THE ROLE OF IDEA NOVELTY AND RELATEDNESS IN NASCENT VENTURES

Dissanayake Mudiyanselage Semasinghe

Bcom (Sp) Hons, Mcom

Submitted in fulfilment of the requirements for the degree of

Doctor of Philosophy

Australian Centre for Entrepreneurship Research, School of Management, Business School

Queensland University of Technology

Australia

February

2011

Keywords

Conjoint analysis, innovation, knowledge relatedness, nascent, new venture creation, novelty, opportunity, resource relatedness, start-up, structural equation modelling, venture idea.

Abstract

The study of venture idea characteristics and the contextual fit between venture ideas and individuals are key research goals in entrepreneurship (Davidsson, 2004). However, to date there has been limited scholarly attention given to these phenomena. Accordingly, this study aims to help fill the gap by investigating the importance of novelty and relatedness of venture ideas in entrepreneurial firms.

On the premise that new venture creation is a process and that research should be focused on the early stages of the venturing process, this study primarily focuses its attention on examining how venture idea novelty and relatedness affect the performance in the venture creation process. Different types and degrees of novelty are considered here. Relatedness is shown to be based on individuals' prior knowledge and resource endowment. Performance in the venture creation process is evaluated according to four possible outcomes: making progress, getting operational, being terminated and achieving positive cash flow. A theoretical model is developed demonstrating the relationship between these variables along with the investment of time and money. Several hypotheses are developed to be tested. Among them, it is hypothesised that novelty hinders short term performance in the venture creation process. On the other hand knowledge and resource relatedness are hypothesised to promote performance.

An experimental study was required in order to understand how different types and degrees of novelty and relatedness of venture ideas affect the attractiveness of venture ideas in the eyes of experienced entrepreneurs.

Thus, the empirical work in this thesis was based on two separate studies. In the first one, a conjoint analysis experiment was conducted on 32 experienced entrepreneurs in order to ascertain attitudinal preferences regarding venture idea attractiveness based on novelty, relatedness and potential financial gains. This helped to estimate utility values for different levels of different attributes of venture ideas and their relative importance in the attractiveness. The second study was a longitudinal investigation of how venture idea novelty and relatedness affect the performance in the venture creation process. The data for this study is from the Comprehensive Australian Study for Entrepreneurial Emergence (CAUSEE) project

that has been established in order to explore the new venture creation process in Australia. CAUSEE collects data from a representative sample of over 30,000 households in Australia using random digit dialling (RDD) telephone interviews. From these cases, data was collected at two points in time during a 12 month period from 493 firms, who are currently involved in the start-up process. Hypotheses were tested and inferences were derived through descriptive statistics, confirmatory factor analysis and structural equation modelling.

Results of study 1 indicate that venture idea characteristics have a role in the attractiveness and entrepreneurs prefer to introduce a moderate degree of novelty across all types of venture ideas concerned. Knowledge relatedness is demonstrated to be a more significant factor in attractiveness than resource relatedness. Results of study 2 show that the novelty hinders nascent venture performance. On the other hand, resource relatedness has a positive impact on performance unlike knowledge relatedness which has none. The results of these studies have important implications for potential entrepreneurs, investors, researchers, consultants etc. by developing a better understanding in the venture creation process and its success factors in terms of both theory and practice.

Table of Contents

List of Figures

List of Tables

List of Abbreviations

ACE	Australian Centre for Entrepreneurship Research
CAUSEE	Comprehensive Australian Study of Entrepreneurial Emergence
CFA	Confirmatory Factor Analysis
PSED	Panel Study of Entrepreneurial Dynamics
SEM	Structural Equation Modelling
QUT	Queensland University of Technology
SPSS	Statistical Package of Social Sciences
GFI	Goodness of Fit Index
CFI	Comparative Fit Index
TLI	Tucker-Lewis Fit Index
RMSEA	Root Mean Square Error of Approximation
SRMR	Standardized Root Mean Square Residual
WRMR	Weighted Root Mean Square Residual
df	Degrees of Freedom
M	Mean
SD	Standard Deviation
p	Probability
χ^2	Chi-Square
n.s.	Not significant

Statement of Original Authorship

The work contained in this thesis has not been previously submitted to meet requirements for an award at this or any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

Signature: _____

Date: _____

Acknowledgments

This thesis is a result of support of many individuals and institutions. First of all, I am extremely grateful for the guidance provided to me by my principal supervisor Per Davidsson. I remember when I was searching for a placement in late 2006, I found Per through the World Wide Web and with much hesitation wrote to him that I would like to be a doctoral student under his supervision. I was very fortunate that he consented to my request so that I was able to work with this internationally renowned scholar. Throughout these three and a half years he has provided me with continuous support and guidance in doing my research work. He always encouraged me to write abstracts and research papers for premier international conferences, giving required training and feedback. His cordial personal behaviour stimulated me to undertake this work with great enthusiasm. Thank you Per, for your kind and courteous approach extended towards me.

Paul Steffens, my associate supervisor is a great beacon in empirical research. He invariably brought to my attention important issues and questions which I had not been aware of. His approach in research compelled me to look critically at my work. I greatly appreciate the joint approach my supervisors adopted.

I am thankful to the panel members of my final seminar: Professor Boris Kabanoff (chair), A/Professor Ian Lings (faculty representative) Professor Per Davidsson (principal supervisor) and A/Professor Paul Steffens (associate supervisor) who provided me with invaluable comments and recommendations to further develop my thesis. I am also thankful to the other participants of the seminar who gave important feedback on my presentation.

In addition, I should especially acknowledge Julienne. She was the first friend I met at QUT. From the outset of my work and right up to the present, she helped, encouraged and shared her knowledge with me. I am glad to have had a chance to share this journey with Julienne and I know that our friendship will last for years. Scott and Christophe, my fellow doctoral students, with whom I share a room, also provided me with immense encouragement and support in doing this thesis as well as writing papers for conferences. They were also a great help with statistical analyses and software packages. Their comments on my PhD work in our group meetings were a significant help in improving my work. Stephen Cox, Director of Higher

Degree Research in the Faculty of Business, has very generously helped me since the time of my confirmation seminar with methodological support for my work. In addition to his consultations, he provided me with different books, data sets and web links to further improve my skills. In the last phase of my PhD work Jonathan helped me to transform my academic writing over the past six months. Indeed, I am now quite confident about academic writing and thank you Jonathan. I wish I could continue the association. Sandeep helped me greatly in learning Structural Equation Modelling (SEM) and Mplus software. I feel that it is my good fortune that he joined ACE. Later, Ossi joined with us and helped us sharpen our knowledge in SEM. Thank you guys, your support helped me to finish my work quite confidently.

Apart from those directly associated with my PhD work, I received immense administrative support from Karen, Trina and Thu. Their services and assistance are unforgettable and cherished in my PhD journey. I sometimes worry about returning to Sri Lanka and having to leave behind these gracious Faculty staff. Kim helped me in formatting the thesis. Jane did a great job in proofing my thesis.

My family members deserve special recognition for their support and encouragement. My wife Manjula sacrificed her time, and gave up the pleasure of being with her parents and friends on my behalf by coming to Australia and taking up rather uncomfortable jobs here. This work would not be possible without her continuous encouragement and dedication. My kids Shan and Gaya received a lot less love from me during the last three and half years as a result of this work. I should especially acknowledge my elder brother, as he was always keen about my study and my living here. He phoned me every fortnight throughout the last three and half years, as a token of his unparalleled brotherhood. I also acknowledge the support of his wife Anula. I am most grateful to my parents whose upbringing allowed me to reach this position. If my father was still alive today he would be the happiest of all to hear about the completion of this PhD. My ailing mother continuously gave me her blessing and it was also as a result of this that I was able to finish the thesis. I must acknowledge my other sisters, brothers and their children, as well my wife's family members because they have regarded me as one of their hopes and gave me much psychological support in this PhD journey.

Kule, Devika, Ruwan, and Paula also deserve much acknowledgement since they played a noteworthy role in this endeavour by providing immense support and being friends while we lived in Brisbane. In the final phase of my PhD work where

the Brisbane city was flooded a generous Sri Lankan family greatly helped me to carry out my work without interruptions. So, Chaminda (Doca), Nirosha and their infant child Isitha will be remembered with immense gratitude for all their help. In addition, Chitra miss, Jayamaha sir, Tishani, Chaminda (Bappa), Thushara, Pubudinie, Rathnayake, Saman, Thilak, Henri, Maria, Judy, Roxanne, Young, Marcello, Eleonora, Pina and Sugith are acknowledged as they provided me with different kinds of help and encouragement along the way.

This research was funded by many institutions: University of Kelaniya, Sri Lanka, under a Word Bank project – Improving the Relevancy and Quality of Undergraduate (IRQUE) – which provided funding for two years for this PhD. I extend my gratitude to The Ministry of Higher Education in Sri Lanka, the World Bank, University of Kelaniya and the Department of Commerce and Financial Management for providing me with funds through the IRQUE project. This research was further supported by the Business School of Queensland University of Technology (QUT). They gave me a top-up scholarship to continue my PhD work in the last phase of my study. In addition, the data used in this thesis was obtained from Comprehensive Study of Entrepreneurial Emergence in Australia (CAUSEE) that is conducted by the Australian Centre for Entrepreneurship Research (ACE). Thus, this research is partly supported by ACE, Australian Research Council (ARC) and the Business School at QUT. My sincere thanks go to all these institutions.

Chapter 1: Introduction

1.1 PROBLEM STATEMENT

According to Forbes (1999) "the decision to create a new venture is one of the most significant and interesting choices people make in the world of organizations" (p. 415). Hundreds of thousands of new ventures are created each year around the world. It is estimated that at any one time about half a billion people worldwide are either actively involved in trying to start a new venture or are owner-managers of a new business (Bygrave & Zacharakis, 2008). Similarly, Reynolds, Bygrave and Autio (2003) report that approximately one in ten adults around the world have become entrepreneurs or are actively involved in trying to start a new venture. New venture creation is important because it creates new employment opportunities, produces innovations and increases productivity (van Praag & Versloot, 2007). Mounting evidence suggests that regions with higher levels of firm creation will have greater economic growth in subsequent periods (Davidsson, Lindmark, & Olofsson, 1998; Reynolds & Curtin, 2008). Moreover, new ventures typically liberalise the economy, promote foreign investments, infuse new technology, and increase the economic standard of living (Kor, Mahoney, & Michael, 2007).

New venture creation is an interesting phenomenon as it involves risk and uncertainty, creativity and conviction at the individual and organisational levels (Forbes, 1999). The fascination of the phenomenon is further reflected by the fact that it involves different cognitive and behavioural steps such as developing a business idea, obtaining resources, developing products, hiring employees, and seeking funding during the formation process (Delmar & Shane, 2004). Reynolds and Miller (1992) observe that the venture creation process is analogous to biological creation which includes such stages as conception, gestation, infancy and adolescence. The wide range of outcomes adds further to the attraction of the phenomenon. While some venture efforts fail even before reaching their destined market, a small percentage nevertheless excel in the long run (Aldrich, 1999; Timmons, 1999). The growing importance of new venture creation is demonstrated by the interest shown by the wide variety of disciplines involved including

economics, psychology, management, sociology, strategy and population ecology, which seek to understand how and why new organisations come into existence and why some organisation founders are more successful than others (Gartner, 1985; Katz & Gartner, 1988; Liao & Welsch, 2008; Shane & Venkataraman, 2000).

The study of new venture creation is believed to be the predominant area in entrepreneurship research (Brush, Manolova, & Edelman, 2008; Davidsson, 2004; Gartner, 1988; Katz & Gartner, 1988; Low & MacMillan, 1988; Shane & Venkataraman, 2000). Early research in this field devoted much of its attention to the individual in explaining the new venture creation process. Accordingly, different psychological characteristics and traits of individuals were considered as antecedents of new venture creation and factors of venture success. For example, individuals' need for achievement (McClelland, 1961), risk taking propensity (Brockhaus, 1982), locus of control (Sexton & Bowman, 1983), tolerance for ambiguity (Teoh & Foo, 1997) etc. were all considered as being essential to new venture creation. Similarly, some scholars have associated socio demographic characteristics such as family background, personal background, age, gender, origin, religion, level of studies, labour experience (Begley & Boyd, 1987; Carroll & Mosakowski, 1987; Cooper, Woo, & Dunkelberg, 1988) to explain entrepreneurial behaviour. Moreover, in keeping with this person-centric approach, some later work began to focus on the cognitive characteristics of individuals to explain entrepreneurial behaviour. Consequently, such factors as alertness (Busenitz, 1996), overconfidence bias (Busenitz & Barney, 1997), desirability and feasibility (Krueger & Brazeal, 2004), and attributions (Gatewood, Shaver, & Gartner, 1995) have been incorporated to explain entrepreneurial behaviour.

Even though this person-centric approach has considerably enhanced our understanding of the entrepreneurial phenomenon, it is a limited 'one-legged approach', which only examines a single part – individual characteristics – to explain the entrepreneurial phenomenon (Shane & Venkataraman, 2000). Energised by the work of Venkataraman (1997), Shane and Venkataraman (2000) subsequently introduced a new framework labelled *the individual-opportunity nexus* to explain the phenomenon. This new focus suggests that not only the characteristics of individuals but also the characteristics of opportunities should be taken into equal consideration to explicate entrepreneurship. This also includes the fit between the individual and opportunity. Accordingly, there is a role of variation in entrepreneurial opportunities

over and above the individual characteristics of the entrepreneurial process. The relevance of individuals as well as opportunities for the entrepreneurial process was further emphasised by a contemporary empirical study undertaken by Shane (2000). He concludes his piece of work by suggesting:

> *Future research on the exploitation of opportunities should control for variation in the attributes of the opportunities that different entrepreneurs discover. Previous research has drawn conclusions about the effect of individual differences on the decision to exploit entrepreneurial opportunity based on the assumption of a zero correlation between individual differences and opportunity discovery. Because individual differences influence the discovery of opportunity and the decision to exploit opportunity (Schumpeter 1934, p. 79), this assumption has led to results that overstate the effects of individual differences. The lack of controls for the value of opportunities has led researchers to falsely attribute the variance belonging to the opportunity to the individuals. To accurately explain the role of individual differences in the tendency to exploit opportunities, researchers must examine the variance in the individuals net of the variance in the opportunities that they discover.* (p. 466)

In the wake of redefining entrepreneurship as the individual-opportunity nexus, considerable attention has been paid to the study of entrepreneurial opportunities. Accordingly, a large amount of research has been carried out on the phenomenon of opportunity in terms of its existence (Holcombe, 2003; Shane & Eckhardt, 2003), its discovery (Corbett, 2007; Fiet, 1996; Fiet, Piskounov, & Patel, 2005; Shane, 2000; Shepherd & DeTienne, 2005; Ucbasaran, Westhead, & Wright, 2009), the construction or creation of opportunities (Alvarez & Barney, 2007; Sarasvathy, Dew, Velamuri, & Venkataraman, 2003; Vaghely & Julien, 2010) and the exploitation of opportunities (Choi, Lévesque, & Shepherd, 2008; Choi & Shepherd, 2004). Even though this highlighting of opportunity among scholars has greatly enhanced our insight into the concept of opportunity, entrepreneurship research has largely overlooked the characteristics of opportunities, their contextual fit with individuals, and how they relate to the antecedents, behaviours and outcomes of the venture creation process (Davidsson, 2008; Shane & Eckhardt, 2003). In a recent broad review of 68 articles published in the mainstream entrepreneurship literature and other journals on the concept of opportunity, Short, Ketchen, Shook and Ireland

(2010) do not single out any empirical study that has been conducted on the characteristics or role of opportunities[1]. This neglect is further demonstrated by Rogers (1995) in research on the diffusion of innovations, where only about one percent of around 4000 studies has focused on the characteristics of innovation, whereas about fifty percent of them have focused on the individuals involved with innovation (cited from Davidsson, 2004).

1.2 PURPOSE OF THE STUDY

The present study intends to help fill an important research gap in entrepreneurship by investigating how the characteristics of venture ideas affect the performance in the venture creation process. Such an examination is important in order to understand: (a) whether venture ideas play a role in the determination of nascent venture[2] performance over and above the individual; (b) whether venture performance is different for different idea characteristics; (c) if variations exist, do they play an important part in predicting venture performance. In this endeavour, I use the term *venture idea* interchangeably with *opportunity* to maintain the consistency used the literature. Also, I define venture ideas as the *core ideas of an entrepreneur about what to sell, how to sell, whom to sell to and how an entrepreneur acquires or produces the product or service which he/she sells*.

What are the characteristics of venture ideas or opportunities? In a careful examination of the entrepreneurship literature, it is possible to identify some important characteristics of venture ideas. Schumpeter (1934) suggests that new combinations – products, services, markets, production processes etc. – that disrupt the market equilibrium are essentially innovative or novel. Further, Singh (2001) asserts that opportunities are necessarily feasible, profit-seeking and either innovative or imitative. In a similar vein, Baron (2006) observes that potential economic value, newness, and perceived desirability are considered important characteristics attached to opportunities. Further, according to Smith, Matthews and Schenkel (2009), opportunities differ in regard to important dimensions such as

[1] This does not mean that there is a complete lack of empirical research undertaken on the characteristics of venture ideas (see for example, Samuelsson & Davidsson, 2009; Smith, Matthews, & Schenkel, 2009).

[2] Efforts that are making concrete steps towards creating a firm, but have not yet been established (Davidsson, 2006)

innovativeness and expected value. All these views indicate that novelty which will be the focus of this study is one of the essential characteristics of venture ideas.

If we delve more into the concept of novelty, it can be defined as the degree to which a venture idea is perceived by firm founders as being new to the industry (cf. Rogers, 1995). The novelty could take on different forms and degrees. Novel forms that entrepreneurs introduce to the market can include new products, new processes, tapping into new markets and the introduction of new organisation methods etc. (Schumpeter, 1934). The different degrees of novelty can range from highly innovative to imitative venture ideas. At a venture level, these are similar to radical innovations and imitations (Aldrich & Martinez, 2001; Kirzner, 1973; Samuelsson, 2004; Samuelsson & Davidsson, 2009; Schumpeter, 1934). Innovators provide some sort of new product or service, which have not been supplied by other entrepreneurs in the market and initiate changes that spawn whole new industries. In contrast, imitators offer products or services similar to those others have already offered to the market and create value by extending or improving upon the status quo (Amason, Shrader & Tompson, 2006). For example, until Fred Smith started an overnight delivery postal service – FedEx – in 1973, the world had not thought about the concept of an overnight delivery service. Later, companies like DHL, Global Freight Systems, and Overnight Express started to provide the same service by imitating FedEx. Similarly, companies like KFC and Hungry Jacks run fast food businesses by imitating McDonald's innovative introduction of the fast food business to the world. Samuelson (2004) was among the first to empirically study how innovative venture opportunities and imitative opportunities affect the process of new venture creation. Similarly, Samuelson and Davidsson (2009) studied the process differences between innovative and imitative ventures. However, they used only a simple dichotomy with regard to the degrees of novelty. In some of the research on product development and innovation, there is some empirical evidence provided to demonstrate that there are different degrees of novelty (e.g., Garcia & Calantone, 2002; Kleinschmidt & Cooper, 1991). Yet, research in nascent entrepreneurship regarding what types and degrees of novelty are introduced by firms and how this novelty affects the performance in the venture creation process appear to be non-existent. Therefore, this study aims to address this research gap.

The notion of the individual-opportunity nexus by itself elucidates another important characteristic of venture ideas. The entrepreneurial phenomenon requires

both individuals and opportunities. Shane and Venkataraman (2000) assert that to have entrepreneurship there must first be opportunities. Shane (2003) is of the view that both individuals and opportunities are important in the entrepreneurial process because opportunities themselves lack human agency. According to Dimov (2010) a venture idea cannot be separated from the particular individual behind it. This means that the venture idea and the individual play an important concomitant part in the venture creation process. Research further indicates that venture ideas are closely related to certain individual characteristics such as prior knowledge (Shane, 2000) and the resource endowment of individuals (Sarasvathy, 2001). The fit between individual and venture idea can be referred to as *relatedness.* Although, it has been argued that studying the contextual fit between individual and venture idea (relatedness) are among the key research goals in entrepreneurship (Davidsson, 2004), adequate scholarly attention has not been paid to how relatedness affects performance in the venture creation process. Therefore, the present study also addresses this research gap.

While relating the venture idea novelty and relatedness to the performance of nascent ventures, it would be worthwhile to concomitantly look into how these characteristics affect their perceived attractiveness. In a sample of 766 entrepreneurs in the USA, Ruef (2002) identified that the majority of entrepreneurs introduce either a new product/service or access a new market, and a smaller percentage of entrepreneurs introduce a new method of production, organisation, or distribution. In a similar vein, Samuelson and Davidsson (2009) show that the majority of entrepreneurs introduce imitative venture ideas, but a smaller percentage introduce innovative ideas. This reveals that some forms of venture ideas may be more popular, attractive, important or valuable to entrepreneurs than other forms. However, to date research has not adequately explained why entrepreneurs pursue certain forms of opportunities while others do not (cf. Shane, 2003). As the focus of this research is on the characteristics of venture ideas, we can assume that novelty and relatedness will also play a significant role in the attractiveness of venture ideas. Insights from such a simultaneous investigation will also help to broaden our understanding about the characteristics of venture ideas.

1.3 RESEARCH QUESTIONS

The selection of a good venture idea is always considered to be an important function in the venture creation process in that a firm's success is basically dependent on the venture idea pursued (Ardichvili, Cardozo, & Ray, 2003; Stevenson & Jarilo, 1990). Therefore, firm founders are required to carefully assess the merits and demerits of venture ideas and pursue the ones that hold the most promise (Dimov, 2010). In this regard, the novelty and relatedness of venture ideas may play a critical role in the selection and evaluation process. Consequently, entrepreneurs may prefer the safer route of imitative venture ideas which are already well known and the markets are readily apparent (Amason, Shrader, & Tompson, 2006; Samuelsson & Davidsson, 2009). However, in doing so they may also be running a risk since it might be difficult to retain customers if they fail to offer something special in relation to their competitors. If entrepreneurs seek out highly innovative venture ideas for which there are no direct competitors, they may gain higher margins and a more dominant position in the market (Kleinschmidt & Cooper, 1991; Lieberman & Montgomery, 1988; Schumpeter, 1934). However, given that innovation involves more uncertainty and complexity than imitation, if they are unsuccessful they may not be able to reach the market at all (Danneels & Kleinschmidt, 2001). Similarly, entrepreneurs may choose venture ideas that are closely associated with their existing knowledge, skills or resources since this ensures easier exploitation (Sarasvathy, 2001; Shane, 2000; Wiklund & Shepherd, 2003). However, for most people ideas that are closely related to their existing knowledge and resources base are unlikely to simultaneously be perceived as being innovative.

Furthermore, it will be useful for entrepreneurs to take into account how different aspects of novelty and the relatedness of the venture ideas affect the different outcomes of the venture creation process. Venture idea that are closely related to the individuals' knowledge base and resources may lead to the generation of immediate sales. On the other hand, choosing to follow these venture ideas may cause the individual to incur opportunity costs as a result of forgoing other promising ideas (Cassar, 2006). Similarly, the likelihood of failures or termination of ventures may be rather high for innovative ventures, since these are fraught with uncertainty, risk and complexity (Aldrich & Fiol, 1994; Kleinschmidt & Cooper, 1991;

McMullen & Shepherd, 2006). On the other hand, since they are also advantaged with higher margins and first mover advantages (Drucker, 1985; Lieberman & Montgomery, 1988), they would ensure high profitability and would therefore be more likely to have a long-run survival. Thus, some aspects of novelty and relatedness suggest more successful outcomes, while other aspects suggest less successful outcomes. At the same time, there may also be interaction effects between novelty and relatedness, which would consequently affect the outcomes. All of these assertions indicate that there are reasons for entrepreneurs to weigh the pros and cons of novelty and relatedness when selecting opportunities. This study, therefore addresses two primary research questions:

1. How do the characteristics of a venture idea, in terms of novelty and relatedness, affect the attractiveness as perceived by experienced entrepreneurs?
2. How do the characteristics of a venture idea in terms of novelty and relatedness affect the performance of emerging ventures?

With regard to the first research question, the study requires an estimation of the value of different idea characteristics by meeting with experienced entrepreneurs. In this endeavour, in addition to novelty and relatedness, the *potential financial gain* is also incorporated as an additional characteristic since it is regarded as one of the main concerns that people take into account in selecting venture ideas (Shepherd & DeTienne, 2005). The second research question is relevant to the assessment of the performance of emerging ventures against the characteristics of venture idea. Thus, this study seeks to answer the following detailed research questions:

1. How do the types and degrees of novelty, relatedness and potential financial gains of venture ideas affect their attractiveness in the eyes of experienced entrepreneurs?
2. What is the relative importance of each of these idea characteristics to attractiveness?
3. What types and degrees of novelty and relatedness do the population of nascent entrepreneurs try to introduce in the marketplace?
4. What impact do different degrees of novelty and relatedness have on performance in the venture creation process?
5. Is there any interaction effect between novelty and relatedness in predicting performance in the venture creation process?

1.4 METHODOLOGICAL RATIONALES

As per the research questions detailed above, this study requires two separate samples of entrepreneurs to investigate the phenomena. One sample is required to answer research questions 1 and 2 and the other to answer research questions 3 to 5. The former is related to the evaluation of venture idea and needs a specific subsample of entrepreneurs, who should not be students or novices. Instead, it requires a sample of entrepreneurs who have some experience in the entrepreneurial arena and who can competently compare the characteristics of venture ideas according to their attractiveness. Accordingly, this study adopts an experimental methodology with a relevant sample to investigate how the characteristics of venture ideas affect their perceived attractiveness.

Answering research question 3 to 5 calls for a sample of nascent entrepreneurs. Furthermore, it has to follow a longitudinal approach to data collection in order to answer these research questions (especially questions 4 and 5) since they deal with the process of venture creation. Entrepreneurship research is often criticised for having methodological limitations which hamper the understanding of the phenomenon (Aldrich & Baker, 1997). As entrepreneurship is about the *emergence* of new firms (Davidsson & Honig, 2003; Shane & Venkataraman, 2000), and is regarded as a *process* (Delmar & Shane, 2004; Gartner, 1988), the methodology used for conducting research should adequately reflect these aspects. Two issues are especially important in this respect. The first issue is about the *sample* used. Thus far, most of the research done on entrepreneurship has been confined to samples of established or existing ventures (Gartner & Carter, 2003). While this approach has increased our understanding of young and small firms to a considerable extent, it has not adequately captured the emergence or early stages of the venture creation process[3] (Davidsson & Honig, 2003). Therefore, this research requires a sample of entrepreneurs who are in the process of venture creation (i.e., nascent entrepreneurs) in order to answer research questions 3 to 5; rather than selecting a sample of established ventures (Carter, Gartner, & Reynolds, 1996).

The other methodological issue is about the *approach to data collection*. As new venture creation is considered to be a process which includes many activities

[3] Potential problems associated with the selection of samples of established ventures are discussed in detail in the methodology chapter (Chapter 4).

that take some years to complete (Reynolds & Miller, 1992), the chosen method of data collection should be one that reflects this process perspective. Regrettably, most research undertaken so far on venture creation has relied on cross sectional data which cannot show the process perspective (Davidsson, 2004; Low & MacMillan, 1988). Davidsson (2004) confirms that the data collected at one point of time in its life cycle does not adequately reflect the process perspective of venture creation. What is needed instead is a longitudinal approach, which collects data over time (Davidsson, 2004; Low & MacMillan, 1988; Reynolds & Miller, 1992). Thus, this study requires a longitudinal real time survey methodology to investigate how the characteristics of venture ideas affect the performance in the venture creation process or the performance of nascent ventures.

Therefore, this study calls for two separate studies.

1.4.1 STUDY 1

Study 1 is designed to answer research questions 1 and 2. As each of the idea characteristics have different attributes and levels (for example different forms and degrees of novelty), the study has to employ an approach that can fully capture the entrepreneurs' preferences for each of them. Accordingly, a c*onjoint analysis* is conducted to collect data and to estimate the utilities derived from each of the idea characteristics. Different scenarios, which represent different combinations of attributes and levels associated with the characteristics, are venture ideas that are presented to a sample of experienced entrepreneurs to elicit their preferences.

1.4.2 STUDY 2

Study 2 is designed to answer research questions 3 to 5. For this purpose, as also indicated above, we require data on a statistically representative sample of ongoing start-up efforts collected over a period of years. Thus, this study draws its data from the Comprehensive Australian Study of Entrepreneurial Emergence (CAUSEE) project. CAUSEE is a research project that has been set up to investigate the factors that contribute to the start-ups and failures of new ventures in Australia by the Australian Centre for Entrepreneurship Research (ACE) at Queensland University of Technology (for more details see, Davidsson, Steffens, Gordon, &

Reynolds, 2008). This project is similar to the Panel Study of Entrepreneurial Dynamics (PSED) in the USA (Reynolds, 2000). CAUSEE is a four-year longitudinal study and has identified a sample of 625 nascent entrepreneurs in its first round of interviews by conducting screening phone interviews with over 30,000 adults in Australia[4].

1.5 CONTRIBUTION OF THE STUDY

Knowledge relating to the venture creation process has been limited due to various conceptual gaps, methodological challenges and inconclusive empirical findings in the field. Following on from Shane and Venkataraman's (2000) call for entrepreneurship research that takes into account both the characteristics of individuals and opportunities, this study undertakes an investigation of the key roles that the characteristics of venture ideas play in the entrepreneurial process. This thesis addresses some conceptual gaps and methodological challenges associated with venture ideas and entrepreneurship. The important contributions made by this study are outlined as follows:

1. This is one of the first studies that investigate how the characteristics of venture ideas affect performance in the venture creation process. Early entrepreneurship research devoted almost all of its attention to the examination of the characteristics of individuals (Gartner, 1988) largely overlooking the characteristics of venture ideas.
2. This study offers a more detailed empirical assessment of venture idea novelty. Earlier research recognised only the general concept of venture idea novelty, failing to examine its different forms (Choi & Shepherd, 2004; Corbet, 2005; Shane, 2000; Shepherd & DeTienne, 2005). This study is the first to explore the four different types of venture idea novelty: the product/service; the method of production; the method of promotion; and the selection of customer or the target market. Moreover, this study provides a more detailed conceptualization of the different degrees of novelty. Previous entrepreneurship research has focused on only two levels of venture idea novelty: innovation vs. imitation (Samuelson & Davidsson, 2009). Instead,

[4] More details of the screening procedure and data collection are provided in Chapter 4.

this study examines four degrees of novelty: new to the world; new to the served market; substantial improvements; and imitation.

3. Another important contribution of this study lies in its empirical examination of relatedness. Even though considerable prior work has been conducted on the concept of venture idea (Choi & Shepherd, 2004; Shane, 2000; Shepherd & DeTienne, 2005; Ucbasaran et al., 2009), no prior research has so far attempted to predict performance in the venture creation process, by combing the characteristics of individuals and venture ideas. This study, for the first time in entrepreneurship research, investigates how the fit between existing knowledge of firm founders and venture ideas (knowledge relatedness) as well as the fit between existing resources and venture ideas (resource relatedness) affects nascent venture performance.
4. This study is one of few studies on the determination of opportunity attractiveness. Based on idea characteristics which have been largely overlooked by entrepreneurship research this study attempts to understand why some forms of venture idea popular among entrepreneurs while others are not. The study estimates the utility values for different idea characteristics (using a conjoint analysis technique when entrepreneurs' trade-off preferences) in order to understand their attractiveness and to assess their relative importance.
5. This study methodologically contributes to entrepreneurship research by: using longitudinal real time process data; applying structural equation modelling for the data analysis and; investigating four different outcome variables concerning nascent venture performance (making progress, getting operational, being terminated and achieving a positive cash flow).

1.6 IMPLICATIONS OF THE STUDY

It is widely agreed that the selection of the right venture idea is one of the most important activities of a successful entrepreneur (Ardichvili, et al., 2003). At the same time it is acknowledged that there is a role for venture ideas in the entrepreneurial process over and above the individual (Shane, 2003). Given this is the case, firm founders are required to carefully assess the merits of their venture ideas before pursuing them. This research has important implications for

practitioners, policy makers, consultants, educators and other stakeholders of entrepreneurship concerning the consequences of adopting different idea characteristics in the venture creation process. Some of these implications are listed below.

First, even though it is acknowledged that venture ideas have a role in the venture creation process (Shane, 2003), we do not have sufficient knowledge about how well they can explain different outcomes of the process. This study, therefore, attempts to show how much each of the idea characteristics contributes to the four types of outcomes. Potential entrepreneurs would take into account these outcomes in pursuing particular venture ideas in their start-ups.

Second, this study provides important implications for stakeholders regarding the extent to which venture idea novelty facilitates or restricts the venture creation process. Based on these understandings potential entrepreneurs and investors can better formulate their strategies to either mitigate the obstacles or make full use of opportunities.

Third, while it is recognised that the discovery of venture ideas is based on the founders' knowledge and resources (Sarasvathy, 2001; Shane, 2000), we do not know whether this has an impact on the subsequent exploitation process and performance. In other words, we have no knowledge about whether the relatedness of venture ideas facilitates the venture creation process. This study provides the performance implications of relatedness

Fourth, although it is asserted that innovation is associated with some monopolistic, first mover and survival advantages (Drucker, 1985; Lieberman & Montgomery, 1988), at the same time there exists the view that it is replete with high risk, uncertainty and complexity problems (Kleinschmidt & Cooper, 1991). This study assumes that in both cases more investment of money and time is required. Findings will confirm the reality of this supposition, thereby providing implications for potential entrepreneurs and other stakeholders.

Fifth, we can assume that more investment of money and time will pave the way for receiving good outcomes for entrepreneurs in the venture creation process. This is also important for potential entrepreneurs, financial providers, consultants and others.

Finally, this study has implications with regards to the predictors of nascent venture performance. It gives precise information about whether novelty, relatedness,

investment of money and time and a set of control variables affect the performance of nascent entrepreneurs. This is also important for entrepreneurship education and research.

1.7 ORGANISATION OF CHAPTERS

This dissertation is organised as follows. Chapter 2 presents a review of the extant literature on the main constructs surrounding the area of research. Accordingly, the new venture creation process, venture ideas, venture idea novelty, and relatedness as well as the attractiveness of venture ideas are discussed in this chapter. The chapter also presents different misconceptions associated with opportunities and introduces venture ideas as the appropriate term for opportunities. In Chapter 3, the theoretical model upon which this study is based is presented. Subsequently, a set of hypotheses are developed based on different theories, research and related concepts such as innovation, liability of newness, legitimacy and the resource based view. Chapter 4 describes the methodological approaches used in this study. As the study comprises two separate studies, this chapter presents the overall study design, the selection of the sample, the data collection procedure, the variables, and the analytical techniques employed in both studies. This is followed by Chapter 5, which presents the results for the conjoint study that were undertaken in order to examine the attractiveness of venture ideas. Chapter 6 provides the descriptive statistics of novelty and relatedness introduced across different organisational settings. The results of tests of hypotheses are presented in Chapter 7, which examines how the characteristics of a venture idea affect short term performance in the venture creation process. Univariate, bivariate and multivariate analyses are presented in this chapter. Finally, Chapter 8 presents a summary of the overall study as well as presenting the discussion, interpretation of results, contributions, implications, limitations and a possible future direction for further studies.

Chapter 2: Literature Review

2.1 INTRODUCTION

The purpose of this chapter is to review the current entrepreneurship literature, focusing on the main constructs of the study. At the outset, the chapter briefly reviews extant literature on the new venture creation process because the study is basically concerned with the assessment of new venture performance based on venture idea novelty and relatedness. Different characteristics of new venture creation are discussed as well as identifying some conceptual gaps in the phenomenon. Then, the chapter extends its scope by addressing entrepreneurial opportunities or venture ideas. Different issues and misconceptions associated with the nature and meaning of entrepreneurial opportunity are reviewed. Consequently, the term *venture idea* is introduced to replace *entrepreneurial opportunity*. The chapter then proceeds to delineate the concept of novelty. This includes a detailed description of the different types and degrees of novelty. This is followed by a discussion of the phenomenon of relatedness based on the notion of the individual-opportunity nexus. In this endeavour, the chapter especially elaborates how the existing knowledge and resource endowments of individuals are associated with venture ideas. The last part of the chapter is devoted to a discussion of the attractiveness of venture ideas. Different individual as well as general venture idea characteristics associated with the attractiveness of venture ideas are presented in this section.

2.2 THE NEW VENTURE CREATION PROCESS

2.2.1 OVERVIEW

It is widely acknowledged that a fundamental activity of entrepreneurship is the creation of new organisations (Brush, Edelman, & Manolova, 2008; Davidsson, 2004; Gartner, 1988; Liao, Welsch, & Tan, 2005; Low & MacMillan, 1988; Shane & Venkataraman, 2000). According to Gatewood, Shaver and Gartner (1995) the venture creation process is defined as the process that takes place between the intention to start a business and making the first sale. Liao and Welsch (2008) define

the venture creation process as the temporal sequence of events or activities that occur as entrepreneurs create a new business.

The creation of new ventures is not just a phenomenon that occurs instantaneously or spontaneously from the presence of technological, industrial or other changes in the environment (Aldrich, 1999; Carroll & Hannan, 2000; Delmar & Shane, 2004; Shane, 2003). Instead, it is a human effort that requires intense human involvement to come to fruition. Empirical evidence suggests that founders of ventures are involved in the deliberate formation of new ventures using their own time, money and other means (Carter et al., 1996; Delmar & Shane, 2004; Samuelson & Davidsson, 2009; Shane, 2003). Furthermore, new venture creation is considered not as a single or discrete event, but as a process that encompasses a series of activities that have to be undertaken in many different sequences (Carter, et al., 1996; Gartner, 1988, 1990; Reynolds & Miller, 1992). Moreover, the phenomenon is construed as a dynamic process, in which start-up activities are undertaken at different times and in different orders by different firm founders (Brush, Manolova, et al., 2008; Delmar & Shane, 2004; Gartner, 1985).

New venture creation is also known as firm start-up (Carter, et al., 1996; Gatewood, et al., 1995), entry (Lumpkin & Dess, 1996), emergence of firms (Gartner, Bird, & Starr, 1992; Lichtenstein, Carter, Dooley, & Gartner, 2007; Lichtenstein, Dooley, & Lumpkin, 2006), firm gestation (Alsos & Kolvereid, 1998; Reynolds & Miller, 1992), and firm birth (Storey, 1994). The term *new venture creation* is used throughout this thesis, except on a few occasions.

2.2.2 CHARACTERISTICS OF THE NEW VENTURE CREATION PROCESS

Some argue that the venture creation process starts with the identification of a venture idea and culminates with the first sale (Bhave, 1994). At the same time, another group of scholars argue that, it starts with the intention to start a venture and ends with making sales (Gatewood et al., 1995; Liao et al., 2005). Davidsson (2008) claims that the venture creation process begins with the identification of a rough business idea and continues until the process is either terminated or becomes an up and running business venture with regular sales. Even though there are differences among scholars regarding the starting and end points involved in the process of venture creation, everybody agrees that venture creation is a *process* which means

that it encompasses different cognitive and behavioural steps in the formation process (Davidsson, 2008). These steps can include, but are not limited to, the identification of a venture idea, obtaining inputs, conducting product development, hiring employees, seeking funds, and gathering information from customers (Delmar & Shane, 2004). These activities are called *gestation activities* in the terminology of entrepreneurship research and the individuals who are actively involved in these activities are referred to as *nascent entrepreneurs* (Reynolds & Miller, 1992). However, before proceeding further it is worth noting that all new venture efforts do not succeed during the creation process, and some of them fail before reaching the market (Carter, et al., 1996; Delmar & Shane, 2004). For example, Aldrich (1999) estimates that half of all entrepreneurs generally fail to complete their venture efforts. Based on PSED data, Reynolds (2007) states that roughly only one third of venture efforts become operational during their first seven years.

Table 2.1: Stages/elements in the venture creation process

Author/s	**Stages/elements in the venture creation process**
Bhave (1994)	opportunity stage, the technology set-up and organisation creation stage, and the exchange stage
Katz and Gartner (1988)	intention, boundary, resources and exchange
Vesper (1990)	technical knowhow, a product or service idea, personal contacts, physical resources, and customer orders
Galbraith (1982)	proof of principle stage, a prototype stage, a model shop stage and, the start-up stage.
Kazanjian (1988)	resource acquisition and technology development, production-related start-up, sales/marketing and organisational issues, and profitability, internal control and future growth base
Davidsson and Klofsten (2003)	formulation and clarification of business idea, development to finished product, definition of market, development of an operational organization, core group competence, commitment of the core group and the prime motivation of each actor, customer relations, other relations

Much of research has identified several of the gestation activities performed by entrepreneurs during the venture creation process. Some research identifies the

different stages or elements involved in the process. For example, Bhave (1994) notes that the venture creation process encompasses three main stages: the opportunity stage; the technology set-up and organisation creation stage; and the exchange stage. Similarly, Katz and Gartner (1988) include four elements in the venture creation process; intention, boundary, resources and exchange to the venture creation process. See Table 2.1 for the different stages or elements included in the venture creation process by different authors.

Apart from stages involved in the venture creation process, some scholars identify the different activities involved in the venture creation effort. For example, Reynolds and Miller (1992) identify four gestation activities involved in the venture creation process: personal commitment; financial support; sales; and hiring. Carter et al. (1996) incorporate 14 gestation activities such as: obtaining inputs; conducting product development; hiring employees; seeking funds; gathering information from customers; etc. Further, Gatewood, Shaver, and Gartner (1995) examine 29 similar gestation activities in the venture creation process. Alsos and Kolveried (1998) identify 20 different venture start-up behaviours in studying the business gestation process of novice, serial and parallel business founders. In a similar vein, several other scholars have empirically investigated the new venture creation process using different gestation activities (e.g., Davidsson & Honig, 2003; Delmar & Shane, 2004; Liao & Welsh, 2008; Lichtenstein et al., 2007; Newbart, 2005; Samuelson & Davidsson, 2009). Almost all of these activity based studies have used activities similar to those shown in Table 2.2.

