrepreneurs will start their ventures. The constructs for specific human capital is comparable to similar constructs used by previous studies (Davidsson & Honig, 2003; Dimov, 2010). It is important to show how differences of motivation are multidimensional across groups of entrepreneurs. The motivation to start a venture is well supported in the literature (Carter et al., 2003a; Edelman et al., 2010; Gatewood, Shaver, Powers & Gartner, 2002; Sloka, Kantane, Avotins, & Jermolajeva, 2014 among others). The full set of item descriptions for each construct is presented in the appendix, table 20 to 27.

6.9.1 Entrepreneurial Intensity

This construct is made up of two items which are based on a five-point Likert scale with response options for strongly agree to strongly disagree. Although the original entrepreneurial intensity (EI) scale included 12 items (Gundry & Welsch, 2001), only two items were included in the PSED 2 because of reduction in the amount of time and items available for the second administration (Reynolds & Curtin, 2011). Following the principal components analysis, one factor was extracted from the analysis with a variance of 76.9%. Cronbach's alpha for the scale was 0.7, which shows a reasonable level of reliability for this scale. A Cronbach alpha coefficient above 0.7 indicates an acceptable level of reliability (Nunnally & Bernstein, 1994).

6.9.2 Need for Achievement

This construct is made up of four items, which are based on a five-point Likert scale with response options for strongly no extent, to a very great extent. The scale is similar to the recognition scale items developed for the initial PSED survey that closely mirror the need for achievement items in other studies (Carter et al., 2003; Tang, 2007). A principal components analysis was conducted with varimax rotation to assess the underlying structure of the items. One factor was extracted from the analysis with a variance of 65.5% and an eigenvalue of 2.3. Cronbach's alpha for the four-item scale was 0.75, which shows a good level of reliability.

6.9.3 Specific Human Capital

The specific human capital construct is made up of three items which are based on; the respondents' years of management experience, years of full time experience in the industry of the new venture, and the number of venture that the respondent helped run. Transformations were required for these data as the data were strongly positively skewed for the distribution. A log transformation did not change the scale in an acceptable way which led to the use of a square root transformation being applied to the data (Field, 2013; Honig & Davidsson, 2000; Pennings et al., 1998). The data distribution was thus more acceptable with a better fitting pattern. One factor was extracted from the analysis with an eigenvalue of 1.5. The factor accounts for 49.7% of the variance on the data which is on the border of an acceptable level, normally 50%. The Cronbach's alpha level is 0.82 for this scale indicating a good level of reliability.

6.10 Independent Variable- Financial Resources Domain

The resources domain used the items in the survey based on the financial situation that the nascent entrepreneur used for setting up their venture. The four items used for this analysis asked the nascent entrepreneur on a five-point Likert scale what their financial resources were and projected to be. One factor was extracted from the analysis with an eigenvalue of 1.7. The items were subjected to a principal components analysis. The variance explained for this construct is 42%. The Cronbach's alpha for the resources- financial scale was 0.64. This is lower than the acceptable Cronbach's alpha coefficient of 0.7 or above the level of reliability (Nunnally & Bernstein, 1994), but the components analysis found an acceptable level of agreement with an eigenvalue above 1 at 1.7 which suggests that there is a statistical connection in the data (Hair et al., 2011) and thus considered usable for the analysis.

6.11 Independent Variable- Environment Domain

To investigate the underlying structure of the environment domain, two constructs were used: environment munificence (Tang, 2007) and dynamism.

6.11.1 Munificence Scale

The construct for environment munificence for this study is made up of five items that were reduced from twelve based on principal component factor analysis in this study. A five-point Likert scale with response options for strongly agree to strongly disagree was adopted. Two factors were extracted from the analyses, namely, external support and internal support. External support is made up of two items focusing on support from state and local government and support from bankers and other investors in the local community. One factor was extracted with a total variance explained of 36.3% for factor 1 and an eigenvalue of 1.93 (Carter et al., called it community support groups). The Cronbach's alpha for the external support is 0.68, which is marginally below the acceptable level of reliability, although the eigenvalue measuring the dimension structure is substantially better at 1.93. The second factor, internal support accounted for 62.5% of variance explained for three items based on friends and family support items with an eigenvalue of 1.2. Internal support was excluded from the analysis as it had a lower eigenvalue of 1.2 than the external support scale at 1.93. There was weak support for a third factor in my analysis, which is the reason for not including it in this analysis. This finding is similar to the initial PSED research by Carter et al. (1994), who found low support for a third factor which they called community models.

6.11.2 Dynamism Scale

Dynamic environments are associated with high unpredictability of customers and competitors and high rates of change in market trends and industry innovation (Dess et al., 1997; Kessler et al., 2012). The construct for environment dynamism was reduced from seven and is made up of five items based on principal component factor analysis. The items on the scale assessed whether the offering or service that respondents offered were available over two timeframes. Two factors were extracted from the analyses with a total variance explained of 38.8% for factor 1. It has a focus on technology availability and the market competition. The second factor has variance explained of 28.8% focus on location of customers in relation to where they were from. Two factors were extracted with eigenvalue loadings of 1.59 and 1.11. The market competition scale alpha reliability scores were alpha 0.71 and the reliability scores for sources of customers was alpha 0.67.

6.12 Independent Variables- Strategy domain (Organisation)

The construct for strategy is made up of six items reduced from ten after doing a principal component factor analysis. Four items were dropped because they did not load on the factors. A five-point Likert scale with response options for strongly agree to strongly disagree was used for these items to investigate the nascent entrepreneurs' strategy focus. Two factors were extracted from the analyses: firstly, technology and innovation strategy and secondly, customer focus strategy. The first factor had a total variance explained of 62.9% for factor 1 technology and innovation with an eigenvalue of 1.9. The technology and innovation strategy was taken from the Carter, Gartner & Reynolds (1996) study where they asked the respondents for strategies that were associated with nascent venture. The second factor from the analyses had a variance explained of 42.9% for location of customer's offerings and focuses on where the customers are based and if they are targeted such as national versus rural locations. The second factor, customer focus, had an eigenvalue loading of 1.7. The Cronbach's alpha coefficients for these scales were 0.71 for technology and innovation strategy and 0.67 for customer focus strategy. The customer focus strategy had a lower alpha score than the acceptable level, but the cluster analysis suggests a high loading at 1.7, which is above the acceptable level of 1 eigenvalue.

6.13 Analytical Procedures

The data analysis procedure was completed in two stages for three waves of data. Firstly, a hierarchical cluster analysis was conducted on the data to form clusters or groups of similar nascent entrepreneurs on the key constructs and items. Once the cluster analysis was conducted and clusters of similar nascent entrepreneurs were formed the analysis then focused on the fuzzy sets Qualitative Comparative Analysis which was the second stage of the data analysis.

6.14 Phase 1- Cluster Analysis for the fsQCA analysis

The initial analysis of this research explores types of nascent firms based on the analysis of variables that have been combined into constructs based on a principal component factor analysis. Each wave followed the same procedure for analysis. Consequently, the next stage in the investigation was to complete an inductive

examination to explore the use of many clustering variables which would likely maximise the potential to find meaningful differences among observations (Ketchen & Shook, 1996). This is known as the inductive approach. The approach focuses on exploratory classifications of the cases in the dataset. The types are derived from the cluster analysis of the data, so that the investigation explores the *differentiation* of the constructs among the cases. The configuration approach requires an inductive data examination strategy (Gruber et al., 2010). In this context, cluster analysis was the method chosen.

Constructs were created as part of the initial factor analysis. This was analysed by creating sum scores of the initial variables making up the scales. The data was examined using a procedure called a hierarchical cluster analysis (WARD algorithm, squared Euclidean distances) to form cluster groups in order to determine whether there were naturally occurring groups in the data and also how many were suitable given the observations. The Wards method examines the data and shows how groups that are similar are clustered together by comparing their mean differences (Ketchen & Shook, 1996). An initial inspection of the data found that there were no major differences amongst the groups based on the original composite scores, thus scores were converted to standardised scores using Z-scores. The transformation to the standardised variables provided better differentiation of results (Field, 2013). In order to combine variables it is best to standardise them to bring them to a common scale using, for example, Z- scores to reduce mismatches (Field, 2013; Ketchen Jr. & Shook, 1996). This was completed to see the differences in groups of nascent entrepreneurs based on the clustering of cases. Once the number of clusters was determined by visual inspection of the dendrogram (a diagram showing group differences of clusters) and by reforming the agglomeration schedule, the distance between the coefficients of the constructs were analysed (Short, McKelvie, Ketchen & Chandler, 2009). An inspection of the agglomeration schedule showed a major deviation from the trend line, such that an elbow is seen, which suggests where the number of clusters should be taken (Hair, 2011). Both figures clearly indicated a 3-cluster solution. This elbow analysis was done to confirm the cluster solution from the reformed agglomeration schedule which showed a clear 3 cluster solution (Hair et al., 2011 explained the technique in more detail on p.401-408). A K-means cluster analysis was conducted using the centroid

values as seeds from the hierarchical cluster analysis (Payne, 2006b). The results of these analyses are presented in the next section.

6.14.1 Wave 2 Analysis

Results from the cluster analyses show there were three clusters from the data similar to results in the initial set of analyses for wave 1. The analyses were conducted to assess whether there are naturally occurring groups in this dataset. This step is important given the first question which asks whether there are naturally occurring groups in the data. The groups were more or less equally distributed with group 1 comprising of 396 cases (43.6%), group 2, 230 cases (25.3%), and group 3, 283 cases (31.1%). These results were cross-validated against the K-means cluster analysis for wave 2 data as suggested by Ketchen Jr. & Shook (1996b). Table 12 presents the results of the cluster means for the analyses for wave 2 data.

Table 12 Final Cluster Centres for Wave 2

| Cluster | 1 | 2 | 3 |
|---------------------------|----------|----------|----------|
| Person | | | |
| Entrepreneurial Intensity | -0.2 | -0.3 | 0.4 |
| Need for Achievement | -0.3 | 1.0 | -0.4 |
| Specific Human Capital | 0.2 | -0.2 | -0.1 |
| Resources | | | |
| Resources Financial | -0.5 | -0.1 | 0.8 |
| Environment | | | |
| External Support | 0 | -0.1 | 0.1 |
| Market Competition | -0.3 | 0.9 | -0.3 |
| Strategy | | | |
| Technology Innovation | -0.3 | -0.5 | 0.8 |
| Customer Focus | -0.3 | -0.3 | 0.7 |
| N | 396 | 230 | 283 |

Table 12 shows that Group 1 (N=396) had cluster scores that were highest on Specific Human Capital (0.2) and External support (0). The group scored low on need for achievement (-0.3), financial resources (-0.5), and both strategy measures, while technology innovation and customer focus strategy had the same score (-.03). Group 2 (N=230) is a smaller group compared to the other two clusters. Group two scored highest on need for achievement (1.0), and high on Market Competition (0.9) but scored lower on every other measure when compared to group 1 or 3. Group 3 (N=283) had the highest score on entrepreneurial intensity (0.4), financial resources (0.8), customer focus (0.7), and technology innovation (0.8). They had the lowest score on need for achievement (-0.4) and market competition (-0.15). Figure 12 below illustrates the differences and similarities of these three groups. An ANOVA is presented in the appendix Table 26 with an analysis of the groups formed.

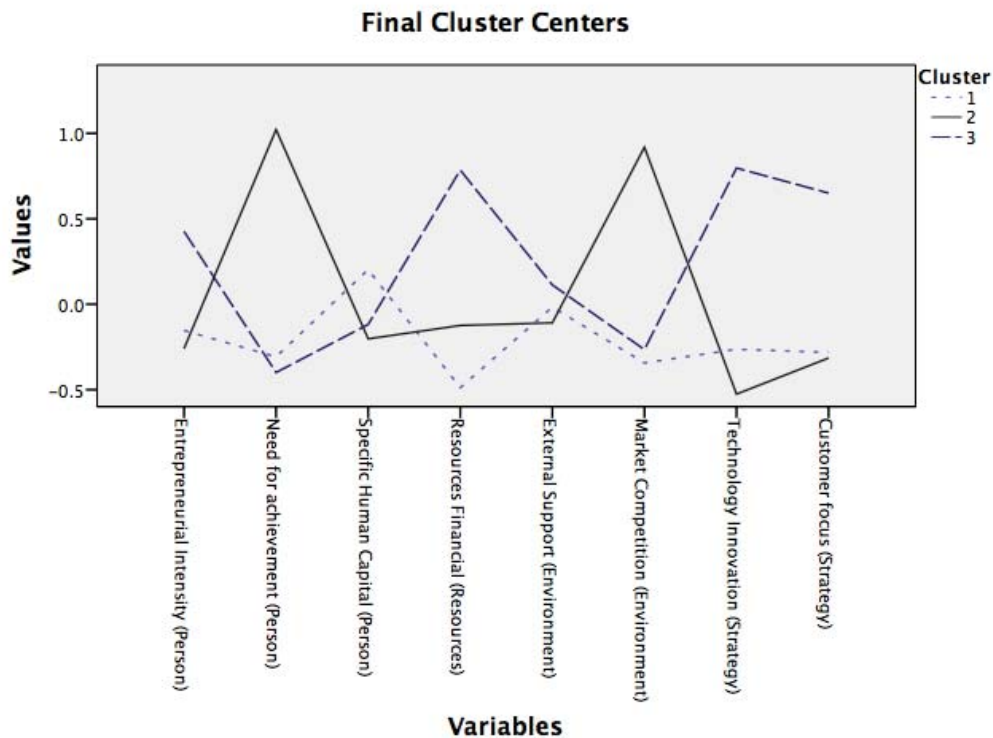


Figure 13 Results of the cluster analyses

6.15 Phase 2- Fuzzy Sets Qualitative Comparative Analysis (fsQCA)

The following section describes the use of fuzzy sets Qualitative Comparative Analysis (fsQCA) in the current study and then the procedures are presented with the key analysis for this study (*the detailed procedure is explained in appendix C steps for analysing the fuzzy sets p.304*). The initial analysis procedure describes how the fuzzy sets were created from calibration (a means to recode variable data from cluster analysis to sets). Secondly, the truth table creation is described with outcome and causal conditions (a means to determine consistency amongst the sets). Thirdly, consistency thresholds are described with supporting arguments for its creation. The outcome analysis is described and justified based on the consistency values meeting the threshold criteria. Finally, a standard analysis option was used as it provides the complex and parsimonious solution which is the last step in the analysis (Rihoux et al., 2013).

6.15.1 Calibration of Fuzzy Sets

Sets are required to assess membership of contributing conditions to the outcome and reconstituting member boundaries (Greckhamer et al., 2013; Rihoux et al., 2013). This is needed to perceive how variables relate to sets. The process of transforming variables into sets requires the specification of full membership in a set of interest, full non-membership and a crossover point of maximum ambiguity regarding membership (Greckhamer et al., 2013; Ragin, 2008) . Given these three qualitative anchors, one can transform variable raw scores into set measures using the direct method of calibration described by Fiss (2011) and which is carried out by the software. The items for my investigation have been rescaled from the Likert scales with five data points and converted to fuzzy sets.

Fuzzy sets use measures that range between 0 and 1. Negative scores were rescaled to values between 0 and 1. The converted scores are tied to the thresholds of full membership 1, full non-membership 0, and the crossover point 0.5. To convert data measurements from different scales into interpretable positions for fuzzy sets analysis (in which each dimension is expressed as the degree of membership between 0 and 1), anchor points are needed to define the points in the table analysis (Byrne 2002; Ragin 2008). These were produced using SPSS software version 23. In my data, variables were converted from the Likert scores to

the sets by log transformation and preserving the original scale so that position on the new scale was not changed (Field, 2013).

Based on Ragin (2000; 2008), anchors are defined by specifying the values in the ordinal scales used, which correspond to three qualitative breakpoints using theoretical knowledge and empirical knowledge accumulated from understanding the cases. For the analyses, the qualitative anchors that constitute the degree of membership were assigned for each fuzzy set as follows: (1) the threshold for full non-membership <0.2 , (2) the threshold for full membership, 0.8 and above and (3) the 'neither in nor out' crossover point, 0.5 . For the analysis, theoretical knowledge was derived for the anchor points based on previous studies used in the literature review and based on the upper and lower ranges on each scale. The thresholds were thus created from the data and theory match. Memberships of 0.5 scores and above met the threshold and were included in the analysis as meeting the membership in the group for each set. Scores below 0.5 did not match the set of characteristics for membership of the outcome being assessed i.e. started, following suggestions by Ragin, (2008) and Rihoux & Ragin (2009).

6.15.2 Truth Table Analyses

In a third step, an algorithm called the Quine-McKluskey based on Boolean algebra was used to logically reduce the truth table rows to simplified combinations. The current study uses the truth table algorithm described by Ragin (2005, 2008). This algorithm aids the analyses for determining inclusion versus exclusion of constructs. This is based on a counterfactual analysis of causal conditions, which has the advantage of allowing for a categorisation of causal conditions. The counterfactual analysis makes it possible for assessing and grouping the relevant attributes that are similar in producing the outcome, for example, started. Only those attributes and cases that are strongest causally will be produced.

Once the initial step was completed and the truth table produced, the next step involved selecting and setting consistency thresholds applied to the data. Ragin (2008) suggests that when the case numbers in the sample are relatively small, then the frequency threshold should be set at 1 or 2. For my data, a threshold value of 3 was used, as there were more than 100 cases for waves 1 and 2. Consistency thresholds should be at 0.75 and above as this produces a high degree of consistency

but it is better still to use a consistency threshold of 0.8 or above (Rihoux et al., 2013). The threshold consistency for my data was 0.85 and above as there were many cases that met the conditions. (The results are presented in the next chapter).

6.15.3 Standard Analysis

The next step in the fsQCA analyses used a *standard analysis* instead of a specific analysis to elicit the sufficient solutions for meeting the outcome in this study, the successful new venture. The specific analyses are used when the configurations being assessed are already understood with prior theoretical reasoning. Specific analyses provide limited options for solutions. The standard analysis provides information for simplified solutions as well as the more complex causal solutions, and is useful in understanding how connections between attributes relate to each for the configurations. The standard analysis provides an advantage for three solutions namely, complex, intermediate and parsimonious solutions whereas the specific only provides the parsimonious and complex output options without the intermediate analysis. These are important to the thesis to investigate the core versus peripheral distinction. The core attributes according to Fiss (2011) provide evidence that elements are strongly causally connected to the outcome being studied. Furthermore, Fiss asserts that the periphery presents the elements that have a weak causal connection to the outcome. The standard analysis was used with the fsQCA software, which makes use of the Quine–McCluskey algorithm to reveal the solutions for the set connections (Fiss, 2011a). The output constitutes measures of coverage and consistency for every separate causal solution and the total coverage and consistency for all the sufficient alternatives together (Balodi & Prabhu, 2014; Fiss, 2007; Grandori & Furnari, 2008).