A significant milestone in the research of the new venture creation process was the inception of the US based Panel Study of Entrepreneurial Dynamics (PSED) (Reynolds, 2000). PSED is the first and foremost in-depth study ever undertaken. It was established to empirically investigate the venture creation process. The PSED study identifies the venture creation process as consisting of stages such as: conception; gestation; birth and infancy; which are commonly recognised as being important features of the venture start-up process (Reynolds, Carter, Gartner, & Green, 2004). Several other countries such as Canada, Latvia, Norway, Sweden, and Australia have recently adopted this innovative PSED-type study in order to understand the early process of new venture creation. PSED identifies twenty-eight activities performed by entrepreneurs in the creation process of new ventures (see Table 2.2).

Table 2.2: Gestation activities used in PSED

	Activities
1	Spent a lot of time thinking about the venture idea
2	Took classes or workshops on starting a business
3	Saving money to invest in business
4	Invested own money in business
5	Developed a model or procedures for product/service
6	Defined market opportunities
7	Raw materials, inventory, supplies purchased
8	Business plan prepared
9	Start-up team organised
10	Major items like equipment, facilities or property purchased, leased
11	Filed federal tax income tax return
12	Marketing or promotional activities started
13	Arrange childcare or household help to allow time for business
14	Devoted full time to business
15	Credit from supplier established
16	Projected financial statements developed
17	Bank account opened exclusively for this business
18	Received money, income or fees from sale of goods or services
19	Applied for patent, copyright or trade mark
20	Ask financial institutions or people for funds
21	Hired employees or managers
22	Paid federal social security taxes (FICA)
23	Monthly revenues exceeded monthly expenses
24	Business has own phone listing
25	Business has own phone line
26	Paid state unemployment insurance
27	Paid managers who are owners a salary
28	Business listed with Dun & Bradstreet

(Source: Gartner & Carter, 2003)

The idea that the venture creation process starts at a certain point and ends with another specified point suggests that the venture creation process is a linear and unitary process (Bhave, 1994). The characteristic of linearity of the venture creation process further assumes that additive combinations of events will lead to the creation of a new venture (Carter et al., 1996; Reynolds & Miller, 1992). The linearity assumption of the venture creation process further suggests that there is a sequence[5] of activities performed in the venture creation process. In this regard Vesper (1990)

[5] Sequence is referred to as the order of closely associated events (Liao & Welsch, 2008)

asserts that the sequence of activities in the process could take any pattern. In order to prove his assertion, he included five activities in the venture creation process: technical knowhow (1); the product or service idea (2); personal contacts (3); physical resources (4); customer orders (5) and argued that different sequences could take place (for example., 1-2-3-4-5; 5-4-3-2-1; 3-2-5-4-1). However, both the linearity assumption and the pattern of sequences in the venture creation process are still contentious issues in entrepreneurship research. Some recent empirical studies argue that the new venture creation process is neither linear nor is there a sequence of activities in the process. For example, based on PSED data Liao et al. (2005) claim that firm gestation is a complex, nonlinear process in which developmental stages are hardly identifiable. Similarly, Brush et al., (2008) claim that "organizing a new venture is not a patterned or linear process but rather is simultaneous, messy and iterative" (p. 548). Moreover, built on a grounded theory approach, Liao et al. (2005) found no logical sequence among the gestation activities. Commenting on this matter, Carter et al. (1996) claim that any sequence of events is possible, including having first sales before thinking of starting a business. Building on the theoretical insights of complexity science, Lichtenstein et al. (2007) found that successful nascent entrepreneurs space out their activities throughout the entire process. They found that venture activities cluster over time and the timing of completed organising activities is later in the process rather than earlier.

2.2.3 SOME CONCEPTUAL GAPS IN THE VENTURE CREATION PROCESS

It is obvious that the completion of gestation activities is an integral part of new venture creation. However, it appears that different studies use a different number of activities in order to explain the phenomenon of venture creation. While some studies list a large number of activities others use fewer activities. This use of different kinds and numbers of start-up activities by different scholars in their studies reflects the fact that there is still not full agreement among scholars about the number and kind of activities that should be performed even by homogeneous ventures located in the same industry. Further, these lists cannot be regarded as the full set of activities performed by entrepreneurs. Some ventures may undertake additional activities rather than the activities listed in the above studies. For example, activities related to packaging and branding are recognized as important activities in a

marketing area, but no study has incorporated them as gestation activities to the best of this author's knowledge. Gartner and Shaver (2004) claim that most of the listed activities are based on anecdotal evidence rather than on systematic research studies. Thus, in order to better understand the phenomenon, all gestation activities performed at least by a particular industry should be identified and incorporated into these lists.

As indicated at the beginning of this section, while there is not full agreement among researchers regarding the starting point of the venture creation process, there is no consensus among them about at what point the process of venture creation is completed. Some argue that achieving first sales is the end point of new venture creation (Bhave, 1994; Gatewood et al., 1995) whereas others argue that receiving positive cash flow, product development, first hire as well as making a profit are the end points (Davidsson, 2006; Newbert, 2005). However, the recognition of achieving first sales as the end point of the venture creation process is problematic because some emerging organisations start with having sales as more or less the first event in the venture creation process (Carter et al., 1996). Further research is needed to resolve these gaps.

2.3 'OPPORTUNITIES' AND 'VENTURE IDEAS'

It is increasingly recognised that entrepreneurial opportunities are at the heart of entrepreneurship (Davidsson, 2004; Kirzner, 1973; Shane, 2003; Shane & Eckhardt, 2003; Shane & Venkataraman, 2000; Short, et al., 2010; Stevenson & Jarilo, 1990). Shane and Venkataraman (2000) claim that without opportunities there is no entrepreneurship. Several scholars assert that the venture creation process starts with the identification of the venture idea or opportunity (Bhave, 1994; Bygrave & Hoffer, 1991). Similarly, they contend that the identification and selection of the right opportunities for new businesses are among the most important abilities of a successful entrepreneur (Ardichvili, et al., 2003; Shepherd & DeTienne, 2005; Stevenson, Roberts, & Grousbeck, 1985). According to Ireland, Hitt and Sirmon (2003), entrepreneurial opportunities contribute to the firm's efforts to form sustainable competitive advantages and to create wealth (cf. Alvarez & Busenitz, 2001). In a similar vein, Grégoire, Shepherd and Lambart (2010) claim that "recognizing high-potential opportunities can lead to substantial gains in profit,

growth, and/or competitive positioning" (p. 114). Further, understanding entrepreneurial opportunities is important because the characteristics of opportunity influence the entrepreneurial process (Shane, 2003; Smith et al., 2009). Thus, the study of opportunities is indispensable and central to entrepreneurship research (Davidsson, 2004; Shane & Venkataraman, 2000).

Given the immense importance of entrepreneurial opportunities to the field of entrepreneurship, a substantial amount of conceptual as well as empirical work has been done on the topic in terms of opportunity existence, discovery, creation and exploitation (Alvarez & Barney, 2007; Choi & Shepherd, 2004; Corbett, 2007; Fiet, 1996; Fiet, et al., 2005; Sarasvathy, et al., 2003; Shane, 2000; Shepherd & DeTienne, 2005). Short et al. (2010) recently reviewed 64 such conceptual and empirical studies published in mainstream journals on the concept of opportunity and assert that "research surrounding the construct has been theoretically rich, embracing a multitude of theories including coherence theory, creation theory, discovery theory, organizational learning, research on affect, social cognitive theory, and structuration theory" (p. 3).

Despite the development of the concept and its importance to several fields, Short et al. (2010) allege that little agreement exists among scholars about the definition of opportunities and the nature of opportunities. This is a consequence of defining the concept in different ways. Kirzner (1973), for example, views opportunities like dollar bills blowing around on the sidewalk, waiting for alert individuals to pick them up. Casson (1982) defines opportunities as situations in which new goods, services, raw materials, and organising methods can be introduced and sold at greater than their costs of production. Following the latter view, Shane and Venkataraman (2000) adopt the same definition regarding opportunities and further introduce the concept that opportunities are *objective* phenomena that are not known to all parties at all times. Both definitions assert that opportunities are necessarily profitable. Shane and Eckhardt (2003), by extending Casson and Shane and Venkataraman's definitions, describe opportunities "as situations in which new goods, services, raw materials, markets and organizing methods can be introduced through the formation of new means, ends, or means-ends relationships" (p. 165). To differentiate entrepreneurial opportunities from all other profit opportunities, the authors require the creation of "new means-ends frameworks". However, Plummer, Haynie and Godesiabois (2007) claim that the language of a new means-end

framework does not necessarily work for all situations. They argue that in situations where new sources of opportunities come from entrepreneurial actions to exploit previously discovered opportunities (cf. Holcombe, 2003), this means-end framework does not hold up. Singh (2001) defines opportunities as "a feasible, profit-seeking potential venture that provides an innovative new product or service to the market, improves on an existing product/service, or imitates a profitable product/service in a less than saturated market" (p. 11). According to Singh, while opportunities are profitable they can be either innovative or imitative. Likewise, a plethora of definitions of opportunities can be found in the entrepreneurship literature.

In spite of the different definitions provided, almost all of those discussed so far share a common feature regarding opportunities. That is, opportunities are regarded as *objective artefacts*. This means that opportunities exist independent of the perceptions of individuals in a system. Thus, it is inferred that opportunities *exist out there waiting to be discovered* (Davidsson, 2004). This suggests that opportunities arise from different external changes like technological, political, regulatory, and socio demographic changes rather than the perception of individuals (Shane, 2003). In contrast to the above view, some researchers argue that opportunities arise out of the subjective interpretations and creative actions of individuals (Alvarez & Barney, 2007; Grégoire, Shepherd, et al., 2010). This school of thought asserts that opportunities are *subjective creations* of willing individuals rather than objective artefacts (Alvarez & Barney, 2007; Davidsson, 2004; Sarasvathy, et al., 2003; Vaghely & Julien, 2008). Therefore, it is said that opportunities are made, not found (Ardichvili et al., 2003). These opportunities do not exist out there ready to be grasped, instead they are mental constructions and figments of the imagination of creative individuals. With respect to the nature of opportunities, Sarasvathy et al. (2003) claim that when the market demand and supply for a particular product or service does not exist in an obvious manner, opportunities are created by particular individuals as subjective creations. On the other hand, when both the demand and supply exist or one of them exists without the other, opportunities are recognised or discovered by individuals as objective artefacts. Short et al. (2010) commenting on these two contrasting attributes state that "a reasonable middle ground position is that some opportunities are discovered whereas others are created" (p. 15). Therefore, both views are correct and both types

of opportunities are useful for the creation of wealth in entrepreneurial firms (cf. Davidsson, 2004).

In addition to the above dichotomy of opportunities, recent entrepreneurship research has focused on another contrast of opportunities: first person opportunities and third person opportunities. These two types of opportunities first appeared in an article presented by McMullen and Shepherd (2006). By considering the amount of uncertainty and the willingness to bear uncertainty, McMullen and Shepherd (2006) developed a double-stage conceptual model of entrepreneurial actions in order to examine entrepreneurial actions at an individual level. According to the model, the first phase of entrepreneurial actions concerns the formation of subjective beliefs that an opportunity exists for those individuals with the relevant knowledge and motivation to exploit it (Grégoire, Shepherd, et al., 2010). These opportunities are called *third person opportunities*. The second phase concerns the evaluation of the opportunity for oneself considering whether the relevant person has the motivation and knowledge to successfully exploit the opportunity. This time around, the opportunity becomes a *first person opportunity.* Thus, third person opportunity is a potential opportunity not just for him/her self, but for anyone with the ability to notice and interpret the signal. In contrast, the first person opportunity is purely for oneself. In this instance, the entrepreneur is involved in a decision- making process and evaluates the opportunity according to whether it is promising and feasible and what the potential reward for this opportunity is worth etc. (Grégoire, Shepherd, et al., 2010; McMullen & Shepherd, 2006).

To conclude this section, the concept of the *venture idea* can be introduced to replace *opportunity*. Even though a host of extant literature in entrepreneurship uses the term opportunity, some scholars (e.g., Davidsson, 2004) argue that the use of the term '*opportunity*' is not appropriate to the field as it gives a confusing and confounding interpretation about the domain. In search of the etymology of the word opportunity, The Oxford English Dictionary defines opportunity as "a time, juncture, or conditions of things favourable to an end or purpose or admitting of something being done or affected" (cited from Sarasvathy et al., 2003). Similarly, Webster's Dictionary defines opportunity as: "a favourable junction or circumstances, or a good chance for advancement or progress" (cited form Gartner & Shaver, 2004). Both of these definitions of opportunity underscore the fact that opportunities are *favourable events* which have not yet been realised. However, according to the domain of

entrepreneurship, there cannot be existing favourable events, which have not been realised yet because entrepreneurship is characterised by the phenomenon of uncertainty (Davidsson, 2004; Knight, 1921; McMullen & Shepherd, 2006; Sarasvathy, et al., 2003). In an uncertain environment, the future is not only unknown but also unknowable. Therefore, it is absurd to assume that favourable events come into existence to be realised in such an uncertain environment. Thus, the use of the term *opportunity* is itself not appropriate to the entrepreneurship domain. Therefore, Davidsson (2004) suggests that *venture idea* is the appropriate term to replace *opportunities* when we are referring to the yet unproven conjectures around which founders try to create new ventures. This view is further supported by Sarasvathy et al. (2003) who define opportunity as a set of ideas, beliefs, and actions that enable the creation of future goods and services in the absence of current markets for them. Short et al. (2010), who reviewed the concept of opportunity using 64 published articles, also claim that the ideas are used to refer to the opportunity in entrepreneurship research. Thus, this study uses *venture idea* in place of *venture opportunity*. Therefore, for the purpose of this study venture idea is defined as the *core ideas of an entrepreneur about what to sell, how to sell, whom to sell the product/service to and how an entrepreneur acquires or produces the product or service that he/she sells.* When realised, these ideas become new products/services, methods of promotion, customer/target markets and methods of production/sourcing; i.e., a business model (Amit & Zott, 2001). These venture ideas may be subjective or objective, first person or third person, innovative or imitative and profitable or not.

2.4 DIFFERENT TYPES OF VENTURE IDEAS

When talking about venture ideas, many people would think that these ideas are only about products or services. In reality this is not the case. Venture ideas can take on other forms over and above those of products or services. The question of what entrepreneurs introduce to the market can ideally be answered by using the typology of innovation introduced by Schumpeter (1934) almost 75 years ago. This typology of innovation tells us that there are different types of venture ideas. Schumpeter (1934) suggests that the economic growth of a country could be achieved through creative destruction by introducing various innovative combinations to the market. They include (p. 66):

1. The introduction of a new good – that is one with which consumers are not yet familiar – or a new quality of a good.
2. The introduction of a new method of production that is one not yet tested or experienced in the branch of manufacture concerned, which need by no means to be founded upon a discovery scientifically new, and can also exist in a new way of handling a commodity commercially.
3. The opening of a new market that is a market into which the particular branch of manufacturer of the country in question has not previously entered, whether or not this market existed before.
4. The conquest of a new source of supply of raw materials or half-manufactured goods, again irrespective of whether this source already exists or whether it has first to be created.
5. The carrying out of a new organization of any industry, like the creation of a monopoly position (for example through trustification) or the breaking up of a monopoly position.

Thus, entrepreneurs could introduce different kinds of venture ideas ranging from new products/services, new methods of production, access to new markets/ customers, new sources of supply and new ways of organising. This observation can be further verified through inspecting the definitions for opportunity provided by prominent scholars in the field (e.g., Casson, 1982; Shane, 2003; Shane & Eckhardt, 2003; Shane & Venkataraman, 2000; Venkataraman, 1997). As mentioned above, Casson (1982) defines entrepreneurial opportunities as those situations in which new goods, services, raw materials, and organising methods can be introduced and sold at a cost that is greater than their cost of production. This definition clearly demonstrates that venture ideas are not limited to products and services but can also include raw materials and organisational methods etc. However, it is important to note that venture ideas are not confined only to the *new ideas* as portrayed by Schumpeter and others. They can also take *imitative* forms (Aldrich & Martinenz, 2001; Samuelson & Davidsson, 2009). With regard to imitative venture ideas, Aldrich and Martinenz (2001) assert that the majority of entrepreneurs introduce imitative venture ideas compared to the innovative ideas supported empirically by, for example, Samuelson and Davidsson (2009).

Although venture ideas could take on different forms such as that of the product, process, market and so forth, some empirical evidence suggests that there is

an uneven distribution of venture ideas undertaken by entrepreneurs (Ruef, 2002; Samuelsson & Davidsson, 2009). Ruef (2002) found that the most common type of venture ideas undertaken by entrepreneurs are the introduction of new products/services and tapping into new markets. Other forms of venture ideas such as developing new production processes, introducing new raw materials, and coming up with new ways of organising methods are less common among entrepreneurs. In addition, some research indicates that entrepreneurs who start new firms usually prefer to introduce new products or services while existing firms are more likely to introduce other types of venture ideas – methods of production, markets and organisational methods (Baron & Shane, 2005). However, further research is needed to resolve why some venture ideas are more common than others among entrepreneurs and why new firms prefer to introduce mainly new products and services while existing firms are likely to follow other forms of venture ideas.

2.5 VENTURE IDEA NOVELTY

In entrepreneurship research, some argue that in most industries smaller firms are more innovative than larger firms (Acs & Audretsch, 2003) and that new venture creation is a source of innovation (van Praag & Versloot, 2007). Over a long period of time, the scholarship of entrepreneurship view has been that entrepreneurship is intertwined with innovation, newness or novelty in the form of new products, new processes, and new markets etc. (Ireland, et al., 2003; Lumpkin & Dess, 1996; Sharma & Chrisman, 1999). Some scholars tend to conclude that newness or novelty is nothing but an innovation (Johannessen, Olsen, & Lumpkin, 2001). Different terms are found in the literature analogous to the term novelty. Accordingly, terms such as *newness, invention, innovation, and innovativeness* are frequently found in entrepreneurship and innovation literature (e.g., Johannessen, et al., 2001). The question that then arises is what do all of these terms mean? Furthermore, is there any difference between these terms? The following is an attempt to clarify this.

2.5.1 INVENTION

Invention refers to the development of a new idea or an act of creation (Ahuja & Lambert, 2001). According to the Oxford English Dictionary, this refers to the action of creating or designing a new device, process etc. Thus, invention is the creation or formulation of a new idea for a product or a process that has never been made or used before by anyone else. For example, the discovery of a medicine for AIDS will be an invention. Likewise, the discovery of the telephone by Alexander Graham Bell was an invention. Inventions can be patented in order to eliminate the risk of being copied by others. They can either be commercialised or can be retained by the inventor without ever being used.

2.5.2 INNOVATION

OECD (2005) defines innovation as the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations. Damanpour and Wischnevsky (2006) define innovation as the development and use of new ideas or behaviours in organisations. They further assert that innovation is the invention of ideas and its conversion to a useful application. Thus, innovation goes beyond the invention. It is a combination of invention and the exploitation of it. The invention process creates a new idea and gets it to work; the exploitation process develops and disseminates the innovation commercially. For example, while Alexander Graham Bell's telephone is an invention, the introduction of the telephone to the market for communication purposes is an innovation. Thus, invention is the first occurrence of an idea for a new product or process, while innovation is the first attempt to carry it out in practice (Acs & Audretsch, 2003).

2.5.3 INNOVATIVENESS

Innovativeness is a measure of the degree of newness of a new product, service or idea (Garcia & Calantone, 2002). Therefore this term is used to refer to the degree of newness or novelty. Garcia and Calantone (2002) assert that highly innovative products are seen as having a high degree of newness and low innovative products sit at the opposite extreme of the continuum.

2.5.4 NEWNESS

Damanpour and Wischnevsky (2006) assert that newness is a property in all definitions of innovation. In Garcia and Calantone's (2002) view, newness is the degree of innovativeness of a product, service or idea. The term *newness* is popular in the literature on new product development. According to Danneels and Kleinschmidt (2001), the newness of a firm can be interpreted from two perspectives – the producer perspective and the customer or market perspective. From the market point of view the newness is the degree to which a new product is perceived by potential adopters to be unrelated to their present systems, needs, and norms (Rogers 1995). From the point of view of a firm, the newness is the degree to which a new product is perceived as a departure from the firm's present systems, resources, and capabilities (Rogers, 1995). According to Blyth (1999), the terms *newness* and *novelty* are used as synonyms.

Ultimately, it can be concluded that terms like *newness*, *novelty* and *innovativeness* are used interchangeably. They portray a specific characteristic of venture ideas. However, in some situations, the term *newness* is used to indicate a *firm's freshness to the market* (Stinchcombe, 1965). Given the dual meaning of the term, it is advisable to use *novelty* to refer to the main concept in this study (Amason, et al., 2006). Therefore, this study hereinafter uses the term *novelty* to refer to the degree of innovativeness of venture ideas. If we delve more into the meaning of the concept novelty, Daneels and Kleinschmidt (2001) define novelty from the customer and producer perspective. Novelty to the firm refers to the degree of similarity between the new product and those already marketed by the firm. Novelty to the customer refers to the extent to which the new product is compatible with the experiences and consumption patterns of potential customers. Song and Montoya-Weiss (1998) define novelty as to the degree of familiarity with the new product, as well as the related technologies and target market. Blythe (1999) defines novelty as the degree to which a given product is outside the observer's experience. Thus, for the purpose of this study, novelty is expressed in terms of the firm's perspective and is defined as *the degree to which a venture idea is perceived by firm founders as new to the served market*.

2.6 TYPES OF NOVELTY

In line with Schumpeter (1934), it was noted earlier that venture ideas could take on different forms: new products/services; processes; tapping into new markets; and organisational methods. The innovation literature indicates four types of innovations based on these forms of venture ideas, namely: product innovation; process innovation; marketing innovation; and organizational innovation.

2.6.1 PRODUCT INNOVATION

When a firm introduces a product or service that has not been previously supplied by others to the market, it is referred to as product innovation. Product innovation includes the introduction of both products and services. According to Damanpour and Gopalakrishnan (2001) the purpose of the introduction of product innovation is to meet market demand or the needs of external users. Accordingly, product innovation has a market focus and is primarily customer driven. Product innovation can include totally new or substantially improved products or services (OECD, 2005). Different organisational skills are required to adopt product innovation such as an assimilation of customer needs patterns, design, and the manufacture of the product (Damanpour & Gopalakrishnan, 2001).

2.6.2 PROCESS INNOVATION

Organisations introduce various new processes to facilitate firms' operations. Process innovation is defined as the introduction of new elements into an organisation's production or service operations (Damanpour & Gopalakrishnan, 2001). Thus, process innovation includes the introduction of tools, devices, and knowledge in throughput technology that mediate between inputs and outputs. While product innovations are basically customer driven, process innovations are internally focused and primarily efficiency driven. Process innovations can be intended to decrease the unit costs of production or delivery, to increase quality, or to produce or deliver new or significantly improved products. Like product innovations, process innovations are required to adopt different organisational skills. Thus, process innovation requires firms to apply technology to improve the efficiency of product development and commercialisation (Damanpour & Gopalakrishnan, 2001).

Technology innovations also come under the heading of process innovations (Tushman & Anderson, 1986).

2.6.3 MARKETING INNOVATION

The ultimate objective of marketing is to achieve profit through the satisfaction of customers (Javoski & Kohil, 1990). Hence, marketers develop and implement their marketing mix strategies to serve the market better than their competitors. Marketing innovation is the search for new markets, segments and niches and the implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing (Atuahene-Gima, 1995). This is aimed at better addressing customer needs, opening up new markets, or newly positioning a firm's product on the market, with the objective of increasing the firm's sales.

2.6.4 ORGANISATIONAL INNOVATION

Organisational innovation involves the creation or alteration of business structures, practices, workplace organisation and external relations (Damanpour, 1991). Through the implementation of organisational or administrative innovations, organisations promulgate fresh rules and procedures, change roles and structures, and establish new relationships. This also includes the relationships among people who interact to accomplish a particular goal or task in a firm (Naveh, Meilich, & Marcus, 2006). Organisational innovations can be intended to increase a firm's performance by reducing administrative costs or transaction costs and improving workplace satisfaction (and thus labour productivity).

2.7 DEGREES OF NOVELTY

Innovation and entrepreneurship literature discuss not only the different types of novelty but also different degrees of novelty. Amason et al. (2006) state that every new venture represents some types of innovation. Since no firm provides a perfect substitute over the products/services of other firms, each firm offers some degree of novelty in terms of either the customer or producer perspective. Literature on innovation and new product development provide different degrees of novelty which

range from imitation to innovation (Aldrich & Martinez, 2001; Samuelsson & Davidsson, 2009), incremental to radical innovations (Dewar & Dutton, 1986), me too to the new to the world (Gaglio, 2004), and competence enhancing to competence destroying (Tushman & Anderson, 1986). These can, on the other hand, be placed along a continuum (Aldrich & Martinez, 2001; Amason, et al., 2006). Accordingly, intermediate degrees of novelty can be placed between two ends of the continuum. The following section provides a brief account of these degrees of novelty.

2.7.1 INNOVATION AND IMITATION

Entrepreneurs could basically access a market in two different ways. According to Schumpeter's (1934) creative destruction ontology, entrepreneurs could enter into the market as pioneers by introducing different types of new combinations such as new products/service, new production methods, new markets, new supply sources and a reorganisation of industries. Alternatively, according to Kirzner (1973) entrepreneurs could enter into a market as competitors by providing different goods and services that are, however, similar to that which others have already supplied to the market. Thus, Schumpeter's entrepreneurs can be regarded as innovators while Kirzner's entrepreneurs are imitators or reproducers. Innovators provide customers with new experiences about new products and services creating new demands while imitators provide consumers with new choice alternatives through differentiated products (Davidsson, 2004). Both types of offerings are important for the wealth creation of firms.

Based on the Schumpeterian and Kiznerian ontology, Samuelson and Davidsson (2009) argue that an innovative venture idea is the result of a creative change while an imitative venture idea is the result of an optimising change. "Creative change is characterized as periodic discontinuities as opposed to the optimizing change that involves development inside a given means-ends framework" (Samuelson & Davidsson, 2009, p. 231). According to Aldrich and Martinez (2001), innovative organisations' routines and competencies vary significantly from those of existing organisations. However, they are also slightly varied from those of existing organisations in imitative organisations. When compared to imitators, innovators face high uncertainty in the market (Dahlqvist, 2007). On the other hand, innovators

can enjoy certain monopolistic and first mover benefits (Lieberman & Montgomery, 1988; Schumpeter, 1934), while imitators can enjoy readily available markets with familiar customers (Davidsson, 2004). Similarly, even though innovators bring radical changes to the market, imitators bring little or no incremental knowledge to the market (Aldrich & Martinez, 2001). However, a majority of entrepreneurs in the real business world are imitators (Aldrich & Kenworthy, 1999; Samuelsson & Davidsson, 2009). Samuelson (2004) empirically examined the innovative and imitative venture idea and found that the venture creation process is vastly different for the two types of ideas (cf. Samuelson & Davidsson, 2009).

2.7.2 RADICAL INNOVATION AND INCREMENTAL INNOVATION

Some researchers explain the degree of novelty in terms of a spectrum ranging from radical to incremental innovation (Dewar & Dutton, 1986). Incremental innovations are considered as the most elementary form of innovation and are minor improvements or simple adjustments in current technology (Dewar & Dutton, 1986). Sustaining innovations is an alternative name to refer to incremental innovation (Ireland et al., 2003). In contrast, radical innovations are regarded as fundamental changes that represent revolutionary changes in technology and represent clear departures from existing practices (Dewar & Dutton, 1986). Terms such as *disruptive, revolutionary*, *discontinuous*, and *breakthrough* may be used for this innovation. Schumpeter's innovations are nothing but radical innovations while Kizner's imitations can be regarded as incremental innovations (Smith, et al., 2009). However, this dichotomy of innovation is most relevant to technological innovations. According to Gatington, Tushman, Smith and Anderson (2002) incremental innovations help to improve efficiency, quality or price/performance in an industry's existing products/services or processes, while radical innovations advance the price/performance frontier by much more than the existing rate of progress. Ireland et al. (2003) assert that incremental innovations are critical to sustaining and enhancing shares in mainstream markets and focuses on improving existing products and services to satisfy ever-changing customer demands. They help incumbent firms to earn higher margins by selling better products to their best customers. On the other hand, radical innovations serve as the basis for future technologies, products, services and industries and represents a new paradigm that can generate new wealth

(Christensen, 1997). Further, radical innovations drive major waves of growth in a variety of industries and frequently surprise market leaders (Schumpeter, 1934). Moreover, they cause an elimination of obsolete goods and services and production methods from the operations of a firm.

2.7.3 COMPETENCE ENHANCING AND COMPETENCE DESTROYING INNOVATION

Quite distinct from the incremental and radical dimension, Tushman and Anderson (1986), distinguished between the types of innovations that build on existing competencies versus those that destroy existing competencies. Schumpeter (1934) emphasised that technological change is the main driver for creative destruction and technological discontinuities are the common denominator of the changes brought about by creative destruction. Tushman and Anderson (1986) claim that technological changes can sometimes make firms or industries better at what they are already doing. On the other hand, they can sometimes make firms or industries worse at what they are doing (cf. Baron & Shane, 2005). The former is related to competence enhancing and the latter is competence destroying. Competence-enhancing innovation builds upon and reinforces the existing competencies, skills, and know-how of firms and industries while competence-destroying innovation obsolesces and overturns existing competencies, skills, and know-how (Tushman & Anderson, 1986). Competence-destroying innovation requires new skills, abilities, and knowledge in the development and production of a product or service. They fundamentally alter the set of relevant competences required of an organisation and subsequently put the existing innovations at a disadvantage (Aldrich & Martinez, 2003). The introduction of Compact Disk (CD) players was a competence destroying innovation that has totally devastated the Video Cassette Recorder (VCR) industry. Competence-enhancing innovations involve substantial improvements in price/performance that build on existing routings and competencies within a product class and can be adopted by existing organisations (Abernathy & Clark, 1985). Such innovations substitute older technologies, yet do not render obsolete skills required to master the old technologies. However this competence-anchored innovation characteristic is independent of the radical/incremental dimension – for example, some radical innovations are competence destroying, while others are competence enhancing (Gatington, et al., 2002).

2.8 RELATEDNESS

Relatedness can be defined as the contextual fit between individuals and venture ideas (Davidsson, 2004). According to Shane and Venkataraman (2000), entrepreneurship involves the combination of two phenomena, namely the presence of venture ideas and the presence of enterprising individuals acting upon those ideas. Given this setting, entrepreneurship is defined as the nexus between the individual and opportunity or venture idea. The phenomenon of the nexus between the individual and the opportunity is rooted in the dispersion of knowledge (Dew, Velamuri, & Venkataraman, 2004; Sarasvathy, et al., 2003; Venkataraman, 1997). Hayek (1945) asserts that no two individuals share the same knowledge or information about the economy, and consequently there is an uneven distribution of knowledge among people and places over time. Dew et al. (2004) argue that the dispersion of knowledge leads to a rise in uncertainty. The uncertainty subsequently triggers a rise in venture ideas. The dispersed knowledge, along with uncertainty, contributes to economic agents having heterogeneous expectations. These heterogeneous expectations, in turn, lead to the nexus between the individual and the opportunity (Dew et al., 2004. pp. 660-661).

The phenomenon of the individual-opportunity nexus maintains that both the venture ideas and individuals are important in an explanation of entrepreneurship. Accordingly, the characteristics of individuals as well as the characteristics of venture ideas should be taken into account in such an endeavour. As stated in Chapter 1, early researchers on entrepreneurship focussed their attention on the characteristics of individuals in order to explain the entrepreneurial phenomenon. However, the new framework – the individual opportunity nexus – emphasises that both venture ideas and individuals have roles in entrepreneurial actions. Highlighting the importance of venture ideas, Short et al. (2010) argue that even though a potential entrepreneur can be immensely creative and hardworking, entrepreneurial activities cannot take place unless there is a venture idea to target these characteristics. Similarly, highlighting the presence of the individual, Shane (2003) claims that "entrepreneurship requires a decision by a person to act upon an opportunity because opportunities themselves lack agency" (p. 7). Thus, the fit between individual and venture idea (relatedness) can play an important part in the entrepreneurial process and venture performance. However, sufficient scholarly attention has not been paid to the concept of relatedness.

Despite the fact that there are no comprehensive studies on antecedents, processes and outcomes with regard to relatedness, the literature on entrepreneurship provides some instances regarding the existence of relatedness in the entrepreneurial process. An exemplar comes from Bhave's (1994) qualitative study on the new venture creation process. Bhave explains that there are two types of opportunity recognition – externally stimulated opportunity recognition and internally stimulated opportunity recognition. According to externally stimulated opportunity recognition, an individual's decision to create a venture is a consequence of the responses to individual or environmental circumstances that he/she experiences (for example, willingness to become his/her own boss, earn higher income or profit, expulsion from their present employment). Thus, the individual recognises a venture idea and starts a new venture triggered by these external reasons. In contrast, some individuals start new ventures in response to the problems they encounter when fulfilling their day to day needs. When these people encounter such problems and identify that the available products and services do not match their needs, they tend to find their home-grown solutions. Later, they often come to understand that some other people are also confronted with the same problems or needs. Thus, they decide to start-up new businesses in order to meet the demand. Their recognition of venture ideas is thus triggered by the problems they faced and this is referred to as internally stimulated opportunity recognition. In this case, they first identify the venture idea and then start their venture contrary to the procedure adopted by the externally stimulated opportunity recognisers. The decision to start a new business and an identification of a venture idea may be related to the individual's knowledge, motivation or the availability of resources. Thus, internally stimulated opportunity recognition clearly portrays the fit between the individual and the venture idea operationalised in the scenario of the venture creation process.

Sarasvathy's (2001) effectuation theory provides another instance demonstrating the individual – venture idea nexus. Sarasvathy argues that venture start-ups have two different modes of reasoning: causal reasoning and effectual reasoning. According to the former, an entrepreneur starts his/her business with a pre-determined goal/s and then assembles and commits resources to start the business to achieve these goals. In this process, the entrepreneur plans, organises and controls the process with a given set of resources by following orthodox business practices that are illustrated in text books. Alternatively, Sarasvathy argues that an

entrepreneur does not come up with a specified goal/s to the entrepreneurial arena as a causal entrepreneur; instead the individual starts the venture based on what he/she possesses at the time of starting. Then, the entrepreneur allows goals to emerge contingently over time from a variety of imaginations. This reasoning is termed effectual reasoning and is contrary to conventional venture creation practices. Thus, as per effectuation theory, people start their businesses and identify (or create) venture ideas based on what they *possess at hand*. This situation also reflects the fit between an individual and the venture idea that exists in the venture creation process.

Both of the above situations demonstrate that the individuals' knowledge and other resource endowments have a close association with venture ideas. Therefore, the following section is devoted to a further discussion about how existing knowledge and resource positions of individuals are associated with venture ideas. I call these categories 'knowledge relatedness' and 'resource relatedness' respectively.

2.8.1 KNOWLEDGE RELATEDNESS

Knowledge is an important and a central resource for entrepreneurial firms (Alvarez & Busenitz, 2001). According to Drucker (1985) knowledge is the most important resource of a firm and a source of competitive advantage. Grant (1996) asserts that the services rendered by tangible resources depend on how they are combined and applied, which is in turn a function of the firm's know-how (i.e., knowledge). As modern societies are basically knowledge-based ones, the knowledge resource has been at the forefront among resources. In general terms, knowledge is defined as "the understanding, awareness, or familiarity acquired through study, investigation, observation, or experience over the course of time" (Bollinger & Smith, 2001; p. 9). According to the theory of knowledge management knowledge is described as "a state or fact of knowing" with knowing being a condition of understanding gained through experience or study; the sum or range of what has been perceived, discovered, or learned (Alavi & Leidner, 2001). To a firm, knowledge is defined as what people know about customers, products, processes, mistakes, and successes (Bollinger & Smith, 2001). In a similar vein, West and Noel (2009) refer to knowledge as an understanding of how to start up new organisations, how to manage people and processes, how to attain a growth and competitive position, and how to stage technology and new product development. Knowledge is

described on a continuum between explicit and tacit (Nonaka, 1991). Explicit knowledge is clearly formulated or defined, easily expressed without ambiguity or vagueness, and codified and stored in a database. Tacit knowledge is the unarticulated knowledge that is in a person's head that is often difficult to describe and transfer (Bollinger & Smith, 2001). It is generally acquired by experience and by learning by doing. Generally tacit knowledge refers to know-how and explicit knowledge refers to know-what (Davidsson & Honig, 2003). Gupta and Govindarajan (2000) refer to these two dimensions as procedural knowledge and declarative knowledge. Procedural knowledge is virtually tacit knowledge whereas declarative knowledge refers to explicit knowledge. Knowledge can be ascertained through education, experience, training, observation, and experiments over the course of time (Shane, 2000; Shepherd & DeTienne, 2005).

According to Hayek (1945) people are different in terms of the knowledge they possess. He asserts that no two individuals share the same knowledge or information about the economy. As people's life experiences, networks, ties, education, job experiences etc. are different from each other people build up different levels of knowledge over others. This idiosyncratic knowledge of individuals allows some people to identify venture ideas while others cannot. Ronstadt (1988) argues that individuals' idiosyncratic prior knowledge creates a "knowledge corridor" that allows them to recognise venture ideas while others cannot. Fiet (1996), drawing from information economics, claims that the most valuable venture ideas are those for which individuals have an informational advantage. *The association between individuals' knowledge and venture ideas can be referred to as knowledge relatedness*. Several studies have identified the fact that individual's prior knowledge has a close association with the identification of venture idea (Ardichvilli et al., 2003; Shane, 2000; Shepherd & DeTienne, 2005). Shane (2000), building on case study evidence regarding the innovation of three dimensional printing, identified that entrepreneurs discover venture ideas related to the knowledge they already possess. He argues that people have different stocks of information earned through education, experience or other means. These influence the entrepreneur's ability to comprehend, extrapolate, interpret, and apply new information in a manner that those lacking this prior information cannot replicate. He set forth three major dimensions of prior knowledge that are important to the process of entrepreneurial discovery: markets, ways to serve markets, and customer problems. Following Shane (2000) several

other scholars have studied how knowledge is related to venture ideas. For example, Shepherd and DeTienne (2005) find that the prior knowledge of individuals has an effect on the identification of more venture ideas as well as on innovative venture ideas. Similarly, Ucbasaran, Westhead and Wright (2007) reveal that the identification of more venture ideas is fuelled by knowledge resulting from the prior entrepreneurial experience and education of entrepreneurs. According to Fiet (2002) prior knowledge is the most important determinant of the identification of innovative venture idea. Cliff, Jennings and Greenwood (2006), claim that founders who possess tacit knowledge in terms of experience have an impact on the identification of more innovative ideas. Finally, Wiklund and Shepherd (2003), focusing on procedural knowledge, state that knowledge about markets and technology potentially has a strong ability to identify and exploit these venture ideas.

McMullen and Shepherd's (2006) two stage model further explains the relationship between knowledge and venture ideas. They argue that the entrepreneurial action of individuals depends on two main considerations: (1) the amount of uncertainty perceived by individuals and, (2) the willingness to bear uncertainty by individuals. The amount of uncertainty perceived by entrepreneurs is reflected by their knowledge, and willingness to bear uncertainty is reflected by the motivation of individuals. In the first phase of this model, individuals use their knowledge concomitantly with a motivation to recognise opportunities for anyone (third person opportunities). In the second phase, individuals use their expertise knowledge and motivation to evaluate opportunities for themselves (first person opportunities). In both phases of entrepreneurial actions, knowledge of individuals is the central focus for both the recognition and evaluation of venture ideas.

Even though knowledge is an important resource for a firm as it greatly affects the discovery of venture idea and, therefore, overcomes the uncertainty of decision making nevertheless the impact of the fit between knowledge and venture ideas (knowledge relatedness) on the venture creation process and performance still remains unexplained.

2.8.2 RESOURCE RELATEDNESS

Apart from knowledge resources, other resources – namely physical and financial resources – play an important role in the entrepreneurial process. Resources

are considered to be an integral part of entrepreneurship and are often the building blocks of an organisation (Brush et al., 2008, Katz & Gartner, 1988). Moreover they are the inputs into the firm's entrepreneurial processes and include all assets, capabilities, organisational processes, firm attributes, information, and knowledge. According to Barney (1991), resources are inputs controlled by a firm that enable the firm to conceive and implement strategies that improve efficiency and effectiveness. The creation of new organisations requires the "marshalling" or "harnessing" of resources (Brush et al., 2008). These resources are then used, combined, and coordinated into the production activities of the new organisation.

The resource position of individuals has a close association with venture ideas. Thus, *the fit between the individuals' resource position and venture idea is referred to as resource relatedness*. In connection with the existence of venture ideas, Shane and Venkataraman (2000) argue that entrepreneurial opportunities exist primarily because different agents have different beliefs about the relative value of resources when they are converted from inputs into outputs. Similarly, Katz and Gartner (1988) state that the nature of the venture idea is one of the factors that determine the direction and process for acquiring and assembling resources by a firm. In a similar vein, Brush, Greene and Hart (2001) assert that resource choices of a firm must fit with the venture idea, if not it causes a waste of other productive resources as well. More than thirty-five years ago Kirzner (1973) argued that the idiosyncratic resource position of the individual in terms of alertness is important in the recognition of the overlooked venture idea. As indicated earlier, Sarasvathy's (2001) effectuation theory proposes a high degree of relatedness between venture ideas and the resource position of individuals. Sarasvathy argues that effectual entrepreneurs begin with three categories of means in entering into entrepreneurial scenario: (1) Who they are – their traits, tastes, and abilities; (2) What they know – their education, training and experience; and (3) Who they know – their social and professional networks. Indeed, these journalistic questions are concerned with the intellectual, human and social capital of individuals at the time when their imagination is about to form a new venture. Based on these resources, individuals imagine what to sell, how to sell, and who to sell to.