There are two options for the analysis here- complex solutions (with remainders set to ‘false’) or parsimonious solutions (with remainders set to ‘don’t care’) (Fiss, 2011; Rihoux et al., 2013). The intermediate solutions were used to create the configurations for the study as it produces the most interpretable output according to Ragin (2008). Furthermore, the reason for using the intermediate solution was further justified according to Ragin (2008, p. 175) who argues that: “When limited diversity is substantial, complex solutions can be exceedingly intricate because little or no simplification occurs. Likewise, under these conditions, parsimonious solutions can be unrealistically simple, due to the incorporation of many (easy and

difficult) counterfactual combinations. Intermediate solutions strike a balance between parsimony and complexity, based on the substantive and theoretical knowledge of the investigator.” The QCA software produced the outputs for the parsimonious and intermediate solutions. The results of the intermediate and parsimonious analyses from the software were used for producing and plotting the diagrams for the QCA analyses.

The reduction process for producing the configurations uses the similarity scores of attributes of the same kind (Byrne & Ragin, 2009; Dul, 2016; Schulze-Bentrop, 2013), for example ‘starters’ and groups the cases and the conditions that contribute to that outcome together. A condition is unnecessary for a configuration if there is no difference in the outcome when the condition is present or absent (represented with a blank space). Similarly, a condition is necessary for a configuration if there is a difference in the outcome when the condition is present or absent (Core condition). Core conditions are those that link the presence of a condition strongly to the outcome, e.g. started. The peripheral condition is included in the solution output to show that they are not strongly connected to the outcome. Peripheral conditions are those conditions that are simple solutions for the outcome: started (Fiss, 2011a). Blank spaces in a condition refer to a ‘don’t care’ state where the causal condition might either be present or absent. Solutions are presented based on the parsimonious⁷ and intermediate solution findings. (The results of these analyses are presented in the next chapter).

6.15.4 Phase 3- Sensitivity Analyses

Sensitivity analyses were conducted to test whether the findings are robust. Early tests were conducted to ensure that the data meet the requirement for showing necessary versus sufficient causal conditions against the performance outcome *started and quitting*. This is important as establishing this link is vital for further set membership analyses. It is also important as it links the empirical conditions to theoretical conditions in the analyses. These analyses were conducted for each wave in the study using the truth table analyses. The first test involved examination of the crossover points for the fuzzy conditions. This analysis followed the procedure by Fiss (2011) where the cross-over points were varied between +/- 25% for each of

⁷ Parsimonious solutions showing the simplest of conditions required for the set of starters.

the conditions for each wave of the analysis. This was completed to assess the level of agreement between the crossover points and the outcome. There were no major differences in the results obtained when performing these analyses, which suggests that the results are stable.

Further tests were conducted by varying threshold values in the truth table analyses between scores of 1 and 2 for the number of cases meeting the threshold scores for consistency (Grandori & Furnari, 2008; Rihoux et al., 2013; Woodside, 2013). This is to check whether the results changed in terms of the consistency and coverage for the solutions when the threshold number for cases was adjusted following a procedure used by Crilly (2011). In essence, there were no marked differences apart from a slight variation in the absence and presence of peripheral conditions (not causally linked to the presence of an outcome). The solutions for the tests remained the same, although there were minor changes in the coverage and consistency scores that were not markedly varied to suggest major deviations. These tests thus confirmed that results meet the requirements for fsQCA to show causal linkages for the analyses. In the fuzzy sets analyses, there were cross validation of the configuration groups with confirmation of links between the attributes and the performance outcomes.

6.16 Ethical Considerations

Ethics for this study were considered and deemed to be of low risk because the research uses secondary data. The initial data collection was not part of this research project. An application for a low risk notification was made to the Massey University Human Ethics Committee. As part of this process the researcher agreed to undertake the research as set out in the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants. There were further ethical considerations as part of the research (Hair et al., 2011). The research analysis was undertaken using the most appropriate methods which was supported by extant research in the field of entrepreneurship. The integrity of the data was maintained by protecting it and ensuring that it was not easily accessed by creating password protection. Key issues such as reliability and validity were addressed by considering and testing the findings to ensure that the results met the criteria for use in the models. Furthermore, these tests were conducted to reduce bias and provide sensitivity analyses to ensure the results were useable for the intended audience. The

researcher analysed the data by using the guidelines for each method and results are reported in the next chapter.

6.17 Summary of the Methodology Chapter

The methodology chapter covered the following key areas. Initially, an outline of the survey approach is described and information on the participants with the key demographic information was presented. The data collection strategy and then the analyses strategies were outlined in separate sections to provide a context for the participants in the sample, the economic and entrepreneurial activity information was presented as well as the overall methods approach for the thesis. The chapter then focused on the measures for the study with the reasons for how each measure was created. This section explained the connection to the research framework (Gartner's modified framework) and offered information on the key measurement properties of the constructs. The next section explained information on the participants beginning with a discussion of the missing values and how they were dealt with for the study. Measures were presented with the results from the principal component analyses for constructs. The psychometric properties for measurement of the constructs were presented with Cronbach's alpha reliability scores for the scales.

Further assumptions were tested, and results presented to justify the use of the measures ahead of doing the cluster analyses. The cluster analysis procedure used a hierarchical cluster analysis followed by a K-means cluster analysis to validate the initial cluster procedure. The steps involved in creating and testing the cluster solution were outlined. A three- cluster solution was determined from the analyses conducted and confirmed by the elbow method and inspection of the dendogram for each wave of the analyses. The next section focused on the fsQCA analyses for the current study. The main purpose being to determine configurations of NEs based on the underlying attributes from the cluster analyses. The fsQCA method was described and also, how the analyses were carried out. The description of how sets were created was described. The standard analysis output was chosen for this analysis as opposed to the specific analyses as it provides more output options for interpretation. Lastly, the ethics application process was described for the current study. The results of the descriptive statistics for key variables along with the cluster analyses and fsQCA are presented in the next chapter the results chapter.

Chapter 7 Results for Early and Late Starters

7.1 Chapter Introduction

This chapter presents the results obtained from analyses in order to answer the research questions. The methods, as described in the previous chapter, utilise a fuzzy sets Qualitative Comparative Approach (fsQCA) to compare nascent entrepreneurs and explore connections between various configurations of attributes known as domains and new venture performance. Apart from addressing the results achieved from the analyses it also describes how the configurations for early and later starters can be explained using the Panel Study of Entrepreneurial Dynamics (PSED) sample of nascent entrepreneurs. Descriptive statistics and correlations in are presented in order to provide relationships of key measures used in the analyses. The next section then systematically describes the results for configurations for wave 2 starters (year 2006) and wave 6 starters (year 2011). The next section discusses the results of the main analyses based on the fsQCA for the various waves of data and shows how the configurations relate to each other. The chapter concludes with a summary of the results for early versus later starters and an overall chapter summary.

7.2 Descriptive Statistics for Performance of Starters

The outcome variables for this dataset are based on a question requesting the respondents in the survey to state whether they have started the venture, are still in the process of starting or have quit the venture. The analyses are focused on those who have started their venture early versus those who started later.

The next set of data looks at the descriptive statistics and the correlations of all the measures used for the starters' group fuzzy sets Qualitative Comparative Analyses (fsQCA).

Table 13 Descriptive Statistics and Correlation Coefficients for Wave 2 Starters*

| <i>Variable</i> | <i>Mean</i> | <i>S.D.</i> | <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> | <i>5</i> | <i>6</i> | <i>7</i> | <i>8</i> | <i>9</i> |
|------------------------------|-------------|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1. Entrepreneurial Intensity | 1.86 | 0.83 | 1 | | | | | | | | |
| 2. Need for Achievement | 3.10 | 1.02 | -.264** | 1 | | | | | | | |
| 3. Specific Human Capital | 1.87 | 1.17 | 0.02 | -.091* | 1 | | | | | | |
| 4. Financial Resources | 2.77 | 0.98 | .120** | -.151** | -0.072 | 1 | | | | | |
| 5. External support | 2.84 | 0.82 | .088* | -0.004 | -0.007 | 0.064 | 1 | | | | |
| 6. Market competition | 1.58 | 1.20 | 0.018 | 0.032 | .091* | -0.029 | .076* | 1 | | | |
| 7. Technology innovation | 3.03 | 1.63 | .086* | -.127** | -0.066 | .148** | 0.007 | -.210** | 1 | | |
| 8. Customer focus | 2.73 | 1.08 | .126** | -.151** | .128** | .179** | -0.01 | -0.009 | .198** | 1 | |
| 9. Starters | 0.59 | 0.19 | 0.03 | 0.01 | .084* | -.102** | -0.03 | -0.03 | 0.06 | 0.03 | 1 |

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed). N=690

Table 13 presents the descriptive statistics and correlations for all measures in the configuration study for wave 2 for the respondents who started their ventures. These results are presented to show how the cross-correlations relate to the various variables and the strength of these relationships. Table 13 reveals that there were positive correlations between specific human capital, financial resources, external support, and starters. The financial resources variable is positively correlated with entrepreneurial intensity $r = .12$ and is significant at $p < 0.01$, while customer focus is $r = .13$, significant at $p < 0.01$ and starters $r = .03$ status are positively related to entrepreneurial intensity too but not significant. This is in keeping with previous research which found positive correlations with entrepreneurial intensity (Liao, Murphy, et al., 2005; Morris & Sexton, 1996). Similarly, technology innovation $r = .15$, significant at $p < 0.01$ and customer focus strategy $r = .18$, significant at the $p < 0.01$ are correlated with the financial resources variable, which is expected for those entrepreneurs who are starters. Customer focus strategy is positively correlated $r = .198$ and significant at $p < 0.01$ to technology innovation. The external support is significantly correlated with entrepreneurial intensity with $r = .88$ at the $p < 0.05$ level. Entrepreneurial intensity and technology innovation were significantly correlated at $r = .86$, at the $p < 0.05$. Specific human capital is correlated to starting $r = .08$, and significant at $p < 0.05$ level. Market competition is positively correlated to external support $r = .08$ and significant at $p < 0.05$.

In contrast, the need for achievement, financial resources, technology innovation and customer focus measures show negative correlations against some variables. The need for achievement measure $r = -.26$ and is significant at $p < .01$ is negatively correlated with entrepreneurial intensity. The financial resources variable is negatively correlated with the need for achievement measure with a correlation value of $r = -.15$, $p < .01$. Based on earlier cluster analysis results, these correlations are not surprising. Need for achievement seems to be focused on different drivers for entrepreneurship than those with high entrepreneurial intensity. A possible reason for this might be that the need for achievement cohort has lower entrepreneurial intent as they are thrust into this situation because of loss of employment. Technology innovation is negatively correlated with need for achievement $r = -.13$ and is significant at $p < 0.01$. Financial resources are significantly and negatively

correlated $r = -.10$ with starters at $p < .01$ which is expected given the market conditions. Market competition are negatively correlated with technology innovation $r = -.21$ at $p < 0.01$. Specific human capital and need for achievement are negatively correlated $r = -.09$ and significant at $p < 0.05$.

Overall, mean scores for the data are highest for need for achievement ($M = 3.10$, $SD = 1.02$), followed by technology innovation ($M = 3.03$, $SD = 1.63$), external support ($M = 2.84$, $SD = 0.82$), financial resources ($M = 2.77$, $SD = 0.98$), and customer focus ($M = 2.73$, $SD = 1.08$). The mean scores are lowest for market competition ($M = 1.58$, $SD = 1.2$), entrepreneurial intensity, ($M = 1.86$, $SD = 0.83$), and specific human capital ($M = 1.87$, $SD = 1.17$). The next table shows the descriptive statistics and correlations for the later starters, wave 6 year 2011.

Table 14 Descriptive Statistics and Correlation Coefficients for Wave 6 Starters*

| Variable | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------------------------------|----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1.Entrepreneurial_intensit y | 1.87 | 0.81 | 1 | | | | | | | | |
| 2.Need_for_achievement | 3.70 | 0.94 | -.221** | 1 | | | | | | | |
| 3.Specific_Human_Capit al | 2.17 | 0.94 | 0.08 | -0.07 | 1 | | | | | | |
| 4.Financial_resources | 3.67 | 0.69 | 0.12 | -.143* | 0.05 | 1 | | | | | |
| 5.External_support | 2.97 | 0.80 | 0.10 | 0.12 | 0.10 | 0.02 | 1 | | | | |
| 6.Market_competition | 1.59 | 1.26 | 0.00 | 0.01 | 0.05 | -.242** | 0.00 | 1 | | | |
| 7.Technology_innovation | 3.10 | 1.65 | 0.06 | -0.10 | -0.06 | .176** | 0.02 | -.268** | 1 | | |
| 8.Customer_focus | 3.05 | 1.09 | 0.08 | -.194** | .165** | .309** | 0.07 | -.225** | .491** | 1 | |
| 9. Starters | 0.68 | 0.24 | -0.10 | 0.00 | 0.01 | 0.10 | -0.09 | -.147* | 0.03 | 0.10 | 1 |

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed). N=254

Table 14 showed the descriptive statistics and correlations for all measures in the configuration study for wave 6 for the respondents who started their ventures later. There were positive correlations between specific human capital, financial resources, external support, customer focus and starters. The highest positive correlation is between the customer focus and technology innovation $r = .49$ variables. The financial resources variable is positively correlated to entrepreneurial intensity $r = .12$. The customer focus $r = .16$ and external support $r = .10$ are positively related to specific human capital too. Similarly, the technology innovation $r = .18$ and customer focus $r = .31$ are positively correlated to the financial resources variable.

In contrast, the need for achievement, market competition, technology innovation and customer focus variables show negative correlations against some variables. Overall, the highest negative correlation is between the market competition and technology innovation $r = -.27$. Market competition is also negatively correlated with customer focus $r = -.23$ and starters $r = -.15$. The need for achievement variable $r = -.25$, $p < .05$ is negatively correlated with entrepreneurial intensity. The financial resources variable is negatively correlated with the need for achievement measure with a correlation value of $r = -.15$, $p < .05$.

Overall, mean scores for the data are highest for need for achievement ($M = 3.7$, $SD = 0.94$), financial resources ($M = 3.67$, $SD = 0.69$), technology innovation ($M = 3.10$, $SD = 1.65$), customer focus ($M = 3.05$, $SD = 0.9$) and external support ($M = 2.97$, $SD = 0.8$). The mean scores are lowest for market competition ($M = 1.59$, $SD = 1.26$), entrepreneurial intensity ($M = 1.87$, $SD = 0.81$), and specific human capital ($M = 2.17$, $SD = 0.94$). The results of the fsQCA analyses are discussed in the next section.

7.3 Results of the Sets Analyses

In order to answer the research questions, an analysis of the configurations based on the domains of person, environment, resources and strategy were analysed to understand causal linkages or pathways that lead to nascent entrepreneurs' performance. The next section looks at the results of the fsQCA analyses and reveals connections between the configuration findings for the fuzzy sets analyses for waves 2 and 6 starters.

7.3.1 Results for Early Starters

Figure 13 presents the results of the configuration analysis using fuzzy set comparative analysis for starters. The figures are an illustration of fsQCA results following the method employed by Ragin and Fiss (2008) and Fiss (2011). The symbols in the table show full circles indicating the presence, core condition (connection to the set- positive), whereas crossed out circles show the absence of a condition (no connection to the set - negative). Larger circles represent core conditions (very positive), whereas smaller circles represent peripheral conditions (positive) and blank spaces suggest a 'don't care' state where the condition can be either present or absent (neutral). The green circles illustrate positive conditions whereas the red circles indicate negative conditions for the various attributes.

Figure 14 Configuration of early starters for wave 2

| | Solution | | | | |
|---------------------------------------|-------------|-------------|-------------|-------------|-------------|
| | 1 | 2 | 3 | 4 | 5 |
| Person | | | | | |
| Entrepreneurial Intensity | | | | | |
| Need for Achievement | | ● | ● | ● | ● |
| Specific Human Capital | | | | ● | |
| Environment | | | | | |
| External Support | ● | ⊗ | ⊗ | ⊗ | |
| Market Competition | ● | | | | ● |
| Resources | | | | | |
| Financial Resources | | ⊗ | ● | ⊗ | ● |
| Strategy | | | | | |
| Technology Innovation Strategy | | | | | |
| Customer Focus Strategy | | ● | ● | ● | |
| Consistency | 0.83 | 0.80 | 0.82 | 0.84 | 0.85 |
| Raw Coverage | 0.23 | 0.42 | 0.40 | 0.38 | 0.19 |
| Unique Coverage | 0.03 | 0.05 | 0.02 | 0.07 | 0.01 |
| Overall Solution Consistency | | 0.76 | | | |
| Overall Solution Coverage | | 0.61 | | | |

Note: Green circles represent a presence of a condition (+ve), red circles represent an absence of a condition (-ve), a smaller circle indicates peripheral conditions (medium) and a larger circle indicates core conditions (strong).

Figure 14 reveals the results of the fsQCA analyses. It also shows that the fuzzy sets solution results in five solutions/ configurations for wave 2 starters and indicates the presence and absence of both peripheral and core conditions. The results present equifinality across solutions. Equifinality suggests that there are many paths that lead to starting a new venture (Gresov & Drazin, 1997; Payne, 2006b). In this case there are many solutions possible from these configurations. The results show an acceptable level of consistency at 0.76, that is, consistency \geq 0.75 (Rihoux & Ragin, 2009; Rihoux et al., 2013). This is necessary to establish as consistency below this level suggests a major inconsistency and therefore a mismatch between theory and statistical findings making it difficult to explain the findings substantively (Ragin, 2008).

The figure also shows the presence of both core and peripheral conditions for five configurations. As suggested earlier, the overall solution coverage is 61% of cases for this analysis. Core conditions are those that link the presence of a condition to the outcome: e.g. started. These conditions contribute strongly to the

outcome and must be present in the analysis as their presence is linked to the outcome. Peripheral conditions are those conditions that are simple solutions for the outcome: started, which means that they are optional (Fiss, 2011a).

For configuration 1 above (Opportunity seekers), the high degree of market competition is a core condition (positively connected) and external support is considered to be a peripheral condition that suggests that the condition is not as strongly linked causally to the outcome started but has a medium affect along with favourable market conditions. The other conditions do not have an effect on this configuration, whether it is present or absent in explaining the performance outcome started (neutral).

Configuration 2 (Necessity entrepreneurs) suggests that the absence of external support and financial resources (strongly negative connection) with the presence of both peripheral conditions, need for achievement and customer focus strategy lead to the outcome started for nascent entrepreneurs.

Configuration 3 and 4 (Motivated entrepreneurs) is almost in contrast to the previous configuration showing core conditions for need for achievement, financial resources (strongly positive conditions) and peripheral conditions which were found to be necessary for specific human capital and customer focus strategies for configuration 4 (medium conditions). External support is absent in this set of configurations signifying that it is not required for starting in this combination of conditions (strongly negative condition).













Configuration 5 (Competitive entrepreneurs) had the highest consistency in the set of starters at 85%. In essence, there is a consistency between the data and the set of starters for 85% of cases. In addition, it shows that the peripheral conditions (moderate) need for achievement, financial resources and market competition is causally linked to starting a new venture. This shows that this configuration is not as strongly linked to the outcome started but that there are medium strength connections to the outcome started. Starting is more dependable in dynamic environments and competitive markets (Dess & Beard, 1984; Wiklund & Shepherd, 2005).

Overall findings for this section shows that across each configuration, in order to start early the nascent entrepreneurs must have need for achievement, a trait that shows high levels of commitment to entrepreneurial activity as Frese & Gielnik, (2014) and Pinho & Sá, (2014) found and furthermore, they do not need external support early on. Some configurations suggest that resources are required. For example, configuration 3 motivated entrepreneurs and configuration 5 competitive entrepreneurs are examples where financial resources are required, whereas configuration 2 necessity entrepreneurs and 4 motivated entrepreneurs suggest that it is not required. The next section considers results for those nascent entrepreneurs who began their venture in wave 6.

7.3.2 Results for later starters

The following section presents the results of configurations for late starters. Similar to the previous analyses based on wave 2, figure 15 shows wave 6 showing the results of domains and attributes of the useful configurations that provide evidence of causal recipes for starting ventures.

Figure 15 Configuration of late starters for wave 6

| | Solution | | |
|-------------------------------------|---|---|--|
| | 1 | 2 | 3 |
| Person | | | |
| Entrepreneurial Intensity | | | |
| Need for Achievement |  |  | |
| Specific Human Capital |  |  |  |
| Environment | | | |
| External Support | |  |  |
| Market Competition |  | | |
| Resources | | | |
| Financial Resources | |  |  |
| Strategy | | | |
| Technology Innovation | | |  |
| Customer Focus | | |  |
| Consistency | 0.82 | 0.88 | 0.84 |
| Raw Coverage | 0.65 | 0.53 | 0.36 |
| Unique Coverage | 0.17 | 0.03 | 0.02 |
| Overall Solution Consistency | | 0.82 | |
| Overall Solution Coverage | | 0.71 | |

Note: Green circles represent a presence of a condition (+ve), red circles represent an absence of a condition (-ve), a smaller circle indicates peripheral conditions (medium) and a larger circle indicates core conditions (strong).

In this analysis, the fuzzy sets solution results in three configurations for wave 6 showing an acceptable level of consistency at 0.82, that is, consistency ≥ 0.75 (Rihoux et al., 2013; Rihoux & Ragin, 2009). Overall, the data match the outcome being studied for 82% of the cases in this analysis for the performance outcome started.

Figure 15 shows the presence of both core and peripheral conditions for the three configurations. The overall solution coverage is 71% compared to wave 2 which had coverage of 74% of cases in the analysis.

For configuration 1 (Persistent novices), need for achievement is a core condition linked to the outcome. Specific human capital and market competition are absent in the configuration. The configuration pattern suggests that when motivation to become an entrepreneur is high specific human capital and market competition conditions might not be as important in creating the new venture.

Configuration 2 (Resourced entrepreneurs) for late starters had the highest consistency score of 88%, which suggests that the data and theory match is strong (Ragin, 2008). Core conditions were found for need for achievement and financial resources for configuration 2. Specific human capital and external support is absent in this set of configurations indicating that it is not required for starting in this combination of conditions. The configuration is similar to configuration one, persistent novices with core conditions for need for achievement and high absence of specific human capital. The second configuration is strongest and has the core condition financial resources which potentially explains the ability to start later. These entrepreneurs had some financial support for their venture which is thus not surprising that they were able to survive for longer and become starters. This supports the Resource based view (Barney, 1993) and previous studies where resources are considered important to starting new ventures (

Configuration 3 (Technology savvy entrepreneurs) shows strongly positive results for the technology innovation and customer focus strategy and has moderate levels of financial resources. Specific human capital and external support is absent in this set of configurations indicating that it is not required for starting in this combination of conditions.

Overall the results in later starters are quite different to the results for the early starters. In order to start early even if the resources are not available or the external support, the main combination of factors required are a high need for achievement with at least a moderate level of specific human capital. For starting later, the condition need for achievement is required with a strong customer focus strategy coupled with at least moderate levels of financial resources.

7.4 Chapter Summary of Early and Late Starters

The results chapter covered the following key areas. This chapter presented the results obtained from analyses in order to answer the research questions. The methods for research used a fuzzy sets Qualitative Comparative Approach (fsQCA) to compare nascent entrepreneurs and to explore links between various configurations of attributes known as domains and new venture performance.

Overall findings for the later starters suggest that having specific human capital is not needed according to the results from the configuration analyses presented here. This is a surprising result considering there are

This chapter discussed the key results from the analyses and described how the configurations for early and late starters can be explained using the PSED sample of nascent entrepreneurs. Initially, results were presented for descriptive statistics to show correlations of key measures used in the analyses for starters in early and later starters. The next subsequent sections then systematically described the results for wave 2 and wave 6 starters.

The next chapter discusses the results and findings of the configurations for early and late quitters. In addition, it considers the correlations and summary statistics for the various attributes used in the analyses before addressing the fsQCA analyses.

Chapter 8 Results for Early and Late Quitters

8.1 Chapter Introduction

This chapter presents the results obtained from the analyses in order to answer the research questions. It also addresses the results achieved from the analyses and describes how the configurations for early and late quitters can be explained using the Panel Study of Entrepreneurial Dynamics (PSED) sample of nascent entrepreneurs. Results are presented for descriptive statistics and correlations in order to show correlations of key measures used in the analyses. The section next section focuses on the performance outcome, descriptive statistics, and then systematically describes the results for wave 2 quitters and wave 6 quitters. The next section discusses the results of the main analyses based on the fsQCA for the various waves of data. It discusses the results and shows how the configurations relate to each other. There is a brief discussion of the data analyses and cross validation, also known as sensitivity analyses which consider the degree to which the analyses and configuration results are dependable. The chapter concludes with a summary of the main points from the results chapter for quitters.

8.2 Descriptive Statistics and Correlations for Early and Late Quitters

The following section focuses on the descriptive statistics for the early and later quitters.

Table 15 Descriptive Statistics and Correlation Coefficients for Wave 2 Quitters*

| Variable | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|------------------------------|------|------|--------|--------|--------|-------|------|-------|--------|-----|---|
| 1. Entrepreneurial Intensity | 1.92 | 0.86 | 1 | | | | | | | | |
| 2. Need for Achievement | 3.05 | 1.02 | 0.24** | 1 | | | | | | | |
| 3. Specific Human Capital | 1.73 | 1.13 | -0.02 | -0.09 | 1 | | | | | | |
| 4. Financial Resource | 2.88 | 0.97 | 0.12* | -0.12* | 0.09** | 1 | | | | | |
| 5. External Support | 2.85 | 0.82 | 0.06 | 0.02 | 0.01 | 0.05 | 1 | | | | |
| 6. Market Competition | 1.59 | 1.22 | 0.07 | 0.01 | 0.05 | -0.02 | 0.02 | 1 | | | |
| 7. Technology Innovation | 3.01 | 1.63 | 0.06 | -0.14* | -0.04 | 0.13 | 0.04 | 0.2* | 1 | | |
| 8. Customer Focus | 2.67 | 1.08 | 0.12* | 0.18** | 0.1 | 0.18 | 0 | -0.03 | 0.24** | 1 | |
| 9. Quit | 0.64 | 0.22 | 0.12* | -0.06 | -0.14 | 0.1 | 0.01 | 0.01 | 0.2 | 0.7 | 1 |

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

N=219

Table 15 presents the descriptive statistics and correlations for all measures in the configuration study for wave 2 for the respondents who quit their ventures. Table 15 above shows that there were positive correlations between financial resources $r = .12$, customer focus $r = .12$ and performance outcome quit $r = .12$. The customer focus variable is positively correlated with technology innovation $r = .24$, $p < .05$, and quitters $r = .02$. Similarly, market competition $r = .07$ and customer focus $r = .12$ are correlated with the specific human capital measure. This is interesting because the pattern is not too dissimilar to the starters' cohort.

In contrast, the need for achievement, financial resources, technology innovation and customer focus measures show negative correlations with certain variables. The need for achievement variable $r = -.24$ is negatively correlated with entrepreneurial intensity. The technology innovation is negatively correlated with the market competition measure at $r = -.02$. Need for achievement is negatively correlated with the technology innovation $r = -.14$ and customer focus $r = -.18$. As suggested earlier, there are different drivers for the cohort of high need for achievement. However, for the quitters there might be other drivers motivating them to quit the new venture.

Overall, the mean scores for the data are highest for need for achievement ($M = 3.05$, $SD = 1.02$), followed by technology innovation ($M = 3.01$, $SD = 1.63$), financial resources ($M = 2.88$, $SD = 0.97$), external support ($M = 2.85$, $SD = 0.82$) and customer focus ($M = 2.67$, $SD = 1.02$). The mean scores are lowest for market competition ($M = 1.59$, $SD = 1.22$), specific human capital ($M = 1.73$, $SD = 1.13$) and entrepreneurial intensity, ($M = 1.92$, $SD = 0.86$). The next section focuses on the descriptive statistics for wave 6 quitters.

Table 16 Descriptive Statistics and Correlation Coefficients Wave 6 Quitters*

| Variable | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|------------------------------|----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1. Entrepreneurial Intensity | 1.90 | 0.81 | 1 | | | | | | | | |
| 2. Need for Achievement | 3.67 | 0.97 | 0.21** | 1 | | | | | | | |
| 3. Specific Human Capital | 2.14 | 0.98 | -0.01 | -0.03 | 1 | | | | | | |
| 4. Financial Resources | 3.71 | 0.71 | 0.11 | -0.17* | -0.07 | 1 | | | | | |
| 5. External Support | 3.02 | 0.71 | 0.06 | 0.05 | 0.06 | -0.02 | 1 | | | | |
| 6. Market Competition | 1.69 | 1.21 | 0.03 | 0.03 | 0.06 | -0.25** | 0.06 | 1 | | | |
| 7. Technology Innovation | 3.08 | 1.40 | 0.01 | -0.12 | -0.09 | 0.19** | 0.00 | 0.26** | 1 | | |
| 8. Customer Focus | 3.00 | 0.91 | 0.07 | 0.24** | 0.09 | 0.34** | 0.07 | -0.22** | 0.55** | 1 | |
| 9. Quit | 0.62 | 0.21 | -0.08 | -0.06 | -0.04 | 0.22** | -0.03 | -0.06 | 0.01 | 0.0 | 1 |

** Correlation is significant at the 0.01 level (2-tailed).






















* Correlation is significant at the 0.05 level (2-tailed), N=51

Table 16 above shows the descriptive statistics for the variables that were initially selected for the QCA analysis. There were no missing cases in this analysis. The data only depicts cases where respondents answered the last wave of the survey. On the whole, the data presented show more negative figures or lower correlations between the variables. There was a strong positive correlation between customer focus and technology innovation variables $r = 0.55$ amongst the group of quitters. The second strongest positive correlation is evident between the financial resources and customer focus $r = 0.34$ variables.

There were high mean scores for the financial resources ($M = 3.71$, $SD = 0.71$) and need for achievement ($M = 3.67$, $SD = 0.71$) variables. There were negative correlations between variables on financial resources and need for achievement ($M = -0.17$, $SD = 0.97$). There were also further negative correlations between market competition versus technology innovation ($M = -0.26$, $SD = 1.40$) and customer focus ($M = -0.22$) and performance outcome for quitters ($M = -0.06$). These will be assessed further in the next section.

8.2.1 Results for Early Quitters

Figure 16 Configurations for Early Quitters for Wave 2

| | Solution | | | |
|-------------------------------------|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| Person | | | | |
| Entrepreneurial Intensity | | | | |
| Need for Achievement | |  |  |  |
| Specific Human Capital |  |  |  |  |
| Environment | | | | |
| External Support |  |  |  | |
| Market Competition | |  |  |  |
| Resources | | | | |
| Financial Resources | |  |  |  |
| Strategy | | | | |
| Technology Innovation |  |  |  | |
| Customer Focus |  | | |  |
| Consistency | 0.77 | 0.77 | 0.77 | 0.74 |
| Raw Coverage | 0.14 | 0.15 | 0.15 | 0.09 |
| Unique Coverage | 0.01 | 0.00 | 0.01 | 0.02 |
| Overall Solution Consistency | 0.77 | | | |
| Overall Solution Coverage | 0.20 | | | |

Note: Green circles represent a presence of a condition (+ve), red circles represent an absence of a condition (-ve), a smaller circle indicates peripheral conditions (medium) and a larger circle indicates core conditions (strong).

Figure 16 shows the results of the fsQCA analyses for quitters in wave 2, year 2006. It also shows the fuzzy sets solution results in four clear configurations for wave 2 quitters and indicates the presence and absence of both peripheral and core conditions. The results present equifinality across solutions. There are four solutions possible from these configurations for those who quit their venture. The results show an acceptable level of consistency at 0.77, that is, consistency ≥ 0.75 (Rihoux & Ragin, 2009; Rihoux et al., 2013).

Configuration 1 (entrepreneurial stalwarts) suggests that the core conditions for specific human capital and customer focus strategy with the absence of external support and a technology innovation strategy lead to quitting the venture. This group has very positive conditions for specific human capital and a customer focus strategy. For the configuration technology innovation strategy and external support produced negative results.

Configuration 2 and 3 (necessity entrepreneurs) for the quitters have very similar results with differences in conditions for market competition and external support. The core conditions for need for achievement, specific human capital, and market competition were present in both configurations. The external support, financial resources and technology innovation conditions are absent in the configuration. Those entrepreneurs with a need for achievement, high specific human capital and market competition suggest that they are motivated to start their venture but that without the external support and technology innovation lead to quitting early for the nascent entrepreneurs.

Configuration 4 (independent entrepreneurs) shows the presence of core conditions for market competition, customer focus strategy and the absence of the core conditions for, specifically, human capital and the resources. Furthermore, it shows that the absence of the peripheral condition, need for achievement, leads to quitting the venture. This configuration has consistency of 74% which suggests that it is just below the level of consistency ≥ 0.75 to confirm support for a link between theory and statistical findings (Rihoux & Ragin, 2009; Rihoux et al., 2013). In essence, this result should be treated with caution, as it does not meet the threshold for supporting a substantive connection. The next section looks at the results for quitters for wave 6.

8.2.2 Results for Late Quitters

Figure 17 below presents the results for the fsQCA analysis for wave 6 configurations. After the initial cluster analysis was conducted the data were transformed into fuzzy sets to create the key conditions for analysis.

Figure 17 Configurations of Late Quitters for Wave 6

| | Solution | | | | | |
|-------------------------------------|-----------------|-----------|-----------|----------|----------|----------|
| | 1 | 2a | 2b | 3 | 4 | 5 |
| Person | | | | | | |
| Entrepreneurial Intensity | | | | | | |
| Need for Achievement | | | | | | |
| Specific Human Capital Environment | | | | | | |
| External Support | | | | | | |
| Market Competition | | | | | | |
| Financial Resources | | | | | | |
| Technology Innovation | | | | | | |
| Customer Focus | | | | | | |
| Consistency | 0.77 | 0.86 | 0.86 | 0.86 | 0.90 | 0.93 |
| Raw Coverage | 0.25 | 0.37 | 0.41 | 0.39 | 0.38 | 0.19 |
| Unique Coverage | 0.05 | 0.01 | 0.01 | 0.05 | 0.01 | 0.00 |
| Overall Solution Consistency | 0.77 | | | | | |
| Overall Solution Coverage | 0.58 | | | | | |

Note: Green circles represent a presence of a condition (+ve), red circles represent an absence of a condition (-ve), a smaller circle indicates peripheral conditions (medium) and a larger circle indicates core conditions (strong).

Overall, the results of the wave 6 year 2011, quitting configurations suggest a reasonable level of consistency for the analyses of 0.77, which is above the ≥ 0.75 threshold requirement (Rihoux et al., 2013; Rihoux & Ragin, 2009). The overall solution coverage was reasonable at 58%.

The most interesting findings are the presence of the condition entrepreneurial intensity in three of the five configuration solutions for wave 6 quitters. The expectation is that the

condition would be linked to the entrepreneurs who start new ventures, but this finding is not supported in these configuration patterns.

Configuration 1 (market casualties) suggests that the core condition, market competition, and the peripheral condition, need for achievement, are causally linked to the outcome quitting. While this is a configuration that leads to the outcome quitting, it is not the strongest of solutions based on the consistency level of 77% as the others are between 86% and 93%.

There were two neutral permutations in this set of configurations for 2a and 2b. These configurations have the same core conditions and are presented in this way based on suggestions by Fiss (2011). The consistency levels are the same at 86%, which is high for this type of analysis. These configurations present core conditions for entrepreneurial intensity and peripheral conditions for financial resources, with the absence of need for achievement, market competition, and technology innovation for the outcome quitting.

For configuration 3, the core condition, specific human capital, with the peripheral condition external support and the absence of conditions, need for achievement and financial resources lead to quitting the venture. It is difficult to start a new venture with limited funds and low need for achievement and limited external support.

Configuration 4 has core conditions for the entrepreneurial intensity and specific human capital, and the absence of external support and technology innovation strategy.

Configuration 5 has core conditions for the market competition, external support, financial resources and customer focus strategy that lead to quitting the venture. This configuration suggests that the conditions individually might be associated with positive causal connections to the outcome, but taken together they might lead to the opposite outcome quitting. The discussion focuses on the results compared to the literature and theory.