With the importance of resources in the entrepreneurial process, recent research has concentrated on how firms can run with resource constraints. Since resources are inherently scarce, entrepreneurs have to pay attention to the ways in

which they can deal with resource constraints. Accordingly, entrepreneurship research has focused its attention mainly on how entrepreneurs deal with and face problems and opportunities through bricolage, which explicates ways of making do by applying combinations of the resources at hand (Baker & Nelson, 2005).

As with knowledge relatedness, the impact of resource relatedness on venture performance is yet unexplained.

2.9 ATTRACTIVENESS OF VENTURE IDEAS

"[T]here are so many opportunities out there, oh, so many ... every time an opportunity comes along, I think I'm supposed to take advantage of it. So I get lost, who knows where, until it becomes apparent that I have no experience to know how to make it happen, no base of knowledge. So I see lots of opportunities every time I turn around, but I [tell myself] that's not where you belong ..." (Bhave, 1994. p. 229).

The above excerpt is a view of one of the entrepreneurs who participated in Bhave's (1994) qualitative study on the new venture creation process. It reveals that there are a vast number of venture ideas available out there that can potentially be pursued by entrepreneurs to start new ventures. Venture ideas generally arise out of employment experience, education expertise, hobbies, social encounters, family and friends, pedestrian observation or serendipity etc. (van der Veen & Wakkee, 2004). As noted elsewhere in this chapter, they can take different forms such as new products, services, method of production, new organisation methods and tapping into new markets and so forth. Entrepreneurs initially imagine or come up with a number of rough ideas concerning the business landscape (Bhave, 1994). Once the decision is made to start a new venture, the entrepreneur eliminates inappropriate venture ideas through an evaluation process. According to Bhave's terminology there is a filtration of opportunities from those recognised and the individual then chooses one or a few for committed pursuit. In choosing a venture idea from the vast number of ideas available, entrepreneurs pay utmost attention to choosing a valuable opportunity that gives maximum returns and competitive advantages (Ireland, et al., 2003). The selection of a valuable opportunity may not be a trivial task and entrepreneurs are required to evaluate the merits and demerits of these and subsequently to pursue the ones that hold promise and abandon those that lack promise (Dimov, 2010). The theory holds that entrepreneurs should persist with

venture ideas that remain attractive. Empirical studies indicate that all types of venture ideas are not equally pursued by entrepreneurs. For example, Ruef (2002) observes that there is an uneven distribution of venture ideas undertaken by a group of entrepreneurs in the USA. The majority of entrepreneurs have introduced either a new product/service or are accessing a new market. A relatively small percentage of entrepreneurs have introduced a new; method of production; organising method; or distribution method. Similarly, Samuelson and Davidsson (2009) note that the majority of entrepreneurs introduce imitative venture ideas in relation to innovative venture ideas (cf. Aldrich & Martinenz, 2001). This implies that some forms of venture ideas are more attractive or valuable than others. Regrettably, there is no additional information regarding why some forms of venture idea are more common than others. Thus, what makes venture ideas more attractive among entrepreneurs may be an important issue in entrepreneurship research that is still to be resolved.

This study presumes that two types of factors have an effect on the attractiveness of venture ideas: (a) the characteristics of the individual; and (b) the characteristics of the venture ideas themselves. As regards the individual characteristics, different career reasons that entrepreneurs demonstrate and perceived desirability and perceived feasibility that an entrepreneur exhibits in creating new ventures give some insights into the attractiveness of venture ideas.

It is important to note that attractiveness is related to first person opportunities rather than third person opportunities (cf. McMullen & Shepherd, 2006). That is, the entrepreneur's evaluations of venture ideas are not focused on whether the opportunity is 'attractive to someone', but instead are focused on whether the venture idea is 'attractive to me' (Haynie, Shepherd, & McMullen, 2009).

2.9.1 CAREER REASONS

Drawing insight from the literature on the career choices of entrepreneurs, we can explain why certain entrepreneurs select particular venture ideas while others do not. Literature provides a long list of career choices. For example, Birley and Westhead (1994) assert that the need for approval, need for independence, need for personal development, welfare considerations, perceived instrumentality of wealth, tax reduction, and the following of role models are the main reasons for career

choice. Similarly, Carter, Gartner, Shaver and Gatewood (2003) provide a set of reasons for the career choices of individuals: self-realisation, financial success, roles, innovation, recognition, and independence. These studies argue that the selection of a particular venture idea is hinged on the achievement of career needs. For example, a person who has a need for innovation chooses an innovative venture idea so as to fulfil their need. Similarly, a person who wants to achieve financial success selects a venture idea that has high expected value. Furthermore, if a person wants to follow a role model, they select a venture idea that their parents have followed in the past. Likewise, entrepreneurs select venture ideas that are aligned with what they want to achieve in running a business.

2.9.2 PERCEIVED DESIRABILITY AND PERCEIVED FEASIBILITY

Kruger (1993) asserts that people choose to become entrepreneurs on the basis of the perceived desirability and perceived feasibility of the new venture opportunity perceived. Perceived desirability is the personal attractiveness of starting a business including both intrapersonal and extra personal impacts. It is the degree to which one feels personally capable of starting a business and is based on attitudes to income, autonomy, risks and other intrinsic costs and benefits (Douglas & Shepherd, 2002). Accordingly, venture ideas that give high returns (and low costs) are selected by firm founders.

On the other hand, perceived feasibility is the perceived ability and confidence of individuals to execute a task. Bandura (1977) refers to this as *self-efficacy*. This reflects the perception of skills and abilities to do a particular job or set of tasks. High self-efficacy leads to increased initiative and persistence and thus subsequent performance. Individuals develop and strengthen beliefs about their efficacy in four ways: (1) the mastery of experiences (or enactive mastery), (2) social persuasion, (3) role modelling and vicarious experience, and (4) judgments of their own physiological states (Bandura, 1977; Boyd & Vozikis, 1994). Therefore, people who demonstrate high self-efficacy for a particular type of venture through their experience, education or entrepreneurial parents eventually select that particular venture idea. Dimov (2010) asserts that an opportunity feasibility belief and start-up self-efficacy determine confidence about a particular venture idea among the venture ideas to be considered. Thus, entrepreneurs evaluate opportunities and abandon those

opportunities that lack promise and persist with those that remain attractive based on the opportunity feasibility belief and feasibility of self-efficacy.

Furthermore, according to Kruger (1993), the opportunity desirability of an individual is determined by the intrinsic rewards involved with opportunities. This means that the *expected values* associated with the venture ideas have an effect on the attractiveness of the venture ideas themselves. Venture ideas differ with respect to their expected values. For example, the establishment of a new university has a greater expected value than launching a new book. People exploit venture ideas that have a greater expected value (Shane & Venkataraman, 2000). While its importance may not be as dominant as is assumed in basic economic theory, it is inevitable that expected value or potential financial gain acts as a motivational factor in attracting venture ideas (Baumal, 1990; Venkataraman, 1997). Shepherd and DeTienne (2005) empirically identified that potential financial gain led to the identification of more entrepreneurial opportunities. Thus, higher potential gain can be considered to be a determinant of the attractiveness of a venture idea. In contrast, some argue that entrepreneurs do not look for the business ideas that give maximum commercial profit but instead they sometimes look for ideas where they can leverage their own unique interests and skills (Davidsson, 2008).

2.10 CHAPTER SUMMARY

This chapter presented a review of the literature concerning the main constructs of the study. The chapter began with a description of new venture creation and presented its important characteristics, focussing more attention on its process perspective. The chapter consequently discussed venture ideas covering their importance, nature, and different types. In this section, the term *venture idea* was introduced to imply opportunity. This was followed by a discussion on the construct of novelty. In this delineation, different types as well as different degrees of novelty were presented. The next section focused on the concept of relatedness. After a brief discussion on the existence of relatedness in firms, particular attention was paid to the discussion of knowledge and resource relatedness, whilst gaining insight from the works of Shane (2000) and Sarasvathy (2001), in particular. The last part of the chapter was devoted to a discussion on the attractiveness of venture ideas. Different personal and idea characteristics that affect this attractiveness were delineated.

Chapter 3: The Development of the Theoretical Model and the Specification of Hypotheses

3.1 INTRODUCTION

This chapter presents a theoretical model for Study 2 and specifies the hypotheses to be tested. The chapter begins with a brief description of the variables associated with the study and their probable pattern of behaviour. Subsequently, it suggests a basic conceptual model showing different relationships and directions among the variables. Next, the chapter presents the hypotheses that were developed based on the theory and research in a variety of areas such as innovation, new product development, liability of newness, legitimacy, and resource based view as well as the knowledge based view of the firm. The chapter finally presents a more comprehensive conceptual model for the study.

3.2 THE THEORETICAL MODEL

As emphasised in Chapter 1, the previous research on entrepreneurship has largely relied on the characteristics of individuals (Davidsson, 2004; Shane & Venkataraman, 2000). At the same time, they were mostly based on ventures that have already been established (Low & MacMillan, 1998). However, contemporary research emphasises that individual characteristics and the characteristics of venture ideas as well as their contextual fit should be taken into consideration. Furthermore, influential scholars in this field assert that the entrepreneurship research should focus on the emergence or early stages of the venture development process rather than investigating already established start-ups (Davidsson, 2004; Gartner, 1988; Shane, 2003; Shane & Venkataraman, 2000). In line with these suggestions, this study's main focus is on an investigation of how the characteristics of venture ideas in terms of novelty and relatedness affect performance of the early stages of the venture creation process. In this investigation, it also considers how individual characteristics affect performance concomitantly.

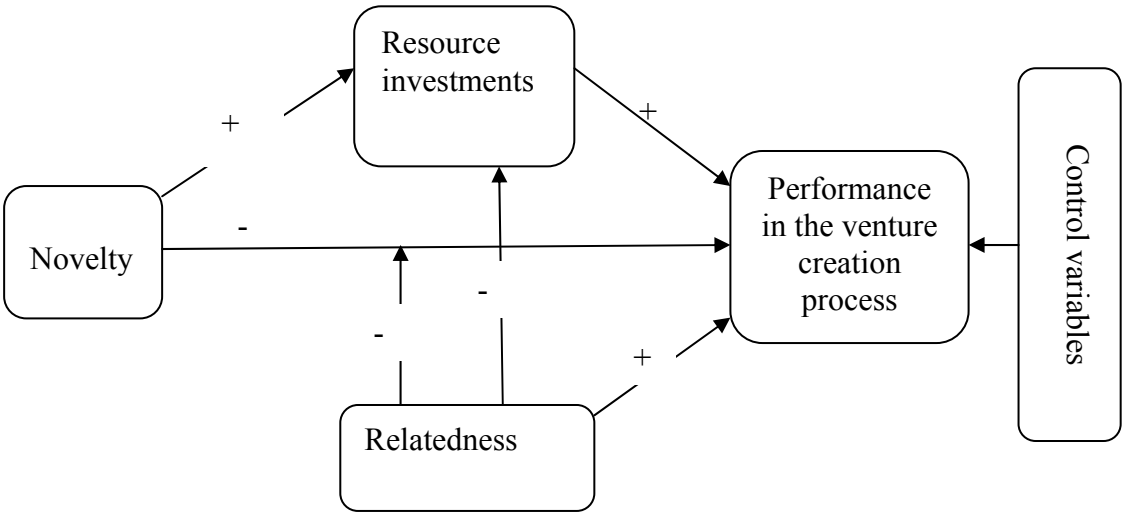
In the proposed theoretical model, the novelty and relatedness represent the main independent variables. Venture outcomes or performance in the venture creation process act as the dependent variable. As the novelty is usually considered to be fraught with different adversities such as uncertainty, risk or complexity it is anticipated to have a negative direct relationship with the venture performance[6]. On the contrary, the relatedness is assumed to have a positive direct relationship with the venture performance on the premise that it facilitates the venture creation process. Furthermore, it is well documented that innovative efforts are usually encompassed with more financial benefits to the founder. At the same time, as stated above, it is replete with certain adversities. These circumstances entice and demand for more investment of money and time for the implementation of innovative venture ideas. This new outlook prompts the establishment of new relationships with the novelty and investment of resources and the assumption that novelty is positively related to the investment of resources. This new variable is further expected to have a positive impact on emerging venture performance. With the inclusion of the variable investment of money and time to the model, another relationship can be specified with the relatedness. Accordingly, this study has established that there is a negative relationship between the investment of time and money and relatedness on the premise that investments of money and time become less needed when a high relatedness existed in firms. Furthermore, it is expected that this relatedness will act as a moderator to the relationship between novelty and venture performance.

The indicators of performance in the venture creation process used in this study are different from traditional measures such as sales growth, employment growth, and return on investments that are used to measure the outcomes of established ventures (Chandler & Hanks, 1993). As this study focuses on the performance of nascent ventures, it was decided to use four different outcome measures as dependent variables. Thus, making progress, getting operational, being terminated and achieving positive cash flow will be the different outcome variables of the model. Moreover, a number of control variables that represent the industry,

[6] The new venture performance here is interpreted in terms of favourable outcomes for the venture (for example, getting operational, achieving positive cash flow etc.). If it were interpreted the other way round (unfavourable outcomes, such as getting terminated), the opposite relationship would be expected.

venture type and human capital are introduced to the model on the presumption that they would also affect the venture performance. Human capital variables on the other hand represent individual characteristics that are taken into account in this study. As a whole, the theoretical model suggested by this study comprises the direct, indirect and contingency relationships among variables. Figure 3.1 provides a graphical presentation of the above description.[7]

Figure 3.1: The basic theoretical model



3.3 SPECIFICATION OF HYPOTHESES

Based on the model presented above, the study specifies that different hypotheses be tested which represent each of the relationships between the established variables. Literature in different subject areas, for example innovation, new product development, the principle liability of newness, legitimacy, resource based view and the knowledge based view of firm are used to build-up these hypotheses. Accordingly, the remaining part of this chapter is devoted to presenting the hypotheses to be tested.

[7] A broad elaboration about these relationships and directions will be presented at the end of this chapter.

3.4 NOVELTY AND VENTURE PERFORMANCE

The creation of new venture is a challenging endeavour under any condition (Aldrich & Fiol, 1994). Venture creation is not an instantaneous and a discrete task, instead it is a human task that is conducted in what Kuratko and Hodgetts (2004) term an arena of dirt, dust, blood and sweat which means that the formation process is a rather uncomfortable endeavour. At the same time, venture gestation activities are generally carried out over years and often are done in an environment of risk, uncertainty, scarcity of resources, sceptical customers and severe competition (Amason et al., 2006). Thus, the founders of venture creation invariably grapple with different difficulties and challenges during the formation process. The severity of new venture creation is further reflected by the high rates of mortality reported in the efforts of new venture start-up. According to Aldrich (1999), almost 50 percent of new venture efforts are disbanded before reaching the market. Timmons (1999), reports that nearly 24% of new ventures fail within their first two years of operations and about 63% fail within six years. According to small business folklore, only 1 business in 10 will ever reach its tenth birthday (Bygrave & Zacharakis, 2008).

Even though all new firms face different challenges and difficulties in the venture creation process, it can be argued that they are rather pronounced and severe for firms that introduce innovative venture ideas. As innovation is believed to be fraught with circumstances such as high risk, uncertainty, liabilities of newness, and the lack of legitimacy (Aldrich & Fiol, 1994; Choi & Shepherd, 2005; Stinchcombe, 1965), innovative firms may be confronted with more difficulties and challenges than imitative ventures. When firms are replete with such adversities, we can also expect a slow pace of progress in the venture creation process or poor performance in the venture creation process. The following section elaborates on different aspects of challenges that innovative ventures are often confronted with. Consequently, the hypotheses are specified with respect to the novelty and nascent venture performance.

3.4.1 RISK AND UNCERTAINTY

Entrepreneurship is by definition a phenomenon that involves risk and uncertainty (Davidsson, 2004; Knight, 1921; McMullen & Shepherd, 2006).

According to the strategy literature, the risk-taking propensity is inextricably linked with entrepreneurs (Lumpkin & Dess, 1996). The uncertainty is believed to be harsher than the risk in terms of decision making. In a risky environment some information is available, but this information is not accessible in an uncertain environment (Knight, 1921). Therefore, according to Knight the role of the entrepreneur is to initiate uncertain investments and eventually absorb profits from that initiation. As stated by Hayek (1945) the uncertainty is a consequence of the dispersion of knowledge. This exists when knowledge is asymmetrically distributed over people, place and time. In such a situation, the future is not only unknown but also unknowable (Sarasvathy et al., 2003). Therefore, the risk and uncertainty restricts the ability of accurate prediction about the future due to the lack or absence of information about the market, customer, competitors, resources, suppliers etc.

It is acknowledged that risk and uncertainty are rather serious for innovative ventures compared to imitative ventures (Danneels & Kleinschmidt, 2001; McMullen & Shepherd, 2006; Song & Montoya-Weiss, 1998). Madrid-Guijarro, Domingo Garcia and Auken (2009) claim that firms that introduce innovative products face serious difficulties in the gathering of information. Using data from 294 small and medium sized firms in Spain, they found that innovative firms face problems in gathering information about changes in technology, markets, and government policy initiatives. Furthermore, other research indicates that the inability of collecting relevant information has adversely affected the implementation of innovative venture ideas. For example, Galia and Legros (2004) report that the lack of information on technologies, markets, and the lack of customer responsiveness have acted as the main impediments in the implementation of innovative ventures for the manufacturing industries in France. Many have emphasised the importance of marketing information in implementing innovation. For example, Ali (2000) asserts that to be successful with an innovative product, the founder should have precise information whether the product is accepted by the customer. This suggests that the founder must have a clearly defined market before introducing the innovative product/service. A number of studies have identified that the lack of customer responsiveness and other marketing related problems have hindered the implementation of innovation. For example, Galia and Legros (2004), report that almost 16% of innovative ventures in the French Manufacturing sector have suffered

from a lack of customer responsiveness. This is regarded as one of the impediments in the implementation of innovation. In addition, Tourigny and Le (2004) state that 19% of innovative firms in Canada have failed due to a lack of customer responsiveness and a lack of marketing capability in implementing innovations. As a consequence, some suggest that firms that introduce innovative products/services should make a substantial effort to acknowledge and educate inexperienced customers about the new product that they offer. This is necessary because highly innovative products may contain some incompatibilities with customers' existing ways of doing things, or may cause fear for the technological risks, reliability, or physical danger associated with new products (Ali, 2000).

3.4.2 THE PRINCIPLE OF LIABILITY OF NEWNESS

According to Stinchcombe (1965) new forms of organisations are particularly prone to various discouraging odds due to their newness[8]. New forms of ventures generally lack established track records compared to other ventures with regard to the roles, routines and competencies. At the same time they are lacking with internal efficiencies and sound relationships with different stakeholder (Delmar & Shane, 2004). Therefore, new forms of ventures are more likely to be susceptible to poor performance and failures, compared to ventures already in existence and familiar firms. Thus, innovative firms are inextricably entangled with the liability of newness.

According to the concept of liability of newness, Stinchcombe (1965) cites four underlying reasons as to why new organisations are more prone to failure: (1) the difficulties that new organisations experience in reproducing roles, settling on operating procedures, creating a culture and learning the skills; (2) the high costs (or inefficiency) associated with inventing roles and structuring relations; (3) problems inherent in establishing working relationships with strangers (particularly employees); and (4) the uncertainty associated with establishing ties to those who use the organisation's services. All in all, the liability of newness advocates that new forms of ventures are generally disadvantaged with respect to productive routines, efficiency, and the relationships with various stakeholders. According to Aldrich and

[8] Newness here refers to the emergence of a new form of organisations not of new organisations per se.

Auster (1986) this liability appears to be derived from factors that are both internal and external to the organisation. The internal obstacles are mainly concerned with management inabilities with regard to the implementation of new routings, roles and structures in cost effective and efficient ways. The external obstacles include various forms of barriers to entry, such as established organisations' brand recognition and market acceptance of unethical competitive actions, regulations, licensing and regulatory barriers, and experiential barriers depending on the degree of environmental instability (Aldrich & Auster, 1986; Choi & Shepherd, 2005).

Research indicates that all new ventures report a higher death rate than adolescent and matured firms. Carroll (1983) conducted an exhaustive study using 52 different data sets and found that organisational death rates are higher in the early years of new ventures and decline with the increase of firm age. Further, Singh, Trucker and House (1986), claim that there is a negative relationship between the organisational age and their survival, suggesting that younger firms are more prone to die than adolescent and older firms. Even though these data do not directly confirm that firm failures are due to the liability of newness, it can be assumed that it has a greater impact for the firm failure of new forms of organisations or innovative organisations in their young ages.

3.4.3 THE LEGITIMACY ISSUE

The principle of liability of newness is alternatively discussed under the issue of legitimacy of firms (Delmar & Shane, 2004; Shepherd, Douglas, & Shanley, 2000) and suggests that the legitimacy provides a means to overcome the liability of newness (Zimmerman & Zeitz, 2002). Legitimacy is described as the "extent to which a new firm conforms to recognized principles or accepted rules and standards" (Aldrich & Fiol, 1994, p. 646). According to Zimmerman and Zeitz (2002) legitimacy is considered as a favourable judgment of acceptance, appropriateness, and desirability for the firm. Legitimacy, in a broader sense, reflects the level of public knowledge about a new venture and the level of key stakeholders' acceptance of the new venture. Aldrich and Fiol (1994) mention two dimensions of legitimacy: cognitive legitimacy and socio political legitimacy. Cognitive legitimacy is concerned with the public knowledge and understanding about the new firm or

product/service whereas the socio political legitimacy is the acceptance of the firm or product/service by key stakeholders, general public and government, whether they follow the accepted norms and laws or not (Aldrich & Fiol, 1994; Shepherd & Zacharakis, 2003).

The presence of legitimacy is important for firms in many ways. As stated in Chapter 2, new venture creation is not a single event that can be conducted instantaneously; instead it involves a series of activities such as the identification of a venture idea, business concept development, obtaining inputs, hiring employees, seeking finance, gathering information etc. To perform these activities, the cooperation and strategic interactions among individuals and groups are required (Aldrich & Fiol, 1994). This suggests that new ventures should have familiarity and credibility for making interactions with the various parties that relate with and affect the venture. This then creates the legitimacy. Therefore, it helps to make interactions with different stakeholders such as suppliers, distributors, customers, employees and society (Shepherd & Zacharakis, 2003). Delmar and Shane (2004) suggest that "undertaking legitimacy activities should be the first step in the firm organizing process because obtaining legitimacy is a necessary precondition to initiating social ties with stakeholders and obtaining and recombining resources" (p. 386). Zimmerman and Zeitz (2002) regard the presence of legitimacy as a resource for gaining other resources and as a tool to mitigate odds associated with the liability of newness.

The lack of legitimacy is rather pronounced in innovative organisations. Aldrich and Fiol (1994) observe that "among the many problems facing innovative entrepreneurs, their relative lack of legitimacy is especially critical, as both entrepreneurs and crucial stakeholders may not fully understand the nature of the new ventures and their conformity to established institutional rules may still be in question (p. 645)". Galia and Legros (2004) empirically found that some legitimacy issues like legislation, regulations, norms and standards significantly contribute as impediments to the implementation of innovation.

Moreover, when compared to imitative ventures, innovative ventures face rather more difficulties and challenges in terms of learning and making relations with stakeholders. These are indeed the results of lack of legitimacy and liability of newness. According to Aldrich and Martinez (2001), routines and competencies vary

significantly for innovative firms compared to imitative firms. This implies that innovative organisations have to pay rather serious attention to the learning of new roles, settling on operational procedures, creating a culture of learning the skills, and efforts to make relationships with employees. Further, in the context of making relationships with different stakeholders, innovative ventures are less-advantaged in relation to imitative ventures. The products and services offered to the market by imitative ventures are similar to the existing products and services, which have been already supplied by other competitors (Davidsson, 2004). Therefore, customers and other stakeholders already have some knowledge about the generic benefits of the product class, methods of usage, the nature of demand and the popularity of the product. However, since an innovator provides an unfamiliar and unknown product/service to the market, the customer and stakeholders have to learn about and study the new product about which they have no prior knowledge. Therefore, in acknowledging and creating a demand for such a product, entrepreneurs have to make more effort and create more promotional campaigns than imitators. On the other hand, since resource providers have no knowledge about the feasibility and potential profitability of the innovative product, it is uncertain whether they may provide finance, supplies and other resources as they provide for already known products/services.

According to the above delineations, nascent firms that demonstrate a high degree of novelty face rather more difficulties in terms of gathering different information, obtaining the various resources needed, and making connections with different stakeholders who provide finance, supplies, and other resources in the venture creation process as a result of high risk, uncertainty, liability of newness and the lack of legitimacy. Therefore, we can expect a more difficult process of venture creation and negative affects pertaining to the probability of achieving positive outcomes[9] in the venture creation process. This leads to the following hypotheses:

H1: Novelty negatively affects the probability of achieving positive business outcomes in the venture creation process. This will be tested in the following ways:

[9] The negative effect of novelty affects the probability of receiving positive outcomes, not the possibility of high performance which may be likelier for innovative than imitative ventures.

H1a: Novelty negatively affects the new venture performance in terms of making progress.

H1b: Novelty negatively affects the new venture performance in terms of getting operational.

H1c: Novelty positively affects the new venture performance in terms of termination.

H1d: Novelty negatively affects the new venture performance in terms of achieving positive cash flow.

3.5 KNOWLEDGE RELATEDNESS AND VENTURE PERFORMANCE

As stated in the literature review chapter, individuals pursue opportunities based on the knowledge they already possess (Ardichvilli et al., 2003; Shane, 2000; Shepherd & DeTienne, 2005). The possession of a high level of knowledge obtained either externally or internally and by way of education, experience and other sources, is important for many aspects of the firms' performance. Taking insight from the resource based view, the knowledge based view, and from cognitive psychology we can hypothesise how knowledge can affect venture performance.

Knowledge is considered to be the most important resource to a firm in that it brings competitive advantage and sustained superior performance (Drucker, 1985). According to West and Noel (2009) knowledge resources provide the initial foundation for competitive advantage, because at the beginning of a venture, an entrepreneur possesses only his/ her ideas about a possible opportunity that could lead to the founding of a new venture. According to the resource based view, knowledge is regarded as a rare, valuable, inimitable and immobile resource. Therefore knowledge acts as a value creating strategy for a firm that eventually leads to a sustainable competitive advantage. The property of inimitability places knowledge as a unique resource among other resources allowing firms to gain competitive advantages (Hitt, Ireland, & Hoskisson, 2007; Wiklund & Shepherd, 2003) and a source of sustainable differentiation (McEvily & Chakravarthy, 2002). Kogut and Zander (1992) argue that knowledge can constrain and direct a firm's ability to take action and differentiate itself from its competitors (Kogut & Zander, 1992). Furthermore, knowledge allows firms to make accurate predictions about the

nature and commercial potential of changes in the environment and this in turn reduces the uncertainty of the future (Cohen & Levinthal, 1990; Hayek, 1945; Wiklund & Shepherd, 2003).

As an extension to the resource based view, the knowledge based view of a firm emphasises that knowledge is a resource that combines and applies other tangible resources in a usable manner (Grant, 1996; Nonaka, 1994). Supporting this view, West and Noel (2009) assert that knowledge resources are the first to express themselves in new ventures, and that knowledge resources can instrumentally lead to the development and acquisition of other types of resources that are important for further venture development. The knowledge based view further suggests that the heterogeneous knowledge bases and capabilities among firms are the main determinates of performance differences. Furthermore, knowledge recognises the value of new information, assimilates it, and applies it to commercial ends (Cohen & Levinthal, 1990). This ability is referred to as the absorptive capacity of firms and facilitates the identification of additional information about new markets, technologies, production processes and customer needs etc. in terms of the firm level. McMullen and Shepherd (2006) emphasise that entrepreneurs can use their existing knowledge for obtaining knowledge to recognise that some venture ideas exist and consequently they can use this knowledge to actually exploit the venture ideas in terms of the individual level. According to their two stage model of entrepreneurial action, individuals use their existing knowledge to recognise that some venture ideas exist in the first phase. Subsequently, they evaluate these venture ideas to determine whether they have the knowledge and skills needed to actually develop them.

Human capital theory postulates that individuals with more and higher knowledge achieve higher performance because that knowledge enhances the cognitive skills of individuals (Becker, 1964; Corbett, 2007; Davidsson & Honig, 2003). Accordingly, knowledgeable individuals have better abilities to perform activities than less knowledgeable individuals. Highlighting the importance of knowledge, Shepherd and DeTienne (2005) claim that:

> *Increased knowledge in a particular field allows individuals to acquire important advantages. For instance, as individuals become more knowledgeable at a particular task through experience, they become increasingly efficient; they learn to focus attention primarily on the key*

> *dimensions, the ones that contribute most variance to the outcome of decisions. Individuals with more knowledge also appear to think in a more intuitive way. That is, they make their decisions in a more automatic manner rather than through more conscious, step-by-step systematic processing. This automatic processing (and thus the decision making) is often faster.* (p. 93)

Cognitive psychology further suggests that knowledge triggers to 'connect the dots' between changes in technology, demographics, markets, government policies and other factors to the identification of opportunities (Baron, 2006). Thus, prior knowledge as a cognitive resource is systematically associated with the individuals' considerations and alignment of structural relationships (Grégoire, Barr, & Shepherd, 2010).

As the knowledge resource is characterised with the above unique and specific features, it can be argued that the venture ideas embodied with greater knowledge of firm founders contribute to a high pace of progress in the venture creation process and venture performance. Therefore, the following hypotheses are suggested:

H2: Knowledge relatedness positively affects the probability of achieving positive business outcomes in the venture creation process. This will be tested in the following ways:

H2a: Knowledge relatedness positively affects the new venture performance in terms of making progress.

H2b: Knowledge relatedness positively affects the new venture performance in terms of getting operational.

H2c: Knowledge relatedness negatively affects the new venture performance in terms of termination.

H2d: Knowledge relatedness positively affects the new venture performance in terms of achieving positive cash flow.

3.6 RESOURCE RELATEDNESS AND VENTURE PERFORMANCE

According to Sarasvathy (2001), venture development is basically hinged on the founders' intellectual, financial and physical capital. Thus, it can be expected that

venture ideas embodied with the resource endowments of the founders could potentially achieve a high performance.

Several scholars have argued that the resource endowment of a firm is regarded as a major factor for firm performance and growth. More than fifty years ago Penrose (1959) claimed that the growth of firms is driven by resources accumulated either through external or internal sources. Sapienza, Parhankangas and Autio (2004) claim that the assembling of resources, either through the creation of new resources or through learning to use the existing resource base more efficiently opens new productive possibilities for the firm. This further suggests that the resource base of a firm expands the firm's production possibilities and the utilisation of excess resources creates a shift in the production possibility curve of the firm towards the right side portraying the growth of the firm. In recent years, scholars have emphasised that resource is a most important source of competitive advantage and can in turn confer performance advantages (Barney, 1991; Peteraf, 1993). According to the resource based view, firms can be characterised as a bundle of resources and capabilities that differ in their resource positions and are distributed heterogeneously, providing a source of performance heterogeneity across firms (Peteraf, 1993). This ensures that the possession of resources that are valuable, rare, inimitable, and non substitutable can create fresh value strategies that cannot be easily copied by competing firms. This in turn allows firms to achieve sustainable competitive advantages (Eisenhardt & Martin, 2000; Sirmon, Hitt, & Ireland, 2007). By delving further into the characteristics of resources, it is found that they allow firms to enjoy unique advantages over their rivals. For example, a valuable resource can improve a firm's efficiency and effectiveness by exploiting opportunities and neutralising threats. A rarity of resources enhances its capability to compete with other firms. Resources that are costly to imitate restrict other firms from copying or easily developing a similar model and non-substitutability ensures the unavailability of strategic equivalents. These characteristics of resources not only influence the performance but also affect the rate and direction of its growth (Peteraf, 1993). Apart from this, McEvily and Chakravarthy (2002), point out some intrinsic characteristics of resources and capabilities such as tacitness, complexity, and specificity, which help to prevent imitation and thereby cause better firm performance. According to Aspulend, Berg-Utby and Skjevdal (2005) the entrepreneurial process is one in

which the entrepreneurs acquire and develop resources, and where the new venture outcome is to a large extent determined by the nature of the resources that the entrepreneurs are able to acquire. Research also suggests that performance depends on the context in which firms develop and deploy resources and capabilities along their value chain (Brush et al., 2001). Pfeffer and Salancik (1978) argue that an organisation's success is dependent upon its ability to gather resources from the environment.

While resources have the ability to gain sustainable competitive advantages to the firms, they may on the other hand act as an antidote to the liability of newness which is considered to be one of the big challenges faced by every new venture (Brush et al., 2001). As stated in the previous section, the liability of the newness condition makes it difficult for firms to compete against established firms, stifles growth and performance and results in higher mortality rates for young firms (Stinchcombe, 1965). Therefore, resources may act as a buffer against the liability of newness (Brush, Greene, & Hart, 2001; Cooper, Gimeno-Gascon, & Woo, 1994). Furthermore, Cooper et al. (1994) argue that the availability of financial resources is important for firms because "it creates a buffer against random shocks and by allowing the pursuit of more capital-intensive strategies, which are better protected from imitation" (p. 371). Moreover, in relation to established firms, new firms are usually disadvantaged with well established routines and administrative procedures, clearly defined individual identity, market momentum, or credibility with customers and suppliers (Cooper et al., 1994; Delmar & Shane, 2004; Stinchcombe, 1965). Firm's human capital, physical, financial and dynamic capabilities can act as a buffer against these requirements over the other firms.

Apart from the above, some straightforward evidence is further provided by literature proving that resources have an impact on firm performance. For example, Cooper et al. (1994) claim that the amount of initial financial capital invested in ventures positively affects new venture survival and growth. Cho and Pucik (2005) suggest financial capital enhances experimentation and risk-taking, which influences the innovativeness and performance of firms. According to Branford, Dean and McDougall (1999), the ability of the new venture to acquire critical resources, both human and financial, appears to have an immediate, survival dependent aspect to it. Shane (2003) claims that new ventures with more capital are more likely to survive

grow and become profitable. Cassar (2004), using PSED data, found that higher financial capital in terms of household income has higher growth intentions among individuals. Apart from financial capital, Galbreath (2005) shows that reputational assets, organisational assets and intellectual property assets also contribute to the venture performance. Brush, Edelman and Manolova (2008) found that organisational and financial resources have a significant effect on sales aspiration of nascent entrepreneurs.

Thus, the above delineation suggests that resources are an inevitable ingredient in firm performance. Therefore, we can expect a good performance outcome in the venture creation process from the firms which have discovered or created their venture ideas and in turn formed their businesses based on the valuable, rare, inimitable and non substitutable resources of founders. The following hypotheses are therefore suggested:

H3: Resource relatedness positively affects the probability of achieving positive business outcomes in the venture creation process. This will be tested in the following ways;

H3a: Resource relatedness positively affects the new venture performance in terms of making progress.

H3b: Resource relatedness positively affects the new venture performance in terms of getting operational.

H3c: Resource relatedness negatively affects the new venture performance in terms of termination.

H3d: Resource relatedness positively affects the new venture performance in terms of achieving positive cash flow.

3.7 NOVELTY AND INVESTMENT OF RESOURCES

Choi and Shepherd (2004) claim that novelty is akin to a double-edged sword. On the one hand it represents something rare which can help to differentiate a firm from its competitors and hence allows the shareholders to enjoy greater benefits. On the other hand, it creates a number of challenges and difficulties for the entrepreneurs in implementing. It can be argued that the former may *attract*

entrepreneurs to investment of resources in innovative projects, while the later may *demand* more investment of resources for the innovation.

Literature indicates that innovation has a range of advantages for firms. For example, Damanpour and Wischnevsky (2006) state that innovation helps firms to grow, to be effective and even to survive. Daneels and Kleinschmidt (2001) assert that innovation creates greater opportunities for firms in terms of growth and expansion into new areas. They further add that significant innovations allow firms to establish competitively dominant positions through patents and first mover positions (cf. Lieberman & Montogomery, 1988). According to Drucker (1985) innovation is the main source of competitive advantage. Schumpeter (1934) argues that innovation is an opportunity for entrepreneurial firms to gain rents through the temporary establishment of a monopoly and that they are also a key source of long-term entrepreneurial success. All in all, the above demonstrates that the implementation of innovative venture ideas brings a rather advantaged position to firms. This situation entices firm founders to invest more money and more of their time on innovative projects in order to reap the benefits involved before competitors attempt to imitate them.

While some argue that innovation is a phenomenon that is filled with many benefits, others argue that it is an event that is fraught with a number of undesirable elements. These adversities have generally emerged from the existence of the liability of newness, uncertainty and from the general complexities associated with the innovation (Aldrich & Fiol, 1994; Samuelson & Davidsson, 2009; Stinchcombe, 1965). This situation suggests that firms often require more investment of money and time to implement innovative ideas.

Firstly, innovation is a process that requires more investments to implement each of the steps involved with it. Rogers (1995) asserts that innovation is a process, which includes several steps such as idea generation, research, development and commercialisation etc. All of these actions require money, effort and other resources. Lynn, Morone and Paulson (1996) claim that innovation is an investment-intensive process, which sometimes requires more than $100 million for research and development activities.

Secondly, the market for innovation is usually ill-defined (Ali, 2000). This implies that there is no pre-specified market for innovative products in relation to the

imitative products. Therefore, founders have to make greater efforts to commercialise the product by forming a target market through heavy promotional campaigns and advertising.

Thirdly, as indicated in the above section, innovative firms often lack legitimacy (Aldrich & Fiol, 1994), and are often confronted with the liability of newness. Consequently, they are likely to lack strong ties with stakeholders and are often without stable social relations. Furthermore, these firms are initially filled with unfamiliar routines, competencies and internal inefficiencies. Therefore, innovation requires more investment of money and time in order to create new ventures and in order for these to appear reliable and accountable (to increase legitimacy) and to establish relationships with external stakeholders.

The requirement of large amounts of finance and other resources for the implementation of innovation is further evidenced by the findings of some empirical studies conducted to explore impediments to innovation. For example, according to Tourigny and Le (2004), 39% of Canadian innovative firms have alleged that the lack of skilled personal is one of the main impediments to the implementation of innovation. At the same time 27% of these firms state that a lack of finance is an impediment to the implementation of innovation. A similar situation is reported from Spain claiming that the most significant barrier for implementing innovation is in the Small and Medium Enterprises (SME) sector, and that this is associated with the cost incurred (Madrid-Guijarro, Domingo Garcia, & Auken, 2009). In light of the above, the following hypothesis is suggested:

H4: Novelty is positively related to resource investment in terms of:

H4a: Investment of time

H4b: Investment of money

3.8 THE IMPACT OF INVESTMENT OF TIME AND MONEY ON THE VENTURE PERFORMANCE

The relationship between the investment of time and money and the firm performance is quite straightforward. The exertion of one's efforts and investment of money are considered to be important parts of entrepreneurial behaviour (Chrisman,

Bauerschmidt, & Hofer, 1998). According to Reynolds and Miller (1992), the investment of more personal time by an entrepreneur for their entrepreneurial work reflects their commitment towards the venture and is therefore a key event in the venture success. When one exerts more time and effort to accomplish a task, it is more likely that this task will be successfully completed (Gatewood et al., 1995). Building on the theory of attribution of causality Gatewood et al. argue that task performance would depend on both a personal force and on an environmental force. The effort exerted by individuals on venture activities has been identified as a key element in these personal forces and can even be construed as a driver for a firm's success or failure. Empirical evidence suggests that there is a positive relationship between the efforts of individuals devoted to the firm and performance (Shaver, Gartner, Crosby, Bakalarova, & Gatewood, 2001). Weiner (1985), who investigated the academic performance of college students, maintains that success is ascribed to high ability and hard work, while failure is attributed to low ability and the absence of trying. Accordingly, he identified that students' academic performance is highly related to the effort that they exert.

The investment of money or finance is undoubtedly necessary for any venture whether this is obtained either through loans, equity or other means. The investment of money and venture success is quite unequivocal. For example, Cooper et al. (1994) found that the initial financial capital of firms affects their venture growth and survival. Cassar (2004), using PSED data, found that higher financial capital in terms of household income has higher growth intentions among individuals. However, he claims that different types of ventures need different levels of investment. Reynolds (2007), in his PSED 1 overview report, states that "intensity of effort is also a clear indicator for venture success. Both the level of personal commitment and the amount of funds assembled from the start-up team appear to be associated with successful implementation of a new firm" (p. 90). Thus, the following hypotheses are proposed:

H5: Investment of time positively affects the probability of achieving positive business outcomes in the venture creation process. This will be tested in the following ways:

H5a: Investment of time positively affects the venture performance in terms of making progress.

H5b: Investment of time positively affects the venture performance in terms of getting operational.

H5c: Investment of time negatively affects the venture performance in terms of termination.

H5d: Investment of time positively affects the venture performance in terms of achieving positive cash flow.

H6: Investment of money positively affects the probability of achieving positive business outcomes in the venture creation process. This will be tested in the following ways:

H6a: Investment of money positively affects the venture performance in terms of making progress.

H6b: Investment of money positively affects the venture performance in terms of getting operational.

H6c: Investment of money is negatively related to the venture performance in terms of termination.

H6d: Investment of money positively affects the venture performance in terms of achieving positive cash flow.

3.9 RELATEDNESS AND INVESTMENT OF RESOURCES

The assembling and marshalling of knowledge and other resources are a high priority for any new venture because resources are construed to be one of the important determinants in the firm's performance (Peteraf, 1993). Resources are the inputs of firms' outcomes. No firm can run without resources. If the discovery of venture ideas were based on the knowledge and other resources of firm founders, we can argue that such firms' dependence on investment of resources is less compared to other firms. This implies that firms are better-off with respect to the investment of more money and time if they have high knowledge and resource relatedness.