8.3 Summary of Results for Early and Late Quitters

For wave 2 quitters the fuzzy sets solution results in five clear configurations. The results present equifinality across solutions with a consistency of 77%. Configuration 2 and 3 for the quitters have very similar results with differences in conditions for market competition and external support. The core conditions for need for achievement, specific human capital, and market competition were present in both configurations. The external support, financial

resources and technology innovation conditions are absent in the configuration. Those entrepreneurs with a need for achievement, high specific human capital and high market competition suggest that they are motivated to start their venture but the combination of these conditions have been different. In this research it led to quitting the venture.

One of the interesting results showed the presence of the condition entrepreneurial intensity, which was found in two of the five configuration solutions for wave 6 quitters in 2011. This condition has been positively associated with those entrepreneurs who start new ventures. This finding is an unexpected result based on configuration patterns for those who quit their venture. There are various reasons that could explain this outcome. The connection of results to the entrepreneurship literature will be presented in the discussion chapters. These chapters focus on the connections between theory and the extant literature on configurations within the context of new ventures.

8.4 Chapter Summary of Early and Late Quitters

The results chapter covered the following key areas. This chapter presented the results obtained from analyses in order to answer the research questions. The methods for research used a fuzzy sets Qualitative Comparative Approach (fsQCA) to compare nascent entrepreneurs and to explore links between various configurations of attributes known as domains and new venture performance. This chapter discussed the key results from the analyses and described how the configurations for early and late quitters can be explained using the PSED sample of nascent entrepreneurs. Initially, results were presented for descriptive statistics to show correlations of key measures used in the analyses for early and later quitting ventures. The subsequent sections then systematically described the results for wave 2, 2006 and wave 6, 2011 quitters in order to show whether there are performance differences in configurations. The next chapter focuses on the discussion of the connections between the theory and the results achieved in this research.

Chapter 9 Discussion of Configurations

9.1 Chapter Introduction

This thesis aims to explain the attributes that lead to performance for new ventures under a combination of conditions. The lack of available comprehensive configuration frameworks to explain the development of new ventures for nascent entrepreneurs prompted this research. Specifically, this thesis sought to answer the question: What configurations help to explain performance differences amongst nascent entrepreneurs? Using a modified version of Gartner's (1985) model to frame the investigation, this study found numerous configurations or pathways that led to starting versus quitting ventures. This chapter discusses these findings and their connection to the extant literature. There is a systematic discussion of the key configurations based on performance for early and late starters in section 9.2 to answer research question 1b, Are there different configurations for those who start ventures early versus those who start later? and causal connections based on question 2a Are there configuration differences when starting early compared to starting later based on core and peripheral conditions? The next section, section 9.3 discusses the early and late quitters to answer research question 1c Are there different configurations for those who quit ventures early versus those who quit later? and 2b Are there configuration differences when quitting early compared to quitting later based on core and peripheral conditions? The chapter concludes with a summary of the main discussion points.

9.2 Configurations based on Starters

The findings from the analyses led to multiple configurations for each of the performance outcomes starting early and starting later which indicate that there are clearly distinctive configurations which is favourable in addressing question 1b Are there different configurations for those who start ventures early versus those who start later? Overall, there are five configurations that lead to the early starting ventures and three that lead to starting ventures later based on the data which is distinctly different from each other which thus addresses question 2a Are there configuration differences

when starting early compared to starting later based on core and peripheral conditions? The following section discusses the findings from the configuration analyses for the early starters and contrasts them with late starters in order to answer the above questions. Table 17 p.204 presents the overall results of the early and late starters.

Table 17 Configurations of Entrepreneur Types that Lead to Early and Late Venture Start-ups

| | Description of Early Starters | Late Starters | Description of Later Starters |
|-------------------------------------|--|-------------------------------------|--|
| Early Starters | | | |
| 1 Opportunity seekers | High market competition is a core condition (strong positive) and external support is considered to be a peripheral condition (moderately positive) | 1 Persistent novices | Need for achievement is a core condition (strong positive). Specific human capital and market competition are absent (strong negative). |
| 2 Necessity entrepreneurs | Absence of external support and financial resources (strong negative) with the presence of both peripheral conditions, need for achievement and customer focus strategy (medium positive) | 2 Necessary entrepreneurs | Need for achievement and financial resources are core conditions (strong positive). Specific human capital (strong negative) and external support is absent (moderately negative). |
| 3 Highly motivated entrepreneurs | Core conditions (strong positive) for need for achievement, financial resources, peripheral conditions for customer focus strategy (moderately positive). External support is absent (strong negative). | 3 Technology savvy entrepreneurs | Core conditions for focus on technology innovation strategy, customer focus strategy (strong positive) with peripheral conditions for financial resources (moderately positive). Absence of specific human capital and external support (strong negative). |
| 4 Motivated entrepreneurs | Core conditions for need for achievement, and customer focus strategy (strongly positive), with peripheral conditions for specific human capital (moderately positive). External support and financial resources are absent (strongly negative). | | |
| 5 Competitive entrepreneurs | Peripheral conditions for need for achievement, financial resources and market competition (moderately positive). | | |

9.2.1 Configurations based on early starters

Configuration 1 (Opportunity seekers) (see Table 17) shows that the combination of external support is a peripheral condition (moderate) with the core condition (strong) of market competition for starting a new venture early. External support is about the ability to access help from friends and family and or external agencies, such as chambers of commerce and the financial resources (Carter et al., 1994; Reynolds, 2011) which in this configuration is only moderate. The findings are consistent with previous research that suggests that the new venture performance is strong in dynamic environments and competitive markets (Dess & Beard, 1984; Wiklund & Shepherd, 2005). This finding supports the notion that nascent entrepreneurs consider the environmental context as important which when faced with high competition they need to use external support to act quickly to start the new venture. While the previous research also focuses on dynamic environments which is about the level of uncertainty and change in the environment. This configuration suggests that in order to start early moderate levels of external support and strong market competition is required.

Configuration 2 (Necessity entrepreneurs) show that the presence of moderate conditions, for both the need for achievement and a customer focus strategy with the absence of external support and financial resources, leads to the early start of nascent ventures. This pathway is different to previous research findings that need for achievement is strongly associated with future entrepreneurial activity (Davidsson, 1991; Kessler et al., 2012; Korunka, Frank, Lueger & Mugler, 2003; McClelland, 1961; Reynolds & Curtin, 2009; Tang, 2007). The customer focus strategy has been connected to new venture performance by Stearns, Carter, Reynolds and Williams (1995) who found that there is a connection between customer focus strategy and starting a new venture. The limited core conditions in this pathway indicate that the configuration for starting a new venture does not always need many strong conditions. External support is not always needed when starting a new venture (Stubner et al., 2007). Alvarez & Busenitz (2001) considered the Resource Based View theory, which suggests that resources impact on starting new ventures. Lately, Senyard, Baker, Steffens and Davidsson (2014) have suggested that nascent entrepreneurs use

bricolage, defined as making do with available resources at hand for new issues, as well as prospects such as being inventive with current resources. This configuration suggests that it is not always necessary to have external support and financial resources if nascent entrepreneurs have medium levels of need for achievement and a customer focus strategy. They may use their current resources and finances along with the motivation to start, and their strategy to focus on their customers, to spur them into starting the new venture.

Configuration 3 (Highly motivated entrepreneurs) shows early starting ventures are associated with nascent entrepreneurs who have a strong need for achievement and have access to financial resources. There is a moderate customer focus strategy and these nascent entrepreneurs do not have external support. Need for achievement have been shown in the past by Shaver and Scott (1991) to be trait that remains the only variable whose link with beginning a new venture is certain. For need for achievement, Pinho and Sá (2014) found that the influence of the entrepreneur's personal characteristics, such as need for achievement led to new ventures starting. Access to financial resources is important for nascent entrepreneurs as those ventures that access a larger resource pool are less likely to abandon their attempt (Liao et al., 2008). Furthermore, Gartner et al., (2009) found that entrepreneurs who are able to acquire external financing of any kind (monitored or unmonitored) are significantly more likely to have started a venture or remain in the venture start-up process. The activities involved in creating the venture require financial investment which is a theoretical argument for the Resource Based View (RBV) (Gruber et al., 2010). The RBV posits that with low resources the ability to be successful in the venture emergence is limited (Alvarez & Busenitz, 2001). This configuration suggests that entrepreneurs with a high need for achievement and access to resources are able to create a new venture without accessing wider support. This finding suggests that to create the new venture some entrepreneurs find it easier to start the venture given a high need to achieve and ready access to finance which supports previous findings which researchers suggested are important to starting a new venture.

Configuration 4 (motivated entrepreneurs) indicates another complex pathway that leads to starting a new venture. Nascent entrepreneurs in this configuration pathway have two core conditions: a need for achievement and customer focus

strategy, as well as the peripheral condition of specific human capital. These conditions are coupled with an absence of external support and financial resources. This pathway supports research by Carter, Stearns, Reynolds and Miller (1994) who found that entrepreneurs require strong motivation to start the venture as well as a focus on providing products and services that cater for customers (customer focus strategy). The limited core conditions in this pathway indicate that the configuration for starting a new venture does not always present with many core conditions. The combination of conditions are mediated by conditions of varying levels (Ragin, 2008). Here, the results lend credence to Dimov's (2010) claim that human capital variables are mediated by "opportunity confidence", or in other words, the entrepreneur's belief in the value of the project. This is why performance outcomes for nascent venture using the condition, specific human capital, have been mixed; the extent to which specific human capital is indicative of success depends on a mediating variable. In addition, there is an absence of external support and financial resources for nascent entrepreneurs in both their study and this configuration. External support is about perceived support from friends and family and/or external agencies, such as chambers of commerce and their financial resources (Carter et al., 1994; Reynolds, 2011). The configuration suggests that depending on the focus of the venture, the role of finance and external support does not always have to be present for all new ventures. With specific human capital, and coupled with customer focus strategy and a high need for achievement, the venture can start early.

Configuration 5 (Competitive entrepreneurs) suggests that the peripheral conditions of need for achievement, market competition and financial resources are causally connected to early starters. New ventures content with existing operations are less likely to benefit from a dynamic environment (market competition), because market demand might shift away from the firm's products, which negatively impacts performance. Zahra, Neubaum and Huse (1997) found that there was a strong positive relationship between nascent entrepreneurs and performance among firms in dynamic environments. Their study differs in the conceptualisation of dynamic environments which does not focus on competition but on change. The conditions are consistent with expectations for the set of starters for new ventures which is similar to the research findings of Wang and Fang (2012) . In their research Wang and Fang assessed the process of new venture performance by examining survival over time. It begins with the initial communication of start-up intentions (need for achievement), continues with

the transition into active venture and was defined by the actual start of venture activities (first sales revenues), and included the ensuing survival of the new venture which supports configuration 5 conditions. Similarly, van Gelderen and Frese (2000) and Wang and Fang (2012) found that innovative strategies in uncertain (unpredictable and dynamic) environments were associated with higher performance. A related study by Kessler et al., (2012) demonstrated how characteristics of the person (i.e., risk-taking) affect founding success, but not survival, which is inconsistent with the findings of the current study. They found that simultaneous interaction of time, resource and environment aspects did not have an effect on founding success or survival. The configuration suggests that the causal conditions above are not strong individually but as a group are associated with the early starters. The configuration supports earlier configurations by Wang and Fang and interactions of domains by van Gelderen and Frese (2000) in explaining new venture configurations. The configuration for competitive entrepreneurs suggest that the combination of medium levels of need for achievement, market competition and financial resources are required as a combination to start early.

9.2.2 Configurations based on late starters

Configuration 1 (Persistent novices) in table 17 p. 204 and figure 17 in the previous chapter for late starters shows that need for achievement is a core condition associated with the outcome starting. There is an absence (strong negative) of specific human capital and market competition in this configuration pattern. The configuration pattern suggests that when motivation is strong, based on need for achievement, specific human capital and market competition conditions might not be as important to create the new venture. The configuration pattern suggests that the group is possibly driven by necessity or the will to achieve given their high scores on need for achievement, but low scores on other attributes which are similar to results achieved by Kessler and Hienerth (2002), Korunka et al. (2003), Harms et al., (2014), Kessler, (2012), and Mugler and Kessler (2004). They assessed the need for the achievement construct as part of the personality with other measures, such as risk propensity, that differs from the current study. Their findings suggest that the need for achievement is important in relation to starting new ventures which is confirmed by McClelland (1961). Specific human capital consists of capabilities that founders can directly apply to the entrepreneurial job in the new venture and include knowledge of the industry,

known as "...industry-specific human capital, obtained by founders through prior work experience in the same industry. They also include knowledge of how to manage a new firm" (Colombo & Grilli, 2005, p. 796). The association between performance and specific human capital is not always clear. Some researchers have found no effect on survival (Delmar & Shane, 2004; Kessler et al., 2012), nor on the timing of new product introduction (Gartner & Thomas, 1993; Keskin, Diehl & Molenaar, 2013), nor performance (West & Noel, 2009). Consequently, having specific human capital is not always positive for creating new ventures. Market competition, which is associated with dynamic environments, is correlated with high unpredictability of customers and competitors and high rates of change in market trends and industry innovation (Dess et al., 1997; Kessler et al., 2012). In contrast to the dynamic environment perspective, the low levels of market competition in this configuration may have provided less change in the environment which provided the opportunity for the creation of the new venture (Dess & Beard, 1984; Edelman & Yli-Renko, 2010; Gruber et al., 2010). The profile for this configuration is also similar to 'putting the deal together' based on Gartner, Mitchell and Vesper's (1989) study on types of new ventures. Configuration 1 (persistent novices) shows that the conditions of high need for achievement, low specific human capital and low market competition lead to starting new ventures later. For the entrepreneur, they need to have some knowledge of venture creation and be motivated to becoming an entrepreneur. Their chances of being successful later depend on choosing a venture that is in a less competitive environment. In this scenario it is dependent on the offering and having enough knowledge and motivation to start.

Configuration 2 (Necessity entrepreneurs) for late starters is similar to configuration 3 (Highly motivated entrepreneurs) for early starters. This configuration shows high need for achievement and financial resources have the highest consistency within the group of late starters. Consistency in this context suggests that entrepreneurs with these characteristics more consistently met a statistical connection to the set of late starters. Specific human capital and external support is absent in this set of configurations indicating that it is not required for starting in this combination of conditions. A possible explanation for this group is that those involved are developing their venture with access to sufficient financial resources. Having specific human capital is not always important when there are adequate financial resources (Marvel, 2013). The need for achievement suggests that the group is motivated to take risks in

pursuit of their venture, which leads them to continue the discovery process . Furthermore, entrepreneurs with a high need for achievement and access to resources are able to create the new venture without accessing wider support (Gruber et al., 2010; Harms et al., 2014; Senyard et al., 2014). This finding suggests that to create the new venture over a longer period, some entrepreneurs start the venture later given a strong need to achieve and ready access to finance which supports previous research and the RBV theory. New entrepreneurs need to be committed to the venture they are developing and have ready access to financial resources.

Configuration 3 (Technology savvy entrepreneurs) shows that a combination of conditions based on high levels of focus on technology innovation strategy, customer focus strategy and financial resources, and without high human capital and external support is associated with starting later. The entrepreneurs are motivated by the need to innovate or discover new ways to provide products or goods or services. Configuration 3 for later starters is not the same as configurations found for early starters. The configuration, however, resembles findings in the study by Carter et al., (1994) where they found support for a cluster group focussed on technology strategy and innovation. This is also consistent with findings by Stam and Elfring (2008), who assessed new ventures in the IT industry and found that they place a high focus on their customers, financial resources and have a clearly defined technology focus strategy. They assessed these configurations in relation to the entrepreneurial orientation, which measures the likelihood of being entrepreneurial. This information builds on configurations found in other studies by Heirman and Clarysse (2007); Parida et al. (2010); and Stam and Elfring (2008) who assessed how IT strategies are used and how new developing ventures are being organised. Configuration 3 suggests that those nascent entrepreneurs with a high customer focus strategy, high technology innovation strategy, medium levels of resources, coupled with low specific human capital and no external support start their ventures later. The new entrepreneur needs to consider the customer offering and have enough access to financial resources if they take a long time to develop a new venture.

9.3 Overall findings for Starters

Both the early and late starters revealed that the condition, need for achievement along with other conditions are required to start the new venture. With regard to both early and late starters, when high need for achievement is coupled with

high financial resources, and the absence of external support the combination of conditions lead to starting a new venture. This suggests that external support is not as relevant to starting new ventures when financial resources and need for achievement are present. This supports the resource-based view which suggests that the resources for new ventures is critical for starting a new venture (Alvarez & Busenitz, 2001; Reynolds & Curtin, 2009). Furthermore, the finding suggests that new ventures might need external support when financial resources and the motivation to achieve are strong. This holds true for early as well as late starters.

For late starters however, one of the strongest configurations when need for achievement is not core suggests that low specific human capital with low external support and low financial resources but with high technology and innovation focus will lead to late starts. This is explained, possibly, by the focus on innovation where time is taken for the entrepreneur to bring to market their products or services (Blazenko, Pavlov, & Eddy-Sumeke, 2012; Jenson et al., 2016). Entrepreneurs are focused on getting their product or service right for their customers. This takes time when resources are low and is similar to the findings by Stam and Elfring (2008).

Configurations for early starters did not have an innovation or IT focus strategy. Across the configurations for early starters, there was a consistent finding that the profile had a strong need for achievement which is a trait that shows high levels of commitment to entrepreneurial activity as Frese & Gielnik, (2014) and Pinho & Sá, (2014) have found. This coupled with at least moderate levels of customer focus strategy was required in order to start early. These results are explained, possibly, by a stronger focus on the customer strategy which suggests that because they were attuned to the customers they were able to focus their energies on ensuring that they met customer needs. Without the external support the entrepreneurs focussed their energies on their customers and considered providing better service and pricing strategies to ensure that their venture started early. The late starters had a different pathway and needed a different set of conditions to develop their ventures.

9.4 Configurations based on Quitters

The research questions for this section was to focus on 1c Are there different configurations for those who quit ventures early versus those who quit later? and 2b Are there configuration differences when quitting early compared to quitting later based on core and peripheral conditions? Overall, there are four configurations that explain causal connections for those who quit the venture early. Early research in this area suggests that there is a liability of newness that accompanies new ventures (Stinchcombe, 1965). There is a higher risk of failure for new ventures compared to older more established ventures because they are very new (Bruderl & Schussler, 1990; Pal, Torstensson, & Mattila, 2014; Power & Reid, 2005; Smallbone et al., 2012). Quitting a venture may occur because a venture is unable to satisfy its financial obligations to creditors or because the venture cannot meet the objectives of the owner (Ucbasaran, Westhead, Wright & Flores, 2010). In addition, although a number of studies examine how founding conditions affect start-up survival, few distinguish conditions for quitting (Geroski, Mata & Portugal, 2010).

The following section discusses the findings from the current study based on configurations for entrepreneurs who quit their ventures. There are four configurations for the early quitters and five configurations for the late quitters. The following section focuses on the early quitters. Table 18 p.213 illustrates the differences between the early and late quitters with their conditions

Table 18 Configurations of Early and Late Quitters

| | Description of Conditions for Configurations for Early Quitters | | Description of Conditions for Configurations for Late Quitters |
|--|---|--|--|
| Early Quitters | | Late Quitters | |
| 1 Entrepreneurial stalwarts | Core conditions for specific human capital and high customer focus strategy (strong positive) with the absence of the external support and the technological innovation strategy (strong negative) | 1 Market casualties | Core conditions for market competition (strong positive) with the peripheral conditions for need for achievement (moderate). |
| 2 Motivated and experienced entrepreneurs | Core conditions for need for achievement, specific human capital and market competition (strong positive) and absence of external support, financial resources and technology innovation strategy (strong negative) | 2a Necessity entrepreneurs 2b Necessity entrepreneurs | Core condition for entrepreneurial intensity (strong positive) with peripheral condition for financial resources (moderate) and absence of need for achievement and technology innovation in both 2a and 2b. 2b has absence of market competition (strong negative). |
| 3 Unsupported but highly motivated entrepreneurs | Core conditions for need for achievement, specific human capital (strong positive) and absence market competition, external support, financial resources and technology innovation strategy (strong negative) | 3 Entrepreneurial veterans | Core conditions for specific human capital (strong positive) and peripheral conditions for external support (moderate) with absence of need for achievement and financial resources (strong negative) |
| 4 Independent | Core conditions for need for achievement, specific | 4 Unsupported | Core conditions for entrepreneurial intensity and |

| | | | |
|---------------|--|--|---|
| entrepreneurs | human capital and market competition (strong positive) and absence of resources and technology innovation strategy (strong negative) | active entrepreneurs | specific human capital (strong positive) and absence of external support and technology innovation (strong negative). |
| | | 5 Entrepreneurial veterans with options | Core conditions for external support, market competition, financial resources, customer focus strategy |

9.4.1 Early Quitters

Configuration 1 (entrepreneurial stalwarts) in table 18 p. 214 shows that high specific human capital and high customer focus strategies with the absence of external support and technological innovation strategies lead to quitting early. In this configuration for specific human capital is commonly thought to have a positive effect on the likelihood of being a nascent entrepreneur and to foster a new venture's development. However, such a finding has been questioned as human capital only indicates that the entrepreneur has previous start-up experience, but does not indicate the extent of this experience or how successful the previous start-up was (Kim et al., 2006) and in addition it does not hold for ventures operating in highly dynamic markets (Newbert, 2005). There are many opportunities for nascent entrepreneurs with high specific human capital and the reasons for leaving or quitting the venture could be a result of having more options (Davidsson & Honig, 2003). An individual might leave their current endeavour as a result of a job opportunity, an educational opportunity, or the identification of another new venture opportunity (Maertz & Campion, 2004). They might quit their effort early because of less fruitful opportunities in pursuit of other, more interesting options, meanwhile still being committed and effective in pursuing those venture alternatives that remain appealing (Bakker et al., 2014; Dimov, 2010; Townsend et al., 2010). The focus on customer strategy is important, as it is this focus that leads to increased sales and therefore a viable, profitable venture (Brush, Edelman & Manolova, 2008; Cassar, 2014; Eckhardt et al., 2006; Gartner, Frid & Alexander, 2012). Without sales the venture is limited in regard to its chances of survival (Delmar & Shane, 2006; Mitchell, 1994) although other research has suggested that this focus on the customer might also be an inhibitor to making the transition to starting the venture (Barringer & Ireland, 2008; Hatala, 2005; Robinson & McDougall, 2001). The nascent entrepreneur could realise that a product or service already exists, and market demand is low from customers, which would make it more likely that the nascent entrepreneur would terminate the process, especially those with prior experience. A strong focus on customers without having an innovative or technology-related strategy limits the possibility of the venture remaining current and thus results in a higher possibility of quitting the creation of the venture. Being relevant to the market is important in relation to strategy even for entrepreneurs with high human capital and customer

focus (Dess et al., 1997; Townsend et al., 2010). A lack of options for external support limits the potential to create a viable venture. The environmental influences of role models, both micro social (family and friends) and the macro social (government, banks), have been a major contributor to a new venture's success (Korunka et al., 2003; Mugler & Kessler, 2004). Consequently, without it there are limited chances of starting a venture. Having strong specific human capital, with a strategy focused on the customer is not helpful if there is no technology and innovation focus and external support.

Configuration 2 and 3 (Motivated and experienced entrepreneurs) in table 16, for the quitters, are similar with differences in conditions for market competition and external support. High market competition is present in configuration 2 and peripheral in configuration 3. The high need for achievement and high specific human capital were present in both configurations. The external support, financial resources and technology innovation conditions are absent in configuration 2. Those entrepreneurs with a high need for achievement, high specific human capital and market competition suggests that they are motivated to start their venture and previous research has suggested that these conditions lead to starting new ventures (Carter et al., 1994; Kessler et al., 2012). By contrast, various options are available to them because of their high specific human capital. They might not necessarily follow through to the start of their venture (Gimeno et al., 1997) because they have other options or prior experiences which lead them to 'pull the plug' and discontinue the venture (Bakker et al., 2014). Most firms start up with low funds from the founder (Blazenko, Pavlov & Eddy-Sumeke, 2012; Dahlqvist & Wiklund, 2012; Eckhardt et al., 2006). A lack of funding has been a reason for abandoning the process of starting a venture and is consistent in this configuration (Blanchflower & Oswald, 1998; Erikson, 2002; Jones & Jayawarna, 2010; Kasturi, 2014; Shane & Stuart, 2002; Stubner et al., 2007). A focus on the market and the customers has been considered in prior research to lead to nascent entrepreneurs who start their ventures (Dess & Beard, 1984). In dynamic environments the nascent entrepreneur has to be able to make the most of the turbulence in the market. Some are better able to deal with the turbulence and create a venture whereas others discontinue the process (Lichtenstein et al., 2007). This configuration suggests that entrepreneurs with a high need for achievement, high specific human capital and high market competition tend

to quit when external support, financial resources and technology innovation conditions are absent.

Configuration 3 (Unsupported but highly motivated entrepreneurs) conditions are the same as for configuration 2 with the exception of the market competition being absent in configuration 3. The difference suggests that market competition did not have an effect when taken together with other domains. Unlike the previous configuration, the entrepreneurs might not have had to endure market competition for this configuration. Previous research has found that without market competition, there is lower opportunities for successful venture creation (Aldrich & Yang, 2012; Bradley, Aldrich, Shepherd & Wiklund, 2011; Kessler et al., 2012; Rotefoss & Kolvereid, 2005). This configuration shows that a strong need for achievement and strong specific human capital together with the absence of external support, financial resources and technology innovation conditions and market competition lead to venture failure. Having financial resources or access to wider support provides evidence for the resource-based view theory. This theory suggests that without the resources required to undertake the activities to create the new venture it eventually fails (Gruber et al., 2010; Liao et al., 2008). The configuration is different to the previous one and explains that the absence of market competition along with previous conditions has an effect on the outcome failure. It thus provides a slightly different configuration with no market competition.

Configuration 4 (Independent entrepreneurs) shows that the conditions for strong positive conditions for market competition, customer focus strategy and the strong negative of the conditions for specific human capital and financial resources. Furthermore, it shows that the absence of need for achievement leads to quitting the venture early. The result for configuration 4 has a consistency of 74% which does not provide a strong link between the configuration theory and statistical findings (Rihoux & Ragin, 2009; Rihoux et al., 2013). This result should be treated with caution, as it does not meet the threshold for supporting a substantive connection. Furthermore, this configuration has limited support in the extant literature for this configuration type, but some research have found support for certain conditions in this configuration. A focus on the market and the customers has been considered in prior research to lead to nascent entrepreneurs who start their ventures (Dess & Beard, 1984). The greater the level of environmental dynamism, the more likely nascent entrepreneurs are to perceive that there is an unmet customer need which is consistent with the configuration finding here. The stronger these

perceptions, the stronger the intention to create a venture, and the more energy nascent entrepreneurs will invest in starting a firm leading to performance. Dynamic environments are associated with the high unpredictability of customers and competitors and high rates of change in market trends and industry innovation (Dess & Beard, 1984; Miller, 1987). Environmental dynamism thus creates the possibility for nascent entrepreneurs to find potential market opportunities. As entrepreneurs have varied expectations and evaluations about the environment it is not the actual environmental dynamism that is important in predicting efforts at venture creation but the perception that opportunities exist in the market (Arenius & Minniti, 2005; Edelman & Yli-Renko, 2010). This configuration suggests that failure may ensue when the entrepreneur is highly focused on customer needs but does not have the human capital or resources to exploit the opportunity in the (dynamic) competitive environment. In order to develop certain types of venture such as technology related venture, it is dependent on the environment and knowledge of commercialisation to bring the product to market. Entrepreneurs with limited experience in this scenario might be too late or be usurped by products or offerings that have already been developed or have been introduced earlier, hence the need to quit the venture early.

Venture performance is associated with opportunity recognition in the environment and in order to exploit the opportunity the nascent entrepreneur needs human capital and resources. This is consistent with previous findings that capability and adequate resources are as important as opportunity alertness in creating the venture (Bradley et al., 2011; Symeonidou et al., 2013; Tang, 2007). The configuration suggests that adopting a customer focus in a competitive environment without adequate financial resources and specific human capital lead to the entrepreneurs quitting the venture early. The next section investigates the results of the five configurations for late quitters in wave 6.

9.4.2 Configurations based on Late Quitters

Configuration 1 (market casualties) in table 18 suggests that the core condition of market competition and the moderate condition for need for achievement are causally related to the outcome quitting. The dynamism of the market is operationalized by the assessment of the market competition in this study. Dynamic environments are associated with high unpredictability of customers and competitors and high rates of change in market trends and

industry innovation which is important in the context of new ventures (Dess et al., 1997; Kessler et al., 2012). A high need for achievement and a measure of personality have been proven to have positive associations with starting a venture (Shane et al., 1991). It is not too surprising that a moderate level of need for achievement forms part of the configuration for quitting the venture in a highly competitive market. This configuration lends support to one of the findings of Kessler et al. (2012) that the interaction of person and survival diminishes later in the process of developing the new venture. The strong market competition and a dynamic environment, with moderate levels of need for achievement suggest a configuration leading to quitting the venture later.

There were two neutral permutations in this set of configurations for solution 2a and 2b (necessity entrepreneurs). The neutral permutations are based on the same core conditions for two configurations as suggested by Fiss (2011). This illustrates that they are connected. These configurations present core conditions for entrepreneurial intensity and moderate conditions for financial resources, with the absence of need for achievement, market competition and technology innovation for the outcome quitting. The finding of high entrepreneurial intensity in this configuration is inconsistent with the definition of the measure which considers the degree and frequency of entrepreneurship and thus affects performance (Liao, Murphy, et al., 2005; Morris & Sexton, 1996; Urban & Sefalafala, 2015) which suggest the positive connection. The measure considers the behaviour of the nascent entrepreneur. Findings suggest that entrepreneurs with high levels of entrepreneurial intensity will persist in the process of starting their venture but then quit if they have low levels of resources. The current finding is consistent with research that found that respondents motivated to sacrifice employment for new venture creation had a higher propensity to convey intentions of becoming entrepreneurs (Edelman et al., 2010; Kolvereid & Isaksen, 2006; Lin, Carsrud, Jagoda & Shen, 2013; Manolova, Brush, Edelman & Shaver, 2012; Vinogradov, Kolvereid & Timoshenko, 2013). Given the moderate levels of financial resources condition in the configuration it is not surprising that the entrepreneurs were not able to persist with venture creation (Bakker et al., 2014; Bradley et al., 2011; Davidsson & Honig, 2003; Liao et al., 2008). Resources are an important contributor to venture development and survival because it is these resources that allow the nascent entrepreneur to develop the venture (Alvarez & Busenitz, 2001; Gruber et al., 2010). There are different findings on its effects on performance and the degree to which it influences performance with other factors

(Gruber et al., 2010; Jones & Jayawarna, 2010; Senyard et al., 2014). The absence of need for achievement, market competition and technology innovation is unsurprising in this configuration for quitting the venture later. Research on low need for achievement in stable environments suggests that the venture will discontinue (Fiet & Patel, 2008; Hoang & Gimeno, 2010; Liao et al., 2008; Shane, 2008). When entrepreneurs have prior entrepreneurial behaviour and experience (entrepreneurial intensity), with low resources and no customer strategy their chances of survival in creating ventures are significantly reduced (Bradley, Aldrich, Shepherd, & Wiklund, 2011; Geroski, Mata & Portugal., 2010; Gimeno et al., 1997; Kessler et al., 2012). The configuration adds to previous theories where environment is the focus by suggesting that where limited resources are available, it limits the activities that the entrepreneur can undertake towards emergence, hence the resultant failure of the venture.

For configuration 3 (entrepreneurial veterans) in table 16, high specific human capital with the moderate level of external support and the absence of conditions, need for achievement and financial resources lead to quitting the venture later. Having a highly positive specific human capital provides many opportunities as we have found in previous configurations and possibly explains why this condition could lead to quitting the venture. There is still some support, even though it is low external support, which could explain why this group has been able to continue the venture development process for some time. Prior research found that many new ventures use their external support to help realise their venture goals (Eckhardt et al., 2006; Shane, 2008; Shane & Kolvereid, 1995). The external support emanates from either state, local or government bankers and/or local investors (Carter et al., 1994). In this situation, the venture eventually needs to become viable otherwise support wanes (Reynolds, 2011). This configuration is supported by studies that found that survival chances are reduced in the context of low resources, high human capital and low external support (Harms et al., 2014; Kessler et al., 2012). There are many opportunities for nascent entrepreneurs with high human capital and the reasons for leaving or quitting the venture could be as a result of there being more options (Davidsson & Honig, 2003). The configuration explains that even if one has high specific human capital, it does not help performance in the current venture when faced with external conditions such as low external support and limited resources (Delmar & Shane, 2006; Samuelsson & Davidsson, 2009). Resources of the nascent entrepreneurs are important in the context of new ventures because the likelihood of failure is heightened given limited resources (Bradley et al., 2011; Liao et al., 2008;

Reynolds & Curtin, 2009). The previous configuration suggested that person factors such as need for achievement do not have a major impact on the performance outcome given other conditions; a suggestion supported by Kessler et al., (2012), but survival chances are diminished. Given these sets of conditions the configuration adds to current human capital theory by supporting the research that high specific human capital with moderate level of external support and the absence of conditions, need for achievement and financial resources lead to quitting the venture later. This finding is similar to Bakker et al., (2014), Marvel (2013), and Ucbasaran et al., (2010) who found that specific human capital leads to quitting the venture under negative external conditions. Just because nascent entrepreneurs have prior experience does not mean that the venture will succeed. Previous experience is important, but this configuration suggests that creating new ventures might fail to materialise owing to changes in the environment.

Configuration 4 (Unsupported active entrepreneurs) shows that high entrepreneurial intensity, high specific human capital and the absence of external support and technology innovation leads to quitting the venture later. These findings are not as surprising as the prior configurations for late quitters. Here the findings validate previous research where nascent entrepreneurs who have prior entrepreneurial experience may have other worthwhile venturing options and thus evaluate the feasibility and promise of their currently pursued prospect more critically (Delmar & Shane, 2003, Dimov, 2010; Townsend, Busenitz & Arthurs, 2010). There is an alternative argument provided by Rauch and Rijdsdijk (2013) who found that specific human capital had a direct effect on venture failure particularly over the longer term. They found that having high specific human capital provides better options for success in certain contexts, but limits the venture options further along in the process of creating the new venture. It is important for certain tasks at specific time periods during the development phase, and thus specific human capital has limited applications beyond these contexts (Marvel & Lumpkin, 2007). For example, industry-specific experience may help an entrepreneur to recognize an opportunity in a domain that is related to this industry (Kirzner, 1997; Shane, 2000). However, industry-specific experience may not increase opportunity costs in the same way as general human capital does because alternative employment opportunities are restricted to the industry-specific experience (Davidsson & Honig, 2003; Gimeno et al., 1997). Moreover, specific human capital is not easily transferred to other contexts which means venture failure is particularly risky for owners with

high specific human capital (Rauch & Rijdsdijk, 2013). This configuration explains a type of entrepreneur that is able to sustain the venture process but then decides that the venture is not worth pursuing anymore, and consequently quits. Knowing too much about specific aspects of the industry or venture from previous attempts might limit persistence in the development process (Lichtenstein et al., 2007) and thus leads to failure. Prior research shows that many new ventures use their external support to help realise their venture aims and objectives (Eckhardt et al., 2006; Shane, 2008; Shane & Kolvereid, 1995). Without the external support survival chances are reduced in the context of low resources and high human capital (Reynolds, 2011). Adopting the right strategy as a new entrepreneur is also a vital condition in ensuring that the venture is current and able to sell its goods and services. Technology innovation along with other conditions are important determinants of the new venture's ability to survive (Carter et al., 1994). Overall, this configuration shows that the entrepreneurial intensity along with specific human capital leads to quitting the venture when there is no external support or a focus on technology innovation strategy. It is not only important to know what to do and how to do it but ensuring that there is support from others to help the venture thrive. Support from others in the venture community can offer help to develop the venture and without it, the venture is limited to the knowledge of the entrepreneur.