Bricolage literature indicates that some firms use more amounts of resources while other firms use relatively fewer resources in the running of their businesses. The latter firms sometimes run their business with the resources that are at hand (Baker & Nelson, 2005). This situation is refereed as bricolage. By making do with

what is at hand or by employing a recombination of resources for new purposes, entrepreneurs run their business with the existing resources. Garud and Karnoe (2003) describe the activities of engineers and entrepreneurs in the Danish wind turbine industry and assert that they have successfully run with the resources at hand without depending on resources from external sources. Can all firms run their businesses using bricolage? Garud and Karone (2003) assert that firms that have a relatively good base of initial knowledge conduct their ventures through the resources at hand to face new problems. At the same time literature on financial bootstrapping acknowledges that the firm founders who have not owned or controlled sufficient financial resources or have limited access to the financial resources often run their ventures (Harrison, Mason, & Girling, 2004). As Winborg and Landstrom (2001) suggest, firms can run their ventures by minimising monies owed to the firm, sharing equipment and/or staff with other firms, delaying payment of monies owed by the firm, minimising inventory, and subsidy finance firms could run their ventures as others. Thus, this study argues that, while strategy could play a significant role in the implementation of bricolage or bootstrapping, the start-up firms' knowledge and resource relatedness also play a crucial role in this regard. Thus, the investment of money and time for the firms that are embodied with a high degree of knowledge and resource relatedness will be less. This leads to the following hypotheses:

H7: Knowledge relatedness is negatively related with the:

H7a: investment of time.

H7b: investment of money.

H8: Resource relatedness is negatively related with the:

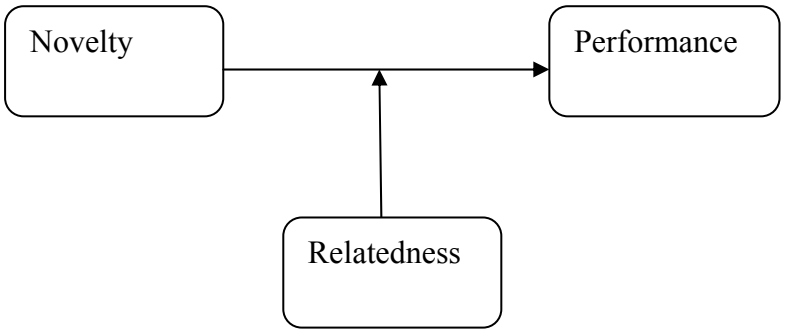
H8a: investment of time.

H8b: investment of money.

3.10 INTERACTION EFFECTS BETWEEN NOVELTY AND RELATEDNESS TO THE VENTURE PERFORMANCE

It was hypothesised that if everything else was equal, the higher the venture idea novelty, the lower the performance of ventures. Also, it was further hypothesised that the higher the relatedness, the higher the performance in the venture creation process. Apart from these relationships, we can also examine whether there is any interaction effect between novelty and relatedness in the determination of venture performance. In other words, we can examine whether the relatedness acts as a moderating variable[10] to strengthen or weaken the relationship between novelty and venture performance. The following figure depicts this intended relationship among variables.

Figure 3.2: Relatedness as a moderator between novelty and venture performance



It was identified above that the different adversities such as uncertainty, risk, and liability of newness and lack of legitimacy may contribute to a negative relationship between the novelty and venture performance. This researcher argues that the existence of relatedness would weaken this negative relationship between novelty and firm performance. As mentioned earlier, the uncertainty is one of the main obstacles faced by innovative ventures (Daneels & Kleinschmidt, 2001). The root explanation for this existence of uncertainty is the dispersion of knowledge (Hayek, 1945; Sarasvathy et al., 2003). That is, when the knowledge is dispersed

[10] A moderator is a variable that affects the direction and/or strength of the relation between an independent and a dependent variable (Baron & Kenny, 1986).

asymmetrically among people, then the uncertainty arises. Uncertainty restrains peoples' ability to predict the future accurately in terms of the demand for the product, the market, and the availability of resources, finance providers, competitors, customers' attitudes and behaviours. However, when the venture idea that is chosen by the founders is highly related to their prior knowledge, most of the hurdles created by uncertainty disappear.

Furthermore, it was stated that novel firms are more prone to the liability of newness. As a result, organisational members often have little in common in terms of their knowledge of the roles and routines of the firm (Stinchcombe, 1965). At the same time these firms often lack the necessary competencies, internal efficiencies and relationships with different stakeholder. However, as resources operate as a buffer against the liability of newness (Brush et al., 2001; Cooper et al., 1994), we can argue that this is not such a critical problem for new firms with a high level of relatedness. With the availability of the necessary resources including knowledge, firms can mitigate the problems associated with the roles, internal competencies and routines. Therefore, when novelty is combined with the knowledge and resource relatedness we can expect more favourable outcomes than before. Thus, the following hypotheses are suggested:

H9: Knowledge relatedness moderates the relationship between novelty and new venture performance. This will be tested in the following ways:

H9a: Knowledge relatedness weakens the negative relationship between novelty and venture performance in terms of making progress.

H9b: Knowledge relatedness weakens the negative relationship between novelty and venture performance in terms of getting operational.

H9c: Knowledge relatedness weakens the positive relationship between novelty and venture performance in terms of termination.

H9d: Knowledge relatedness weakens the negative relationship between novelty and venture performance in terms of positive cash flow.

H10: Resource relatedness moderates the relationship between novelty and new venture performance. This will be tested in the following ways:

H10a: Resource relatedness weakens the negative relationship between novelty and venture performance in terms of making progress.

H10b: Resource relatedness weakens the negative relationship between novelty and venture performance in terms of getting operational.

H10c: Resource relatedness weakens the positive relationship between novelty and venture performance in terms of termination.

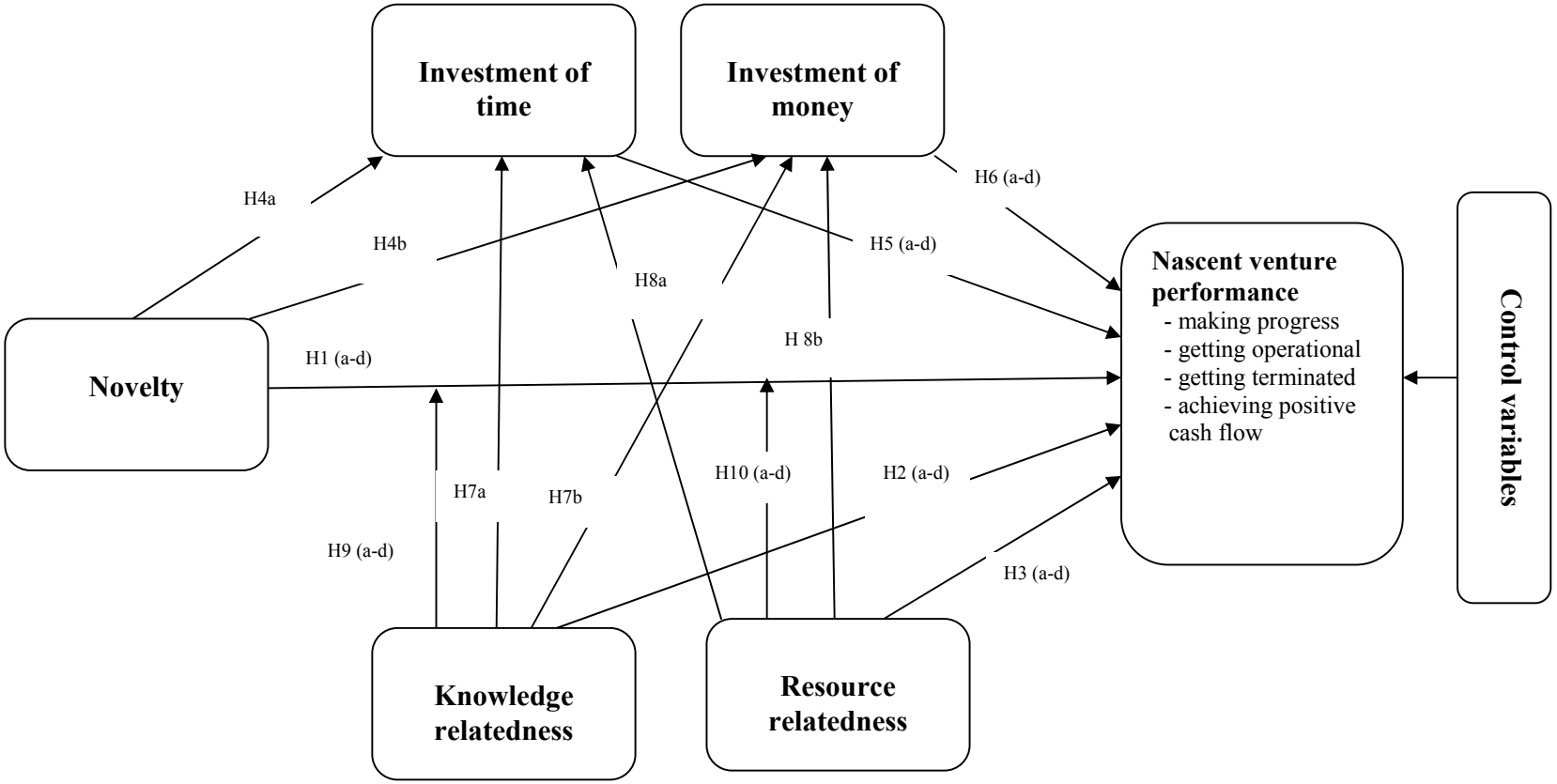
H10d: Resource relatedness weakens the negative relationship between novelty and venture performance in terms of positive cash flow.

The full conceptual model of this study is presented in Figure 3.3.

3.11 CHAPTER SUMMARY

This chapter had dual objectives. One was to develop a theoretical model for the study and other was to develop hypotheses to be tested. The theoretical model started with a base model and was further developed into a comprehensive model. The full model is depicted in Figure 3.3. In addition, the chapter presented a number of hypotheses to be tested, based on a variety of subject areas. The chapter presented ten hypotheses each of which has a set of sub hypotheses ranging from two to four hypotheses.

Figure 3.3: The conceptual model



Chapter 4: Method

4.1 INTRODUCTION

This chapter explains the method approaches used in this study. In order to address research questions two separate studies have been designed. Study 1 is an experimental study, which has been devised to investigate how venture idea characteristics affect their perceived attractiveness. This requires a Conjoint Study in order to estimate the preferences of entrepreneurs for multi-attributed alternative venture idea characteristics. Study 2 has been designed to examine how the idea characteristics affect the performance of nascent ventures. This involves a longitudinal study in which data is collected at different points of time. Each of the study's research design, selection of sample, data collection method, variables, measures and data analysis techniques are discussed separately in this chapter.

4.2 STUDY 1

4.2.1 RESEARCH DESIGN

The aim of Study 1 is to determine the value of perceived attractiveness of different venture idea characteristics and their relative importance for entrepreneurs. In order to achieve this, we need to estimate the value of the various sets of idea characteristics, which depend on the number of attributes that are assumed to be important to entrepreneurs' judgment. According to conventional microeconomic theory, the preference or desirability for a product or service is measured by hypothetical units called *utility*. Marginal utility and indifference curve analysis are used to estimate utilities derived from the consumption of products or services. In situations where a decision maker encounters multi-attributed product/service combinations, Conjoint Analysis is an appropriate technique that can be used for estimating utility (Green & Srinivasan, 1978). This study therefore adopts Conjoint Analysis to estimate the value of the perceived attractiveness derived from different venture idea characteristics which simultaneously vary across multiple attributes.

4.2.2 CONJOINT ANALYSIS

Conjoint Analysis is a multivariate technique that is used to estimate how respondents develop preferences for products, services or ideas (Hair, Black, Babin, Anderson, & Tatham, 2006). According to Orme (2007) the intent of this analysis is to uncover the underlying preference function of a product in terms of its attributes. Conjoint technique can help a decision maker determine how respondents trade off alternatives and to estimate the value of respondents' preferences. This technique is based on the premise that subjects evaluate the value or utility of a product/service/idea (real or hypothetical) by combining the separate amounts of utility provided by each attribute. Further, this analysis is regarded as a decompositional technique, because a subject's overall evaluation (preference) is decomposed to give utilities for each level of a predictor variable. That is, respondents are not asked how important or valuable each attribute is. Instead, they are asked to holistically evaluate alternatives that are described in terms of all relevant attributes. The decomposition reveals how the attribute values have contributed to the overall evaluation. Choi and Shepherd (2004) assert that conjoint analysis is a real time method which overcomes many of the potential research biases that may be associated with post-hoc methods, such as self-reporting, retrospective reporting, and difficulty collecting contingent decision data. In conjoint analysis, respondents' preferences are estimated in terms of utilities (or part-worth values) for the various aspects of the attributes. A higher utility value denotes a higher satisfaction while a lower value reflects a lesser satisfaction. Based on these utility values, the decision maker can determine what product attributes are important and which of the levels of product attributes are the most desirable as well as determining the relative market share of competing products (Souter & Ridley, 2008).

Conjoint analysis was initially introduced in marketing research (Green & Srinivasan, 1978, 1990). However, this technique has been used in hundreds of studies of judgement and decision making in a variety of other fields, such as economics (Wittink & Cattin, 1989), leadership (Soutar & Ridley, 2008), health care (Ryan & Hughes, 1997), education (Soutar & Turner, 2002), and total quality management (Gustafsson, Ekdhal, & Bergman, 1999). According to a Sawtooth Software customer survey, it is estimated that between 8000 to 10,000 conjoint studies are conducted each year (Orme, 2007). A relatively small number of studies have been conducted in entrepreneurship using a conjoint technique (Choi &

Shepherd, 2004; DeTienne, Shepherd, & De Castro, 2008; Shepherd & Zacharakis, 2003). However, most of these studies have been very simplistic because they were limited to two levels per attribute. For a review of conjoint analysis used in entrepreneurship research see Lohrke, Holloway and Woolley (2010).

In conducting conjoint analysis researchers and practitioners generally follow certain steps in design and analysis. The following section illustrates each of these aspects.

4.2.1.1 Identifying attributes

The first step of a conjoint study is to determine the attributes of the object (product, service or idea) under consideration. An attribute is a specific feature or other characteristic of the object (Hair, et al., 2006). For example, brand name, price and size can be considered as attributes of a television. The selection of attributes is a very important stage in a conjoint study in that the final output of the study is dependent on the included attributes. A variety of methods such as focus group discussions, interviews, literature review and direct questioning of individuals are used to ascertain the attributes of products, services or ideas (Ryan & Hughes, 1997; Soutar & Ridley, 2008).

4.2.1.2 Assigning levels of attributes

In conjoint methodology each attribute is defined by different levels. A level is a specific value that describes an attribute (Hair et al., 2006). For example, for the attribute of the brand name in television, the levels could be Sony, Samsung and Panasonic. Levels should be realistic and capable of being traded (Ryan & Hughes, 1997). In carrying out conjoint analysis each attribute must be represented by two or more levels. The levels of an attribute are determined according to operationalisation of the attribute.

4.2.1.3 Deciding scenarios to be presented

After establishing the attributes and their levels, the next step of a conjoint study is to decide scenarios (profiles) to be presented to respondents in order to elicit the preferences. Scenarios or profiles are combinations of the attribute levels of a

decision problem. Each profile describes a complete product, service or idea and consists of a different combination of factor levels for all factors (attributes) of interest (Hair et al., 2006). The amount of combinations in a conjoint study is determined by the number of levels and attributes involved in the problem. When the decision maker is involved with a problem situation that has a small number of levels of attributes, the resulting combinations are relatively small. Suppose that a decision maker has three attributes with two levels each, then this would generate eight combinations (2 x 2 x 2) to be evaluated. However, when the number of attributes and levels become larger, it generates a huge number of different combinations and the task becomes more cumbersome. Suppose that the decision maker has 4 attributes with 3 levels for each, it generates 81 profiles (3 x 3 x 3 x 3). When the profiles become larger, respondents cannot be requested to assess all of them. In such situations, the *orthogonally reduced design procedure* permits the statistical testing of several attributes without testing every combination of attributes (Green & Srinivasan, 1990). This procedure balances the independent contributions of all attributes. The use of orthogonal design results in an orthogonal main effect design thus ensures the absence of multi-colinearity between attributes (Ryan & Hughes, 1997). The main effect design also assumes no interactions between the attributes. In an orthogonal design, each level of one factor occurs with each level of another factor with equal or at least proportional frequencies (Ryan & Hughes, 1997).

4.2.1.4 Obtaining preferences

The next step of the conjoint procedure is to obtain preferences from respondents showing them product profiles and asking them to indicate how much they like or prefer these alternative product profiles. Traditionally, two different methods are used to obtain preferences for scenarios: the full profile method, and a partial profile method (Green & Srinivasan, 1990). Full profile experiments are those that display a level from every attribute in the study in every product profile. Partial profile experiments use profiles that specify a level for only a subset of the attributes under study. However, with the advent of computer software packages, additional data collection methods have also been introduced to the field. Orme (2007) states that Sawtooth Company's software packages can be used to analyse data collected through three ways – the full profile method, the adaptive conjoint method and the

choice based approach (see for a review Orme, 2007). At the same time, different methods are suggested by these software programs to the respondent in order to indicate their preferences. Three methods deserve to be mentioned: (1) the self-explicated model, (2) discrete choice, and (3) rating based conjoint. In the self-explicated model the respondents are asked direct questions about the desirability of a particular list of products and profiles whereas in the discrete choice method respondents are asked to choose between multiple products and the relative weights for each of the attributes are calculated indirectly. On the other hand, respondents are asked to rate the likelihood of purchase for two products at a time in the rating based method.

4.2.2.5 Analysis of data

The collected data is then analysed using appropriate statistical software in order to estimate part worth utilities. Bretton-Clark's Conjoint Analyzer software, Sawtooth Conjoint and SPSS Conjoint software are popular softwares in this field. Part-worth utilities are an estimate of the desirability of each of the levels of the attributes included in the conjoint analysis (Soutar & Ridley, 2008). Estimated utilities are similar to coefficients of multiple regression (Schaupp & Bélanger, 2005). A higher utility value denotes higher preference while a lower value reflects a lesser preference. Since the utilities are all expressed in a common unit, they can be added together to give the total utility of any combination.

4.2.3 CONJOINT MODEL

The basic conjoint model can be described by the following equation (Schaupp & Bélanger, 2005). This is similar to the multiple regression equation.

$$Y = a + b_1(X_1) + b_2(X_2) + b_3(X_3) + \ldots + b_n(X_n) + \varepsilon$$

Where;

Y = respondent's preference for the product concept (metric or non-metric)

a = intercept

b = beta weights (utilities) for the features (non-metric)

X = level of attribute

ε = error term

4.3 STUDY 2

As stated in the first chapter, Study 2 is required to answer what types and degrees of novelty and relatedness are introduced by nascent ventures and how novelty and relatedness affect the performance of nascent ventures. This section elaborates how the overall study was designed and then describes the sample selection, the method of data collection, the measures of variables, and the data analysis methods.

4.3.1 RESEARCH DESIGN

In order to answer how the venture idea novelty and the relatedness affect the performance of nascent ventures, it is required to have data of a statistically representative sample of ongoing start-up efforts collected over a period of years. This is important since venture creation is considered to be a process that has different activities to be completed over years whereas entrepreneurship is about the early stages of venture development (Davidsson & Honig, 2003; Gartner, 1988; Shane & Venkataraman, 2000).

It is acknowledged that the most of the previous research undertaken in this field does not properly demonstrate the process perspective of venture creation and the early stages of venture development (Davidsson, 2004; Low & MacMillan, 1998, Reynolds & Miller, 1992). Since these studies relied heavily on the samples of existing ventures or on retrospective case studies and on the cross sectional data provided by statistical organisations, these allegations are generally legitimate (Davidsson, 2004; Gartner & Carter, 2003; Low & MacMillan, 1988). Scholars argue that several problems are associated with these approaches that hinder the quality of entrepreneurship research. For example, these studies would be susceptible to *retrospective or hindsight biases* which could potentially stem from the responses provided by entrepreneurs recalling their past experiences. "Hindsight bias describes the tendency for individuals to see past events as being more predictable, or to believe after an event, that their prediction of the outcome was more accurate than it actually was" (Cassar & Craig, 2009, p.150). As a result, there is an inherent risk involved in believing the reliability and accuracy of information provided by the subjects after the events was occurred. Cassar and Craig (2009) assert that hindsight bias will result in a biased, or systematically distorted, recreation of the past.

Therefore, if individuals cannot accurately recall their experiences about the past, this will diminish the quality of research that is necessary to explain and predict the entrepreneurship phenomenon.

The individuals' inability to accurately recall past experiences is also influenced by *memory decay*. According to decay theory, as time passes information in the memory erodes and is therefore less available for later retrieval (Berman, Jonides, & Lewis, 2009). As a result, some valuable information may not be exposed through retrospective data retrieval.

Furthermore, data provided by statistical organisations often include the largest and most established firms and consequently will not be completely representative (Davidsson & Honig, 2003). At the same time, this procedure is prone to *survivor bias*. Statistical organisations often include only the data received from the surviving ventures. Aldrich (1999) asserts that almost half of all the venture attempts are recorded in public records. This implies that another half of start-up efforts were terminated before reaching the market. However, as entrepreneurship deals with the completed as well as the terminated venture effort (Davidsson, 2004) these terminated efforts should also be included in a sample. This under coverage and survivor bias represents the poor representativeness of venture efforts.

Similarly, data collected through cross sectional samples does not necessarily reflect the process perspective of the venture creation process (Davidsson & Honig, 2003). Since the venture creation process unfolds over time – sometimes over a period of 10 years – it is absurd to assume that use of the data collected at one specific point in time can interpret the venture creation process. Gartner and Carter (2003) comment on the above issues in the following manner: "the information gained from the retrospections, insights, or the current behaviours and thought processes of individuals who are operating established new businesses are not comparable to the experiences actually in the process of organization creation"(p. 196).

Therefore, these circumstances suggest that entrepreneurship research requires a real time, representative sample of ongoing start-ups that also include the smallest and youngest firms in order to understand the phenomenon of entrepreneurship comprehensively (Davidsson, 2004; Reynolds, 2000). This also should include the data collection at different points in time (longitudinally) so as to broadly mirror the entrepreneurial process (Low & MacMillan, 1988). As the present

study deals specifically with the assessment of how the venture idea novelty and relatedness affect the outcomes of the venture creation process over the years, this approach was adopted for this study.

The real time, representative sample of ongoing start-ups and longitudinal research approach to the entrepreneurship field was first introduced by the Panel Study of Entrepreneurial Dynamics (PSED) initiated by a cohort of scholars in the USA in the 1990s. This is a collaborative research program conducted by more than 100 scholars and 32 institutions around the world. According to this innovative research approach, a statistically representative sample of ongoing start-ups is identified by conducting screening phone interviews with a very large number of adult members of households. These households are selected at random through a process of random digit phone dialling. A set of screening questions are initially directed to them in order to determine whether they are qualified as nascent entrepreneurs. They are consequently directed to a series of comprehensive interviews in order to obtain the data required. In these interviews, a set of specific questions are asked about the initiation and completion of a range of gestation activities (e.g. looking for facilities, preparing a business plan, obtaining inputs, talking to customers etc.). Each initiated and completed activity is then time stamped so as to determine the pace of progress and sequence in the start-up process (Gartner et al., 2004). Selected cases are selected for re-interviewing at regular intervals (for example every 12 months) up to a defined period of time.

4.3.2 DATA

The data for this study comes from the Comprehensive Australian Study of Entrepreneurial Emergence (CAUSEE) project. The CAUSEE project is a longitudinal study initiated by a group of scholars at Queensland University of Technology, Australia in 2007. The prime motivation to start CAUSEE is to uncover the factors that initiate, hinder and facilitate the process of the emergence and development of new, independent firms in Australia (Davidsson, et al., 2008). Even though CAUSEE is partly harmonised with PSED II and some contents and lessons are learned from it, CAUSEE is a standalone project that has unique contents and is also the only study to date of this kind in Australia. The project investigates different aspects of the new venture creation process – for example, resources, venture type,

environment, process and outcomes. It has four types of samples: a national random samples of nascent firms, a national random sample of young firms, two over samples of high potential start-ups in the nascent firms and the young firm categories (Davidsson, et al., 2008). *The present study is mainly based on entrepreneurs of the first category – the random sampled nascent firms, i.e., ventures that are actively involved in the venture creation process.*

However, in the exploration of what types and degrees of novelty are introduced by firms, the study compares a high *potential* sample with nascent firms. Even though there is no agreed-upon definition for high potential firms, the firms that CAUSEE identified were characterised by having founders with high levels of education, business experience, and future aspirations, as well as a high level of product novelty and technological sophistication (Senyard, Davidsson, Gordon, & Steffens, 2009).

CAUSEE collects data randomly at four points in time over a four year period beginning in 2007. Despite the fact that CAUSEE run over four years, this study only analyses the data collected during the first two years, due to the time restrictions of the PhD program. Accordingly, independent variables of the study are represented by the data of wave 1 and the dependent variables are represented by the data of wave 2.

4.3.3 SAMPLE

CAUSEE adopts a random sampling method for the data collection to ensure the representativeness of business start-ups. Following the PSED approach, the identification of a random sample for the CAUSEE project was carried out through a random digit dialling (RDD) telephone survey. Initially, 30,105 individuals who were over 18 years of age were contacted in Australia. The first screening interviews were conducted between April 2007 and March 2008. It was then identified that 1010 nascent firms and 1058 young firms among 30,105 individuals could be contacted in the various states in Australia. As a percentage this represents 3.35 nascent firms and 3.51 young firms. However, only 625 firms (61.88%) and 561 (53.02%) agreed to participate in the interviews, which normally lasted for 40-60 minutes. After a period of twelve months from the first interviews, the follow-up interviews were conducted for these entrepreneurs. Accordingly, 493 respondents were successfully contacted for re-interviews in 2008-2009. This amounted to 78.9%

of the original 625 sample. 132 firms from the original sample (625) were not participated for this interview because some of them refused to participate and repeated calls for others were not successful. This sample of 493 nascent entrepreneurs who participated in the 12-month follow-up constitutes the sample in this study. Furthermore, CAUSEE identified 106 high potential firms that were selected among the nascent firms.

A series of questions was directed to the adult individuals in order to select the above samples. Accordingly, the following three questions were asked as the first step:

1. Are you, alone or with others, currently trying to start a new business, including any self-employment or selling any goods or services to others?

2. Are you, alone or with others, currently trying to start a new business or a new venture for your employer, an effort that is part of your normal work?

3. Are you, alone or with others, currently the owner of a business you help to manage, including self-employment or selling any goods or services to others?

In order to be suspected of being a nascent entrepreneur a respondent first had to answer 'yes' to either question 1 or 2. In contrast, if a respondent answered 'yes' to question 3, the firm was suspected of being a young firm, i.e. a venture that has already been in operation. Identified suspected nascent entrepreneurs were again asked the following two questions to confirm whether they were taking concrete steps to initiate new ventures and to confirm their ownership to these ventures.

4. Over the past twelve months, have you done anything to help start a new business, such as looking for equipment or a location, organising a start-up team, working on a business plan, beginning to save money, or any other activity that would help launch a business?

5. Will you personally own all or part of this business?

If respondents answered 'no' to questions 4 or 5 or both, they were excluded from the investigation as being under qualified. For those who answered 'yes' to both, they were asked the following questions:

6. Has this business received any sales revenue, income or fees for more than six of the past twelve months?

7. Has your monthly revenue, including salaries to active owners, exceeded the monthly expenses for more than six of the past twelve months?

If the respondents answered 'yes' to both questions, they were considered as over qualified and were excluded from the nascent sample because they were already in operational businesses.

Respondents who answered 'yes' to questions 1 to 5 and 'no' to question 7 directly qualified as nascent entrepreneurs. In addition, if a respondent answered 'no' to questions 1 and 2 and 'yes' to question 3 (at this point the firm was suspected as a young firm), the respondent was still considered as a nascent entrepreneur if they answered 'no' to question 7 and thereafter affirmed questions 4 and 5.

If respondents answered 'yes' to either question 1 or 2 (or both) and also question 3, they were first tested for their eligibility as nascent entrepreneurs according to the procedure described above. Only if they did not qualify as nascent entrepreneurs were they considered for inclusion in the young firm sample.

The unit of analysis of this study is an emerging venture, with the respondent acting as its spokesperson.

4.3.4 VARIABLES AND MEASURES

4.3.4.1 Novelty

Novelty was defined in Chapter 2 as the degree to which venture ideas are perceived by the firm founders as being new to the served market. The degree of novelty in this study is measured based on a refined version of Dahlqvist's (2007) scale of novelty/newness. This scale allows one to gauge four degrees of novelty: new to the world, new to the market served, substantially improved, and imitative.

Previous studies have used various indicators and scales to measure the novelty/newness of firms. For example, the total expenditure on R&D, the share of the labour force accounted for by employees involved in R&D activities, the number of patents, the number of new product and service introductions have all been used as measures of the newness of firms (Acs & Audretsch, 2003). However, these measures are used to measure the firms' innovativeness as a whole and hence also

have their innate weaknesses (Acs & Audretsch, 2003). Our focus here is to measure the novelty of particular venture ideas introduced by firms. Some attempts in product development literature were found that were created to measure for the degree of novelty. For example, Kleinschmidt and Cooper (1991) developed a scale of newness as a measure that enabled them to identify three categories of novelty: highly innovative products, moderately innovative products, and low innovativeness of products. In a similar vein, Ali (2000) developed a 5-scaled measure of the product innovativeness of firms. Similarly, Micheal, Rochford and Wotruba's (2003) scale of newness helped them to identify four categories of novelty – new to the market, new to the firm, not new to the market, revision to the firm.

However, the above measures are not meant for not-yet existing firms. Samuelson (2004) used a crude division – innovative and imitative – in measuring the novelty of nascent firms. Dahlqvist (2007) recently developed a broader scale to measure the degree of the venture idea novelty. This scale is a *formative index*[11]*that* is composed of four indicators: *product novelty, process novelty, promotion novelty and market novelty*. In a formative index, the indicators are defining characteristics of the construct and the direction of causality flows from the items to the construct (Petter, Straub, & Rai, 2007). Each indicator is formulated using three items so as to identify the degrees of novelty. Consequently, each indicator is sub-classed from 0-3. This sub scale permits the four degrees of novelty to be identified: *imitative, substantially improved, new to the market, and new to the world.*

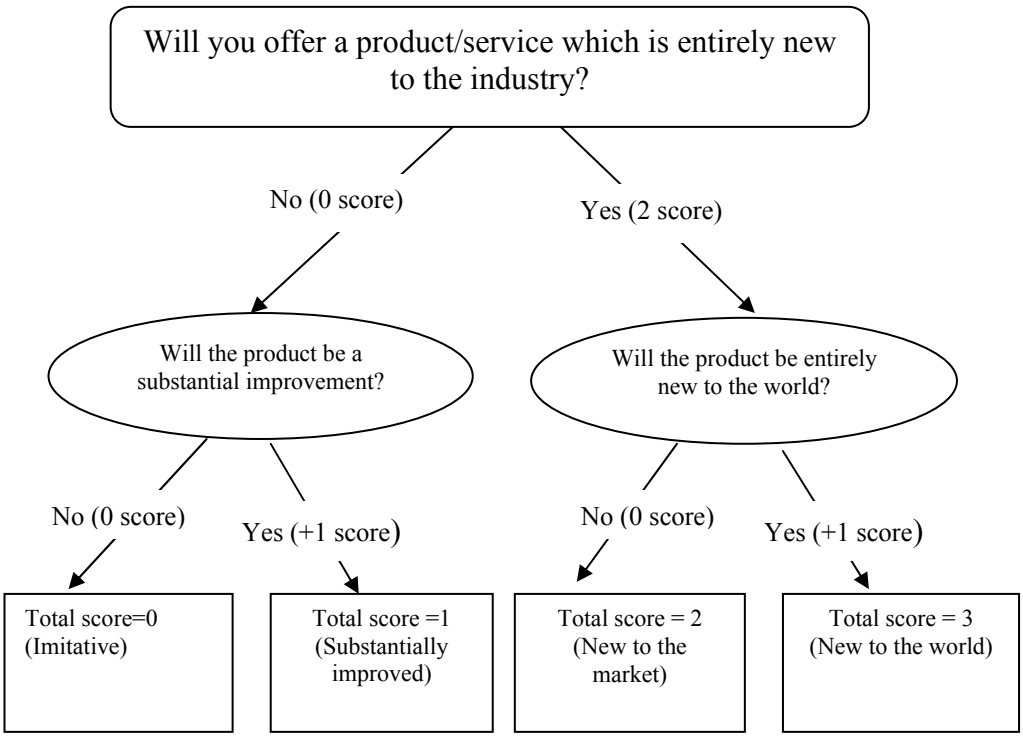
To further clarify how the novelty index was constructed, consider the following example of how the product novelty was scaled. Details received from three questions directed to the respondents were used to develop this scale[12]. Firstly, each of respondents was asked (Question 1) Will you offer a product/service, which is entirely new to the industry? If the answer was 'yes' a score of 2 is assigned and if the answer was 'no' a 0 score is assigned. Secondly, for the respondents who answered 'yes' to Question 1, they were again asked: (Question 2) Will the product be entirely new to the world or entirely new just in the places where you are going to be active? In the answer was 'yes' 1 is added to the previous score of 2 and if the

[11] Measures are broadly categorised into two: reflective indexes and formative indexes. In a reflective measure changes in construct create the changes in the indicators while in a formative measure changes in the indicators cause changes in the construct (Jarvis, MacKenzie, & Podsakoff, 2003).
[12] The relevant section of the questionnaire used is attached in Appendix C.

answer was ‘no’ the score remained at 2. Thirdly, if the respondents answered ‘no’ for Question 1, they were again asked: (Question 3) If not entirely new, will the product be a substantial improvement compared to what other businesses have offered before? If the answer is ‘yes’ they are assigned a score of 1, while the same score remains for the ‘no’ answers. Thus, if the total score is 3, the degree of novelty is ‘new to the world’. If the total score is 0, the interpretation is ‘imitative’. If the total score is 2, the novelty is considered as ‘new to the industry in the served market’, and if the score is 1, the product is ‘substantially improved’. Figure 4.1 shows a pictorial presentation of the construction of product novelty scale.

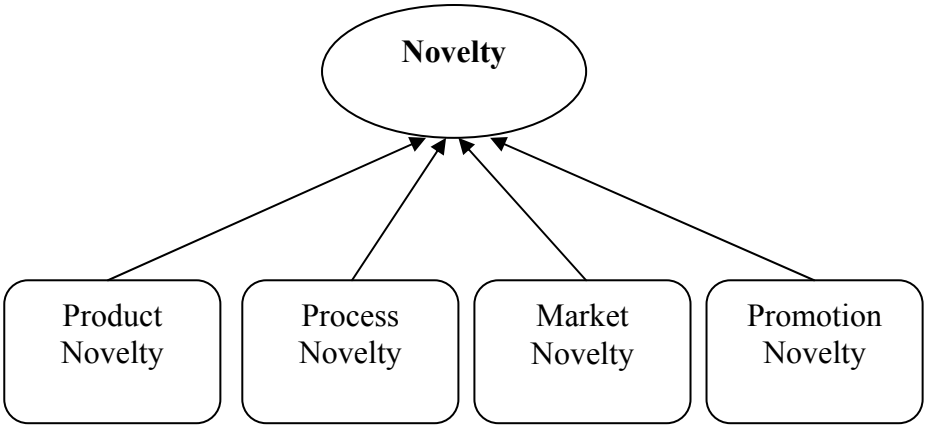
A similar procedure was followed to scale the other categories of novelty (i.e. process, promotion and market novelty). However, for the market novelty somewhat different questions were used to assess the degree of novelty. Thus, the identified degrees of market novelty were: market/customer that other businesses have totally neglected, market/customer that have not been served by most other firms, market/customer that is substantially different from what other businesses apply, and market/customer where other firms operate (see Appendix C).

Figure 4.1: Scale for product newness



The final formative construct was a composite of four categories of novelty: product, process, promotion and market novelty (See Figure 4.2). The updated version of the questionnaire was developed through two rounds of pre-testing with 80 participants[13].

Figure 4.2: Total novelty scale



4.3.4.2 Knowledge relatedness

The scale for knowledge relatedness was originally developed by this study. This scale was formulated with four Likert type items on a five point scale ranging from 1 to 5[14] (1 = completely disagree, 2 = partly disagree, 3 = neutral, 4 = partly agree and 5 = completely agree). Higher scores of the construct indicate a higher degree of relatedness. The included four items for this scale were:

(1) Product/service offerings are selected so that they are very closely matched with the knowledge and skills that you already had

(2) The customers or target markets are selected so that they are very closely matched with the knowledge and skills that you already had

(3) The methods for producing or sourcing are selected so that they are very closely matched with the knowledge and skills that you already had

(4) The methods for promotion and selling are selected so that they are very closely matched with the knowledge and skills that you already had.

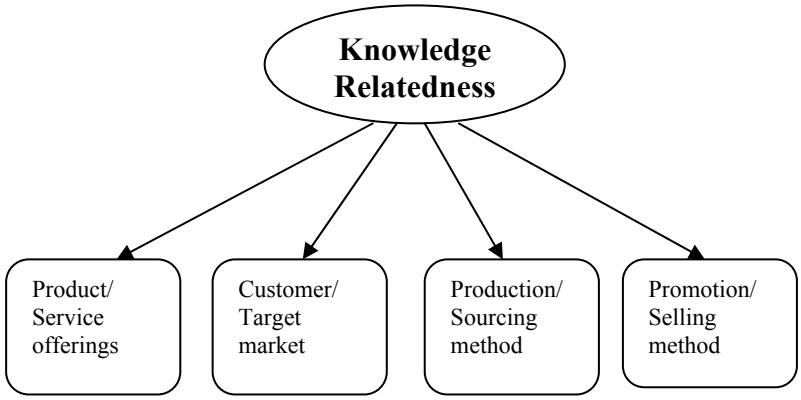
[13] Internal consistency or measurement of reliability is not meaningful for formative constructs because their dimensions or measures may not associate with each other (Jarvis et al., 2003).

[14] The questionnaire used for this is attached in Appendix D.

Furthermore the measure of knowledge relatedness was developed through two rounds of presetting in the CAUSEE questionnaire. The reliability analysis results produced a good Cronbach's alpha coefficient of .70 (n= 493) for the construct[15] (Hoyt, Warbasse, & Chu, 2006).

The Knowledge relatedness index is a reflective index. In a reflective index, changes in the underlying construct are hypothesised to cause changes in the indicators (Jarvis et al. 2003). At the same time, the indicators of reflective indexes are manifestations of the construct contrary to the indicators that demonstrate the defining characteristics of constructs of formative indexes. Therefore, the direction of causality of a reflective index flows from the construct to the items opposite to that of a formative index (Diamantopoulos, Riefler, & Katharina, 2008; Jarvis, et al., 2003; Petter, et al., 2007). The knowledge relatedness construct can be depicted as shown in Figure 4.3.

Figure 4.3: Knowledge relatedness



4.3.4.3 Resource relatedness

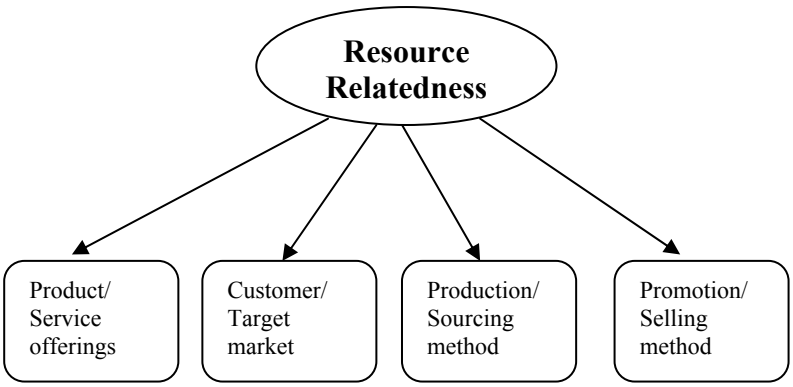
As was the case with knowledge relatedness, the resource relatedness scale was also originally developed by this study and formulated using a 5 point Likert type scale ranging from 1 to 5. (1= completely disagree, 5= completely agree). Four items were included to develop this scale[16]:

[15] Cronbach's alpha of 0.90 implies a highly reliable instrument; however, coefficients ranging from 0.70 to 0 .90 are acceptable for most instruments (Hoyt et al., 2006).
[16] The questionnaire used for this is attached in Appendix D.

(1) The product/service offerings are selected to very closely match the financial, physical and other resources you have access to
(2) The customers or target markets are selected to very closely match the financial, physical and other resources you have access to
(3) The methods for producing or sourcing are selected to very closely match the financial, physical and other resources you have access to
(4) The methods for promotion and selling are selected to very closely match the financial, physical and other resources you have access to.

This measure was also developed through a process of two rounds of pre-testing in the CAUSEE questionnaire. The resource relatedness scale is also regarded as a reflective index. The reliability of items was measured using Cronbach's alpha. Data from the four items produced a Cronbach alpha of .83 (n= 493) reflecting a good internal consistency of the construct (Hoyt, et al., 2006)[17]. The resource relatedness construct is shown pictorially in Figure 4.4.

Figure 4.4: Resource relatedness



4.3.4.4 Investment of time

Investment of time was measured by the number of hours worked on the start-up by firm founder/founders for the last 12 months. This is based on the question (A11) "How many hours in total have you devoted to this business since the last interview, that is, during the last 12 months?" The investment of time for the

[17] Constructs' reliability and validity is further discussed later in this chapter.

team start-up is composed of all the hours invested by all of the team members. This is a continuous variable and computed the time devoted between wave 1 and wave 2.

4.3.4.5 Investment of money

Investment of money was measured by the amount of money invested by the firm founder/founders. Based on the question (D2) "Can you say roughly how much money or financial resources of any kind you have invested in this business since the last interview – that is, in the last 12 months – including any loans, equity and expenditures made to help the business get started?" Similar to the hours invested, the investment of money was the investment made between wave 1 and wave 2. Money invested is by all team members for team start-ups. This is also a continuous variable.

4.3.4.6 Venture performance

Different types of outcome measures have been used by entrepreneurship research in order to measure the firm performance. For example, sales level, sales growth rate, cash flow, return on shareholder equity, gross profit margin, net profit from operations, profit to sales ratio, return on investment, ability to fund business growth from profits, employment growth etc. (Baum & Locke, 2004; Chandler & Hanks, 1993; Covin & Selvin, 1990). However, these traditional outcome measures are not appropriate to measure the performance of emerging ventures (Samuelsson & Davidsson, 2009). Instead, scholars have thought of other indicators so as to measure the progress of the venture creation process. For example, Davidsson and Honig (2003) have used making further progress in the start-up process as an outcome measure. "The number of gestation activities completed in subsequent period" is used as the indicator under this category. Delmar and Shane (2004) assert that reaching certain milestones such as product development and getting new products to the market are outcome variables. Further, Carter et al. (1996) used the discontinuance, still trying and already being an up and running start-up, as the self reported status of the venture performance. In addition, some financial measures have been proposed by researchers to measure the process outcomes. Accordingly achieving first sales, positive cash flow and profitability indicators are used to

measure the performance of nascent ventures (Davidsson & Honig, 2003; Reynolds & Miller, 1992).

This study used four outcome measures in order to measure the nascent venture performance:

(a) Making progress
(b) Getting operational
(c) Being terminated
(d) Achieving positive cash flow

4.3.4.6.1 Making progress

Making further progress is the continuation of venture activities and is captured by summating different gestation activities such as purchasing equipment, gathering finances, preparing business planning etc. Respondents were directed to 39 different questions regarding the completion of gestation activities. For example, with regard to the purchase of resources the following question was asked of each of the respondents: (Q34) "Have purchases been made of any raw materials, inventory, supplies, or components specifically for this new business; will such purchases be made in the future, or is it not relevant to the new business?" Respondents had to answer either (1) yes, or (2) no, not yet – plans/will in future, or (3) no, not relevant. Each gestation activity was considered as a dichotomous variable coded 1 = completed, and 0 = otherwise. All gestation activities that were completed between wave 1 and wave 2 were summated together to compute this index. Thus, making progress is a continuous variable. Table 4.1 provides the gestations activities used in this study to compute this variable.

Table 4.1: Gestation activities of CAUSEE

1	Business registration	21	Revised business plan since first version
2	Choosing a location of business	22	Seek outside funding
3	Establishment of formal legal form	23	Received the first outside funding
4	Firs business idea- starting a business or, business idea came first	24	Established credits with supplier
5	Product/service development	25	Devoted full time to the business (>35 hrs/week)
6	Marketing and promotional efforts	26	Hired any employees/managers
7	Development of Proprietary technology/processes/procedures	27	Bank account opened
8	Applying for patent/trademark/copy right	28	Business received income/fees
9	Purchased/leased or rented equipment/facilities/ property	29	Monthly revenue exceeds expenses
10	Purchased raw materials/ inventory/supplies/ components	30	Salaries included in expenses
11	Discussion with potential customers	31	Accountant service retained
12	Collecting information about the competitors	32	Lawyer service retained
13	Defining marketing opportunities	33	Membership of industry association
14	Developing financial projections	34	Advice and assistant from supporting organisations
15	Determine the regulatory requirements	35	Joining with internet- based networks
16	Carry liability insurance	36	Business or service network
17	Registered for ABN	37	Business classes or seminars
18	Registered for GST	38	Customer contactable(phone, email etc)
19	Registered for PAYG withholding	39	Functioning a website on the internet
20	Preparation for business plan		

4.3.4.6.2 Getting operational

Operational is defined as having revenue for at least six out of the past twelve months. All respondents were asked (A22) "To the best of your knowledge, did this business receive any sales revenue, income, or fees for more than six out of the past twelve months?" They have to answer either 'yes' or 'no'. If they answer 'yes' they are regarded as firms that have become operational. If they answer 'no' they may be either still trying or may have terminated the venture.

Based on the answers provided by the respondent it was then decided whether the firm was operational or terminated. Operational is expressed as opposed to

terminated and still trying. Accordingly, the variable was coded as 1= operational and 0 = others (terminated + still trying).

4.3.4.6.3 Being terminated

Terminated is defined as having no further concrete efforts to continue the venture. CAUSEE assessed termination through a computed dummy variable (1 for termination; 0 for continuation) based on a combination of interview questions. Nascent firms were considered terminated if a) they failed to answer 'yes' to either of the following questions: "In the past twelve months, since the first interview, did you devote more than one hundred and sixty hours – four weeks of full time work – to this business start-up?" or "Over the next six months, do you expect to spend more than eighty hours – two weeks of full time work – on this business start-up?" *and* b) they answer 'no' to "Over the next six months, will somebody else spend more than eighty hours – two weeks of full time work – on this business start-up?" *and* c) they answer 'disengaged' to the question "Do you consider yourself to be actively involved with the new business start-up you were working on 12 months ago, or disengaged from it?" *and/or* d) they answer 'yes' to "It appears that neither you nor anyone else is currently working on the start-up you were working on 12 months ago. Is that correct?"

Getting terminated variable is also a dichotomous variable

4.3.4.6.4 Achieving positive cash flow

The indicator positive cash flow is that income exceeded the expenses. Thus, each of the respondents who participated in wave 2 of the interview was asked: (A24) "Was the monthly revenue more than monthly expenses for more than six of the past twelve months?" The respondent had to answer 'yes' or 'no. If the answer was 'yes' the firm was regarded as one that was achieving positive cash flow. This variable is also dichotomous.

4.3.4.7 Control variables

A number of control variables were incorporated in the analysis on the premise that they would affect the nascent venture performance. These variables range from the stage of venture development (e.g., the number of gestation activities

completed during wave 1), the type of business (e.g., retailing), venture technology (e.g., brick and mortar), and human capital (e.g., team size and industry experience)[18]. All variables were computed using data collected at the first interview.

4.3.4.7.1 The completion of gestation activities at wave 1

When the first interview was conducted, some ventures would have reached the operational phase while others were still at the beginning of the process. Therefore, the completion of gestation activities so far up to wave 1 of the data collection was assumed to have an effect on the nascent venture performance. This is a continuous variable formulated by summating 39 gestation activities completed as shown in Table 4.1. This variable is nothing other than the making progress up to wave 1.

4.3.4.7.2 Retailing industry

Retail is a type of industry affiliation and its representation is much higher than other types of industries in the sample (Davidsson et al., 2008). On the other hand, since the retail industry is characterised by having fewer barriers to enter into the industry (Geroski, 1995) and therefore is relatively less complex and could potentially have less of a start-up cost, it is generally supposed that the retail industry has an impact on the performance of nascent ventures. The industry classification of CAUSEE comprises 17 industry sectors such as retail, hospitality, manufacturing, agriculture, consumer services, mining etc. Respondents were asked to indicate (QB4) "What industry is this business going to be in?" This variable was formulated as a dummy variable by coding 1 for retail and 0 as all other types of industries.

4.3.4.7.3 Brick and mortar businesses

Compared to e-businesses, brick-and-mortar businesses find that it is rather easy to reach customers since they operate a less complex transaction procedure (Amit & Zott, 2001) and envisage that they have an impact on the success of new

[18] Indeed I tested more control variables in the analysis in addition to the above five variables. For example, start-up experience, education, growth focus of the firm, non-local sales aspiration, and hi-tech industry. However, since they did not account for significant contribution to the venture performance and to the model fit indices, I retained only the five control variables stated in the text.

ventures. In this regard, respondents were asked (QB6) “What proportion of your sales, if any, do you expect to be on-line, that is via the internet?” If their answer was 0, then they belonged to businesses in the brick and mortar category; otherwise they were classified as e-businesses. Accordingly, this is also a dummy variable and is therefore coded as 1 = brick and mortar, and 0 = other.

4.3.4.7.4 Team size

Ventures can be formed individually as well as in teams. Research suggests that in most situations the larger the team size the higher the firm performance (Delmar & Shane, 2006). According to Cooper and Bruno (1977) team founded ventures achieve better performance than individually founded ventures. Therefore, the team size also was conceived as a factor that affects the nascent venture performance. The team size was computed based on the question (QB10) “How many owners in total do you expect this business to have?” Thus, this variable is a continuous variable and was measured by number of members of the team.

4.3.4.7.5 Industry experience

The industry experience of founders is assumed to be an important human capital variable that affects the firm’s performance (Cooper, et al., 1994). It helps entrepreneurs to understand the markets, suppliers and to make other social contacts (Dimov, 2010). Industry experience was measured by the number of years spent working in the current industry, and was based on the question (S7-Q12) “How many years of work experience, if any, have you had in the industry where this business will compete?” This is a continuous variable and is measured by the number of years of work experience.

These variables are time invariant and were measured at the first interview.

4.3.5 DATA ANALYSIS

Data analysis was conducted by using univariate, bivariate, and multivariate statistics. Frequencies, means and standard deviations were used as univariate coefficients to measure the distribution, central tendency and dispersion of data included in the analysis respectively. Correlation coefficients were applied to

examine the relationships between two variables. Multivariate analysis was employed to analyse hypotheses and to test the models of the study (Hair et al., 2006). Structural equation modelling (SEM) and its sister analytical technique, i.e. confirmatory factor analysis (CFA) were used as multivariate techniques for this purpose.

4.3.5.1 Structural equation modelling

As the present study is involved with a theoretical model that has relationships among manifest (i.e., directly measured or observed) and latent variables (i.e., the underlying theoretical construct), structural equation modelling (SEM) was chosen as the main analytical technique for this study (cf. MacCallum & Austin, 2000). SEM is a linear model similar to regression and ANOVA (Weston & Gore, 2006). However, when using regression or ANOVA, the researcher can only conduct their analysis on variables that are directly measured, and this can therefore limit the testing of the underlying theoretical constructs (Martens, 2005). Another important attribute of SEM is that it can address the measurement error that other linear techniques cannot model. Moreover, the researcher can use multiple test statistics and a host of fit indices to determine whether the model accurately represents the relationships among constructs and observed variables (i.e., whether the model fits the data) as well as the hypothesised relationships among constructs (Anderson & Gerbing, 1988).

SEM is also known as path analysis with latent variables. This means that SEM is a hybrid of factor analysis and path analysis (Weston & Gore, 2006). It gives a parsimonious summary of the interrelationships among variables that has been conducted in the factor analysis. It is similar to path analysis in that it tests the hypothesised relationships between constructs. This provides two primary components included in a SEM: measurement model and structural model. The measurement model describes the relationships between the observed variables (i.e., the indicators or manifest variables) and the construct or constructs that variables are hypothesised to measure. In contrast, the structural model describes the interrelationships among constructs. When the measurement model and the structural model are combined together, the model may be called the composite or full structural model (Weston & Gore, 2006).

4.3.5.2 Assessing models

Anderson and Gerbing (1988) suggested a two-step approach to test the full structural model. In the first step the measurement model is tested to identify how well the observable variables represent the latent constructs (Hair et al., 2006). Confirmatory factor analysis is used for this purpose. The measurement model can be analysed in two different ways: (1) assessing the construct validity; and (2) assessing the overall model fit. This procedure is alternatively referred to as the assessment of the reliability and validity of the measurement model (Shook, Kitchen, & Hult, 2004).

The construct validity is defined as the "extent to which a set of measured variables actually represents the theoretical latent construct those variables are designed to measure" (Hair et al., 2006, p. 771). The construct validity of a model can be evaluated in three different ways: convergent validity; discriminant validity; and nomological validity (Anderson & Gerbing, 1988; Hair, et al., 2006; Shook, et al., 2004). This research uses convergent validity in assessing the measurement model as it is regarded as the mostly used measure in SEM research (Shook, et al., 2004).

The idea behind the convergent validity is that items of a construct should converge or have a high proportion of variance in common. Factor loadings (λ), variance extracted (VE) and construct reliability/composite reliability (CR) estimates can be used to assess the convergent validity of a model.

Estimates between indicators and latent constructs are referred to as loadings/weights[19]. These are analogous to regression coefficients that may be unstandardised or standardised (Kline, 2005). Significant standard factor loadings above 0.70 as a rule of thumb are considered to be better, however loadings above 0.50 can also be acceptable (Bagozzi & Yi, 1988). Research practice is for an indicator that has a loading below 0.50 to be eliminated from the construct on the premise that such an indicator does not properly manifest the latent construct (Petter, et al., 2007). However, this rule is not applied to formative constructs. Jarvis et al.,

[19] In a reflective index, estimates between indicators and the latent construct are referred to as loadings. In contrast, in a formative index, estimates between indicators and the latent construct are called weights (Diamantopoulos et al., 2008).

(2003) argue that the elimination of an indicator from a formative construct seriously violates the meaning of the construct because a formative construct is regarded as a composite of all of those indicators.

Composite reliability is an indicator for assessing internal consistency, which is similar to the Cronbach alpha. It does not assume that all items equally contribute to reliability as is the case with the Cronbach alpha (Shook et al., 2004). Composite reliability draws on the standard loading and measurement error for each item. 0.70 is considered the threshold for the reliability of a construct (Hair et al., 2006). Construct reliability is calculated using the following formula:

$CR = (\Sigma\lambda)^2 / (\Sigma\lambda)^2 + \Sigma\delta$

Where

λ = factor loading

δ = sum of error variance terms

The average percentage variance extracted (AV/AVE), which is the variance that a construct captures from its items relative to that due to measurement errors. An acceptable convergent validity is achieved when the variance extracted is greater than 0.50 (Shook et al., 2004).

$AVE = \Sigma\lambda^2 / n$

Where

λ^2 = squared multiple correlations (SMC)

n = number of items

4.3.5.3 Evaluation of the model fit

Over and above the estimation of loadings and path coefficients, the test of model fit of both the measurement model and structural model is suggested (Kline, 2005). The literature indicates many different evaluation criteria to determine the fit of these models. Accordingly, indices such as chi-square (χ^2), the Goodness-of-Fit Index (GFI), the Comparative Fit Index (CFI), Tucker-Lewis Fit Index (TLI), Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square

Residual (SRMR), Weighted Root Mean Square Residual (WRMR) are used to evaluate the models (Bagozzi & Yi, 1998; Hair, et al., 2006; Weston & Gore, 2006).

The chi-square (χ^2) assesses how well a model fits the observed data. A good model fit would provide a non-significant result at a 0.05 threshold, thus the chi-square statistic is often referred to as a 'badness of fit' (Kline, 2005). CFI compares the improvement of the fit of the model over a null model, which specifies no relationships among variables. RMSEA is known as the most sensitive index to models with misspecified factor loadings and corrects for a model's complexity. A RMSEA value of .00 indicates that the model exactly fits the data. The SRMR index is based on covariance residuals and is known as the most sensitive index to models with misspecified factor covariance(s). Smaller values of SRMR indicate better fit (Bagozzi & Yi, 1998; Hu & Bentler, 1988; Weston & Gore, 2006).

Table 4.2 depicts the cut off criteria for popular indices used in research when the sample is larger than 250 subjects. (See Hair et al., 2006 for cut off indices for different samples.)

The second step of SEM is to estimate the structural model. This involves the estimation of path coefficients and assessing the model fit. Literature in SEM indicates several estimation methods such as maximum likelihood (ML), least squares (LS), weighted least squares method (WLSM) etc. (Muthén & Muthén, 1984-2007; Weston & Gore, 2006). The maximum likelihood method has been the predominant method (Anderson & Gerbing, 1988). As in the measurement model, standardised as well as unstandardised coefficients can be estimated. The significance of estimates can be judged by inspecting Z- values (critical ratios) or P-values (probability values). The model fit is evaluated using global indices that are used to test the measurement model.

Table 4.2: Cut- off criteria for model fit indices

Index	Cut off values		
	m<12	***12<m<30***	***m>30***
χ^2	Non-significant p-values can result in good fit	Significant values can be expected	Significant values can be expected
CFI or TLI	.95 or better	Above .92	Above .90
RNI	.95 or better, but do not use with N>1000	.92 or better, but do not use with N>1000	Above .90, but do not use with N>1000
SMAR	Could be biased upward; use other indices	.08 or less (with CFI above .92)	.08 or less (with CFI above .92)
RMSEA	Values <.07 with CFI of .97 or higher	Values <.07 with CFI of .92 or higher	Values <.07 with CFI of .90 or higher

Note: m = number of observed variables
Source: Hair et al. (2006, p. 753)

4.3.5.4 Software choice

There are number of software that can be used to analyse data in structural equation modelling. These include Lisrel (Linear Structural Models; Jöreskog & Sörbom, 1996), AMOS (Analysis of Moment Structure; Arbuckle, 1995-2008), EQS (Equations; Bentler, 1995), MPlus (Muthén & Muthén, 1998-2007). This study selected MPlus to analyse data as Mplus allows the testing of models that have categorical dependent or endogenous variables. SPSS 17 (SPSS, 1993-2007) was also used for preliminary data analysis such as computing descriptive, frequencies, correlations, assessing non-normality, and missing value imputations.

4.4 CHAPTER SUMMARY

This chapter presented the method used in this study. The study was organised around two separate studies. The first was designed to estimate utilities for different idea characteristics when individuals trade off them. Accordingly, the chapter explained the conjoint study and the different steps involved in it. In this delineation, the sample choice, scenario development, the method of data collection and analysis were presented. The second and larger part of the chapter was devoted to explaining Study 2. Firstly, the rationality for the selection of a nascent entrepreneur sample and longitudinal approach were discussed. In the second instance, the screening procedure for the selection of the sample was presented.

Subsequently, the data collection method, the variables involved with the study, and the way that they were measured was also discussed. At the end of the chapter, details of the data analytical method were discussed. The steps involved in the structural equation modelling approach with confirmatory factor analysis were presented in this section. The chapter also presented the different fit indices and their cut off points that are used in measuring of measurement and structural models. The chapter ended by indicating the chosen software for the data analysis.

Chapter 5: The Results of Study 1

5.1 INTRODUCTION

In examining the characteristics of venture ideas, it was found that some venture ideas are more popular than others among entrepreneurs (Ruef, 2002). As a result, this researcher was prompted to investigate whether the phenomenon of idea characteristics, which is the central focus of this study, has any effect on the attractiveness of venture ideas. Thus, as an experimental study, Study 1 was designed to estimate the preferences for each of the idea characteristics when entrepreneurs trade them off. A Conjoint Analysis was carried out for this purpose by contacting 32 experienced entrepreneurs in Sri Lanka. Thus, this chapter presents the results of this conjoint analysis, which provides part worth utilities for each of the attributes of venture idea characteristics concerned. In addition, this chapter presents their relative importance to the attractiveness.

5.2 RESEARCH QUESTIONS

As stated in Chapter 1, Study 1 was designed to seek answers to the following questions:

1. How do the types and degrees of novelty, relatedness and potential financial gains of venture ideas affect their attractiveness in the eyes of experienced entrepreneurs?
2. What is the relative importance of each of the attributes of venture ideas to their attractiveness?

Before presenting the results of conjoint analysis, some sample characteristics including some demographic characteristics of individuals and selected venture characteristics are therefore initially presented (the questionnaire directed at entrepreneurs is attached in Appendix A).

5.3 DESCRIPTION OF THE SAMPLE

Data shown in Table 5.1 show that the majority of founders are male (75%). Most entrepreneurs were aged between 30 to 50 years (78.2%) and the average age of respondents was 41 years. With regard to the education of founders, none had a university education. Instead, founders were identified as having received either a general or a high school education. Thus, in a Sri Lankan context entrepreneurs possess a considerable education. Furthermore, the majority of founders are Sinhalese (90.6%) and minorities representation is less. Most of the firm founders had only started one business so far (43.8%) and nobody was found who had started more than five ventures. With regard to the success rate of the started businesses, 62.5% of respondents reported that only one business was a success. At the same time, a similar percentage of founders reported that no firms were failed among those they started. This is because the majority of founders had started only one or two businesses so far. The results further revealed that the majority of founders currently run only one business alone or with others (62.5%). When asked about what prompted them to start their ventures most of respondents stated that knowledge had induced them to go for the selected venture idea (65.6%). 34.4% of the sample reported they had selected the venture idea based on the availability of resources.

As shown in Table 5.2, the average highest sales received by firm founders at one point time is SLR 1.62 million, whereas the average highest employees at one point time is approximately seven. The number of failures was less compared to the number of successes.

Table 5.1: Description of the sample – Frequencies

Characteristics of the sample	Frequency	Percentage
Gender		
- Male	24	75
- Female	8	25
Education		
- GCE Ordinary level	16	50
- GCE Advanced level	16	50
Age		
- Between 20-30	3	9.3
- Between 30-40	12	37.5
- Between 40-50	13	40.7
- Between 50-60	4	12.5
Ethnicity		
- Sinhalese	29	90.6
- Muslim	3	9.4
Number of businesses started to present day		
- 1	14	43.8
- 2	9	28.1
- 3	5	15.6
- 4	3	9.4
- 5	1	3.1
Number of successes among businesses started		
- 1	20	62.5
- 2	10	31.3
- 3	1	3.1
- 4	4	0
- 5	1	3.1
Number of failures among businesses started		
- 0	20	62.5
- 1	8	25.0
- 2	4	12.5
How many businesses running right now (alone or with others)	20	62.5
- 1	10	31.3
- 2	1	3.1
- 3	1	3.1
- 5		
What prompted to select the current venture idea		
- Knowledge	21	65.6
- Resources	11	34.4
Highest annual sales received at one point of time		
- Less than SLR 1 million	10	31.25
- SLR 1 million - 2 million	14	43.75
- SLR 2 million - 3 million	3	9.37
- SLR 3 million - 4 million	3	9.37
- More than SLR 4 million	2	6.25
Maximum number of employees have/had at any point in time	9	15.62
- Less than 5	16	50.00
- 5-9	7	21.88
- Above 10		

n=32

Table 5.2: Description of the sample – Means and standard deviations

Variable	Mean	SD
Age (years)	41.06	8.51
Number of businesses started	2.00	1.14
Number of successful businesses	1.50	.84
Number of failures	.50	.72
Number of ventures running now	1.50	.84
Sales (SLR millions)	1.62	1.40
Number of employees	6.75	3.26

n=32

The above data indicates that this sample substantially demonstrates the attributes of experienced entrepreneurs. Basically all have at least five years experience (this is a selection criterion for entering the competition for Young Entrepreneur Award). In addition, the number of entrepreneurs who started more than one business is greater than entrepreneurs who started only one. At the same time, they record a substantial success rate of business and a low rate of failures. However, it is worth noting that the female representation and the minority representation in the sample is not satisfactory. Data further reveals that entrepreneurs' reliance for knowledge is greater than the resource position of the individuals in selecting venture ideas. This implies that entrepreneurs discover their venture ideas mostly based on knowledge (Shane, 2000) rather than resource endowments (Sarasvathy, 2001).

5.4 CONJOINT ANALYSIS

As stated above, a conjoint analysis was carried out in order to elicit the preferences of entrepreneurs on how they trade-off different venture idea characteristics. The conjoint study included the following steps.

5.4.1 IDENTIFYING THE ATTRIBUTES

This study used the literature review method to identify the attributes of interests relevant to the venture ideas. Indeed, these attributes are based on the main characteristics of the venture ideas identified for the investigation (novelty, relatedness and potential financial gains). According to Schumpeter (1934) entrepreneurs introduce different forms of novelty to the market. These forms

include new products/services, new method of production, the opening of a new market, and introduction of new sources of supply and organising methods. Therefore, four types of novelty – the product, process, market and the promotion – were selected as attributes associated with the novelty construct. Similarly, the study also focused on two types of relatedness attributes – knowledge relatedness and resource relatedness – based on the works of Shane (2000) and Sarasvathy (2001) (see the relatedness section of Chapter 2 for more details). In addition, building on concepts of perceived desirability and feasibility (Kruger, 1993) and the entrepreneurial motivation of individuals (Schumpeter; 1934; Shepherd & DeTienne, 2005), potential financial gain was chosen as an important attribute of venture ideas.

5.4.2 ASSIGNING LEVELS OF ATTRIBUTES

Following Dahlqvist (2007), this study identified four levels for each of the four attributes of the novelty. These levels include new to the world, new to the market, substantial improvement and imitations for all attributes of novelty except for the market novelty. For the market novelty, the attributes were the market/customer that other businesses have totally neglected, the market/customer that is not served by most other firms, the market/customer is substantially different from other businesses, and the market/customer where other firms operate were assigned as levels (see Table 5.3 for a description of all levels associated with each attribute). In the case of the knowledge and resource relatedness, the study assigned each of them to two levels as high and low. High relatedness implies that the venture ideas are highly associated with the individuals' knowledge or resource and vice versa. A similar approach was followed to specify levels for the potential financial gain. In a 'high' level the venture idea could be the basis of a growing firm that can make its founder rich while in a 'low' level, if successfully implemented the venture idea could be the basis of a healthy small business. However it could probably not grow large or become spectacularly profitable. Table 5.3 shows all the attributes and levels associated with the study.

5.4.3 DECIDING ON THE PROFILES TO BE PRESENTED

After establishing the attributes and their levels, the next step of a conjoint study is to present hypothetical profiles (or scenarios) that represent different combinations of attributes to the respondents in order to obtain their preferences. The attributes and levels identified by this study gave rise to 2048 (4 x 4 x 4 x 4 x 2 x 2 x 2) possible alternative profiles. This is certainly a very large number, and one that the respondents cannot be requested to evaluate. The orthogonal (uncorrelated) reduced design procedure allowed the statistical testing of manageable attributes without testing each combination of attributes. SPSS conjoint software was used to generate profiles. The orthogonal design thus generated a set of 32 full-profile descriptions for the present study**.** Table 5.4 shows an abridged version of profiles generated by the orthogonal plan. An English translation of the fully articulated profile that was presented to the respondents is provided in Table 5.5.

Table 5.3: Attributes and levels of venture ideas

Attributes	***Levels***			
Product novelty	New to the world	New to the market	Substantial improvements	Imitative
Process novelty	New to the world	New to the market	Substantial improvements	Imitative
Market novelty	Market/customer that other businesses have totally neglected	Market/customer that is not served by most of other firms	Market/customer that substantially different from what other businesses apply	Market/customer where other firms operate
Promotion novelty	New to the world	New to the market	Substantial improvements	Imitative
Knowledge relatedness	High	Low	-	-
Resource relatedness	High	Low	-	-
Potential financial gain	High	Low	-	-

Table 5.4: All profiles

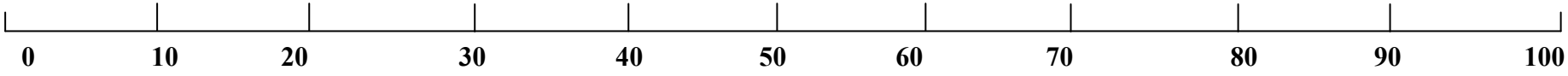
Card ID	Product novelty	Process novelty	Market novelty	Promotion novelty	Knowledge relatedness	Resource relatedness	Financial gains
1	Substantial Improvements	New to the world	Market other firms operate in	Substantial Improvements	Low	High	High
2	New to the world	Imitative	Market other firms operate in	New to the world	High	High	Low
3	New to the market	Imitative	Substantially different	Substantial Improvements	High	Low	High
4	Imitative	Substantial Improvements	Others totally neglected	New to the market	High	Low	Low
5	Substantial Improvements	Imitative	Others totally neglected	New to the market	Low	Low	High
6	New to the world	New to the market	Not served by most of the others	New to the market	Low	High	Low
7	New to the market	New to the world	Not served by most of the others	New to the market	High	High	High
8	Substantial Improvements	Substantial Improvements	Not served by most of the others	Imitative	High	High	High
9	Imitative	New to the world	Substantially different	New to the world	Low	Low	Low
10	Substantial Improvements	New to the market	Substantially different	New to the world	High	Low	High
11	New to the world	New to the world	Others totally neglected	New to the world	High	High	High
12	Imitative	New to the world	Substantially different	Imitative	Low	High	High
13	New to the world	Substantial Improvements	Substantially different	Substantial Improvements	Low	Low	Low
14	New to the market	Substantial Improvements	Market other firms operate	New to the world	Low	High	High
15	Imitative	Imitative	Not served by most of the others	Imitative	Low	High	Low

16	New to the world	New to the world	Others totally neglected	Imitative	High	Low	Low
17	New to the market	New to the market	Others totally neglected	Imitative	Low	Low	High
18	Substantial Improvements	New to the world	Market other firms operate	New to the market	Low	Low	Low
19	New to the market	Substantial Improvements	Market other firms operate	Imitative	Low	Low	Low
20	New to the market	Imitative	Substantially different	New to the market	High	High	Low
21	New to the world	Imitative	Market other firms operate	Imitative	High	Low	High
22	Imitative	Substantial Improvements	Others totally neglected	Substantial Improvements	High	High	High
23	Imitative	Imitative	Not served by most of the others	New to the world	Low	Low	High
24	New to the market	New to the world	Not served by most of the others	Substantial Improvements	High	Low	Low
25	Imitative	New to the market	Market other firms operate	Substantial Improvements	High	High	Low
26	Substantial Improvements	Substantial Improvements	Not served by most of the others	New to the world	High	Low	Low
27	New to the world	Substantial Improvements	Substantially different	New to the market	Low	High	High
28	New to the market	New to the market	New to the world	New to the world	Low	High	Low
29	Substantial Improvements	New to the market	Substantially different	Imitative	High	High	Low
30	New to the world	New to the market	Not served by most of the others	Substantial Improvements	Low	Low	High
31	Imitative	New to the market	Market other firms operate	New to the market	High	Low	High
32	Substantial Improvements	Imitative	Others totally neglected	Substantial Improvements	Low	High	Low

Table 5.5: An example for a profile

Card ID	**Product novelty**	**Process novelty**	**Market novelty**	**Promotion novelty**	**Knowledge relatedness**	**Resources relatedness**	**Financial gain**
1	Offers a product or service that is substantially improved	Uses a method of production that is new to the world	Serves a market or customers, where other firms operate	Uses a promotion method that issubstantially improved over other firms	This venture idea does not build on your current knowledge	This venture idea requires that you want more resources	This venture idea, if successful, will give you a higher financial gain

Please score your preference from 0 to 100 (0 = no attractiveness at all, and 100 = highly attractive)



Not attractive at all **Highly attractive**

5.4.4 OBTAINING PREFERENCES

The next step in the conjoint method is to obtain preferences for scenarios from the respondents. Two different methods are generally used to obtain preferences for scenarios: the full profile method, and a partial profile method. This study chose to use the full profile method to obtain preferences from the respondents. In a full profile approach each respondent sees a full set of profiles, which consist of a combination of all levels for all attributes of interest. Green and Srinivansan (1978) assert that the full profile approach gives a more realistic description of stimuli by defining the levels of each of the factors and possibly taking into account the potential environmental correlations between factors in real stimuli. In this study, respondents were asked to assign their preferences for each scenario on a 0 to 100 scale in which 0 indicated that the respondents assigned no attractiveness at all for the profile and 100 indicated that they assigned the highest possible attractiveness for the profile.

5.4.5 SAMPLE AND DATA COLLECTION PROCEDURE

The sample for this study was selected from entrepreneurs who were awarded young entrepreneurship awards in Sri Lanka. The Federation of Chambers of Commerce and Industry in Sri Lanka (FCCISL) conducts an annual award program "Sri Lankan Entrepreneur of the Year" in order to recognise, motivate and reward young entrepreneurs of the country. Based on different criteria such as the vision and mission of the firm, the innovativeness, the strategies, the business success in terms of financial performance and growth, future plans and response to social, environmental and statutory commitments as an entrepreneur, FCCISL chooses entrepreneurs who have been successfully running their businesses for a period of at least five years. Accordingly, 32 entrepreneurs agreed to participate for interviews from a group of 48 entrepreneurs who received provincial young entrepreneurship awards in 2007 in two provinces in Sri Lanka. These entrepreneurs were located in the Western and North Western provinces in Sri Lanka which represents the capital city and an adjoined province. The list of entrepreneurs was received from the FCCISL and respondents were initially contacted by telephone calls. The selected 32 entrepreneurs were then met in person for the interviews. In these interviews, a

questionnaire was initially presented them to ascertain their demographic, business and venture idea characteristics (the questionnaire is attached in Appendix A). Secondly they were presented with a series of scenarios one by one in order to obtain their preferences. Before conducting interviews, the scenarios were pre-tested for content validity by presenting them to six entrepreneurs and five university academics in Sri Lanka. This procedure was followed to ascertain whether the scenarios could be understood or if further changes were required. Views received from the above mentioned persons were accordingly incorporated into the final version of scenarios that were presented to the entrepreneurs. Scenarios were presented in the Sinhalese language with some more verbal explanations.

5.4.6 VARIABLES

The attractiveness of venture ideas was the dependent variable of this conjoint study. All levels as shown in Table 5.3 were included as independent variables in this analysis. Accordingly, 22 independent variables were included in the analysis.

5.4.7 DATA ANALYSIS

SPSS 17 was employed to analyse data. Individual preferences for each factor were measured in terms of utilities. Higher utility values indicate a greater preference while low utility value indicates a lesser preference. These estimated part-worth utilities are analogous to coefficients of multiple regression. As such, the total utility derived for any profile could be estimated by adding these part-worths together. Accordingly, the utility function for a certain profile can be depicted as follows:

$\mathbf{TU} = \mathbf{A} + \mathbf{U_1}$(new to the world product) + $\mathbf{U_2}$(new to the served market process) + $\mathbf{U_3}$(marker or customer that has not totally served by other businesses) + $\mathbf{U_4}$(new to the served market promotion) + $\mathbf{U_5}$(high knowledge relatedness) + $\mathbf{U_6}$(low resource relatedness) + $\mathbf{U_7}$(high potential financial gains)

TU= total utility

A = intercept

$\mathbf{U_{1\text{-}7}}$ =individual utilities

Once the total utility is calculated, the relative importance of each attribute is calculated. The range of the utility values for each attribute provides a measure of how important the attribute was to overall preference. In addition the correlation and simulation values can also be estimated.

5.5 CONJOINT RESULTS

The preferences were obtained by providing 32 alternative profiles to 32 experienced entrepreneurs[20]. Table 5.6 shows the utility (part-worth) scores and their standard errors for each factor level. Higher utility value indicates greater preference. Figure 5.1 pictorially presents the utility scores received from each level of attributes.

As seen in Table 5.6 and Figure 5.1, the highest utility is given by the substantially improved products for entrepreneurs. The second highest utility is generated from the high level of knowledge relatedness. Imitative process novelty gives the third highest utility. Similarly, the lowest utility is reported from the knowledge un-relatedness. The second least preferred utility is given by the level of low potential financial gain. New to the world related to the process newness, gives the third least preferred utility for entrepreneurs.

Utility scores for each venture idea attribute can be presented. Accordingly, in the product novelty category, substantial improved products give the highest utility while the imitative one gives the least utility for entrepreneurs. In the process novelty attribute, imitative process gives the highest utility, whereas new to the world level gives the least utility. With regard to the market novelty, entrepreneurs receive the highest utility from serving a market/customer where substantially different from what others offer. However, the lowest utility is derived from serving the market/customer, where others have totally neglected. In the promotion novelty, substantial improvement provides the highest utility, while new to the world level gives the lowest utility. In relation to attributes of knowledge, resource relatedness

[20] 32 profiles were obtained through the orthogonal plan generated by the software. This has no link with 32 entrepreneurs.

and potential financial gains, entrepreneurs receive higher utility by choosing venture ideas associated with them than they do through a process of low involvement.

The results further indicate that substantial improvements and/or imitative categories report the highest utility for the product, process and promotion novelty. New to the world and new to the market draws a negative utility from those attributes. High knowledge relatedness, resource relatedness and potential financial rewards register higher utilities while lower categories register negative utilities. Figure 5.1 graphically shows the preference for each level of attribute.

As utilities are all expressed in terms of a common unit, the total utility for any combination can therefore be calculated by adding them together. For example, the following equation shows the combination of the highest utility that can be received. The calculation was done by adding scores of levels that represent the highest utility from each attribute (total utility can range from 0 to 100 according to the scale)

Total Utility = *intercept* + product with substantially improved + imitative method of production + substantially different market/customer + substantially improved promotion technique+ high knowledge relatedness + high resource relatedness + high potential financial gain.

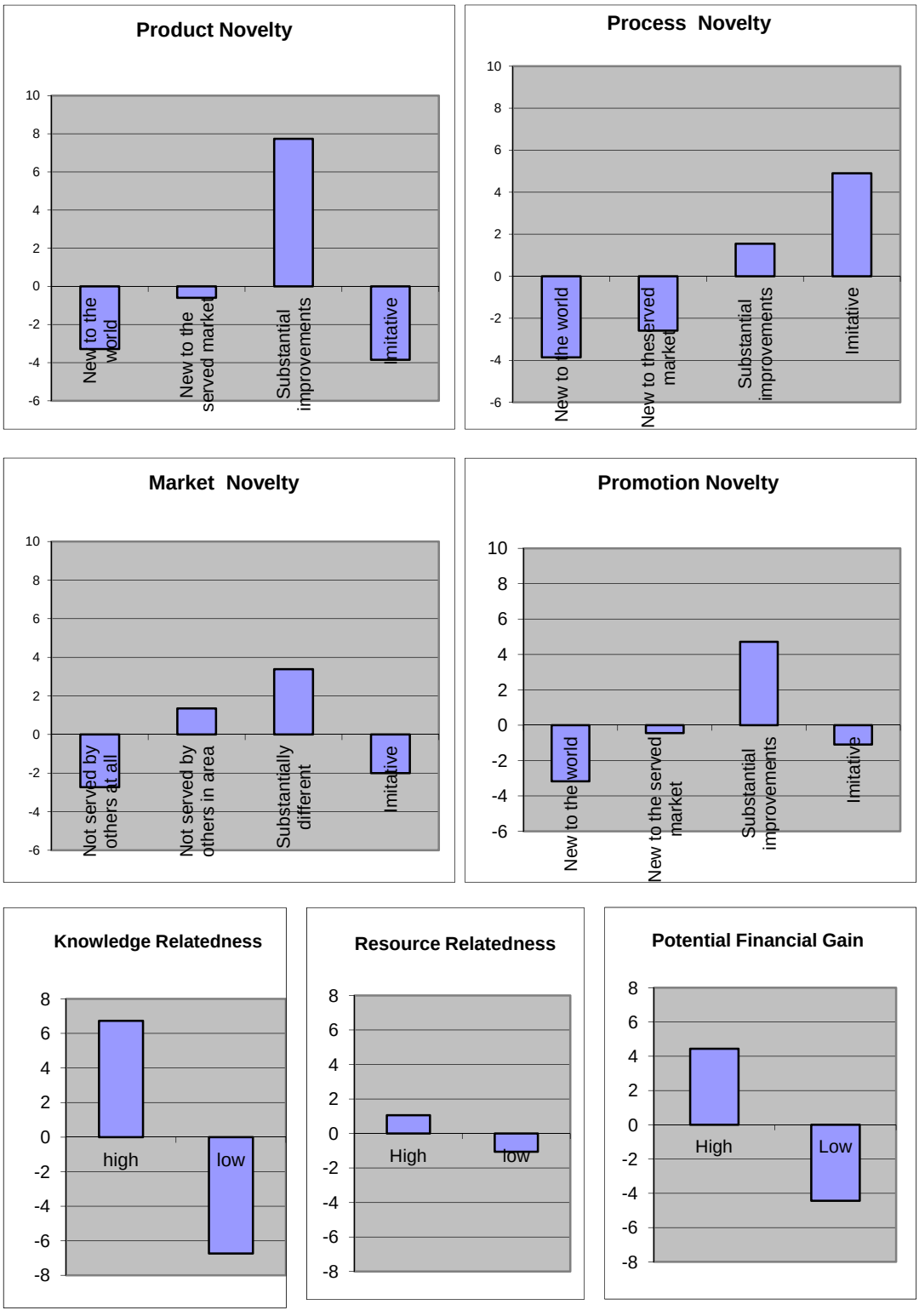
Total Utility = *42.77*+ 7.73+ 4.90+ 3.38+ 4.72+ 6.73+ 1.06+ 4.44

= 75. 73

Table 5.6: Estimated part worth utilities

Attributes	Levels	Utility Estimate	Std.Error
Product novelty	New to the world	-3.28	.706
	New to the market	-.60	.706
	Substantial improvements	7.73	.706
	Imitative	-3.85	.706
Process novelty	New to the world	-3.86	.706
	New to the market	-2.59	.706
	Substantial improvements	1.55	.706
	Imitative	4.90	.706
Market novelty	Totally not served by other businesses	-2.73	.706
	Not served by most of other businesses	1.35	.706
	Substantially different from what others offer	3.38	.706
	Serve the customer/market where other firms operate	-2.00	.706
Promotion novelty	New to the world	-3.17	.706
	New to the market	-.45	.706
	Substantial improvements	4.71	.706
	Imitative	-1.09	.706
Knowledge relatedness	High	6.73	.408
	Low	-6.73	.408
Resource relatedness	High	1.06	.408
	Low	-1.08	.408
Potential financial gains	High	4.44	.408
	Low	-4.44	.408
(Constant)		42.77	.408

Figure 5.1: Average utility scores

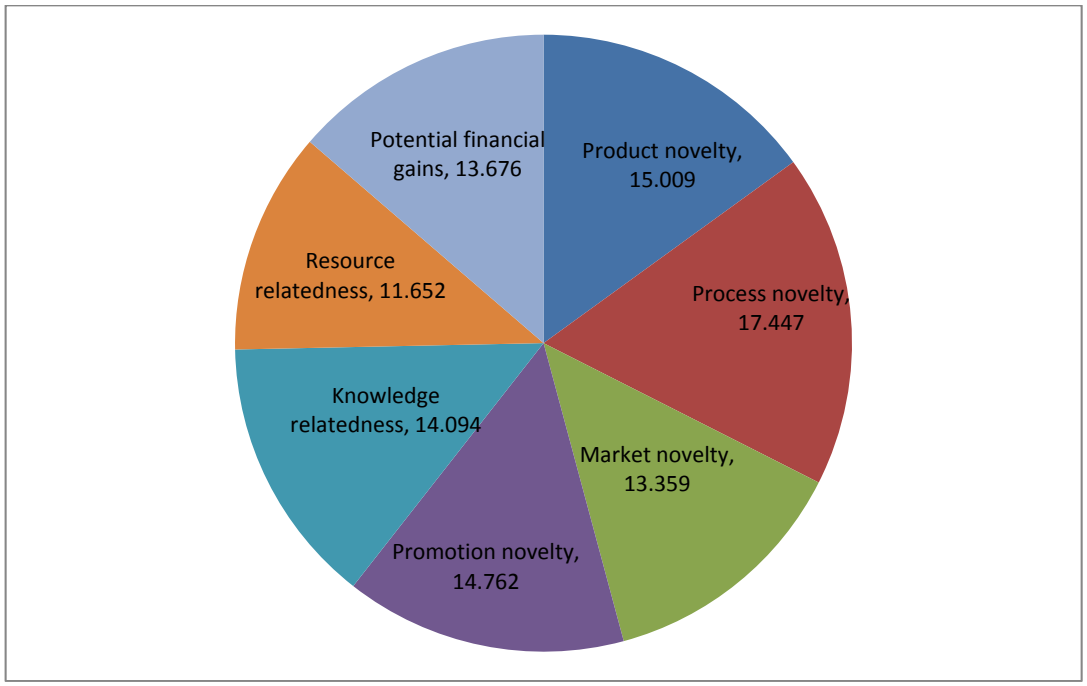


In addition to the individual utilities received from the each levels of attribute, the relative importance of each attribute can also be presented. The computation for the relative importance of a particular attribute can be done by taking its range of utility value (the difference between highest and lowest utility of that attribute) and dividing this by the sum of the utility ranges for all attributes. Table 5.7 shows the relative importance of each attribute. Accordingly, entrepreneurs give their highest priority to the process novelty (17.4%). Attributes of product novelty (15.1%) and promotion novelty (14.8%) take the second and third places respectively. Among knowledge and resource relatedness, knowledge is more important than resource relatedness. The lowest importance is given to the resource relatedness (11.7%). However, it appears that differences are not significantly large among attributes. The importance between attributes ranges from 11%-18 %.