Configuration 5 (Entrepreneurial veterans with options) late quitters presented unexpected results showing that the conditions high external support, high market competition, high financial resources and high customer focus strategy lead to quitting the venture later. This configuration suggests that because these nascent entrepreneurs had a range of options available to them, they worked on their ventures for longer than those who ended earlier because their resources and support were limited. A dynamic environment along with market competition is associated with high unpredictability and leads to turbulence in the environment (Dess et al., 1997; Kessler et al., 2012). Having access to high levels of financial resources shows a performance connection to starting new ventures (Frank et al., 2010; Kessler et al., 2012). Customer focus strategy is the focus of entrepreneurs to target the customer to enhance their marketing and sales (Carter et al., 1996). Given these conditions there is an expectation that a venture might be started but this was not the case. Overall, the configuration pattern is similar to the studies by Frank et al., (2010) and Kessler et al., (2012), although they did not include the customer focus strategy. The

configuration findings add to an understanding that these nascent entrepreneurs might persevere longer in their pursuit of creating a new venture given the high resources, external support and a customer focus strategy, but this has not led to starting ventures. This is somewhat surprising given previous findings, as discussed above, that resources, a dynamic environment and external support are associated with starting. While in the process of creating new ventures, there are many uncertainties based on the strategy, resources and dynamic environment which impact on decisions about the formation. This view addresses the dynamic capability theory (Newbert, 2005; Oxtorp, 2014). The ventures ability to combine, organise, and reconfigure internal and external proficiencies to address fast moving environments is important to get started according to (Teece & Pisano, 1994). In dynamic markets, high resource stock might not be sufficient to succeed– it is sufficient to survive (for some time) but not to succeed. To succeed as an entrepreneur it is more important to have the right set of resources and have the dynamic capability to adapt the resources to changing market conditions. Symeonidou, Autio and Leiponen (2013) found configuration conditions that were similar to this outcome except that their focus was on survival and success in relation to capability development. Their research focused on the capability of nascent ventures to perform based on measuring survival and attrition. Their findings reveal that the survival chances of manufacturing and service sector start-ups are diminished when balancing different types of capabilities. Furthermore they suggest that when dynamic environments are high, developing the right set of capabilities is important to the survival chances of the venture (Dess et al., 1997; Symeonidou et al., 2013). The configuration suggests that the access to resources and a munificent and dynamic environment are not always features of starting new ventures because survival is based on being agile and shifting with trends based on market conditions. If entrepreneurs are busy developing a venture, then they need to consider what is happening in terms of demand from the customers, but they should focus on what is happening from their competitors as well to react to the environment with a relevant offering. Having too many options might limit the venture prospects because the opportunity might take too long to eventuate, or the process of creation is too slow.

9.5 Overall findings for Quitters

Entrepreneurial intensity was a core condition in three of the five configurations of late quitters. This is surprising, as it did not feature as a core or peripheral condition for early and late

starters. Two similar configurations were found, namely that having a high entrepreneurial intensity with low need for achievement, peripheral condition for financial resources (moderate) and the absence of a technology innovation strategy lead to quitting the venture. This suggests that these nascent entrepreneurs are not as committed to starting or focussing on being entrepreneurial, based on a low need for achievement and consequently they quit the venture process quite late. This behaviour could be explained because they had some access to financial resources. Prior research suggests that the highest risk of failure occurs in the first three years of the venture and given that these ventures were further along in the development process they are potentially more likely to create a new venture as they had passed the point of highest risk (Bruderl & Schussler, 1990). The findings are surprising because prior studies by Korunka, Frank, Lueger and Mugler (2003); Liao, Murphy and Welsch (2005) and Morris and Sexton (1996) found that nascent entrepreneurs with high entrepreneurial intensity were more likely to start the venture when considering other conditions at the same time. The outcome is explained by the asymmetric view which suggests that conditions leading to an outcome, for example starting early, are not unique to that pathway as it may also be a key condition for a different configuration outcome such as quitting late in another configuration pathway (Bradley et al., 2011; Byrne & Shepherd, 2015, Woodside, 2013). For the configurations with high entrepreneurial intensity when coupled with low need for achievement and low financial resources and without technology innovation strategy quitting or failure of the venture is more likely.

The overall findings for configurations based on early versus late quitters suggest that early quitters were limited in relation to financial resources and external support unlike the late quitters. Across the majority of the configurations for early quitters they had a high need for achievement, at least moderate levels of specific human capital, had no external support nor financial resources which is consistent with expectations based on the resource based view theory for early quitting. These results also support theories about the liability of newness which suggests that the new venture is most at risk of failure in the first three years (Bruderl & Schussler, 1990). In contrast, the late quitters had high entrepreneurial intensity and high specific human capital and absence of external support and technology innovation had a different pathway. The late quitters had high entrepreneurial intensity which considers the degree and frequency of entrepreneurship (Morris & Sexton, 1996) suggesting that they were experienced

entrepreneurs. The high specific human capital suggests that they had prior experience of ventures. They continued for longer to develop their new venture as a result of previous entrepreneurial activities and experience. Later failure could possibly be attributed to changing contexts which is a finding similar to Rauch and Rijdsdijk (2013) who found that specific human capital had a direct effect on venture failure particularly over the longer term. High specific human capital provides better options for success in certain contexts, but limits the venture options further along in the process of creating the new venture. Certain tasks need to be completed at specific time periods during the development phase, and thus specific human capital has limited applications beyond these contexts (Marvel & Lumpkin, 2007). The longer it takes to develop the venture, the higher the risk of failure given absence of external support. Early quitters' configurations support the literature on new venture performance by showing that they are less likely to successfully create the new venture because of the lack of resources, support and limited knowledge and skills. In contrast, the late quitters had higher levels of specific human capital, higher levels of entrepreneurial intensity but limited external support.

9.6 Chapter Summary

This chapter focused on the discussion of the results of the study. By using a modified version of Gartner's (1985) model to frame the investigation, this study found numerous configurations or pathways that led to successful and unsuccessful venture performance. This chapter then systematically discussed the findings and their connection to the extant literature based on the research questions and research model. There were some interesting findings presented for starters and quitting configurations. For example, for starters there were no findings for entrepreneurial intensity which previous research such as Liao, Murphy, et al. (2005) Morris & Sexton (1996) and more recently Urban & Sefalafala (2015) considered important for starting and for quitting configurations, specific human capital featured prominently where it was supposed to lead to positive entrepreneurial performance it had the opposite outcome in this study. The next chapter presents connections to knowledge with implications and limitations of the current study. The options for future studies are presented with a summary of the thesis.

10.1 Chapter Introduction

New venture performance is a multifaceted phenomenon (Bamford, Dean & McDougall, 2000; Robinson & McDougall, 2001; Sandberg & Hofer, 1987). This thesis has developed research questions to address research concerns about the interactions of multidimensional models in explaining performance in entrepreneurship. These are considered in the section on the contributions of the study. This chapter considers the main themes from the ten different chapters that comprise this thesis. The theoretical contributions based on the research questions are discussed prior to investigating the implications of these results for the practitioners and stakeholders involved in new venture creation. Finally, the conclusions and some suggestions for future research are presented.

10.2 Contributions to Knowledge

The present study contributed to new venture theory by firstly, conceptualising the factors affecting new venture performance using a framework for new venture creation developed by Gartner (1985). Other frameworks were considered but work by Low (2001) and Baker and Welter (2017) suggested that the field of entrepreneurship needs to focus on theory building with stronger supports from prior research rather than present scattered efforts. This is echoed in the works on configurations by Delbridge and Fiss (2013), Deutscher et al., (2016), Fiss, (2011a), Short et al., (2008) amongst others. To understand how ventures are created requires more than one variable being considered at a time. This was a limitation in previous research efforts which have been highlighted in entrepreneurship research (Gartner & Shaver, 2012; Markova et al., 2011; Patel & Fiet, 2010). The thesis considered a combination of attributes being studied together in a configuration to focus on factors in a multi-dimensional way. These factors included the person, environment and financial resources and strategy in relation to new venture performance. Researchers such as Chrisman, Bauerschmidt and Hofer (1998), Sarasvathy (2004) and Miller (1987) proposed that strategy be added to the research frameworks on new venture performance as it is of significance in explaining the factors affecting performance. By using a configuration approach which incorporated other factors that pertain to the entrepreneurs,

strategy, resources and the environment, the present study provided analysis showing how these interactions work together to drive new venture performance. The theoretical connections between the PSED data and the attributes were based on developing sets which were motivated by findings from the entrepreneurship literature. Adding strategy to this model has provided another dimension which extended the overall understanding of new venture performance. By using the fsQCA method this thesis presented a better account of the causal links to new venture performance. The use of fsQCA is a contribution to knowledge, as there were limited ways of describing the configurations using methods such as correlation based methods, such as regression analysis (Ragin, 2008, Woods, 2013) This is an extension of the way that data were previously organised to create and produce configurations.

Secondly, the study considered the time dimension of the venture development by analysing the performance differences at two periods based on early outcomes versus later outcomes to consider configurations development differences. The two periods were chosen to consider the performance when all entrepreneurs in the survey had at least one year to progress their venture. Considering the relationship between performance for early versus later timeframes adds to an understanding of the effects of time on the development of new ventures. Those entrepreneurs entering the survey did not all start developing their new ventures at the same time i.e. there were various starting points, hence the need to start a year later (van Gelderen et al., 2006). The second period for investigated the last wave as it can take up to seven years to create a new venture according to Reynolds (2007). The research provides information about the conditions for venture changes over time which answers calls from Harms et al. (2009) to develop configuration studies showing how the interaction of domains affects performance.

10.2.1 Starting Early versus Starting Later

While the present study does not use a longitudinal research design, it offers information about the cause-effect relationships for starting early versus starting later and the same for early and later quitters which addresses the timing of performance for new ventures. Theoretically, the effect of designing the study by considering the time dimension of early versus later starting added to an overall understanding of conditions for developments over time. Conditions were explored for early and later starters. Similar studies have recently been developed by Devece, Peris-Ortiz and Rueda-Armengot (2016) where they have considered the drivers of performance

in pre GFC and post GFC periods. They found that perceptions of opportunities in prosperous times are less helpful to them creating success new ventures. Findings from both the early and late starters in this thesis showed that when high need for achievement is coupled with high financial resources, and the absence of external support, the combination of conditions lead to starting a new venture. When entrepreneurs have access to financial resources and have a high need for achievement then external support is not as relevant to starting new ventures. These findings are supported in work by Frank et al., (2007), Harms et al., (2014), Kessler et al., (2012), and Korunka et al., (2003). Furthermore, the finding suggests that new ventures might not need external support when financial resources and the motivation to achieve are strong. This research extends the current configuration studies by offering the conditions for starting early versus the conditions required for starting later. Thus, in order for nascent entrepreneurs to start the new venture for example a property investment business, they need to have access to high levels of financial resources and they need to have above average levels of the personality trait, need for achievement. This finding is similar to findings by Kessler et al. (2012) and more recently meta analysis by Frese and Gielnik (2014) on the need for achievement which contends that this trait remains consistently positive in association with beginning a new venture.

Configurations for early starters did not have an innovation or IT focus strategy. There was a consistent finding that in order to start early, nascent entrepreneurs need to have a strong need for achievement, coupled with at least moderate levels of customer focus strategy. It is not enough to rely solely on personal characteristics and some access to financial resources. The early starters need to consider changes in the environment and have a technology focus strategy that is able to adapt in order to create the new venture. This finding lends credence to early work by Carter et al. (1994) who found that this is important for ventures that want to start quickly. It also supports work by Kuckertz et al. (2016) and Mas-Tur, Pinzo, Tur-Porcar & Sanchez-Masferrer (2015) who found that there was a higher level of innovation and used professional advisory services to support them. For late starters however, the configuration conditions are different. In order to start the new venture later, the configurations combination of low need for achievement along with low specific human capital, low external support and low financial resources, but with high technology and innovation focus are needed. This is explained, possibly, by the focus on innovation where time is taken for the entrepreneur to bring to market their products or services. Entrepreneurs are focused on getting their product or service right for their

customers. This takes time when resources are low, which is a similar finding to Stam and Elfring (2008).

10.2.2 Quitting Early versus Quitting Later

The overall findings for configurations based on early versus late quitters suggest that unlike the late quitters, early quitters were limited in relation to financial resources and external support. Across the majority of the configurations for early quitters they had a high need for achievement, at least moderate levels of specific human capital, and had no external support or financial resources which is consistent with prior research by Frank, Lueger, and Korunka (2007), Harms et al. (2014) for early quitting.

In contrast, the late quitters had a different configuration pathway to the early quitters. The later quitters had high entrepreneurial intensity and high specific human capital and absence of external support and technology innovation. The late quitters had high entrepreneurial intensity suggesting that they had entrepreneurial expertise. They continued to develop their new venture as a result of previous entrepreneurial activities and experience. Their high specific human capital suggests that they had prior experience of ventures. Previous studies such as Ployhart and Moliterno (2011) suggest that specific human capital has a positive effect on new venture performance. Although, work by Corbett (2007), suggest that the impact of human capital does not always lead to positive performance because of the asymmetric nature of the relationship between human capital and performance. For example, he found that having high human capital does not always lead to positive outcomes as creating the venture may not require that same set of skills that the nascent entrepreneur possesses for operating in previous employment. Later, venture failure could possibly be attributed to nascent entrepreneurs, especially when the initial set of specific human capital skills is not of use to creating the venture later. This is confirmed in a finding similar to Rauch and Rijsdijk (2013) who found that specific human capital had a direct effect on venture failure particularly over the longer term. Certain tasks need to be completed at specific time periods and thus specific human capital has limited applications beyond these contexts (Marvel & Lumpkin, 2007).

In the present study, the longer it takes to develop the venture, the higher the risk of failure given the absence of external support. Early quitters' configurations support the literature on new venture performance by showing that they are less likely to launch the new venture

because of the lack of resources (Liao et al., 2008), support and limited knowledge and skills. In contrast, the late quitters had higher levels of specific human capital, higher levels of entrepreneurial intensity but limited external support. Given these circumstances, the reasons for high specific human capital having a strong impact for those quitting later adds to literature on performance by showing that quitting is likely when nascent entrepreneurs have limited external support, even with strong prior venture skills and experience, as found in this study. fsQCA has significant benefits as a method for analysing configurations because it is able to study attributes using positive, negative and or neutral relations to the outcome measure based on the configurations that are being assessed. It is able to show and provide evidence of equifinality, which suggests that there are multiple paths leading to the outcome being assessed (Gresov and Drazin, 1997; Payne, 2006). It is further able to assess non-linear relationships amongst the attributes, which is helpful where non-linear relations are studied. The findings in the present study build on the human capital theory and the work by Corbett (2007) and Rausch and Rijdsdijk (2013) who found that the reasons for specific human capital findings being different in the literature are because high specific human capital might provide a different outcome than starting a new venture. Corbett suggested that high specific human capital offers entrepreneurs other opportunities because of their prior skills and experiences. Rausch and Rijdsdijk found that the nascent entrepreneurs with high specific human capital are vulnerable to changes in the environment because of their very specialised knowledge and skills which is consistent with other research findings that, given a context of low resources, high human capital and low external support, the nascent entrepreneur quits later (Harms et al., 2014; Kessler et al., 2012). Any significant changes in the industry such as technological change, without external support could impact on the nascent entrepreneurs directly, which limits their ability to create the new venture.

Thirdly, the new venture performance was considered based on those who start and those who quit. Prior research suggested that the factors leading to starting do not always lead to this outcome for all nascent entrepreneurs (Bradley, Aldrich, Shepherd & Wiklund, 2011; Corbett, 2007). With this framing, the present study contributed to a better understanding of the factors shaping new venture performance because the factors were considered in both directions, that is, those who start and those who quit, which contributed to the discussion on the asymmetric nature

of factors affecting performance (Bradley, Aldrich, Shepherd & Wiklund, 2011; Corbett, 2007, Woodside, 2013). In this regard, there were new insights gained about reasons why some nascent entrepreneurs started and suggested potential causes for quitting which is an extension of current configuration explanations on the phenomenon of new venture creation.

Finally, the thesis presented relationships with more distinction between conditions in relation to each other and within a configuration group based on the absence, presence, core, periphery and neutral permutations. Neutral permutations contribute to the theory of equifinality by denoting that, although various permutations may be equifinal regarding an outcome, they are not equifinal considering future developments (Stadler, Stadler, Wagner, & Fontana, 2001). This way of showing the different conditions provided information on the more finely grained relationships between causally relevant information of configurations based on core versus periphery. Core conditions are considered to be imperative to the configuration outcome and peripheral conditions are considered to be negligible in relation to the configuration outcome. These were discussed in chapter 4 when describing the QCA studies. For example, existing typologies are likely to contain discrepancies, concessions, and irrelevant elements (i.e. periphery of elements which does not contribute as much to the configuration outcomes). However, not all parts of a configuration are equally important, and thus the issue becomes how one distinguishes which are the more important elements to explain the causal connections that are relevant to performance within a configuration. The challenge of typologies thus is determining what really matters (and to what degree) in understanding the causal structure of a type. This research builds on previous studies focussing on performance using QCA methods such as those by Kask and Linton (2013), and Balodi and Prabhu (2014). The other articles by Crilly (2011), Fiss (2011), Peltoniemi (2014) and more recently, Kuckertz, Berger, and Allmendinger (2015), Mas-Tur, Pinzo, Tur-Porcar & Sanchez-Masferrer (2015), Deutscher, Zapkau, Schwens, Baum and Kabst, (2016) and Kuckertz, Berger, and Mpeqa (2016) provided more information on ways to understand configurations. The thesis presents the configurations for later quitters which show neutral permutations for two configurations, the necessity entrepreneurs 2a and 2b (refer to figure 12 or table 18 p. 213). They presented with the same core conditions for entrepreneurial intensity along with the negative peripheral conditions for need for achievement and technology innovation. The financial resources, which are peripheral and

positive, are also included in this configuration with the exception of market competition which is negative in configuration 2b.

In the literature explained in chapter 2 of the thesis, the understanding of specific constructs, such as human capital, there was difficulty understanding why there were inconsistent findings. Some results have found positive relationships between human capital and performance whereas others have found negative relationships between human capital and performance. Another example is in considering the construct entrepreneurial intensity. The previous expectation of research on entrepreneurial intensity is that the higher the level of entrepreneurial intensity the greater the expectation of starting a new venture as it is a measure of the function of the degree and frequency of entrepreneurship (Morris & Sexton, 1996). Entrepreneurial intensity focuses on the degree of entrepreneurship, the level of commitment and the focus in leading a new venture (Liao et al., 2005). The higher the level of entrepreneurial intensity, the higher the likelihood the entrepreneur has of starting the new venture (Liao et al., 2005). The present study found that for the set of later quitting configurations, the finding of positive support for entrepreneurial intensity leading to starting is not supported, and thus provides different ways of understanding the causes of quitting at a later stage. The strong positive conditions of entrepreneurial intensity (Core) are considered with other conditions such as moderate conditions for need for achievement and technology innovation. Moderate conditions for financial resources, with the exception of market competition (Peripheral), which is negative in configuration 2b, leads to quitting later.