Table 5.7: The Relative importance of attributes

Attribute	Utility Value
Product novelty	15.01
Process novelty	17.45
Market novelty	13.36
Promotion novelty	14.76
Knowledge relatedness	14.09
Resource relatedness	11.65
Potential financial gains	13.68

Figure 5.2: Relative importance of attributes



The results of the part-worth utilities provided above give some important insights into the attractiveness of venture ideas. Firstly, the results reveal that more entrepreneurs prefer to go for a moderate level of novelty. They neither prefer to go for radical innovations nor for imitations in all types of novelty except the process novelty. It therefore appears that, since innovation is involved with elements of high risk, high uncertainty is more prone to a liability of newness, and therefore experienced entrepreneurs are reluctant to go for radical innovations (Aldrich & Fiol, 1994; Kleinschmidt & Cooper, 1991). Even though entrepreneurs do not go for novel products and novel processess, the results indicate that they prefer to serve markets which most of the other businesses have ignored. This is a relatively innovative market. On the other hand, they do not wish to serve a market where others operate. This implies that entrepreneurs do not wish to go for markets that are highly competitive and which gives less of a profit margin (Song & Montoya-Weiss, 1998). All in all, they prefer to remain in between the radical and the imitative extremes of the innovation spectrum. As regards the process innovation, entrepreneurs mostly prefer to stay with what others have previously used in the production process. Therefore it appears that entrepreneurs expect to improve efficiency, quality and price/performance through existing processes rather than thinking of advancing the

price/performance frontier by much more than the existing production process (Gatington, et al., 2002).

Furthermore, knowledge relatedness seems to be a more important attribute in the selection of venture ideas than resource relatedness. These results corroborate with Shane's (2000) assertion that the discovery of venture ideas depends on the prior knowledge of the founders. However, resource relatedness is not a dominant factor in the attractiveness of the venture idea when compared to the knowledge relatedness. This suggests that entrepreneurs pay considerable weight to alignment with the knowledge and skill they already possess in selecting particular venture idea, but not alignment with other physical and financial resources. The potential financial gains play a substantial role in the attractiveness of venture ideas, but the results indicate that it is not a dominant factor for the attractiveness of venture ideas. As regards the relative importance of attributes, entrepreneurs give more priority on the process novelty, followed by the product novelty. This suggests that they are keener about the method of production and product in their endeavour of business than other attributes.

5.6 CHAPTER SUMMARY

This chapter presented the results of the conjoint study that was undertaken in order to understand how the characteristics of venture ideas affect their perceived attractiveness. The chapter began with a description of the sample chosen for the study. Next, the chapter presented the steps followed by the conjoint study. A combination of the six idea characteristics with 23 levels translated into 32 alternative profiles and presented them with 32 experienced entrepreneurs to elicit their preferences. The utility values for the individual levels, and the relative attribute importance was also reported.

Chapter 6: Descriptive Results: the Types and Degrees of Novelty and Relatedness Introduced by New Ventures

6.1 INTRODUCTION

This chapter presents the results of a part of Study 2. Its aim is to seek out answers to research question 3. That is, what types and degrees of novelty and relatedness do the population of nascent ventures introduce in the market place. Accordingly, the chapter provides descriptive statistics of novelty and relatedness across the different firm settings. The results are presented on a comparative basis between different types of firms. Analyses are done across regular vs. high potential firms, different industry sectors, and different forms of ownership, founders with and without previous start-up experience, and founders with high and low industry experience. Data collected at wave 1 are used for these analyses.

6.2 NOVELTY

As stated in Chapter 4, four types of novelty were identified based on Schumpeter's ontology of new combinations: product novelty, process novelty, market novelty and promotion novelty. At the same time, following Dahlqvist's (2007) scale of newness, four degrees of novelty were recognised for each type of novelty: new to the world, new to the served market, substantially improved, and imitative. This classification is common for the product, process and the promotion novelty. However, the degree of novelty for market novelty is expressed using different terminology. Its four degrees of novelty are expressed as: markets/customers served by no other firms (corresponding to "new to the world"; highest novelty), markets/customers not served by most other firms (corresponding to "entirely new to the served market"; second highest novelty), serve customers/target markets somehow be substantially different from what other businesses apply (corresponding to 'substantial improvement') and serve the

customer/market where other firms operate (corresponding to "imitative"; market/customer selection is not different from other firms). The following section presents the descriptive statistics of degrees of novelty in terms of percentages for the four types of novelty introduced by different firm settings. Chi-square statistical analysis was used to test the significance between different firm settings as regards the degrees of novelty.

6.2.1 NOVELTY AMONG REGULAR NASCENT FIRMS AND HIGH POTENTIAL NASCENT FIRMS

As indicated in the method chapter, the screening procedure of the CAUSEE project helped to identify 625 regular nascent firms and 106 high potential nascent firms at its first interview. Nascent firms are the firms that are making concrete steps to form new ventures while high potential (HP) firms are characterised by having founders with high levels of education, business experience, future aspirations, as well as a high level of product innovativeness and technological sophistication. In the CAUSEE questionnaire the high potential screener was as follows (Q13) "Are any of the following new to your industry: your product/service; the way you produce or source it; the way you promote or sell it, or target your customers?" This means that *all four* comparisons of novelty between HP and regular start-ups are purely descriptive and statistical testing is not appropriate. Figures 6.1 to 6.4 depict descriptive statistics of novelty for the regular nascent firms and high potential nascent firms in terms of percentages.

As shown in Figure 6.1, high potential businesses have a much higher average degree of product novelty than do regular start-ups. This is hardly surprising as product novelty was one of the criteria by which start-ups were defined as "high potential". A majority of HP firms claim their product/service offering is "new to the world", while the modal answer for regular start-ups is "substantial improvement".

Figure 6.1: Product novelty among regular and high potential nascent firms

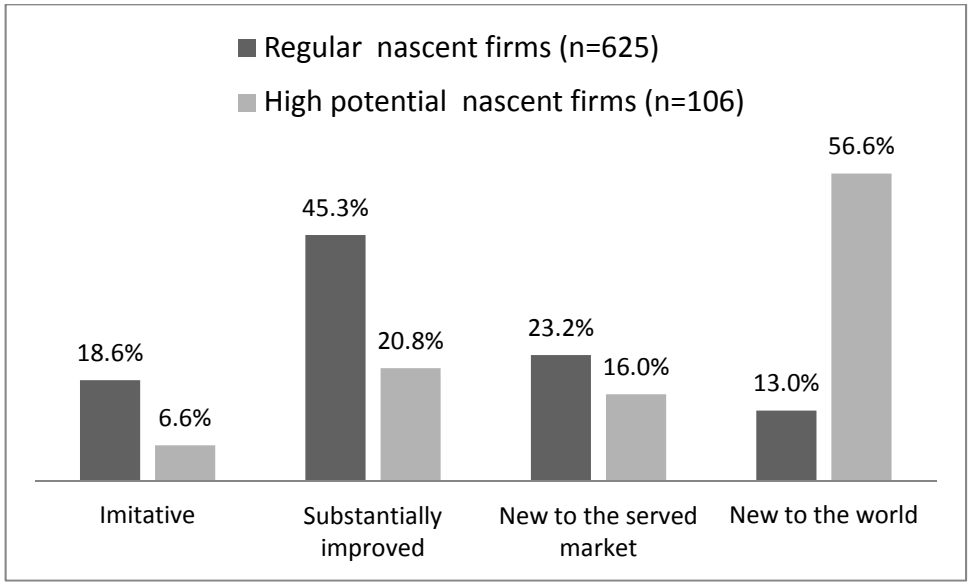
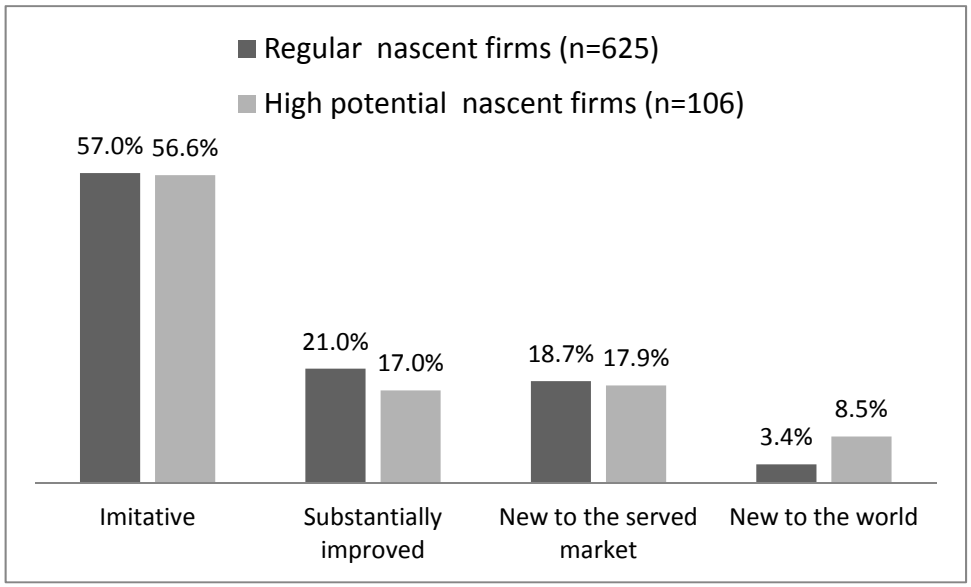


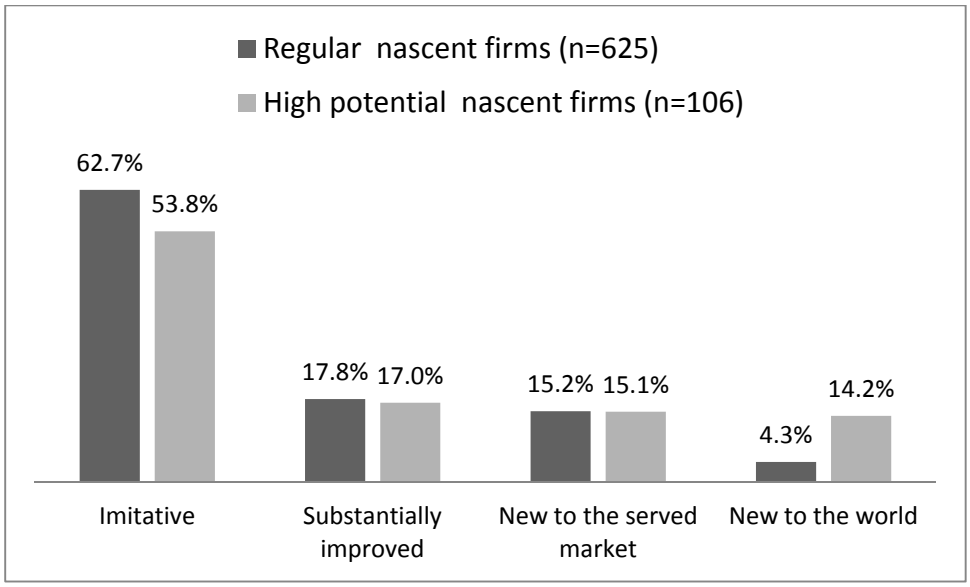
Figure 6.2 compares descriptive statistics of regular nascent and high potential nascent firms with regard to the promotion novelty. Accordingly, the more common degree of novelty among both types firms is imitative. However, the difference is trivial between two types of firms. The least prevalent degree of promotion novelty for both types of firms is new to the world. Nevertheless, more high potentials firms introduce new to the world promotional methods relatively to regular nascent firms.

Figure 6.2: Promotion novelty among regular and high potential nascent firms



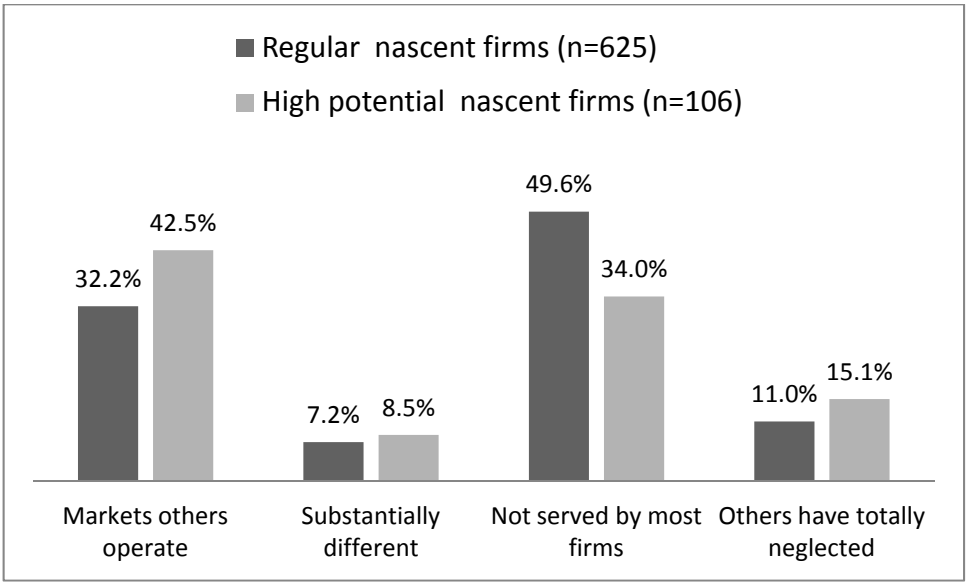
With regard to the process novelty, the data displayed in Figure 6.3 shows imitative method of production is the most prevalent degree of novelty among both regular and high potential firms. However, regular firms' reliance on imitation is bigger than the high potential firms. The prevalence rate is almost similar in both types of firms in introducing substantially improved processes and processes that are new to the served market. In this case too, high potential firms are more predisposed to radical production processes than regular start-ups. The difference is also substantially large between the two types of firms.

Figure 6.3: Process novelty among regular and high potential nascent firms



As shown in Figure 6.4, a large number of regular start-ups serve in a marketplace where most of the other firms do not operate. In contrast, most of the high potential firms serve in markets that others offer. Further, a substantial number of high potential firms also serve in markets where most of other firms do not operate whereas a considerable number of regular start-ups also serve in markets where most of high potential firms operate. In accessing markets where most of other firms operate and markets not served by most of other firms, both types of firms demonstrate a significant difference. In this case too, high potential firms are in the forefront in tapping highly innovative market. However, in general regular firms tend more towards high innovative markets than high potential firms.

Figure 6.4: Market novelty among regular and high potential nascent firms



6.2.2 NOVELTY AMONG DIFFERENT INDUSTRY SECTORS

The diversity of degree of novelty can be assessed across different industry sectors. Here, the industry sector was broadly classified into 10 sub categories: (a) retail and wholesale, (b) hospitality, (c) consumer services, (d) health, education and social services (e) manufacturing, mining and utilities, (f) construction and real estate, (g) agriculture, (h) communication and transportation, (i) business consulting services, finance and insurance, and (j) other. Tables 6.1 through 6.4 represent the behaviour of novelty across these different industry sectors. It is worth noting that only regular nascent firms were taken into consideration for the analysis of novelty from this point onwards because the study is mainly focused on the behaviour of regular nascent firms.

With regard to the product novelty, as can be seen in Table 6.1, a preliminary observation is that the more common degree of product novelty among all sub categories of industry except agricultural firms is substantially improved. Of industry sectors, a large number of communication and transportation, business consulting, finance and insurance and consumer services sector firms introduce this degree of novelty. However, the share of manufacturing, mining and utilities and agriculture sector firms is low. Most of agriculture sector firms and hospitality firms introduce imitative products. Other than that, a substantial number of firms in hospitality, consumer services, health, education and social services, manufacturing, mining and

utilities and agriculture have introduced products that are new to the served market. Further, manufacturing, mining and utilities sector firms are in the forefront in introducing new to the world products among all sectors concerned. Moreover, a considerable number of health, education and social service firms and communication and transportation firms also introduce new to the world products. However, no firm in the hospitality sector has not introduced products that are new to the world.

Chi-square statistical test analysis confirms that the degree of product novelty is significantly different among different industry sectors ($\chi 2 = 56.55[df = 27]$, $p < .05$).

Table 6.1: Product novelty among different industry sectors

	Imitative		Substantially improved		New to the served market		New to the world		Total	
	n	%	n	%	n	%	n	%	n	%
Retail and wholesale	25	20.7	51	42.1	30	24.8	15	12.4	121	100.0
Hospitality	11	35.4	14	45.2	6	19.4	0	0.0	31	100.0
Consumer services	10	11.6	46	53.5	22	25.6	8	9.3	86	100.0
Health, education and social services	9	10.8	38	45.8	23	27.7	13	15.7	83	100.0
Manufacturing, mining and utilities	12	21.4	17	30.4	16	28.6	11	19.6	56	100.0
Construction and real estate	15	31.3	22	45.8	9	18.7	2	4.2	48	100.0
Agriculture	10	31.3	9	28.1	9	28.1	4	12.5	32	100.0
Communication and transportation	5	12.8	24	61.5	4	10.3	6	15.4	39	100.0
consulting services, finance and insurance	11	16.7	39	59.1	9	13.6	7	10.6	66	100.0
Other	8	12.7	23	36.5	17	27.0	15	23.8	63	100.0
Total	**116**		**283**		**145**		**81**		**625**	

$\chi^2 = 56.55(df = 27)$, $p<.05$ (n=625)

Table 6.2: Promotion novelty among different industry sectors

	Imitative		Substantially improved		New to the served market		New to the world		Total	
	n	%	n	%	n	%	n	%	n	%
Retail and wholesale	67	55.4	24	19.8	26	21.5	4	3.3	121	100.0
Hospitality	18	58.1	9	29.0	4	12.9	0	0.0	31	100.0
Consumer services	40	46.5	27	31.4	17	19.8	2	2.3	86	100.0
Health, education and social services	48	57.8	14	16.9	15	18.1	6	7.2	83	100.0
Manufacturing, mining and utilities	39	69.6	6	10.7	11	19.7	0	0.0	56	100.0
Construction and real estate	30	62.5	8	16.7	7	14.6	3	6.2	48	100.0
Agriculture	22	68.7	3	9.4	5	15.6	2	6.3	32	100.0
Communication and transportation	24	61.6	7	17.9	7	17.9	1	2.6	39	100.0
consulting services, finance and insurance	45	68.2	13	19.7	8	12.1	0	0.0	66	100.0
Other	23	36.5	20	31.7	17	27.0	3	4.8	63	100.0
Total	**356**		**131**		**117**		**21**		**625**	

$\chi 2 = 42.87 (df = 27)$, $p < .05$ (n=625)

As regards the promotion novelty, Table 6.2 shows that the most prevalent degree of promotion novelty among all industry sectors is imitative. More than half of each sector of firms has introduced imitative promotions except consumer services firms. Among them, manufacturing, mining and utilities, agriculture and business consulting and finance service firms are in the forefront in introducing this degree of novelty. A substantial amount of firms in retail and wholesale, health, education and social services, manufacturing, mining and utilities, agriculture and communication and transportation have introduced new to the served market novelty. New to the world promotions are mainly introduced by firms in health, education and social services sector. However, no firm in hospitality, manufacturing, mining and social services and business consulting, finance and insurance has introduced new to the world promotion. Overall, a lower percentage of firms introduce highly innovative promotions.

The chi-square value ($\chi 2 = 42.87[df=27],\ p<.05$) shows that there is a statistically significant association between industry sectors and degrees of promotion novelty. That is, degrees of promotion novelty are different among different industry sectors.

Table 6.3 compares degrees of process novelty across different industry sectors. Accordingly, descriptive statistics show that the most common degree of process novelty among industry sectors is imitative. Approximately two-thirds of some sector firms have introduced imitative processes, for example, business consulting, finance, and insurance, communication and transportation, and manufacturing, mining and utilities. A considerable number of hospitality firms and consumer services have introduced substantially improved processes compared to other sectors. Similarly, retail and wholesale firms and manufacturing, mining and utilities firms have introduced processes that are new to the served market. In introducing new to the world processes agriculture sector firms are in the forefront Moreover, some construction and real estate firms have introduced processes that are new to the world.

In this case too, the degrees of novelty is significantly different among different industry sectors ($\chi 2 = 40.60[df=27],\ p<.05$).

According to Table 6.4, a majority of firms in seven industry sectors serve markets where most of other firms have not accessed. Of them, communication and transportation sector firms, construction and real estate firms and business consulting

services, finance and insurance firms are in the forefront. On the other hand, most of hospitality firms; health, education and social services; and agriculture sector firms serve markets where other firms operate. In this case, hospitality firms have tapped to the more radical markets compared to other firms.

Statistical test analysis also confirms that the degree of market novelty is significantly different from each industry sector ($\chi 2 = 43.39[df=27], p<.05$).

Table 6.3: Process novelty among different industry sectors

	Imitative		Substantially improved		New to the served market		New to the world		Total	
	n	%	n	%	n	%	n	%	n	%
Retail and wholesale	75	62.0	22	18.2	22	18.2	2	1.6	121	100.0
Hospitality	18	58.0	8	25.9	5	16.1	0	0.0	31	100.0
Consumer services	51	59.4	18	20.9	12	13.9	5	5.8	86	100.0
Health, education and social services	51	61.5	15	18.1	12	14.4	5	6.0	83	100.0
Manufacturing, mining and utilities	40	71.4	3	5.3	10	17.9	3	5.4	56	100.0
Construction and real estate	33	68.7	9	18.8	2	4.2	4	8.3	48	100.0
Agriculture	20	62.5	5	15.6	4	12.5	3	9.4	32	100.0
Communication and transportation	28	71.8	6	15.4	3	7.7	2	5.1	39	100.0
Consulting services, finance and insurance	49	74.3	7	10.6	10	15.1	0	0.0	66	100.0
Other	27	42.8	18	28.6	15	23.8	3	4.8	63	100.0
Total	**392**		**111**		**95**		**27**		**625**	

$\chi 2 = 40.60(df = 27)$, $p<.05$ (n=625)

Table 6.4: Market novelty among different industry sectors

	Markets where other firms operate		Substantially different from what other firms apply		Markets not served by most of other firms		Markets other businesses have totally neglected		Total	
	n	%	n	%	n	%	n	%	n	%
Retail and wholesale	39	32.2	8	6.6	64	52.9	10	8.3	121	100.0
Hospitality	12	38.7	4	12.9	10	32.3	5	16.1	31	100.0
Consumer services	26	30.2	6	7.0	45	52.3	9	10.5	86	100.0
Health, education and social services	37	44.6	4	4.8	30	36.1	12	14.5	83	100.0
Manufacturing, mining and utilities	17	30.3	5	8.9	27	48.3	7	12.5	56	100.0
Construction and real estate	13	27.2	3	6.2	29	60.4	3	6.2	48	100.0
Agriculture	16	50.0	4	12.5	8	25.0	4	12.5	32	100.0
Communication and transportation	8	20.5	0	0.0	27	69.2	4	10.3	39	100.0
Consulting services, finance and insurance	19	28.8	7	10.6	37	56.1	3	4.5	66	100.0
Other	14	22.2	4	6.4	33	52.4	12	19.0	63	100.0
Total	**201**		**45**		**310**		**69**		**625**	

$\chi 2 = 43.39(df = 27)$, $p<.05$ (n=625)

6.2.3 NOVELTY AMONG SOLO, SPOUSE TEAMS AND OTHER TEAMS

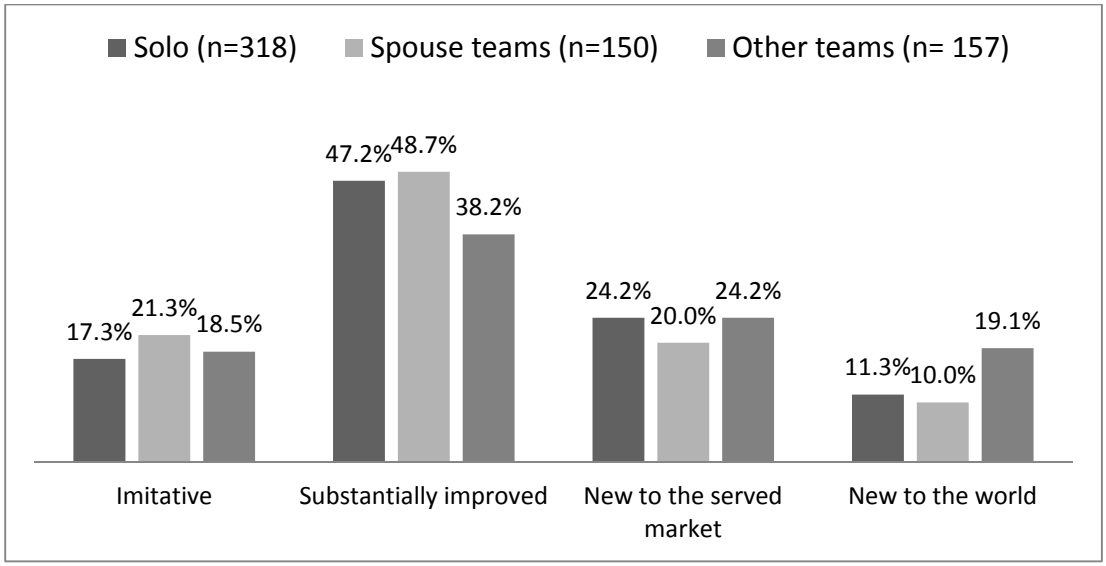
Ventures can have different types of ownership. These can include, but are not limited to, sole proprietorships, partnerships, private limited liability companies, and public limited liability companies. This study examines the degree of novelty based on three groups of ownership: solo, de facto partner firms (spouse teams) and other teams. CAUSEE identified 318 solo firms (50.9%), 150 partner firms (spouse teams) (24.0%) and 157 other teams (25.1%). Figures 6.5 to 6.8 depict the frequencies of the different types and degrees of novelty adopted by these three groups. Figures 6.9 to 6.12 depict them graphically.

According to Figure 6.5, substantially improved degree of novelty is the most prevalent degree of product novelty among three groups. The second most prevalent degree of novelty among groups is the new to the served market. However, differences of percentage between groups are not substantially large. A higher percentage of teams have focused on introducing new to the world products rather than the other two types of firms. In a similar vein, more spouse teams have introduced imitative products. These results show that regardless of group differences all firms introduce a generally moderate degree of product novelty.

Statistical test analysis indicate that there is no significant difference between the types of ownerships and degrees of product novelty ($\chi 2 = 10.38[df=6]$, *n.s*[21].). That is, solos, spouse teams and other teams equally introduce different degrees of product novelty.

[21] n.s.= not supported

Figure 6.5: Product novelty among solo, spouse and other teams

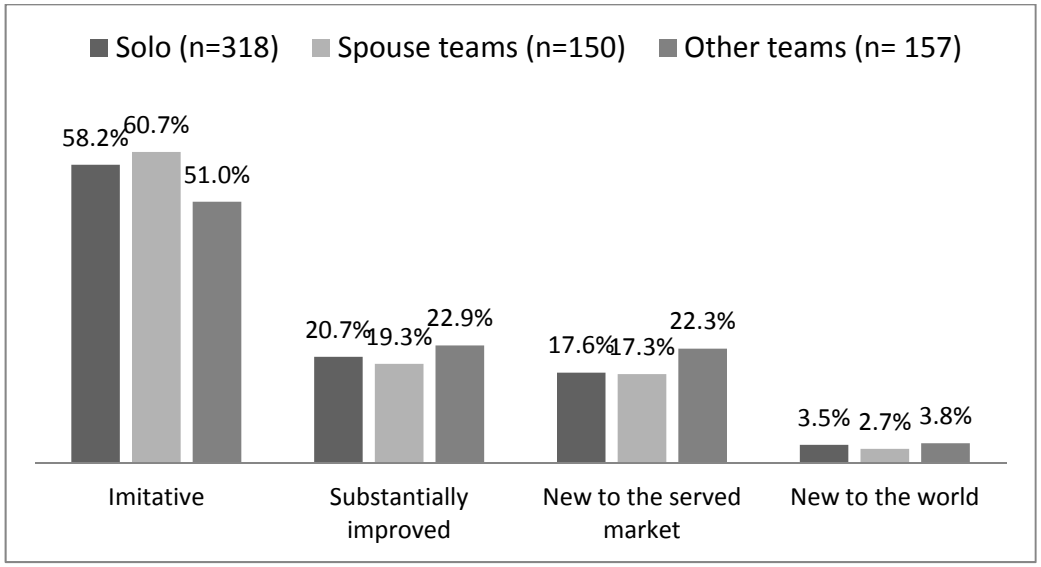


$\chi 2 = 10.38$ (df=6), n.s.

In introducing promotional novelty, as can be seen in Figure 6.6 a majority of firms in all groups mostly rely on imitative promotional methods. However, spouse teams reliance on this is higher than the other two groups. In introducing other degrees of novelty, it appears that groups almost share close percentages across degrees of novelty. Nevertheless, other teams introduce a little bit more percentage of substantially improved, new to the served market and the new to the world degrees of novelty than other groups.

However, chi-square statistics reveal that there is no statistically significant difference among groups in introducing different degrees of promotion novelty *($\chi 2 = 3.68$[df=6], n.s.*).

Figure 6.6: Promotion novelty among solo, spouse and other teams

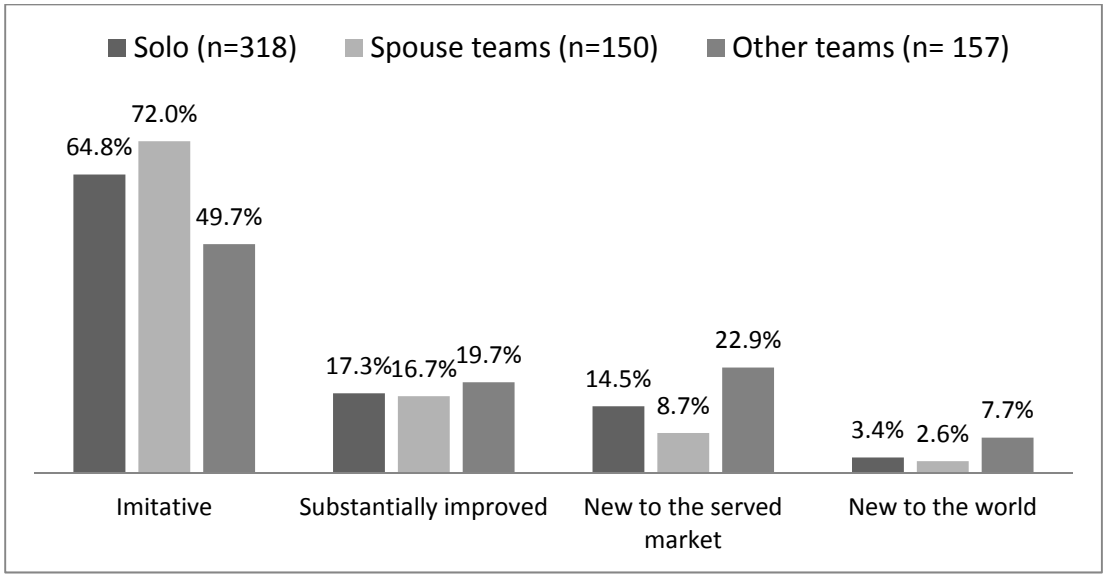


$\chi 2$ =3.68 (df = 6),n.s.

With regard to the process novelty, Figure 6.7 shows that even though most of solos, spouse teams and other teams introduce imitative production methods, there is a marked difference among groups in introducing the degree of novelty. A higher percentage of spouse teams introduce imitative processes than that of the other two groups. On the other hand, other teams are in the forefront in introducing the other three types of degree of novelty suggesting that they are more inclined to introduce innovative processes than the other two groups.

Chi-square test analysis further shows that there is a statistically significant relationship between types of ownership and degrees of process novelty (*$\chi 2$ =23.02[df =6], $p<.05$*).

Figure 6.7: Process novelty among solo, spouse and other teams

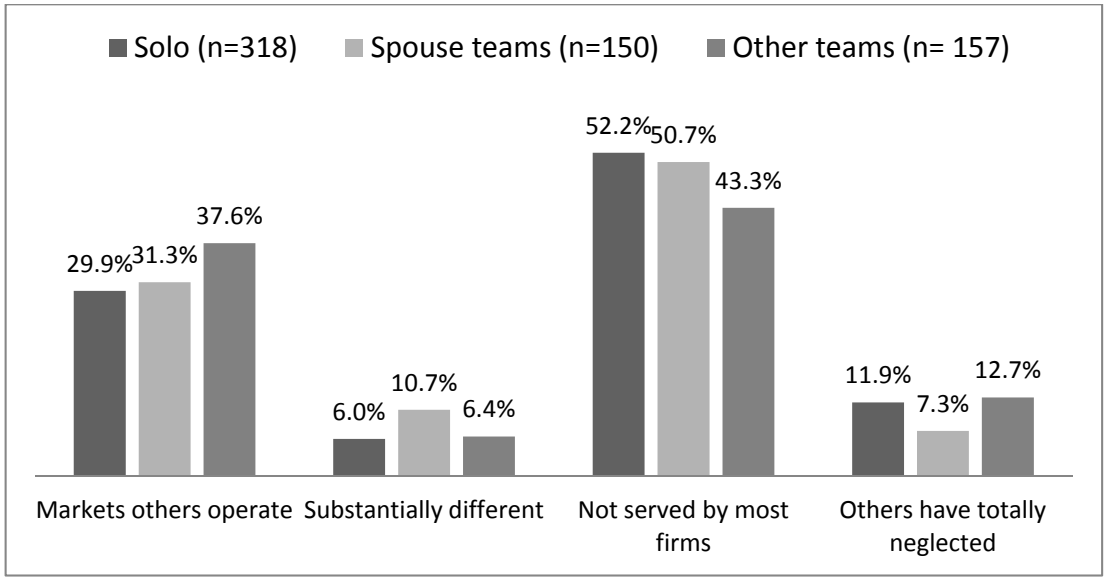


$\chi 2 = 23.02$ (df = 6), $p<.05$

Figure 6.8 presents the frequencies of market novelty. As usual, a majority of firms in all three categories prefer to serve the market that most of the other firms do not serve. However, solo takes the first place together with others with regard to entry into this market. However, differences of percentages are not considerably large. In addition, more spouse teams prefer to serve in substantially different markets than other groups. In this case too, a high percentage of teams have gone for serving in more radical markets.

However, chi-square test analysis shows that there is no significant difference among three groups in introducing different degrees of market novelty *($\chi 2=9.53[df=6]$,n.s.)*

Figure 6.8: Market novelty among solo, spouse and other teams



$\chi 2=9.53(df=6)$,n.s.

6.2.4 NOVELTY AMONG FOUNDERS WITH /WITHOUT PREVIOUS START-UP EXPERIENCE

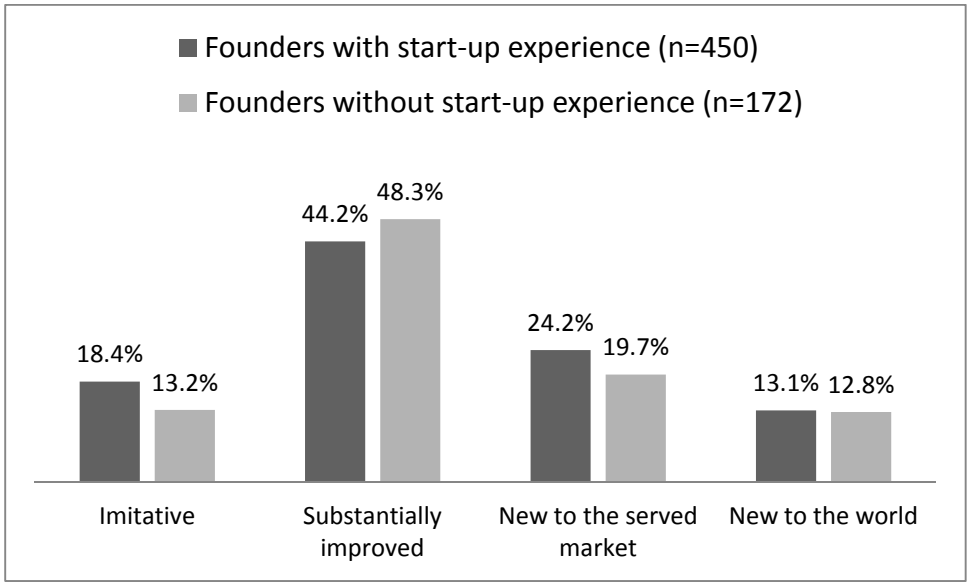
Novelty was also examined based on the founders' previous start-up experience. Accordingly, two types of founders were focused: founders with previous start-up experience and founders without such experience. CAUSEE identified 450 founders who had previous start-up experience and 172 founders who did not have such experience. Figures 6.9 to 6.12 display the descriptive statistics of the novelty based on this dichotomy.

Figure 6.9 shows that the most prevalent degree of product novelty among both groups is substantially improved. Even though the majority of firms in both groups have introduced this degree of novelty, it is more popular among founders without previous start-up experience. The second most prevalent degree of product novelty is the new to the served market for both groups. In this instance, experienced founders are at the top of introducing the degree of novelty. Further, founders with experience are at the forefront of introducing imitative products as well as new to the world products. However, the differences between the two groups are not substantially large.

Chi-square test analysis reveals that there is no statistically significant association between types of founders and degrees of product novelty ($\chi 2 =1.56[df=3]$, *n.s.*). That is, both founders with previous start-up experience and

without such experience almost equally introduce relevant degrees of product novelty.

Figure 6.9: Product novelty among founders with/without previous start-up experience

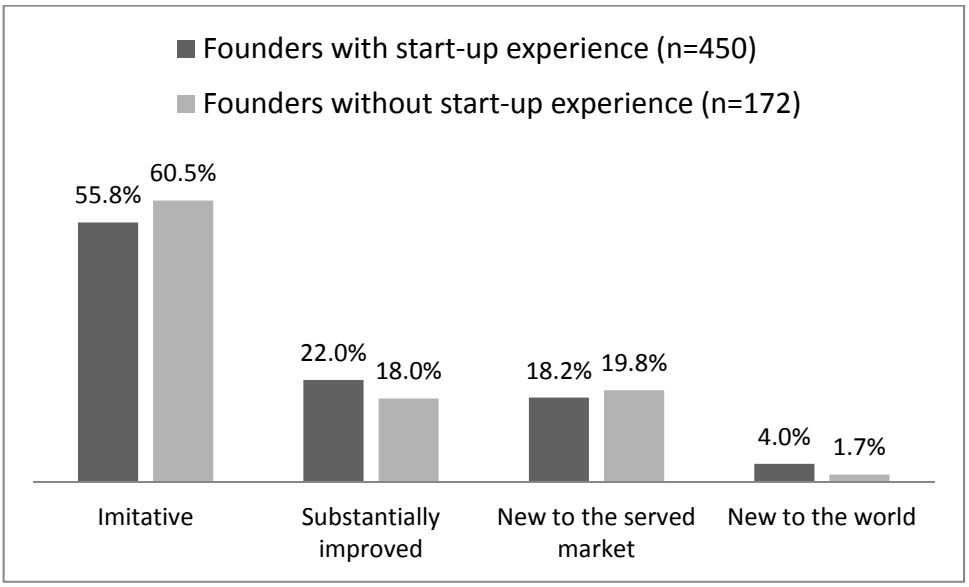


$\chi 2$ =1.56 (df=3), n.s

In the case of promotion novelty, most of the founders in both groups prefer to introduce imitative promotion (see Figure 6.10). However, inexperienced founders are more inclined to do this than the experienced founders. In introducing substantially improved and new to the served market promotions both groups do not show a substantial difference. In introducing new to the world promotions, experienced founders are in the foreground.

Chi-square analysis done on the promotion novelty indicates that there is no statistically significant association between two types of founders and promotion novelty *($\chi 2$ =3.45[df=3], n.s.*).