In essence, these configurations suggest that having some access to finance resources, and a high degree of entrepreneurial background without a need to achieve and a focus on technology innovation, leads to quitting the venture later. The high levels of entrepreneurial intensity suggests that the entrepreneurs had a high level of commitment towards their entrepreneurial ventures (Liao, Murphy & Welsch, 2005) and that they took a long time to develop their ventures potentially because they had previous experience of being entrepreneurial. Furthermore, the lack of need for achievement and technology innovation suggests that the ventures had limited chances of starting. Prior research suggests that the environment affects how ventures will succeed and the specific set of conditions (Reynolds, 1997). The environment is considered as an external set of conditions to which the new ventures must adjust (Aldrich, 1999). A lack of

need for achievement and a focus on technology innovation in a stable environment makes it harder for the new venture to form especially when the adjustment is needed to start early. On the whole the core-periphery distinction provided more information for explaining how the conditions led to the outcome quitting in these configurations because of a wider framing on the entrepreneurial intensity versus performance debate.

10.3 Implications for practitioners, academics and policy makers

There are as many paths as there are people who want to start new ventures (Gartner, Mitchell & Vesper, 1989), but research which was done later, suggests that the pathways to performance are usefully considered when accounting for the person, the context, the venture and the strategy (Chrisman, Bauerschmidt & Hofer, 1998; Miller, 1987; Sarasvathy, 2004). In order to understand new venture performance, it is important to understand that the configurations and contributing conditions impacting on starting are different to the new ventures that are eventually abandoned. This research confirms the asymmetric understanding of performance as discussed by Byrne and Shepherd (2015). Factors affecting performance in one direction can also lead to the opposite outcome when considering multiple measures (asymmetric performance) (Woodside, 2013). Nascent entrepreneurs need to consider what type of skills and knowledge they have as well as the context for when they are creating the new venture. If the nascent entrepreneur plans to start early then they need a high level of need for achievement, a customer focus strategy and in certain configurations they need to have some access to financial resources. This suggests that the context and the environment need to be taken into account when considering policy for supporting nascent entrepreneurs. Quitting a venture might be a result of an unfavourable environment, but it may be a consequence of spotting other, better opportunities (Bakker et al., 2014). With this knowledge, there are thus more options that need to be considered when determining policy to support nascent entrepreneurs. Policy makers should consider that entrepreneurs with prior experience might end the process early when they decide that the venture is not viable. This is not a negative consequence and therefore they should not be penalised for support in future venture developments. Policymakers should not look unfavourably on previous venture failure but consider the environmental context and the personal circumstances of the entrepreneur to support future venture creation. Whilst specific human capital is important, the research shows that starting early does not require that high

levels of entrepreneurial knowledge and skills are required but rather high levels of need for achievement and a customer focus strategy.

While it is important to understand what leads to success it is also important to understand when the success has occurred. The environment for early starters, 2006 in the research was more favourable compared to the environment for the later starters, owing to the GFC occurring during this period. As a result of the GFC, growth was limited, and unemployment levels were more pronounced. At its peak between 2008 and 2010 about 10% of people were unemployed (Fairlie, 2012; Kelley et al., 2011). The late quitters were surveyed in this period and findings suggest that the environment was unfavourable to entrepreneurial veterans without financial support and limited external support. Policy makers should consider making financing easier and provide more external support such as government assistance programs when the environment is unfavourable or where growth is limited in order to encourage entrepreneurial performance. They should also provide tax relief and or incentives to encourage those who are necessity entrepreneurs to shelter them from the harsh environment. Agencies could provide some educational programs and encourage mentoring relationships to support entrepreneurs when they are developing new ventures under these conditions.

Reconceptualising the configurations in terms of early and late starting or quitting is not new, but using this in conjunction with the qualitative comparative analysis (QCA) method has been useful to show more distinctive causal patterns. The set-theoretic methods used in the present study allow for the analysis of causal asymmetry. In this regard, the implication is that these patterns redefine how we think of the process of starting ventures and add to a theoretical understanding of not just early but also late starters. Thus far, causal asymmetry has for the most part been neglected in both typological theory and entrepreneurship research more broadly (Crilly, 2011; Ragin, 2008). However, causal asymmetry is arguably pervasive in both areas, and failing to take this causal structure into consideration will likely lead to imperfect or inaccurate recommendations. By adopting set theory, the current research considered that the same conditions might create different outcomes for later performance. The implication of analysing new venture performance with a set theoretic framing suggests that the configurations could have different effects on performance because of the different waves of data and combinations of conditions taken together.

Nascent entrepreneurs are able to start new ventures with a combination of certain causal conditions that are combined at specific levels. These findings in table 17, have brought about a new understanding and suggest that other contextual aspects need to be contemplated for new venture performance especially when there are different time frames for developing the venture. These have been confirmed in previous studies by for example Devece et al., (2016) who considered the drivers of performance for success versus failure for necessity versus opportunity entrepreneurs in a recession and boom and found that it was about their support. If nascent entrepreneurs want to start their venture early, then the external support needed is different to those starting later. It is not always necessary to have external support to start early if the nascent entrepreneur has access to financial resources and a high level of need for achievement. This implies that certain conditions are more important to creating a venture early compared to the conditions for starting a venture at a later time. If nascent entrepreneurs want to start early they need to have high levels of need for achievement and need to focus on the offering to the customers if they have limited external support and finances. For starting later, it is important that nascent entrepreneurs have high need for achievement and access to financial resources if they have limited specific human capital and there is no external support. The next section considers the future research and implications of the study with the conclusion of the thesis.

10.4 Study Limitations

The framework used for the analyses based on Gartner's conceptual model for considering the emergence of new ventures was not fully explored. Process was excluded from the research model and there was limited inclusion of the constructs for studying the organisation in the present study. The process options were considered, however there were differences in the extant literature about which process variables were important and what sequence was important for new ventures (Davidsson, 2006, Gordon, 2013). Gartner's model is helpful to build on the understanding of performance of new ventures and offered theoretical support for the present study.

Overall, there is limited information presented in the panel survey of entrepreneurial dynamics (PSED) data with regard to quitting behaviour. The attrition within the survey is not as easy to untangle for those who quit their venture compared to those who quit the survey. There was a follow-up interview for those who said they had quit the venture (Reynolds & Curtin,

2011). The survey captured information about them and the reasons why they quit, but others who quit the survey were not always easily accessed in order to obtain a follow-up interview, hence this information is not as complete. Thus, there is a limitation in terms of what can be stated about those who quit the venture. In the present study however, the sample of quitters is based only on the respondents who also provided an interview. In relation to starters it was not always possible to obtain follow-up interviews with those who started, thus the data present only those who provided a follow-up interview.

As the PSED is a secondary dataset, there are not many changes that could be made to the items to bring them into line with items used for specific constructs or compare and contrast them with previously proven scales in the literature on nascent entrepreneurs. There is, however, an acknowledgement in the literature that the items that have been chosen for inclusion in the PSED have been selected from expert panels across multiple countries and states (see for example, Reynolds, 2005; Reynolds, 2004; Reynolds & Curtin, 2009). Owing to the variety of groups of expert panels, the set of items being created in the PSED were as diverse as the groups creating the items. There are not always clear guidelines on how these items relate to theory or map onto constructs and consequently this made some of the choices for this research quite challenging. In some respects new venture performance research is developmental in the extant literature on nascent entrepreneurs and the challenges are highlighted by other researchers using this dataset (see Davidsson & Gordon, 2012; Gartner & Shaver, 2012; Markova, Perry & Farmer, 2011).

It is important to consider the consistency and coverage of the configurations carefully when creating the analysis, as QCA analysis is sensitive to missteps (Fiss, 2011). There are no truly clear tests of the sets available to allow cross-validation of the groups in the QCA software by Rihoux and Ragin (2009). In the present study, the analyses were cross-validated by changing the thresholds for determining the truth tables. This can be a limitation in the analyses as there are various options for determining the stability of the findings. For example, there are options to change thresholds for creating truth tables based on the data. This is accomplished by analysing the data in multiple ways by adjusting the threshold and establishing a clearly consistent set of findings under the conditions (see for example, Crilly, 2013). Another option is to use cross-validation by choosing another analysis method and cross validating the results. There are no

strong indications of what constitutes the validation of the sets in the software, but this research followed the advice by Ragin (2008) to adjust the threshold numbers in the truth table to find a consistent set. This presents similar results and tests the number of cases to between +25% and -25% of the studied sample.

There are further limitations in the current study based on the concepts of resources, environment and strategy. They are quite broad and involve multiple dimensions. Studies employing these domains are limited in the choice of items for inclusion to create measures for each of the domains. This was investigated using previously regarded methods that are considered to be the acceptable standard for this typological research (e.g. Davidsson & Gordon, 2012; Field, 2013; Gresov & Drazin, 1997; Hair, 2011; Ketchen & Bergh, 2011; Ketchen Jr. & Shook, 1996; Rihoux & Ragin, 2009). The present study frames a comprehensive picture of the simultaneous study of person, resources, environment and strategy relating to typologies for new ventures. The interpretation of the results is tempered by a limitation on construct validity, as there are insufficient prior studies that can cross-validate these measures. Studies building on new venture performance with data matches, constructs and items that build on each other are gaining support in the extant literature (Davidsson & Gordon, 2012; Davis & Shaver, 2012; Markova et al., 2011) and build on the work of Gartner (1985).

There were some limitations based on the software chosen for the current study. The contexts for when QCA is appropriate should also be considered when studying configurations. It is useful in assessing complex causal relationships and multiple interactions, but there are features that are limiting, too. The QCA is based on interactive models that combine cases and domains to create sets. The data thus increase exponentially as they combine cases and domains creating more load on the software to create the matrices (Fiss, 2011a; Ragin, 2008; Rihoux & Ragin, 2009). In assessing these domains for causal relationships the number of measures that could be studied simultaneously is restricted to eight attributes using the QCA software developed by Rihoux and Ragin (2009). The number of causal conditions being analysed simultaneously is restricted because the software analyses cases and conditions together to create the configurations. As the number of conditions used increases, the software analyses the cases in the sample as well which limits the number of potential conditions to eight. Further guidance

about the ratio of causal conditions and the number of cases being analysed together is offered by Marx et al. (2013). For example, Marx et al. (2013) suggested that

“truth tables ... list all the theoretical possible combinations (2^K where K = number of conditions) of configurations. In the case of five conditions and one outcome, a truth table consists of 32 rows (i.e., 2^5). Each case is placed in one row. A row can contain several cases or none” (p. 31).

In essence, when 5 conditions are used in the analysis then there will be 32 rows because the 2 conditions are multiplied by itself 5 times representing the number of conditions. There were some limitations in the framing of conditions which meant that measures for the motivations and internal environment had to be dropped from the current study after assessing the cluster analysis scores. The fsQCA software is limited in the number of possible permutations that it can calculate to eight conditions. Other software, such as R, is able to calculate more conditions at the same time. However, the program requires experience in computational coding and has other features that differ from the QCA software developed by Ragin (2008). The current software provides useful analyses of the different conditions, even though there are these limitations. The data and theoretical analyses provide useful ways to understand the causal relationships between conditions when creating configurations. The results are still valid following the sensitivity analyses for the QCA analyses.

Set theory is beneficial, but anyone undertaking this type of research needs to clearly understand the theory being used in the analyses (Ragin, 2008). The theory is employed to organise the data at the beginning of the formation of sets and boundaries are used to create the sets. This is extremely important as it impacts on the analyses and thus the results of the research and researchers and practitioners need to be cautious with the development of these configurations.

10.5 Future directions

This thesis contributed to the conversation on factors contributing to new venture performance in the context of nascent ventures. It raised and answered questions that are important to improve the understanding of how the interaction of key attributes impact on the

emergence of nascent firms. However, the topic is far from being fully explored and the findings of this thesis suggest opportunities for future research.

10.5.1 Areas for Future Research

A longitudinal design could be used to assess the same set of configuration domains (i.e. person, environment, resources and strategy). The present study has been able to explore causal connections between conditions and the performance for starters and quitters. It did not consider these configuration changes over time for each of the six waves. The longitudinal design would add to an understanding of changes over time for configurations and show the utilisation of fsQCA based on theoretical and statistical connections for explaining new venture performance. This thesis was able to show that there are performance differences for early versus late starting and quitting nascent entrepreneurs as it used panel data in different waves. Future research could answer calls to consider the differences of causal relationships in explaining performance for configurations over time (Harms et al., 2009, Tatikonda, Terjesen, Patel & Parida, 2013). The longitudinal analyses of configurations will add to the current literature which calls for more of these types of studies to explain and study changes over time to add to the generalisations of findings and build on nascent venture performance understandings within entrepreneurship (Davidsson & Gordon, 2012; Markova, Perry & Farmer, 2011). Researchers need to pay attention to when the respondents enter the survey and control for the development stage of the respondents. Not all respondents enter the survey and simultaneously start their new venture, hence starting at a later wave may help to control for this issue. The research by Davidsson and Gordon (2012), Markova et al. (2011), Samuelsson and Davidsson (2009) and Van de Ven and Engleman (2004) describe ways to design a longitudinal research study.

It is important to replicate the study in multiple countries to build on specific theories of configurations for new ventures. There are requests for research to build on theories for new venture performance (Harms et al. 2009, Sarasvathy, 2004, Shane & Kolvereid, 1995). Understandings of the nature of and the constituent parts that impact on new venture performance are still developing, and there are certain new developments and additional theory driving new research in this field (Davidsson & Gordon, 2012; Gartner & Shaver, 2012; Markova, Perry and Farmer, 2011; Short, McKelvie, Ketchen & Chandler, 2009). Studies are building on previous understandings of human capital theory, for example, and expanding on the

nature and extent of its impact on new venture performance. A replication study can be used to validate the findings of the present study and provide more information on the causal connections of configurations for contexts beyond one sample, the United States of America. The research could be based on the question: Are there similar findings across groups or are there specific country differences across the configurations? This could possibly transcend some of the limitations of the present study and provide further insights into new venture performance. The findings could then be generalized to a wider context to show how causal recipes are different in various country contexts.

Future research could focus on a specific industry; for example, Biotechnology based new ventures and explores the nature of the connections of attributes of this study and uses it to apply in that industry. For example, if the manufacturing industry was chosen, a study could be designed to focus on configurations using the set theory methods to explain the complex causal links between the attributes and the outcome. In this way, researchers could home in on industry-specific aspects and provide more mid-range theoretical explanations for configurations with smaller samples. It could be used to explain configurations using the distinction between core, neutral and periphery distinctions as shown in the study by Fiss (2011). The set theory using qualitative comparative analyses are able to provide further options for evidencing equifinality and investigating complex causality.

10.5.2 Implications for conducting Research on New Ventures

Thus far, the extant literature on new venture performance has used conventional variance-based methods to analyse survey data. These studies and methods are useful in studying the net effects of variables but are less appropriate for identifying interactions (Fiss, 2007). By contrast, comparative research methods like fuzzy set analysis used in this study offer another appropriate way to uncover interactions showing causality between configurations (Woodside, 2013). This is appropriate, especially where there are multiple influences shaping performance for new ventures (Byrne & Ragin, 2009). Considering the interactions of the domains using the fuzzy sets method meant there were more qualitative findings, which could explain how performance is achieved under specific conditions. For example, because the economic environment was quite different in 2006 compared to 2011, the findings from the configurations were able to show how these conditions along with others combined and led to the different performance outcomes for

the sample of US nascent entrepreneurs in 2006 and then in 2011 as well. These fsQCA provided a helpful way to analyse these interactions between person, environment, resources and strategy.

Inductive research is helpful in elaborating on theory. Research in entrepreneurship is developing and elaborating theory for the creation of new ventures (Hindle & Klyver, 2011). Previous studies using inductive approaches with configurations were constrained because they could only achieve small sample sizes. The methods used often required larger samples to generalize the findings and thus, in addition, support the theory (Markova et al., 2011). Owing to the small samples, methods were not able to explain the performance differences (Hindle & Klyver, 2011; Patel & Fiet, 2010). The set theoretic method fsQCA offered a way to move beyond this issue. It uses the cases and the attributes together to create the sets for analyses and is thus less constrained by sample size (Byrne & Ragin, 2009; Greckhamer et al., 2013). As a result of using the set theoretic method, the sample size issue is less problematic for developing configuration studies. The implication of the use of the fsQCA method in the current study a smaller sample in the last wave could be analysed and thus test the relationships between the domains and the performance using the theoretical framework.

10.6 Thesis Summary

This thesis investigated the relationship of attributes that explain new venture performance by using a configuration analysis. Configurations consider the effects of attributes as being non-linear, complex and equifinal. The method used to uncover these relationships is the set theoretic analysis, which assesses how attributes combine rather than compete to produce performance outcomes (Fiss, 2007; Ragin, 2008). By combining attributes in configurations based on sets, there are significant ways of understanding which attributes are more significant in creating particular configurations. Research considering interactions based on understanding competition of attributes would investigate these attributes individually, to assess the relationship to the outcome. The explanations would thus only provide information on the individual relationships of attributes and not the combined effects on the outcomes. The thesis contributed to the entrepreneurship literature by firstly, offering a comprehensive way of addressing performance using the conceptual framework developed by Gartner (1985). It investigated the attributes, need for achievement, entrepreneurial intensity, specific human capital, financial resources, market competition, external support, customer focus strategy and innovative technology focus strategy

in relation to new venture performance. Results were presented showing the effect on groups of nascent entrepreneurs who start and those who quit in the same set of data. This is a contribution to the discussion on asymmetry (Bakker et al., 2014; Byrne & Shepherd, 2015).

Secondly, the data analyses were conducted in two waves, an early wave when they were still forming the venture before the GFC 2006 and a later wave, 2011, when research suggests that most ventures should have started. By presenting the analyses in this way the research was able to uncover relationships that previous research thought was symmetrical. This understanding increased the deductions being made for new venture configurations in a novel way. There was a framing of what it takes to start early versus later, and then analyses of the opposite outcomes were performed using Gartners framework to anchor this research focus.

Thirdly, set theory methods were used in the analyses to address the causal complexity of the relationships leading to performance. Current methods used to uncover the configuration relationships have been limited in their treatment of the interactions of attributes. This research adopted the fsQCA which added to the theoretical as well as the statistical understanding of how causal relationships can explain performance for various configurations. The method was able to show how configurations combine for particular performance outcomes. The addition of information on the level and weight of attributes to particular configurations adds to the theory of new venture performance and provides causal insights for how these attributes combine to create configuration types.