Figure 6.10: Promotion novelty among founders with/without previous start-up experience

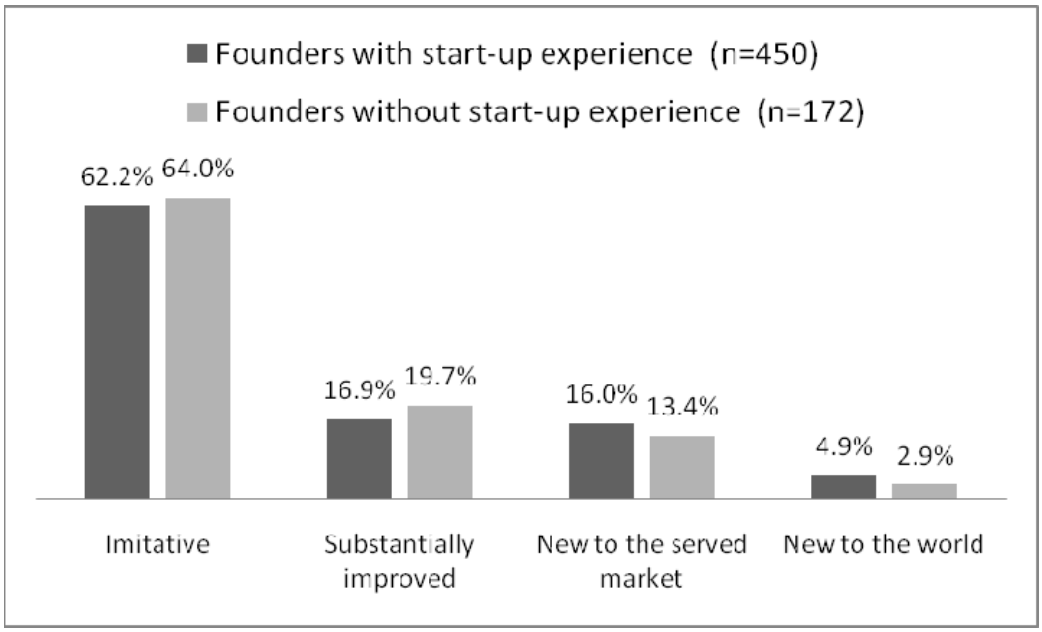


$\chi 2$ =3.45(df=3), n.s.

As seen in Figure 6.11, in the process novelty too the most popular degree of novelty among both groups is imitative. However, the difference between the two groups is not substantial. Founders with previous start-up experience are at the forefront of introducing new to the market and new to the world methods of production. In contrast, inexperienced founders are more likely to introduce imitative and substantially improved processes. These results show that founders with experience are more predisposed to introduce more innovative processes.

Chi-square test analysis indicates that there is no statistically significant difference between the two types of founders in introducing process novelty *($\chi 2$ =2.33 [df=3], n.s.*).

Figure 6.11: Process novelty among founders with/without previous start-up experience

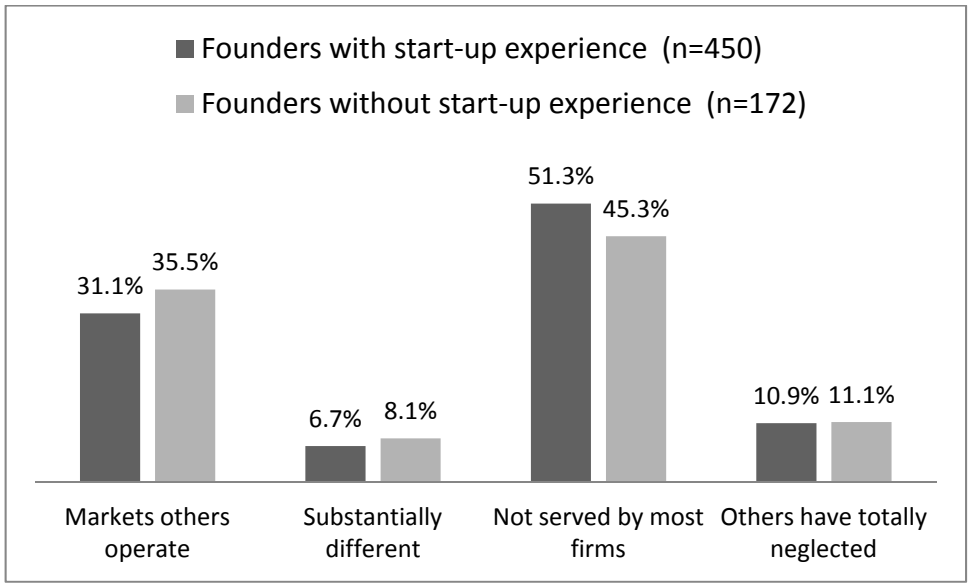


$\chi 2$ =2.33 (df=3), n.s.

With regard to the market novelty, the data in Figure 6.12 demonstrates that the serving of market/customer that most of other firms have ignored is the most prevalent degree of novelty among both groups. This indicates that both groups are more innovative in market novelty when compared to other types of novelty. However, founders with experience introduce more of this degree of novelty. A higher percentage of founders without previous start-up experience introduce the other three degrees of market novelty. But the differences of percentages are not considerably large.

In this case too, chi-square value shows that there is no statistical significant association between types of founders and degrees of market novelty (*$\chi 2$ =2.01[df=3], n.s.*). This suggests that both groups almost introduce equally the relevant degrees of market novelty. Overall results claim that founders' previous start-up experience is not a likely factor that has an affect in introducing innovations.

Figure 6.12: Market novelty among founders with/without previous start-up experience



$\chi 2$ =2.01(df=3), n.s.

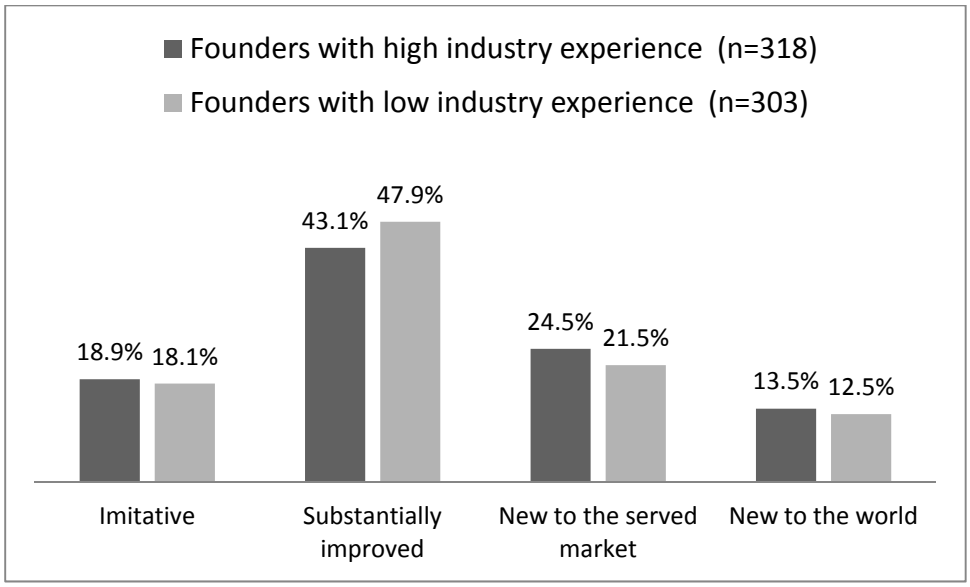
6.2.5 NOVELTY AMONG FOUNDERS WITH HIGH/LOW PREVIOUS INDUSTRY EXPERIENCE

Another aspect that this study looks into on novelty is based on the founder's previous industry experience. The CAUSEE project identified two types of founders on this basis. One category of founders had more than one year of experience and the other category of founders had less than one year of experience. Accordingly, 318 founders were identified as having more than one year of industry experience and 303 founders were identified as having less than one year of experience. Figures 6.13 to 6.16 compare the descriptive statistics of novelty between two groups.

According to Figure 6.13, as usual the most prevalent degree of product novelty among two groups is the substantially improved. However, a higher percentage of founders with less experienced introduce this degree of novelty than founder with high experienced. In contrast, in introducing imitative, new to the served market, and new to the world degrees of novelty, high experienced founders share the large part. But their differences are not substantially large among two groups. Further, it can be observed that the majority of founders in both groups are centred on substantially improved degree of novelty.

Chi-square analysis indicates that there is no statistically significant association with types of founders and degrees of product novelty *($\chi 2$ =1.57[df=3] , n.s.*) suggesting that both groups almost equally introduce different degrees of novelty.

Figure 6.13: Product novelty among founders with high/low previous industry experience

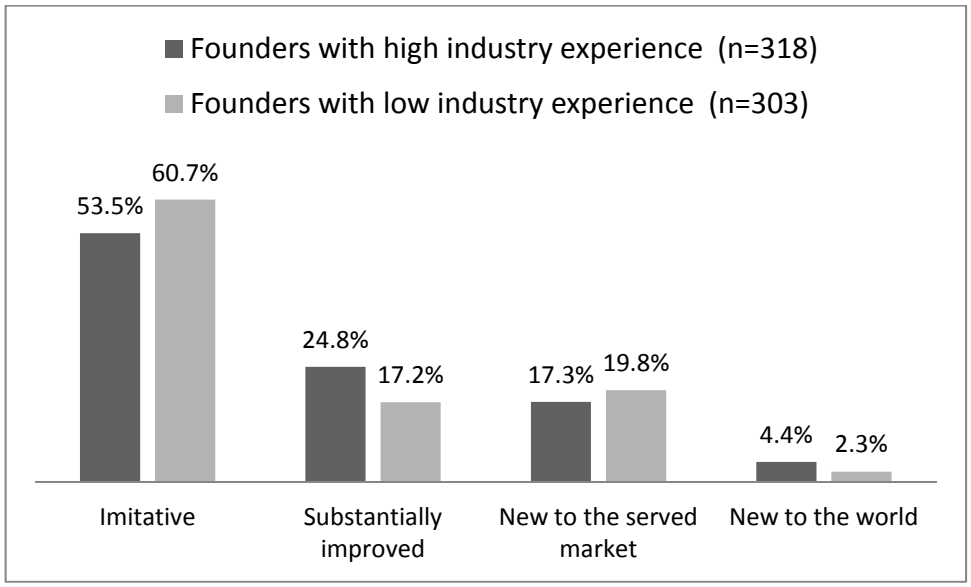


$\chi 2$ =1.57(df=3) ,n.s.

With regard to the promotion novelty, most of the founders in both groups have concentrated on imitative promotional methods (see Figure 6.14). However, less experienced founders are on the top of introducing this degree of novelty. In addition, substantially improved degree of novelty is also popular among both groups. Most of the experienced founders introduce substantially improved and new to the world promotions.

Chi-square test analysis reveals that there is a statistically significant difference between two groups in introducing promotion novelty *($\chi 2$ = 8.31[df=3], $p<.05$*).

Figure 6.14: Promotion novelty among founders with high/low previous industry experience

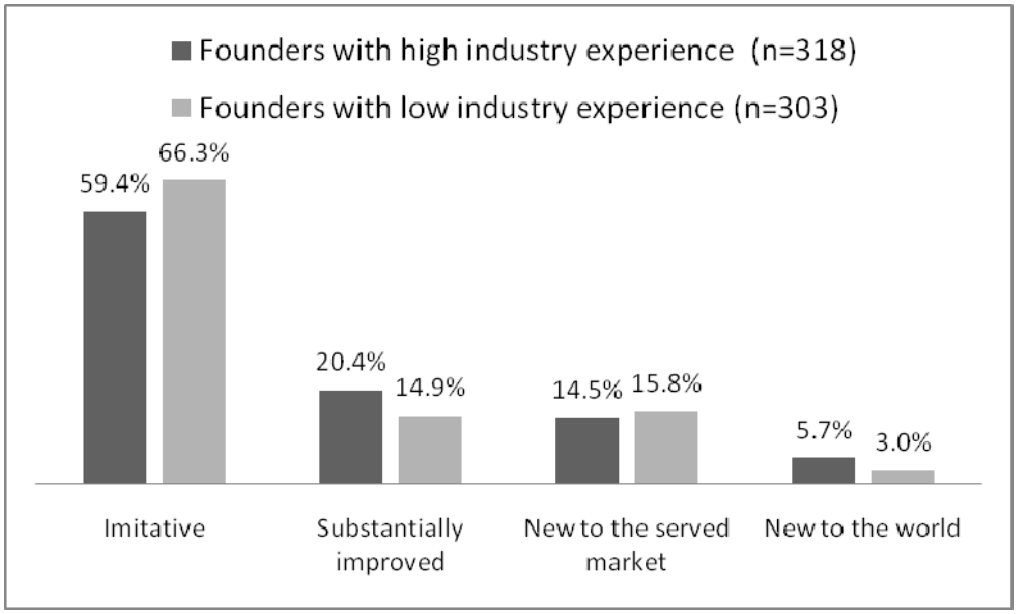


$\chi 2 = 8.31(df=3), p<.05$

As was the case with the promotion novelty, most of the founders in both groups prefer to introduce an imitative method of production. However, a higher percentage of founders with low level of experience prefer to introduce this degree of novelty. The second most prevalent degree of process novelty is substantially improved for both groups. Furthermore, most of the experienced founders introduced new to the world processes (see Figure 6.15).

Chi-square test statistics show that there is no significant difference between two groups in introducing process novelty (*$\chi 2 = 6.69[df=3]$,n.s.*).

Figure 6.15: Process novelty among founders with high/low previous industry experience

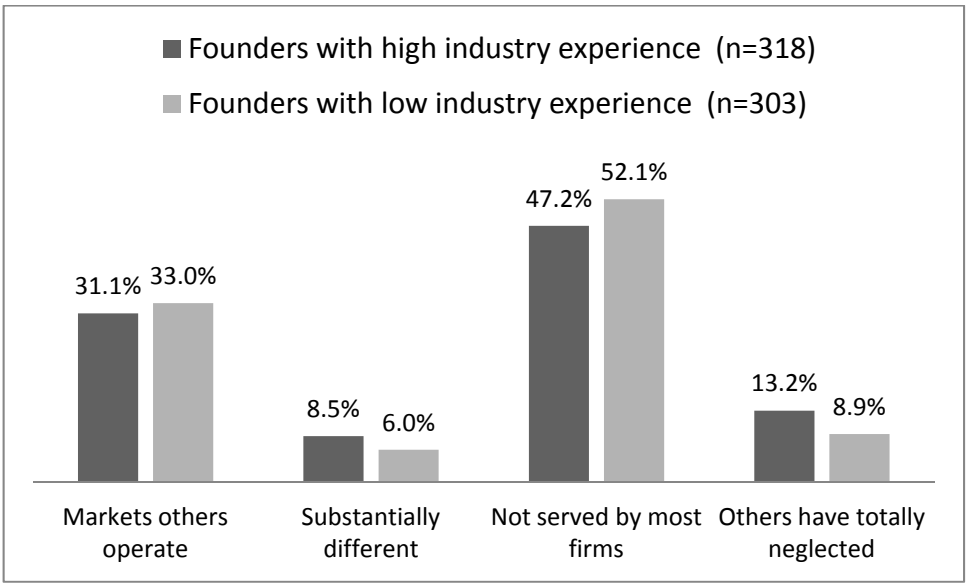


$\chi 2 = 6.69(df=3)$,n.s.

Figure 6.16 shows that both types of founders are more inclined to serve the markets most of other firms do not serve. However, more founders with a low level of experience introduce this degree of novelty than the other group. At the same time most of the founders in both groups prefer to serve markets where others operate. In serving markets where other businesses have totally neglected experienced founders are in the forefront among two groups.

However, chi-square statistics indicate that there is no statistically significant difference between two groups in introducing market novelty *($\chi 2 = 4.91[df=3]$, n.s.)*.

Figure 6.16: Market novelty among founders with high/low previous industry experience



$\chi 2 = 4.91(df=3)$, n.s.

Overall these results suggest that previous high industry experience does not influence the introduction of higher innovation for product, process and markets. But, it has an influence in introducing promotion innovations.

6.3 RELATEDNESS

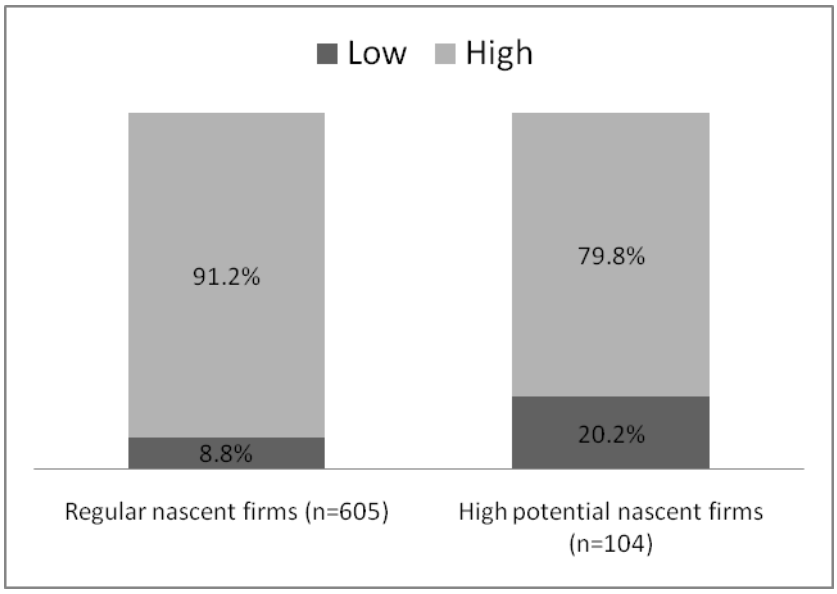
As stated in the method chapter two types of relatedness were identified: knowledge relatedness and resource relatedness. Each type of relatedness was further scaled into two categories: (a) high relatedness and, (b) low relatedness based on the score received for each of the relevant relatedness questions in the questionnaire[22]. As was done in the construct of novelty, relatedness is also examined across different firms, ownership, sectors of industry and on founder experience. Frequencies of each type and degree of relatedness are reported in the following section with diagrammatic presentations. Data collected at wave 1 is used for these analyses.

[22] Each of the knowledge relatedness and resource relatedness constructs consist of four questions with five point Likert scale in the questionnaire. Thus, the total score for each construct ranges from 4 to 20. The scale of low relatedness was constructed based on a score range from 4 to 12 and the high relatedness was constructed based on a score range from 12 to 20.

6.3.1 RELATEDNESS AMONG REGULAR NASCENT FIRMS AND HIGH POTENTIAL NASCENT FIRMS

As can be seen in Figure 6.17, bigger regular nascent firms as well as high potential nascent firms have a high degree of knowledge relatedness. However, this relatedness among regular nascent firms is greater than high potential nascent firms. According to these results, it appears that high potential firms do not rely as heavily on knowledge as regular firms in discovering venture ideas. Chi-square test results indicate that there is a statistically significant association between types of firms and degrees of knowledge relatedness *($\chi 2 = 12.41[df=1]$, $p<.05$)*. That is, knowledge relatedness is significantly different among regular nascent firms and high potential nascent firms.

Figure 6.17: Knowledge relatedness among regular and high potential nascent firms

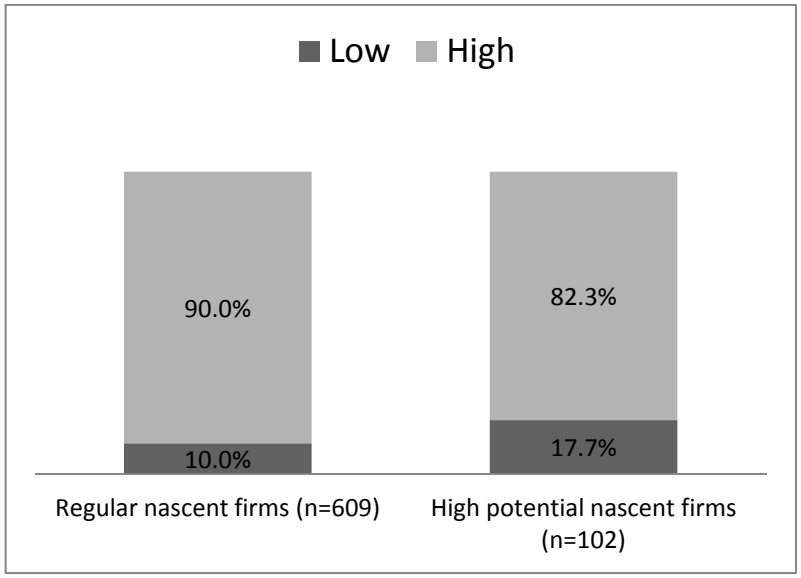


$\chi 2 = 12.41(df = 1), p<.05$

With regard to resource relatedness (see Figure 6.18), as with knowledge relatedness both regular and high potential nascent firms have high degree of relatedness. In this case too more regular nascent firms have high knowledge relatedness than high potential nascent firms. However, high potential firms demonstrate a higher degree of resource relatedness than their knowledge relatedness. In this case too, chi-square test statistics reveal that there is a statistically

significant difference between regular nascent firms and high potential nascent firms as regards the resource relatedness *($\chi 2$ =5.15[df=1], p<.05*).

Figure 6.18: Resource relatedness among regular and high potential nascent firms



$\chi 2 = 5.15(df = 1), p<.05$

All in all, these results suggest that regular nascent firms rely more highly on knowledge and resource endowments of founders in their venture development than high potential nascent firms.

6.3.2 RELATEDNESS AMONG DIFFERENT INDUSTRY SECTOR

Relatedness was also assessed across different industry sectors. As was done in the phenomenon of novelty, industry sector was categorised into 10 sectors. Also, from this point onwards, only regular nascent firms are used for analyses because the study is mainly focused on the behaviour of regular nascent firms. Table 6.5 shows the pattern of knowledge relatedness among these industry sectors. A rudimentary observation is that all sectors have a high degree of knowledge relatedness. However, when we delve more into the results, it appears that some industry sectors have a higher degree of relatedness than others. For example, sectors such as communication and transportation, manufacturing, mining and utilities, business consulting services, finance and insurance and health, education and social services

have high knowledge relatedness. However, sectors such as hospitality and consumer services have a relatively low degree of knowledge relatedness. Chi-square test analysis indicates that these differences among sectors are not statistically significant (*$\chi 2 = 6.74[df=9]$, n.s.*).

Table 6.5: Knowledge relatedness among different industry sectors

	Low		**High**		**Total**	
	n	%	n	%	n	%
Retail and wholesale	11	9.2	109	90.8	120	100.0
Hospitality	5	17.2	24	82.8	29	100.0
Consumer services	10	11.9	74	88.1	84	100.0
Health, education and social services	5	6.7	70	93.3	75	100.0
Manufacturing, mining and utilities	3	5.4	52	94.6	55	100.0
Construction and real estate	4	8.5	43	91.5	47	100.0
Agriculture	2	6.4	29	93.6	31	100.0
Communication and transportation	2	5.3	36	94.7	38	100.0
Business consulting services, finance and insurance	4	6.1	61	93.9	65	100.0
Other	7	11.5	54	88.5	61	100.0
Total	**53**		**552**		**605**	

$\chi 2 = 6.74(df = 9)$, n.s.

With regard to the resource relatedness (see Table 6.6), as in the knowledge relatedness all industry sectors concerned here have a high degree of resource relatedness. However, some sectors such as agriculture, consumer services, manufacturing, mining and utilities have a higher degree of resource relatedness. Health, education and social services firms are the firms that have the lowest degree of resource relatedness among all industry sectors. In the resource relatedness too, chi-square statistical analysis reveals that there is no statistically significant relationship with different industry sectors and degrees of resource relatedness (*$\chi 2 = 15.82[df=9]$, n.s.*). That is, resource relatedness is not significantly different among different industry sectors. Almost all sectors equally have resource relatedness.

Table 6.6: Resource relatedness among different industry sectors

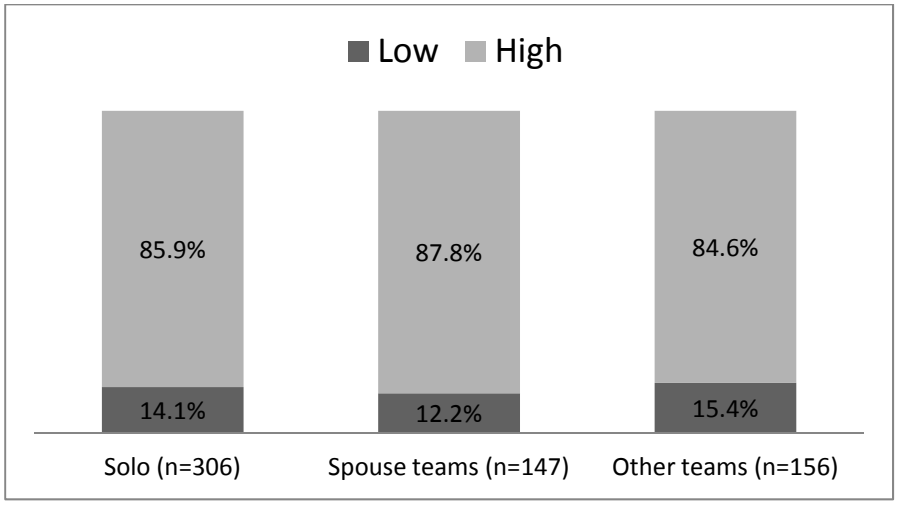
	Low		**High**		**Total**	
	n	%	n	%	n	%
Retail and wholesale	13	11.0	105	89.0	118	100.0
Hospitality	3	9.7	28	90.3	31	100.0
Consumer services	5	6.0	78	94.0	83	100.0
Health, education and social services	14	17.3	67	82.7	81	100.0
Manufacturing, mining and utilities	3	5.7	50	94.3	53	100.0
Construction and real estate	3	6.2	45	93.8	48	100.0
Agriculture	1	3.2	30	96.8	31	100.0
Communication and transportation	4	10.3	35	89.7	39	100.0
Business consulting services, finance and insurance	4	6.1	62	93.9	66	100.0
Other	11	18.6	48	81.4	59	100.0
Total	**61**		**548**		**609**	

$\chi 2 = 15.82(df = 9)$, n.s.

6.3.3 RELATEDNESS AMONG SOLO, SPOUSE TEAMS AND OTHER TEAMS

As shown in Figure 6.19, solo, partner teams as well as other teams demonstrate a high degree of knowledge relatedness. Among these three groups spouse teams show rather a higher degree of knowledge relatedness than the other two groups. However, differences between groups are not substantially large. Chi-square test analysis shows that there is no significant association with types of ownerships and degree of knowledge relatedness (*$\chi 2$ = .63[df=2], n.s.*). That is, solos, spouse teams and other teams almost equally adopt knowledge relatedness.

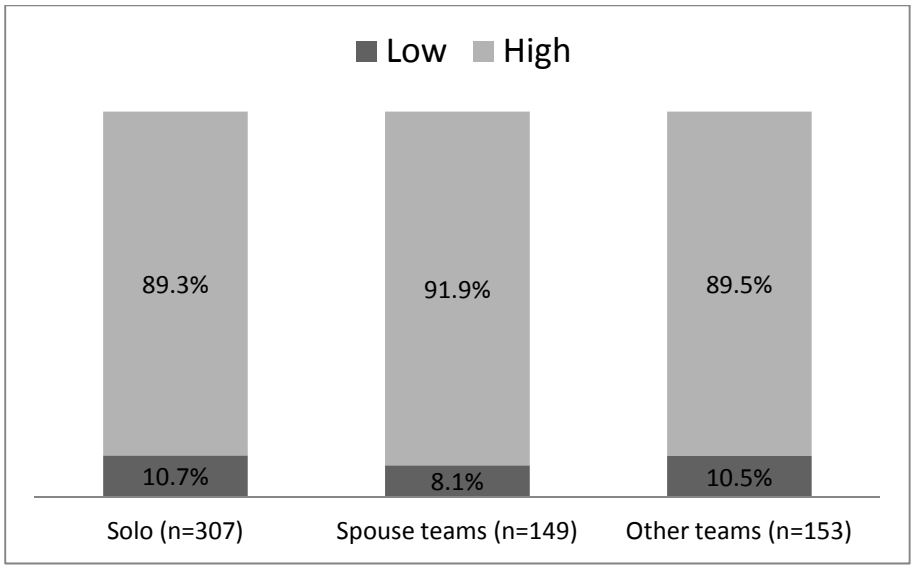
Figure 6.19: Knowledge relatedness among solo, spouse teams and other teams



$\chi 2 = .63(df = 2)$, n.s.

As regards the resource relatedness, Figure 6.20 depicts that three groups demonstrate a high degree of relatedness. In this case too, spouse teams have higher relatedness than the other two groups. Further, results show that groups have higher resource relatedness than knowledge relatedness. However, chi-square test statistics show that resource relatedness is not significantly different among three groups *($\chi 2 = .85[df=2]$, n.s.*).

Figure 6.20: Resource relatedness among solo, spouse teams and other teams



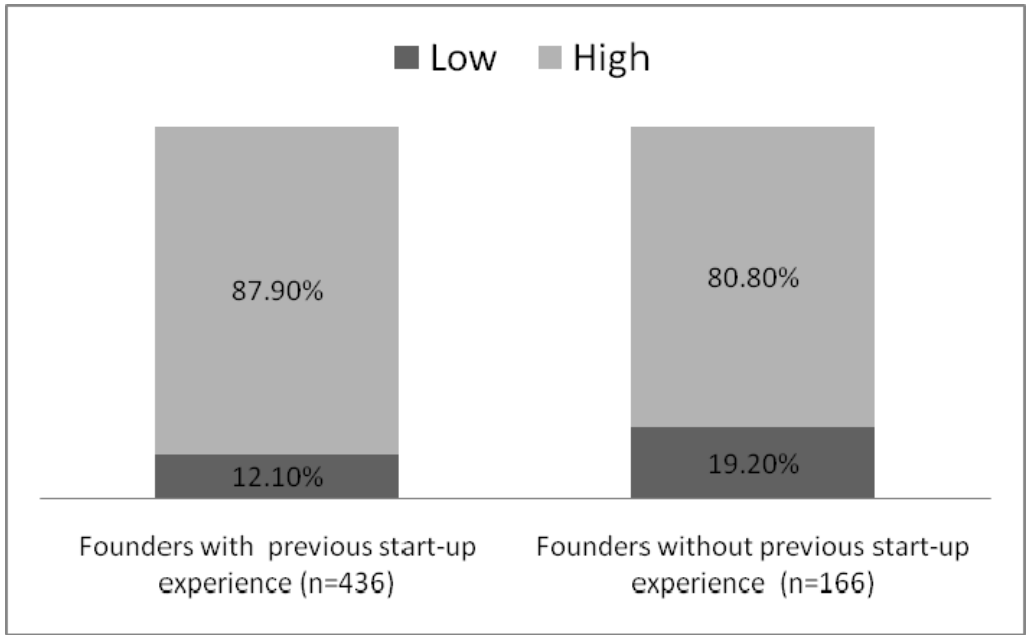
$\chi 2 = .85[df=2]$, n.s

6.3.4 RELATEDNESS AMONG FOUNDERS WITH/WITHOUT PREVIOUS START-UP EXPERIENCE

According to Figure 6.21, both founders with previous start-up experience as well as founders without such experience demonstrate a high degree of knowledge relatedness. However, founders with previous start–up experience demonstrate a higher degree of knowledge relatedness than founders without such experience. This means that founders with previous start-up experience demonstrate a higher degree of knowledge relatedness than others.

Chi-square statistics confirm that there is a statistically significant difference between the two groups and the degree of knowledge relatedness *($\chi 2$ =4.24[df=1], $p<.05$*). Further, an independent t-test reveals *(t = 2.13[df =600], $p<.05$)* that there is a significant difference between the two groups on the means of knowledge relatedness.

Figure 6.21: Knowledge relatedness among founders with/without previous start-up experience



$\chi 2 = 4.24(df = 1), p<.05$

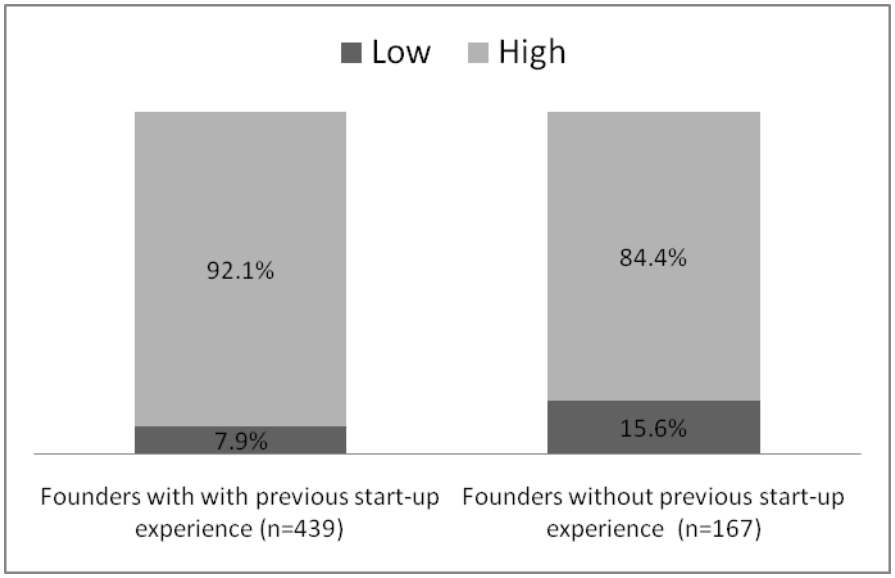
$t = 2.13(df =600), p<.05$

With respect to resource relatedness, as in knowledge relatedness both groups display high degree of relatedness. In this instance too, founders with previous start-up experience have higher resource relatedness than the other group. In this case too,

results suggest that the previous start-up experience of founders is important to having high resource relatedness.

Chi-square test analysis indicates that there is a statistically significant relationship between types of founders and the degrees of resource relatedness are significantly different among two groups *($\chi 2$ =7.71[df =1], p<.05*). Similarly, an independent t-test reveals *(t = 2.59[df =604], p<.05)* that there is a significant difference between the two groups on the means of resource relatedness.

Figure 6.22: Resource relatedness among founders with/without previous start-up experience



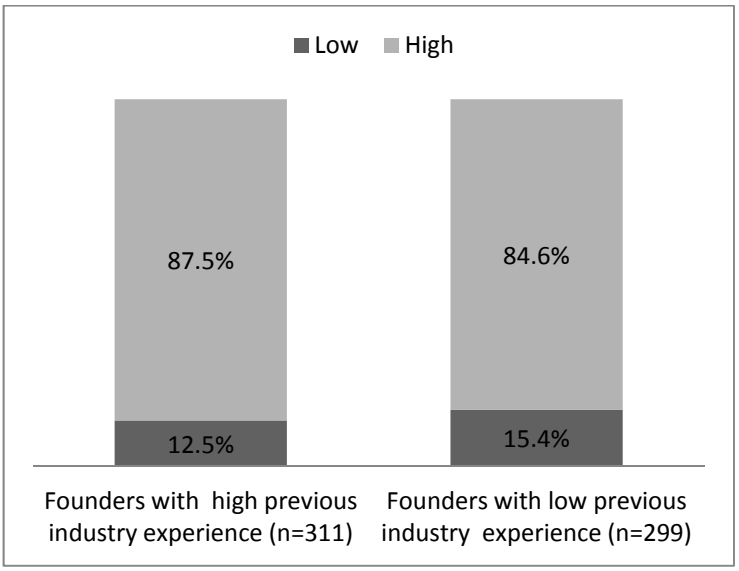
$\chi 2$ = 7.71(df = 1), p<.05

t =2.59(df = 604), p<.05

6.3.5 RELATEDNESS AMONG FOUNDERS WITH HIGH/LOW PREVIOUS INDUSTRY EXPERIENCE

According to Figure 6.23, even though both groups demonstrate a high degree of knowledge relatedness, founders with a high level of previous industry experience exhibit a higher degree of knowledge relatedness than founders with a low level of experience. However, chi-square test analysis indicates that there is no statistically significant difference among two groups with regard to the degree of knowledge relatedness *($\chi 2$ =.31[df=1], n.s.*). An independent t-test also reveals that there is no significant difference between the two groups on the means of knowledge relatedness *(t = .86[df= 599], n.s.).*

Figure 6.23: Knowledge relatedness among founders with high/low previous industry experience

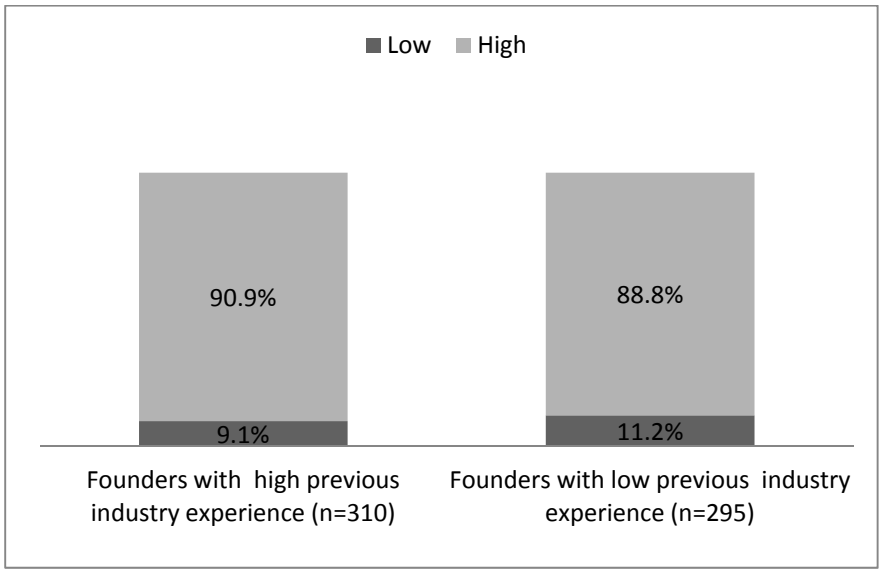


$\chi 2 = .31(df = 1)$, n.s

$t = .86(df = 599)$, n.s

Figure 6.24 shows the degree of resource relatedness adopted by founders with high levels of previous industry experience and founders with low levels of previous industry experience. Both groups display a high degree of resource relatedness. However, a higher percentage of experienced founders have a high degree of resource relatedness than the founders without such experience. A chi-square test reveals that there is no statistically significant difference between the two groups about the degree of resource relatedness *($\chi 2 = .77[df=1]$, n.s.*). Independent t-test statistics indicate that there is no significant difference between the two groups on the means of resource relatedness *($t = -.87[df = 603]$, n.s.).*

Figure 6.24: Resource relatedness among founders with high/low previous industry experience



$\chi 2 = .77(df = 1)$, n.s

$t = -.87(df = 603)$, n.s

Overall, all types of firms concerned here demonstrate a high degree of relatedness in terms of both knowledge and resource. However, regular nascent firms have a higher degree of relatedness in both aspects than high potential nascent firms. Also, statistical test analyses indicate that there are statistically significant differences between type of founders and degrees of relatedness. This implies that founders of regular nascent rely more on their prior knowledge and resource position in venture development activities than high potential firms. As regards the industry sectors all sectors exhibit a high degree of relatedness in both aspects. However, there are no statistically significant differences among industry sectors. Furthermore solos, spouse teams and other teams also demonstrate a high degree of knowledge as well as resource relatedness. Spouse teams in particular have high relatedness compared with other groups. But the ownership and degrees of relatedness have no statistical significance. Founders with previous start-up experience maintain a higher degree of knowledge as well as resource relatedness than founders without such previous start-up experience. Statistical test analyses also confirm that there is a significant association with experience and degree of relatedness. Similarly, founders with higher previous industry experience demonstrate high relatedness in both types than founders with less experience. However, the difference is not significant. This

suggests that even though founders with high previous start-up experience rely more on their prior knowledge and resource position in the venture development activities, founders with previous industry experience have no such reliance. In other words, even though previous start-up experience is a factor for having high relatedness in terms of knowledge and resource, the previous industry experience is not a factor that determines high relatedness. The latter is surprising because previous experience is considered a part of knowledge (Shane, 2000).

6.4 CHAPTER SUMMARY

This chapter presented the descriptive statistics of novelty and relatedness across a variety of firm settings such as type of firm, industry sector, ownership, start-up experience and previous industry experience in order to understand what types and degrees of knowledge and resource relatedness are introduced by nascent firms to the market place. Accordingly, four types of novelty were examined (product, process, market and promotion novelty) and each type of novelty was examined across four degrees of novelty (new to the world, new to the served industry, substantially improved and imitative). High potential firms are radically innovative while regular firms are moderately innovative. The degree of novelty is different from industry sectors. Solo, teams, and other teams do not show a significant difference in introducing novelty except in process novelty. Previous start-up experience does not appear to be a factor for introducing novelty. Further, previous high industry experience is a likely factor for introducing promotion novelty. The chapter discussed two types of relatedness, i.e., knowledge relatedness and resource relatedness across different firm settings as was done in novelty. All firms demonstrate a high degree of knowledge and resource relatedness, but firms are more reliant on knowledge relatedness. Both types of relatedness are significantly different from high potential and regular nascent firms. However, they are not significantly different among industry sectors, and solo, teams and other teams. Both knowledge and resource relatedness is significantly different from founders with previous start-up experience and founders without previous start-up experience, but they are not different based on the previous industry experience of founders.

Chapter 7: Results of Tests of Hypotheses

7.1 INTRODUCTION

This chapter presents the results of Study 2 which was carried out to understand how venture idea novelty and relatedness affect nascent venture performance. The results presented here are based on univariate, bivariate and multivariate analysis. At the outset, analyses of the frequencies for the venture outcomes are presented. Next, some important descriptive statistics associated with all of the variables are provided. This is followed by the analysis of data regarding the measurement model. Finally, the results of the formal tests of the hypotheses, which were conducted using structural equation modelling, are presented. This also includes the results related to direct, indirect and interaction effects.

7.2 RESEARCH QUESTIONS

This study aimed to address the following research questions:

1. What impact do different degrees of novelty and relatedness have on the performance of nascent ventures?
2. Is there any interaction effect between novelty and relatedness in predicting nascent venture performance?

Data collected from 493 nascent entrepreneurs who were contacted at two (see section 4.3.3 for the details of the sample selected) answer the above questions.