Finally, the set theory analyses provided additional information on consistency which shows the agreement of data to solutions (Ragin, 2008). This information provides a connection between data and theoretical relationships. There is also a measure of the coverage of the solution which suggests the empirical importance of the solution as a whole (Ragin, 2008). Individual coverage scores suggest how much sample coverage is represented by each configuration and hence the size of explanatory power. These measures have provided a significant understanding and explanation of the causal connections for the current study and have added to configuration connections of statistical findings and theoretical connections. This suggested specific ways of deriving which causes are more relevant to specific configurations and thus their effect on the performance. They have also provided further information to explain equifinality: many paths leading to the same performance outcome (Doty, Glick & Huber, 1993;

Gresov & Drazin, 1997; Payne, 2006) as well as information on asymmetry, that is, conditions leading to opposite outcomes (Fiss, 2007; Ragin, 2008) in the present study. Equifinality was not always easily proven in previous studies using configurations because of the methods used (Fiss, 2011, Payne, 2006). In this thesis the methods using fsQCA have offered new insights with statistical support for equifinality which built on Fiss's understanding of fit between domains. The analyses using fsQCA also produced causal connections on performance based on starters as well as quitters for the same set of attributes. This information provided a new understanding of the causes of specific groups of nascent entrepreneurs either starting or quitting their ventures and provided results for when these conditions might occur.

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Appendix A: Information on the Topic Modules in the Survey

Table 19 Overview of Interview Schedule Modules

| Topic Modules | Screening | Wave 1 | Wave 2 (a,b) | Wave 3 (a,b) | Wave 4 (a,b) | Wave 5 (a,b) | Wave 6 (a,b) |
|--|-----------|--------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Screening questions | All | | | | | | |
| Assessment of criteria for nascent entrepreneur | All | | | | | | |
| Socio-demographic | All | | | | | | |
| A.1: Why involved, venture opportunity (open ended) | | All | | | | | |
| A.2: Confirm same venture activity | | | All | All | All | All | All |
| A.3: Determine status: new firm, quit, continue | | | All | All | All | All | All |
| B: Type of venture, location | | All | NF,SU | NF,SU | NF,SU | NF,SU | NF,SU |
| C: Legal form | | All | All | All | All | All | All |
| D: Start-up activities | | All | All | All | All | All | All |
| E.1: Start-up finances, entry into firm registries (3) | | All | All | All | All | All | All |
| E.2: Confirm quit, exit interview | | | Quits | Quits | Quits | Quits | Quits |
| F: Orientations toward competition | | All | NF | NF | NF | NF | NF |
| G: Owners, key non-owners, & helpers inventory | | All | NF,SU | NF,SU | NF,SU | NF,SU | NF,SU |
| H: Owner demographics | | All | NF,SU | NF,SU | NF,SU | NF,SU | NF,SU |
| J: Relationships among owners | | All | NF,SU | NF,SU | NF,SU | NF,SU | NF,SU |
| K: Juristic (legal entity) owners | | All | NF,SU | NF,SU | NF,SU | NF,SU | NF,SU |
| M: Key non- | | All | NF,SU | NF,SU | NF,SU | NF,SU | NF,SU |

| | | | | | | | |
|--|-----|-------|-------|-------|-------|-------|-------|
| owner demographics | | | | | | | |
| N: Helper demographics | All | NF,SU | NF,SU | NF,SU | NF,SU | NF,SU | NF,SU |
| P: Community resources, support for new firms | All | NF | NF | NF | NF | NF | NF |
| Q: Informal start-up financial support | All | NF,SU | NF,SU | NF,SU | NF,SU | NF,SU | NF,SU |
| R: Legal entity start-up investments, debts, net worth | All | NF,SU | NF,SU | NF,SU | NF,SU | NF,SU | NF,SU |
| S: Competitive strategy and target markets | All | NF | NF | NF | NF | NF | NF |
| T: Growth expectations | All | NF | NF | NF | NF | NF | NF |
| U.1: Respondent's motivation | All | | | | | | |
| U.2: Employment structure (3) | | NF | NF | NF | NF | NF | NF |
| V.1: Expense structure: summary (3) | | NF | | NF | | | |
| V.2: Expense structure: detailed (3) | | | NF | | NF | NF | NF |
| X: Respondent's career background | All | SU | SU | SU | SU | SU | SU |
| Y: Respondent's self-descriptions | All | | | | | | |
| Z: Respondent & household socio-demographics | All | NF,SU | NF,SU | NF,SU | NF,SU | NF,SU | NF,SU |

NOTE:

(a) After wave 1, modules are provided to all respondents, only those that Quit, or those with a new firm (NF), or still active in the start-up process (SU).

(b) After initial interview, modules are repeated to capture changes or new information about the activity or details on the current status.

(c) Based on Kauffman Firm Survey interview schedule (Mathematica Policy Research, 2007).

Appendix B: Outline Of Variables Used In The Study

Table 20 Entrepreneurial Intensity

| Item no. | Variables Item wording | Options | Scale | Cronbach's Alpha |
|----------|--|--|----------------------------------|---------------------|
| AY9 | There is no limit as to how long I would give maximum effort to establish this new venture. (Would you say that you strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree?) | 1. Strongly agree 2. Agree 3. Neither 4. Disagree 5. Strongly disagree | Entrepreneurial Intensity | 0.7 |
| AY10 | My personal philosophy is to “do whatever it takes” to establish my own venture. (Would you say that you strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree?) | 1. Strongly agree 2. Agree 3. Neither 4. Disagree 5. Strongly disagree | | |

Table 21 Need for Achievement

| Item no. | Variables Item wording | Options | Scale | Cronbach's Alpha |
|----------|---|---|-----------------------------|------------------|
| AW1 | Please indicate the extent to which the following were important to you for establishing the new venture. To achieve a higher position in society. (To what extent was that important — no extent, a little, some, a great extent, or a very great extent?) | 1. no extent, 2. a little, 3. some, 4. a great extent, 5. a very great extent | Need for Achievement | 0.75 |
| AW4 | To be respected by your friends. | 1. no extent, 2. a little, 3. some, 4. a great extent, 5. a very great extent | | |
| AW7 | To earn a larger personal income. | 1. no extent, 2. a little, 3. some, 4. a great extent, 5. a very great extent | | |

| | | |
|------|--|---|
| AW10 | To achieve something and get recognition for it. | 1. no extent, 2. a little, 3. some, 4. a great extent, 5. a very great extent |
|------|--|---|

Table 22 Specific Human Capital

| Item no. | Variables Item Wording | Options | Scale | Cronbach's Alpha |
|-------------------------------------|---|--|-------------------------------|---------------------|
| AH11_1 (years industry experience) | How many years of work experience have you had in the industry where this (new) venture will compete? | 0 years 1-5 years 6-10 years 11-15 years 16-20 years 21-25 years 26-30 years 31 or more years | Specific human Capital | 0.82 |
| AH12_1 (other venture helped start) | How many other venture have helped to start as an owner or part owner? | 0-95 | | |
| AH21_1 (managerial experience) | For how many years, if any, have you had managerial, supervisory, or administrative responsibilities? | 0 years 1-5 years 6-10 years 11-15 years 16-20 years 21-25 years 26-30 years 31 or more years | | |

Table 23 Financial Resources

| Item no. | Variables Item wording | Options | Scale | Cronbach's Alpha |
|----------|---|---|----------------------------|---------------------|
| AD26 | Have financial projections, such as income or cash flow statements or break-even analyses, been developed, will financial projections be developed in the future, or is this not relevant for this new venture? | 1. Yes 2. No, not yet; 5. No, not relevant will in the future 8. DK 9. NA | Financial resources | 0.64 |

| | | |
|------|---|---|
| AE1 | Have financial institutions or other people been asked for funds for this new venture, do you expect to ask for funds in the future, or is outside financial support not relevant for this new venture? | 1. Yes 2. No, not yet; expect to ask 5. No, not relevant 8. DK 9. NA |
| AE5 | Has credit with a supplier been established, will credit with a supplier be established, or is this not relevant to the new venture? | 1. Yes 2. No, not yet; will in future 5. No, not relevant 8. DK 9. NA |
| AE11 | Has a bank account already been opened to use exclusively for this new venture, do you expect to open one in the future, or is this not relevant for this new venture? | 1. Yes 2. No, not yet; 5. No, not relevant will in the future 6. Using an existing account (if vol.) 8. DK 9. NA |

Table 24 External Support

| Item no. | Variables Item wording | Options | Scale | Cronbach's Alpha |
|----------|---|--|-----------------------------|---------------------|
| Ap7 | State and local governments in your community provide good support for those starting (new) venture. (Would you say you strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree?) | 1. Strongly agree 2. Agree 3. Neither 4. Disagree 5. Strongly disagree | External Support | 0.68 |
| AP8 | Bankers and other investors in your community go out of their way to help (new) venture get started. (Would you say you strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree?) | 1. Strongly agree 2. Agree 3. Neither 4. Disagree 5. Strongly disagree | | |

Table 25 Market Competition

| Item no. | Variables Item wording | Options | Scale | Cronbach's Alpha |
|-----------------|--|---|-------------------------------|-----------------------------|
| AS2 | Right now, are there many, few, or no other venture offering the services to your potential customers? | 1. Many 2. Few 6. No other 8. DK | Market Competition | 0.71 |
| AS3 | Were the technologies or procedures required for this product or service generally available more than a year ago? | 1. Yes 2. No 8. DK 9. NA | | |

Table 26 Technology and Innovation Strategy

| Item no. | Variables Item wording | Options | Scale | Cronbach's Alpha |
|-----------------|---|---|---|-----------------------------|
| AF8 | The technical and scientific expertise of the start-up team (is important for this (new) venture to be an effective competitor. Would you say you strongly agree, agree, neither agree nor disagree, disagree, strongly disagree or is it not relevant as it applies to this (new) venture?) | 1. Strongly agree 2. Agree 3. Neither 4. Disagree 5. Strongly disagree 6. Not relevant | Technology and Innovation Strategy | 0.71 |
| AF9 | Developing new or advanced product technology or process technology for creating goods or services (is important for this (new) venture to be an effective competitor. Would you say you strongly agree, agree, neither agree nor disagree, disagree, strongly disagree or is it not relevant as it applies to this (new) venture?) | 1. Strongly agree 2. Agree 3. Neither 4. Disagree 5. Strongly disagree 6. Not relevant | | |

Table 27 Customer Focus Strategy

| Item no. | Variables Item wording | Options | Scale | Cronbach's Alpha |
|-----------------|---|---|------------------------------------|-----------------------------|
| AF1 | Lower prices are important for this new venture to be an effective competitor. Would you say you strongly agree, agree, neither agree nor disagree, disagree, strongly disagree or is it not relevant as it applies to this (new) venture? | 1. Strongly agree 2. Agree 3. Neither 4. Disagree 5. Strongly disagree 6. Not relevant | Customer Focus Strategy | 0.67 |
| AF2 | Quality products or services are important for this (new) venture to be an effective competitor. Would you say you strongly agree, agree, neither agree nor disagree, disagree, strongly disagree or is it not relevant as it applies to this (new) venture? | 1. Strongly agree 2. Agree 3. Neither 4. Disagree 5. Strongly disagree 6. Not relevant | | |
| AF3 | Serving those missed by others is important for this (new) venture to be an effective competitor. Would you say you strongly agree, agree, neither agree nor disagree, disagree, strongly disagree or is it not relevant as it applies to this (new) venture? | 1. Strongly agree 2. Agree 3. Neither 4. Disagree 5. Strongly disagree 6. Not relevant | | |
| AF6 | A superior location and customer convenience (are important for this (new) venture to be an effective | 1. Strongly agree 2. Agree 3. Neither 4. Disagree 5. Strongly disagree | | |

| | | |
|--|--|---|
| | competitor. Would you say you strongly agree, agree, neither agree nor disagree, disagree, strongly disagree or is it not relevant as it applies to this (new) venture?) | 6. Not relevant |
| | More contemporary, attractive products (are important for this (new) venture to be an effective competitor. Would you say you strongly agree, agree, neither agree nor disagree, disagree, strongly disagree or is it not relevant as it applies to this (new) venture?) | 1. Strongly agree 2. Agree 3. Neither 4. Disagree 5. Strongly disagree 6. Not relevant |

AF7

Table 28 ANOVA of the Wave 2 Cluster Groups

| | Cluster | | Error | | F | Sig. |
|-----------------------------------|-------------|-----|-------------|-------|-------|------|
| | Mean Square | df | Mean Square | df | | |
| Person | | | | | | |
| Entrepreneurial Intensity | 38.1 | 2.0 | 0.9 | 906.0 | 41.6 | 0 |
| Need for Achievement | 161.3 | 2.0 | 0.6 | 906.0 | 250.4 | 0 |
| Specific Human Capital | 14.8 | 2.0 | 1.0 | 906.0 | 15.3 | 0 |
| Resources | | | | | | |
| Financial Resources | 136.2 | 2.0 | 0.7 | 906.0 | 194.2 | 0 |
| Environment | | | | | | |
| External Support | 3.2 | 2.0 | 1.0 | 906.0 | 3.2 | 0.04 |
| Market Competition | 130.3 | 2.0 | 0.7 | 906.0 | 182.3 | 0 |
| Strategy/ Organisation | | | | | | |
| Technology Innovation | 135.4 | 2.0 | 0.7 | 906.0 | 192.5 | 0 |
| Customer Focus | 86.9 | 2.0 | 0.8 | 906.0 | 107.2 | 0 |

Table 27 shows the results from an ANOVA to assess statistical differences between the attributes. Overall, the ANOVA points to no major differences in the groups on external support in the environment. There are significant differences in the Entrepreneurial Intensity, $F(2, 38.1) = 41.6$, Need for Achievement $F(2, 161.3) = 250.4$, Specific Human Capital $F(2, 14.8) = 15.3$, Financial Resources $F(2, 136.2) = 194.2$, Market competition $F(2, 130.3) = 182.3$, Customer focus Strategy $F(2, 86.9) = 107.2$ and Technology Innovation $F(2, 135.4) = 192$ the significance level between the groups were assessed at $p < .05$ level.

Appendix C: Steps for Analysing the Fuzzy Sets (Rihoux & Ragin, 2009)

1. Create a data set with fuzzy-set membership scores. (Crisp sets may be included among the causal conditions.) The fuzzy sets must be specified clearly (e.g., degree of membership in the set of "countries with high levels of numeracy"). Focus on the calibration of fuzzy membership scores, especially with respect to the three qualitative anchors: full membership (1.0), full non-membership (0.0), and the crossover point (0.5). In general, calibration requires good support based on theoretical and substantive knowledge, as well as in-depth wisdom of cases. The procedures are best designed when the 0.5 membership score and membership scores close to 0.5 are used infrequently when coding the causal conditions.
2. Input the fuzzy-set data into fsQCA or into software that can save data files in a format adaptable to fsQCA (e.g., Excel: comma delimited files; SPSS: tab delimited files; simple, SPSS-type variable names should appear on the first row of the data file). The data set should include both the outcome and as many of the possibly relevant causal conditions as possible. Open the data file using fsQCA.
3. Select an early list of causal conditions. The number of causal conditions should be low, ranging between three to eight. Often causal conditions can be combined in some way to create "macro variables" using the procedures described in Ragin (2000). These macro variables can be used in place of their components to reduce the dimensionality of the vector space. For example, a single macro variable might be used to replace three substitutable causal conditions joined together by logical or, which dictates using their maximum membership score.
4. Create a truth table by stipulating the outcome and the causal conditions. In fsQCA this function is found by clicking Analyse, Fuzzy Sets, and Truth Table Algorithm. The resulting truth table will have 2^k rows, reflecting the different corners of the vector space. (The 1s and 0s based on causal conditions in the spreadsheet identify the different corners of the vector space.) For each row, the program specifies the number of cases with greater than 0.5 membership in the vector space corner (in the column labelled number). Two columns to the right of number is *consistency*, the measure assessing the degree to which membership in that corner is a subset of membership in the outcome (Ragin, 2008).
5. Select frequency threshold to apply to the data listed in the number column. When the total number of cases included in a study is relatively small, the frequency threshold should be 1 or 2. When the total N is large, however, a more substantial threshold should be selected. It is very important to inspect the distribution of the cases when deciding upon a frequency threshold. This can be accomplished simply by clicking on any case in the number column and then clicking the Sort menu and then Descending. The resulting ordered list of the number of cases with greater than 0.5 membership in each corner will provide a snapshot of the distribution and also may reveal important discontinuities or gaps. After selecting a threshold, delete all rows that do not meet it.

This can be accomplished (for tables that have been sorted according to number) by clicking on the first case that falls below the threshold (in the number column), clicking the Edit menu, and then clicking delete current row to last. The truth table will now list only the rows (corners of the vector space) that meet the frequency threshold.

6. Next is the selection of a consistency threshold for distinguishing causal combinations that are subsets of the outcome from those that are not. This decision is made using the measure of set-theoretic consistency shown in the consistency column. In general, values below 0.75 in this column indicate greater than normal inconsistency. Sort the consistency scores in descending order so that it is possible to evaluate their distribution. This should be done after rows that fall below the frequency threshold have been deleted from the table (step 5). Click on any value in the consistency column; click the Sort menu; and then click Descending. Identify any gaps in the upper range of consistency that is useful for determining a threshold. It is possible to examine several different thresholds and assess the consequences of reducing and increasing the consistency cut-off.
7. Input 1s and 0s into the empty outcome column, which is labelled with the name of the outcome and enumerated to the left of the consistency column. Using the threshold value selected in the previous step, enter a value of 1 when the consistency value is met or exceeds the consistency threshold and 0 otherwise. If the truth table has many rows, then code the outcome column using the Delete and code function in the Edit menu.
8. Once the outcome column is completely entered, click the Standard Analysis button at the bottom of the truth table spreadsheet. Clicking the button provides two solutions, the complex solution (with remainders set to "false") and the parsimonious solution (with remainders set to "don't care"). Understand that the complex and parsimonious solutions can be seen as the two endpoints of a single complexity/parsimony continuum (see Ragin and Sonnett 2004). Any solution that is a subset of the best parsimonious solution and a superset of the most complex solution is a valid product of the truth table. These intermediate solutions use only a subset of the simplifying assumptions that are used in the most parsimonious solution. Ragin and Sonnett (2004) explain how to use theoretical and substantive knowledge to derive an ideal solution. They connect these procedures to counterfactual analysis, a procedure that is central to case-oriented research.