7.3 DATA CLEANING

Before conducting data analysis, the data collected were evaluated with regard to a number of aspects. First, they were inspected for missing data. The data for three variables had missing values: wave 2 money invested, knowledge relatedness and resource relatedness. The missing values for knowledge and resource relatedness were below 5% and therefore the money invested was little more than 5%. Thus, the former were considered as missing at random (Hair et al., 2006), while

the latter was imputed using the multiple imputation method (Hair et al., 2006) using SPSS 17. Next, the non-normality of data was checked. Distributions for the control variables of team size and industry experience had significant Skewness and Kurotosis values (greater than 3), thus indicating that they had non-normality. These variables were transformed into normality using log-10 transformations (Weston & Gore, 2006). In addition to multivariate normality and missing data, multicollinearity was assessed (Kline, 2005; Weston & Gore, 2006). However no serious multicollinearity was detected.

7.4 DATA ANALYSIS

7.4.1 FREQUENCIES OF OUTCOME VARIABLES

The performance of nascent venture was assessed using four outcome variables: making progress, getting operational, being terminated, and achieving positive cash flow.

Frequencies related to the making progress are presented in Table 7.1. The making progress was computed by summating the number of gestation activities completed between wave 1 and wave 2 of data collection. According to the table, the maximum activities completed during the period were 25 out of 39 activities. Furthermore this was completed by only one entrepreneur. The majority of entrepreneurs (13.8%) completed only two activities. There were 8.7% of individuals who did not complete any activity at all.

Table 7.2 presents the frequencies of outcome variables getting operational, being terminated and achieving positive cash flow. The results show that 44% of nascent entrepreneurs reached an operational stage during the 12 month period. This result is mostly consistent with other studies. For example Carter et al. (1996) found that 48% of US entrepreneurs reached an operational level within an 18 month period. The Netherlands nascent entrepreneurs report a 47% success rate while the PSED register about 33% of a success rate (Parker & Belghitar, 2006). With regard to termination, Table 7.2 shows that 28.2% of entrepreneurs gave up their venture efforts during the period[23]. If we compare this figure with other studies, Canadian

[23] 16 firms terminated after getting operational in this study.

entrepreneurs register a very similar percentage (27%) of terminated firms (Diochon, Menzies, & Gasse, 2007). The PSED reports 20% of gave-up firms (Parker & Belghitar, 2006). The Carter et al. (1996) study states that 22% of nascent entrepreneurs gave up during an 18 month period. This implies that the Australian nascent entrepreneur terminated rate is somewhat high. This may in part be due to the global financial crisis that prevailed during the interviewed period. Analysis further reveals that 24.5% of firms attained positive cash flow. When compared to operational firms this is a low figure. That is, even though 44% of firms reached an operational level, only approximately half of them receive income that exceeded their cost.

Table 7.1: Frequencies of making progress

No of activities completed	Frequency	%
.00	43	8.7
1.00	42	8.5
2.00	68	13.8
3.00	64	13.0
4.00	59	12.0
5.00	58	11.8
6.00	53	10.8
7.00	39	7.9
8.00	20	4.1
9.00	18	3.7
10.00	12	2.4
11.00	4	.8
12.00	4	.8
13.00	2	.4
14.00	2	.4
15.00	2	.4
16.00	2	.4
25.00	1	.2
Total	**493**	**100.0**

Table 7.2: Frequencies of operational, terminated and positive cash flow

	Operational		**Terminated**		**Positive cash flow**	
	f	%	*f*	%	*f*	%
Yes	217	44	139	28.2	121	24.5
No	276	56	354	71.8	372	75.5
Total	**493**	**100**	**493**	**100**	**493**	**100**

7.4.2 DESCRIPTIVE STATISTICS

Table 7.3 depicts means, standard deviations, minimum and maximum values relevant to all the observed variables. The average number for the completion of gestation activities (making progress) during wave 1 and wave 2 is 4.38 (SD = 3.17). This is a relatively low number when compared to gestation activities completed up to wave 1 which has 17.8 (SD = 6.7) been completed activities by the same number of entrepreneurs. Operational, terminated and positive cash flow were dichotomous variables and were computed coding as 1 and 0. Thus, their mean values range between 0 and 1. The results show that relatively small mean values are reported from the terminated and positive cash flow. Having a low small value for terminated could be regarded as a good outcome, in spite of the termination itself being a bad outcome for the ventures.

With regard to the novelty figures, mean values should range between 0 - 3. According to Table 7.3, the product novelty and market novelty reports high mean values compared to the promotion and process novelty. This suggests that the firms introduce a relatively high degree of novelty as regards the product and market novelty. These values are consistent with the previous chapter's results. They indicated that the majority of entrepreneurs introduce substantially improved products and serve the market in an area that most of the other entrepreneurs have neglected.

Furthermore, items of knowledge and resource relatedness were scaled based on a five point Lickert scale. Thus, their mean values range from 1 - 5. The mean values of these variables show that the firm introduced a high degree of knowledge as well as resource relatedness. These results are also compatible with the results of the previous chapter. The results of wave 1 to wave 2 hours invested of nascent firms, varied between 0 to 18720 (M = 1092.17 and SD = 1037.64). Furthermore, the wave 1 to wave 2 money invested varied from 0 to 10 million (M = 127986 and SD =

808078). In addition, five variables were controlled in the study. The number of gestation activities completed by the wave 1 interview is considerably higher (M = 17.80 and SD = 6.70) when compared to the activities completed during wave 1 and 2. The retailing and brick and mortar are dummy variables coded as 1 and 0. The retail industry generally represented 17% (SD = .37) of the whole industry sector and the brick and mortar industry represented on average 50% (SD = .50).The average team size is 2.17 and ranges from 0 to 99. Industry experience including all team members varied from 0 to 150 (M = 15.51 and SD = 19.52). These figures imply that a substantial amount of nascent firms have formed with team members and that they also have some pervious industry experience

Table 7.3: Descriptive statistics (n=493)

	Mean	SD	Minimum	Maximum
Making progress	4.38	3.17	.00	25.00
Operational	.44	.49	.00	1.00
Termination	.28	.45	.00	1.00
Positive cash flow	.25	.43	.00	1.00
Product novelty	1.32	.94	.00	3.00
Promotion novelty	.65	.88	.00	3.00
Process novelty	.62	.91	.00	3.00
Market novelty	1.37	1.06	.00	3.00
Product/Service[k]	4.39	1.01	1	5
Customer/Market[k]	4.17	1.13	1	5
Production Method[k]	4.28	.99	1	5
Method of Promotion[k]	4.10	1.10	1	5
Product/Service[r]	4.38	.99	1	5
Customer/Market[r]	4.15	1.12	1	5
Production Method[r]	4.27	1.01	1	5
Method of Promotion[r]	4.31	.95	1	5
W1-W2 hours invested	1092.17	1737.64	.00	18720.00
W2 money invested	127986.45	808078.29	.00	10000000
W1 gestation activities	17.80	6.70	3.00	37.0
Retail	.17	.37	.00	1.00
Brick & Mortar	.50	.50	.00	1.00
Team size[a]	2.17	5.06	1	99.00
Industry experience[a]	15.51	19.52	.00	150

[k] items of knowledge relatedness
[r] items of resource relatedness
[a] These variables' descriptive statistics were calculated before the log transformations

7.4.3 CORRELATIONS

Table 7.4 displays correlation coefficients for all the observed variables used in this study. The study included three latent variables: novelty, knowledge relatedness, and resource relatedness. Each latent variable has been formulated with

four manifest variables or indicators. In relation to the indicators of novelty, analysis shows that inter-item correlations between novelty variables (product, process, market and promotion) have relatively weak but significant relationships. These results are in line with the characteristics of a formative construct (Jarvis et al., 2003; Petter et al., 2007). Indicators of knowledge relatedness (product/service, customer/target market, production method, promotion method) and resource relatedness (product/service, customer/target market, production method, promotion method) have a moderate significant inter-correlation. Furthermore, these inter-correlations are rather high among the indicators of resource relatedness. This pattern of correlation is in accordance with the characteristics of reflective constructs (Jarvis et al., 2003; Petter et al., 2007). It can also be observed that inter-correlations between items of knowledge and resource relatedness have a significant but weak relationship. With regard to the outcome variables, it can be seen that there is a moderate inter-correlation between outcome variables. Overall, variables do not demonstrate a high correlation with each other.

Table 7.4: Correlation matrix[a] (n=493)

		1	2	3	4	5	6	7	8	9	10	11
1	Operational											
2	Termination	-.41***										
3	Positive cash flow	.64***	-.28***									
4	Making progress	.26***	-.31***	.19***								
5	Product novelty	-.07	-.05	-.11*	.06							
6	Promotion novelty	-.07	-.01	-.05	.06	.19***						
7	Process novelty	-.14**	-.08†	-.10*	.07	.33***	.43***					
8	Market novelty	-.09*	.01	-.15**	-.10	.16***	.17***	.16***				
9	Product/Service[k]	.05	-.13**	.01	.07†	.01	-.06	.03	.08†			
10	Customer/Market[k]	.07	-.04	.01	.07	-.08†	-.13**	-.06	.05	.34***		
11	Production method[k]	.02	-.01	-.01	.04	-.04	-.01	-.01	.01	.43***	.44***	
12	Method of promotion[k]	.06	-.06	-.01	.03	-.04	.03	-.06	.10*	.30***	.30***	.41***
13	Product/Service[r]	.02	.06	.04	-.03	-.04	-.13**	-.16**	-.01	.24***	.27***	.25***
14	Customer/Market[r]	.08†	.05	.02	.02	-.12**	-.05	-.11*	.03	.18***	.33***	.26***
15	Production method[r]	.02	.04	-.01	.01	-.03	-.08†	-.07	-.04	.18***	.31***	.28***
16	Method of promotion[r]	-.02	.08†	-.03	-.04	-.01	-.03	-.06	-.02	.15**	.24***	.26***
17	W1-W2 hours invested	.40***	-.45***	.32***	.37***	-.01	.04	.09†	-.08†	.09*	.07	.08†
18	W2 money invested	.01	-0.06	-.20*	.17***	.04	.02	.11*	-.04	-.04	-.02*	.04*
19	W1 gestation activities	.34***	-.30***	.26***	.11	.11*	.11*	.11*	-.02	.08†	-.02	.05
20	Retail	.05	.07	-.01	-.01	-.04	.03	-.02	-.01	-.12**	-.07	-.09†
21	Brick & Mortar	.19***	-.05	.22***	-.02	-.14**	-.08†	-.16***	-.05	.02	.13**	.10*
22	Team size	-.05	-.02	-.01	.22**	.03	.06	.15**	-.09*	.02	-.06	.01
23	Industry experience	.07	-.19***	.04	.17***	.10*	-.01	.11*	-.03	.29***	.06	.14**

[a]Significant tests based on pairwise data values:
†p<.10, *p<.05, **p<.01, ***p<.001
[k]Items of knowledge relatedness
[r] Items of resource relatedness

Table 7.4: Correlation matrix[a] (n=493) (cont'd.)

		12	13	14	15	16	17	18	19	20	21	22
1	Operational											
2	Termination											
3	Positive cash Flow											
4	Making progress											
5	Product novelty											
6	Promotion novelty											
7	Process novelty											
8	Market novelty											
9	Product/Service[k]											
10	Customer/Market[k]											
11	Production method[k]											
12	Method of promotion[k]											
13	Product/Service[r]	.23***										
14	Customer/Market[r]	.29***	.58***									
15	Production method[r]	.30***	.56***	.65***								
16	Method of promotion[r]	.26***	.50***	.48***	.56***							
17	W1-W2 hours invested	.09*	-.06	-.01	-.01	-.05						
18	W2 money invested	-.05	-.04	-.06	-.02	-.03	.19***					
19	W1 gestation activities	.11*	-.01	.01	-.01	.02	.45***	.21***				
20	Retail	-.05	.01	-.02	-.01	-.05	-.08*	-.03	-.05			
21	Brick & Mortar	.06	.02	.03	-.04	-.08†	.09†	.03	.06	-.11*		
22	Team size	-.07	-.05	.01	.03	-.06	.18***	.11**	.14**	.01	-.11*	
23	Industry experience	.080†	-0.1*	-.04	.01	-.05	.20**	.02†	.19***	-.18***	.08†	.27***

[a]Significant tests based on pairwise data values:
†p<.10, *p<.05, **p<.01, ***p<.001
[k]items of knowledge relatedness
[r] items of resource relatedness

7.4.4 MULTIVARIATE ANALYSIS

Following the two-step approach recommended by Anderson and Gerbing (1988), the study first assessed the measurement model, which specifies the structure of latent variables using confirmatory factor analysis. Subsequently, the full structural model, which specifies the hypothesised relationship among variables, was analysed using structural equation modelling.

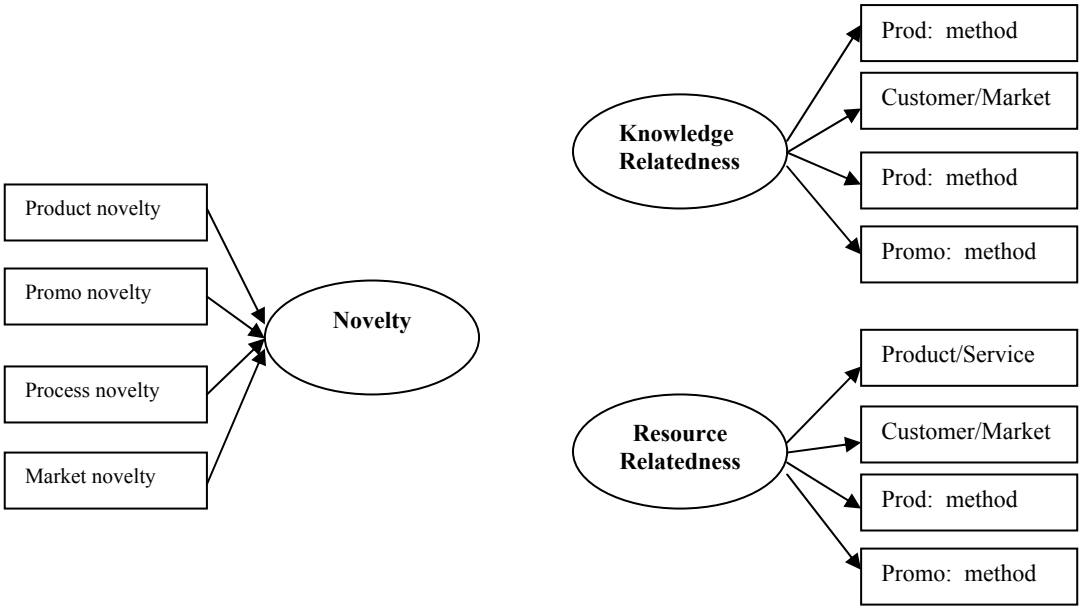
However, it is worth noting at the outset that the model used in this study is somewhat different from the conventional structural models which are generally composed with only latent variables at the time of hypotheses testing. The final model of this study comprises latent variables as well as observed variables. For example, novelty, knowledge relatedness and resource relatedness represent the latent variables of the model while investment of time, money, outcome variables and control variables act as observed variables. Thus, the final model in this study is a combination of latent and observed variables.

7.4.4.1 Specification of the model

The goal of this step of SEM is to assess how well observed variables combined to identify underlying latent constructs. Three latent constructs were identified with the given observed variables: novelty, knowledge relatedness, resource relatedness. As seen in Figure 7.1 latent variables are represented in ellipses and observed variables are represented in rectangles relevant to the measurement model.

The assessment of the measurement model includes the assessment of the **construct validity** and overall **model fit** of the model. As indicated in Chapter 4, one method of assessing the construct validity of the model is to assess its **convergent validity**. Three indicators are used to assess the convergent validity: factor loadings, composite reliability (CR) and variance extracted (VE).

Figure 7.1: Measurement model



Since this study's measurement model is comprised with a formative construct (i.e. novelty) and reflective constructs (i.e. knowledge relatedness and resource relatedness), both confirmatory factor analysis and principle component analysis were used to test the measurement model (Petter, et al., 2007). Confirmatory factor analysis was used to test the constructs of knowledge relatedness and resource relatedness while principal component analysis was used to test the construct of novelty in terms of weights. Initially, the construct validity of the individual constructs was assessed. The values of the estimated standard factor loadings/weights[24], composite reliability and variance extracted[25] are reported in Table 7.5. All loadings/weights have significant p values ($p<.001$) indicating that all parameters are significantly different from zero. The estimated weights for the items of novelty show that the product and market novelty have values below 0.50. As this construct is a formative index, the practice of factor elimination is not required (Jarvis, et al., 2003; MacKenzie, Podsakoff, & Jarvis, 2005). Further, since the reliability in an internal consistency sense is not meaningful for formative constructs (Diamantopoulos et al., 2008) the composite reliability and variance extracted were not calculated for the novelty construct. Nevertheless, as there is no muticolinreaty among the indicators of novelty construct, the construct has a good reliability (see

[24] Loading are related to the reflective indexes while weights are related to the formative indexes.
[25] Reliability in an internal consistency sense is not meaningful for formative constructs (Diamantopoulos et al., 2008).

Table 7.4) (Diamantopoulos et al., 2008). The results further indicate that loadings for all indicators of knowledge are above 0.5 and therefore satisfactory[26] (Bagozzi & Yi, 1998). However, in relation to the resource relatedness, the item 'promotion method' has a low factor loading (0.391). Following the guidelines of construct validity measures, this item is eliminated from the analysis (Hair et al., 2006).

In addition to the assessing of loadings, the composite reliability (CR) and variance extracted (VE) for two reflective indices were computed. According to the CR values, as shown in the lower part of Table 7.5, knowledge relatedness and resource relatedness have acceptable construct reliability (Hair et al., 2006)[27]. However, the coefficient of the variance extracted (VE) shows that the model does not demonstrate an adequate convergence (VE < 0.50). A variance extracted of less than 0.50 indicates that on average more error remains in the items than variance explained by the latent constructs.

Table 7.5: Standardised factor loadings, Variance extracted and Reliability estimates

Items	**Novelty**	**Knowledge relatedness**	**Resource relatedness**
Product novelty	0.418***		
Promotion novelty	0.552***		
Process novelty	0.772***		
Market novelty	0.242***		
Product/Service[k]		0.584***	
Customer/Market[k]		0.594***	
Production method[k]		0.661***	
Method of promotion[k]		0.503***	
Product/Service[r]			0.672***
Customer/Market[r]			0.806***
Production method[r]			0.714***
Method of promotion[r]			0.391***
Composite Reliability (CR)	**-**	**0.67**	**0.78**
Variance Extracted (VE)	**-**	**0.34**	**0.44**

***p<.001

[k]items of knowledge relatedness

[r] items of resource relatedness

[26] The rule of thumb for factor loading above .70 is better, but above .50 is also acceptable (Bagozzi & Yi, 1988)

[27] The rule of thumb for construct reliability is 0.70 or higher suggests good reliability. However reliability between 0.60 and 0.70 may be acceptable (Hair et al., 2006)

The model fit to the data as can be seen in Table 7.6 shows that all constructs – novelty, knowledge relatedness and resource relatedness – have significant χ^2 values (P > 0.05). Accordingly, the model does not fit well observed data (Kline, 2005)[28]. However, in terms of CFI values, all constructs demonstrate a good model fit (Hair et al, 2006). Further TLI also show that the model shows a good improvement over the base model except for resource relatedness (Hair et al., 2006)[29]. The RMSEA for novelty and knowledge relatedness is below 0.07 implying that the model fit the population but resource relatedness is poor (Hu & Bentler, 1988)[30]. Lower SLMR (below 0.08) also shows that three constructs have a good fit. Thus, even though the novelty and knowledge relatedness demonstrate a relatively good model fit, resource relatedness is not adequate.

Table 7.6: Fit indices for the measurement model

Index	χ^2	CFI	TLI	RMSEA	SRMR
Novelty	6.696 (p = 0.03)	0.974	0.922	0.069	0.036
Knowledge Relatedness	6.386 (p = 0.04)	0.984	0.951	0.067	0.021
Resource Relatedness	40.004 (p =0.00)	0.922	0.767	0.197	0.048

7.4.4.2 Alternative measurement model

After eliminating the item 'promotion method' of the resource relatedness construct due to it having a poor loading value, the measurement model was re-estimated to assess the construct validity using a confirmatory factor analysis. Table 7.7 shows the standard values of loadings/weights for the modified measurement model. Accordingly a new measurement model has acceptable level of loadings for (above .50) for all items of the resource relatedness. Further, while composite reliability (CR) remained unchanged (0.78), variance extracted (VE) for the resource relatedness has increased from .44 to .54. This is a good improvement of the

[28] A good model provides a non-significant results at a P>0.05 threshold (Kline, 2005).
[29] CFI and TLI above 0.90 demonstrate a good improvement of the model over the base model (Hair et al., 2006).
[30] RMSEA below .07 indicates good model fit (Hair et al., 2006; Hu & Bentler, 1988).

construct. At the same time the alternative measurement model demonstrates a decent fit in terms of CFI, TLI, RMSEA and SRMR as shown in Table 7.8.

Table 7.7: Loadings for alternative measurement model

Items	**Novelty**	**Knowledge relatedness**	**Resource relatedness**
Product novelty	0.418***		
Promotion novelty	0.552***		
Process novelty	0.772***		
Market novelty	0.242***		
Product/Service[k]		0.584***	
Customer/Market[k]		0.594***	
Production method[k]		0.661***	
Method of promotion[k]		0.503***	
Product/Service[r]			0.676***
Customer/Market[r]			0.855***
Production method[r]			0.661***
Composite Reliability (CR)	**-**	**0.67**	**0.78**
Variance Extracted (VE)	**-**	**0.34**	**0.54**

***p<.001

[k]items of knowledge relatedness

[r] items of resource relatedness

Table 7.8: Fit indices for the alternative measurement model

Index	χ^2	**CFI**	**TLI**	**RMSEA**	**SRMR**
Novelty	6.696 (p = 0.0351)	0.974	0.922	0.069	0.036
Knowledge Relatedness	6.386 (p = 0.0410)	0.984	0.951	0.067	0.021
Resource Relatedness	4..030 (p =0.0000)	0.966	0.910	0.768	0.030

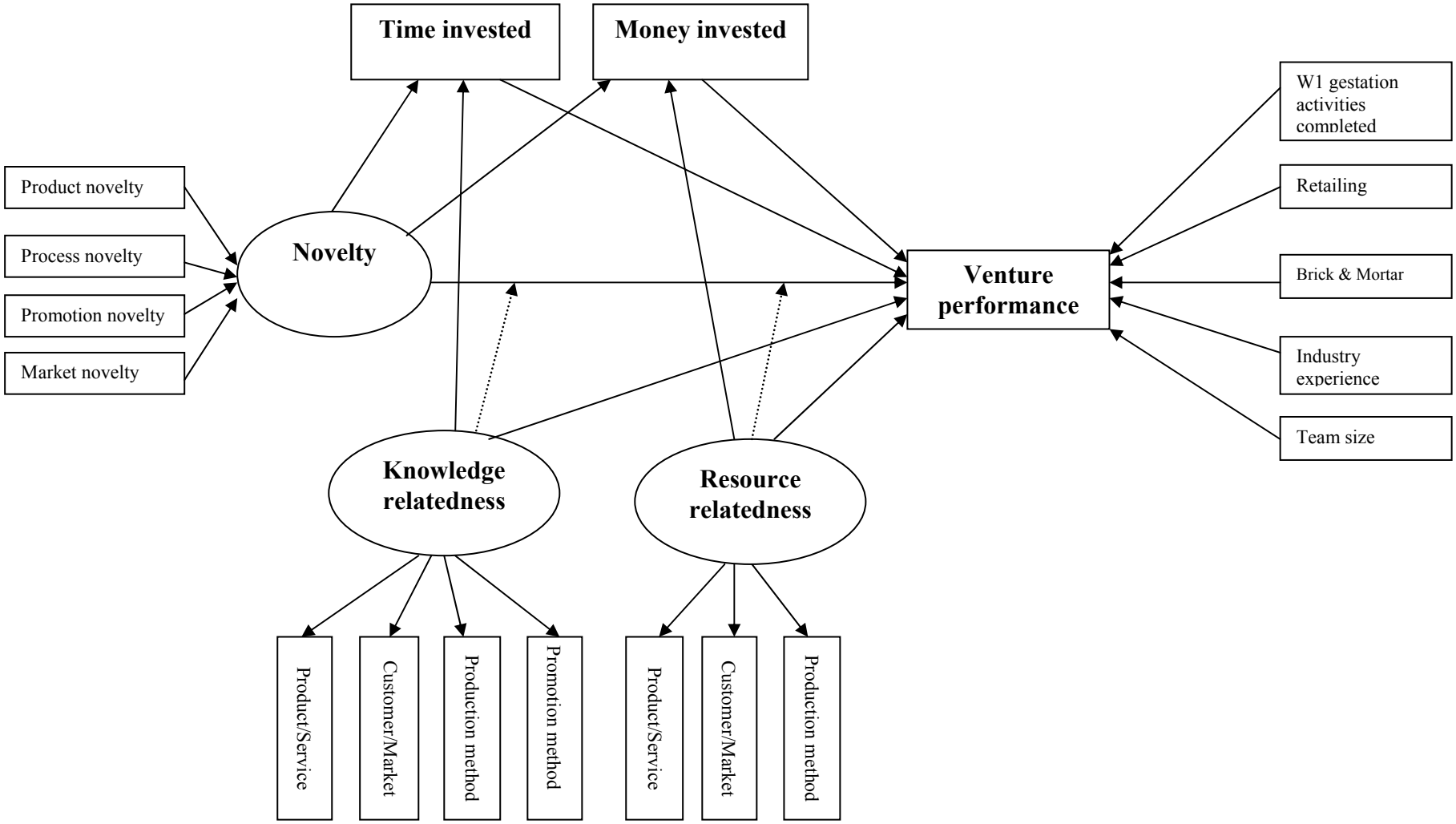
7.4.4.3 Structural model

The structural model reflects the hypothesised relationships among variables. A graphical presentation of the full structural model is presented in Figure 7.2. This model has two types of variables: *exogenous* and *endogenous variables*. An exogenous variable is similar to independent variables, and has paths coming from it as opposed to leading to them. Conversely, an endogenous variable is similar to dependent variables and have at least one path leading to it (Western & Gore, 2006). Thus, four indicators of novelty, knowledge relatedness, resource relatedness and

five control variables: wave 1 to wave 2 gestation activities completed; retailing industry; brick and mortar sales; founders' industry experience and team size are the exogenous variables of this study. Indicators of knowledge and resource relatedness, money invested, resource invested and nascent venture performance are the endogenous variables of this model. According to Figure 7.2, nascent venture performance is a function of the novelty, knowledge relatedness, resource relatedness, money invested, and hours invested as well as the five control variables. Apart from these relationships, other hypothesised relationships can also be seen in the model. Accordingly, it was hypothesised that both the money invested and the hours invested variables are functions of novelty, knowledge and the resource relatedness[31]. In addition, two moderator relations as can be seen in the dotted lines have been incorporated into the model: knowledge relatedness and resource relatedness. As the venture performance is expressed in terms of four outcome variables, the structural model is classified into four sub models to test the hypotheses. The model estimation was conducted using the Mplus software program. Standard coefficients are reported in this analysis. Path coefficients' significance is assessed using p values.

[31] The reader may wonder that why not a latent construct was formed by using variables *time invested* and *money invested* as indicators. The reason is that in a standard CFA model there must be at least three indicators to identify the model (Kline, 2005). Two indicator models are not identified (Bollen, 1989).Similarly, this is why the author did not go for a second order model for relatedness using *knowledge relatedness* and *resource relatedness* as indicators. Further, the author tested above and results indicated that there were convergence problems in the model.

Figure 7.2: Full Structural model



7.4.4.4 Hypotheses testing

As elaborated in Chapter 3, a number of hypotheses were developed to be tested. The venture performance is expressed in terms of four outcome variables: making progress, getting operational, being terminated, and achieving positive cash flow. The results of the hypotheses testing for each dimension of outcome variables and details of model fits are produced under each of the structural models. In addition, the model is pictorially presented with coefficients of paths for easy reference.

7.4.4.4.1 *Structural model 1*

In structural model 1, the outcome variable is making progress computed by summating the number of gestational activities completed. The model fit indices are reported in Table 7.9. Even though the χ^2value is significant, other global indices show a decent fit of the model. CFI is above .90 and this indicates that the model has a good improvement over the base model. The TLI is very close to .90. Low values of RMSEA and WRMR (below .07 and .08 respectively) also indicate that the model fits the data reasonably well.

Table 7.9: Model fit indices for structural model 1

Index	**χ^2**	**df**	**CFI**	**TLI**	**RMSEA**	**WRMR**
Value	162.321 (P=0.0000)	80	0.930	0.890	0.046	0.033

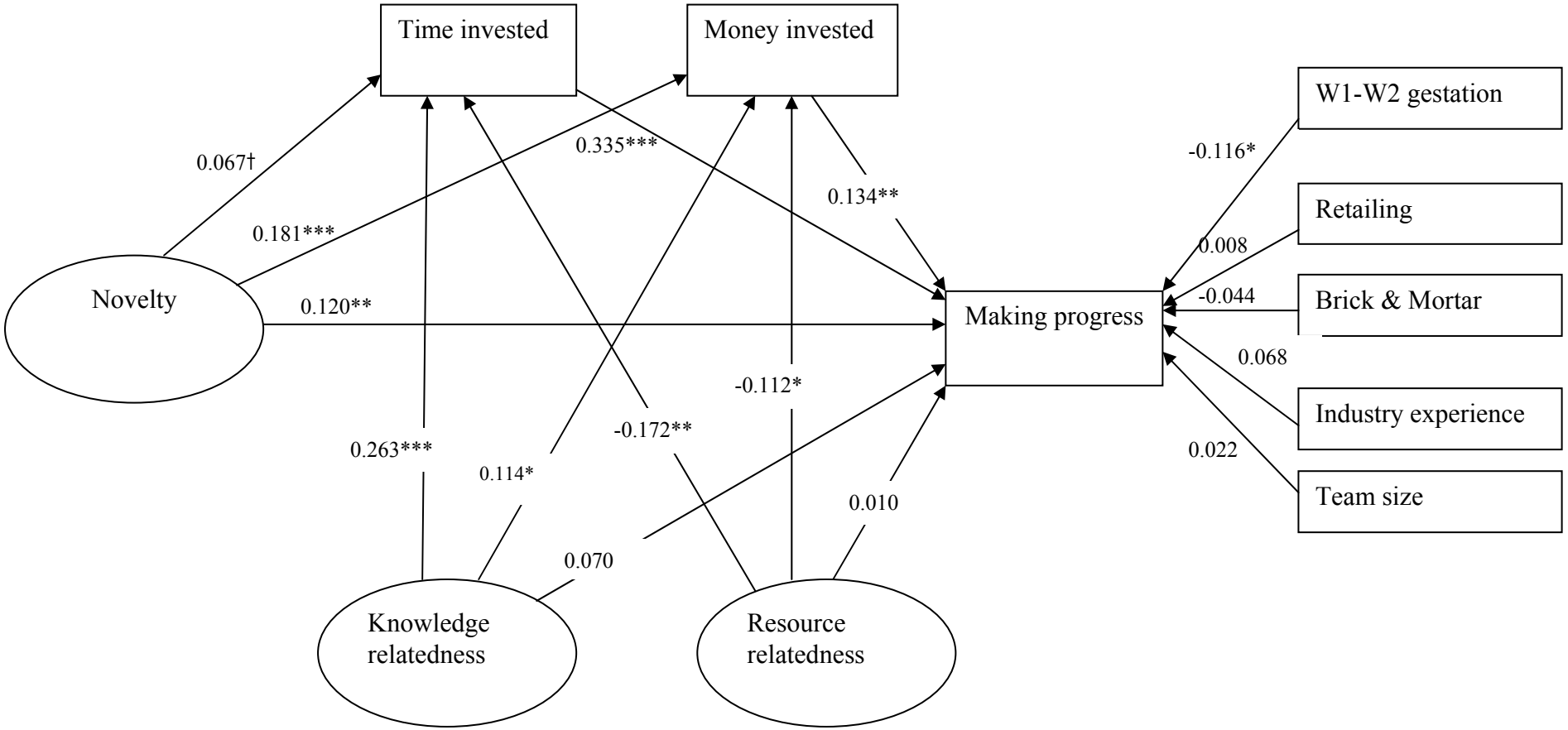
Table 7.10 displays standard parameter estimates with p-values for the hypothesised relationships regarding the structural model with making progress as the outcome variable. Six hypotheses are supported in this model. As shown in **bold type,** the paths from (1) novelty to time invested (*P<0.10*), (2) novelty to money invested (*P<0.001*), (3) time invested to making progress (*P<0.001*), (4) money invested to making progress (*P<0.01*), (5) resource relatedness to time invested (*p<0.01*), and (6) resource relatedness to money invested (*P<0.05*) have a hypothesised relationship with significant p values. Thus, hypotheses H4a, H4b, H5a, H6a, H8a and H8b are supported. At the same time hypotheses H2a and H3a have an expected relationship, but they are non-significant.

Table 7.10: Parameter estimates for structural model 1

H	Hypothesised relationship	B	p-value
H1a	Novelty ⟶ Making progress (-)	0.120	0.004
H2a	Knowledge relatedness ⟶ Making progress (+)	0.070	0.167
H3a	Resource relatedness ⟶ Making progress (+)	0.010	0.438
H4a	**Novelty ⟶ Time invested (+)**	**0.067**	**0.086**
H4b	**Novelty ⟶ Money invested (+)**	**0.181**	**0.000**
H5a	**Time invested ⟶ Making progress (+)**	**0.335**	**0.000**
H6a	**Money invested ⟶ Making progress (+)**	**0.134**	**0.001**
H7a	Knowledge relatedness⟶ Time invested (-)	0.263	0.000
H7b	Knowledge relatedness ⟶ Money invested (-)	0.114	0.048
H8a	**Resource relatedness ⟶ Time invested (-)**	**-0.172**	**0.005**
H8b	**Resource relatedness ⟶ Money invested (-)**	**-0.112**	**0.043**

*****One-tailed significance test used for directional hypotheses.

Figure 7.3: Structural model 1



†p<.10, *p<.05, **p<.01, ***p<.001

The results for structural model 1 show that novelty has no negative impact on making progress as hypothesised. Instead, it has a significant positive impact on the outcome variable. This implies that when high novelty exists, it encourages the completion of more gestational activities. This suggests that, in introducing high novel venture ideas, founders may accelerate the completion of gestation activities to reach the market early in order to reap the benefits of innovation before imitators copy their venture ideas. As hypothesised, knowledge and resource relatedness have a positive impact with making progress, however they are non-significant. Therefore, the support for these hypotheses is uncertain. Novelty has a positive impact on the investment of money and time supporting the hypotheses. This indicates that high novelty entices and demands more investment of money and time in innovative projects. At the same time, the amount of money invested and the time invested have a strong impact on making progress, indicating that more investment of resources supports the completion of more gestation activities. It was further hypothesised that knowledge relatedness negatively related with the time invested and the amount of money invested. Contrary to this, knowledge relatedness demonstrates a positive relationship with both the time invested and the amount of money invested. This implies that despite the fact that venture ideas were discovered based on the founders' knowledge, more investment of money and time is needed to complete gestation activities. On the other hand, resource relatedness negatively affects the money invested and the time invested as hypothesised. This suggests that when high resource relatedness exists, firms need relatively less investment of resources. Resource relatedness covers up the requirement of more money and time investment.

7.4.4.4.2 Structural model 2

In structural model 2, the outcome variable is getting operational. Table 7.11 provides information of the model fit. As shown in the table, fit indices in terms of CFI, TLI and RMSEA show that the model fits the data accurately. However, in terms of $\chi^2$and the WRMR values, the model does not demonstrate a good fit**.**

Table 7.11: Model fit indices for structural model 2

Index	χ^2	df	CFI	TLI	RMSEA	WRMR
Value	84.711 (p=0.0002)	43	0.923	0.916	0.045	1.003

Table 7.12 displays the parameter estimates for structural model 2. As hypothesised, four paths in the model are significant: (1) the path from novelty to operational (p <0.05), (2) the path from resource relatedness to money operation (p < 0.10), (3) the path from time invested to operational (p < 0.001), and (4) the path from resource relatedness to time invested (p < 0.05). Accordingly, the hypotheses H1b, H3a, H5b and H8a are supported. At the same time, hypotheses H4a, H4b and H8b have the expected relationship, however they are non-significant. Therefore, the support for these hypotheses is uncertain.

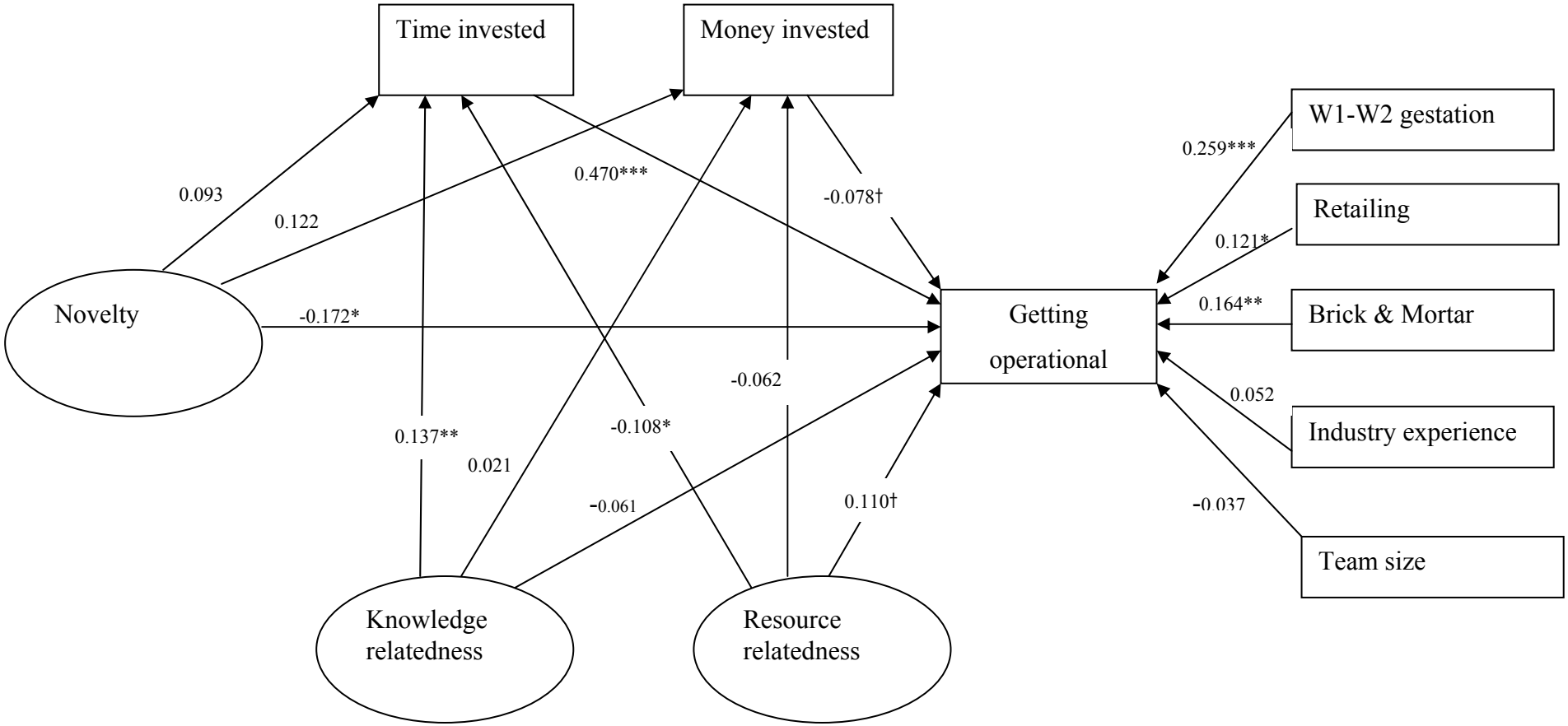
As hypothesised, the analyses show that the novelty has a negative relationship with firms getting operational. This demonstrates that, as the novelty is fraught with different undesirables, it restricts the smooth functioning of venture creation process and therefore restricts the firms getting operational. It was further hypothesised that knowledge and resource relatedness positively affect the venture performance. The results show that although the results for knowledge relatedness do not support this, the resource relatedness supports this argument asserting that resource relatedness is a stimulus to the venture creation process. In this model, novelty does not show an impact on the time investment and money investment. Furthermore, the analysis reveals that the time invested positively affect the venture performance, but not for the money invested. Even though it was argued that knowledge relatedness is negatively related to the investment of time, the results show that it is positively related to the investment of time. This implies that despite the fact that high knowledge relatedness exists, firms need more investment of time in order to assist firms in becoming operational. Resource relatedness has a significant negative impact on the time investment as was previously hypothesised, but not on the amount of money invested.

Table 7.12: Parameter estimates for structural model 2

H	Hypothesised relationship	B	p-value
H1b	**Novelty ⟶ Operational (-)**	**-0.172**	**0.036**
H2b	Knowledge relatedness ⟶ Operational (+)	-0.061	0.243
H3b	**Resource relatedness ⟶ Operational (+)**	**0.110**	**0.094**
H4a	Novelty ⟶ Time invested (+)	0.093	0.425
H4b	Novelty ⟶ Money invested (+)	0.122	0.423
H5b	**Time invested ⟶ Operational (+)**	**0.470**	**0.000**
H6b	Money invested ⟶ Operational (+)	-0.078	0.080
H7a	Knowledge relatedness ⟶ Time invested (-)	0.137	0.006
H7b	Knowledge relatedness ⟶ Money invested (-)	0.021	0.381
H8a	**Resource relatedness ⟶ Time invested (-)**	**-0.108**	**0.019**
H8b	Resource relatedness ⟶ Money invested (-)	-0.062	0.178

*****One-tailed significance test used for directional hypotheses.

Figure 7.4: Structural model 2



†p<.10, *p<.05, **p<.01, ***p<.001

7.4.4.4.3 Structural model 3

With regard to the structural model which represents 'terminated' as the outcome variable, this also provides an acceptable level of model fit even though the chi square (χ^2) value is significant (see Table 7.14). According to Table 7.13, two paths of this model are significant as hypothesised: (1) the path from the time invested to terminated ($p < 0.001$) and (2) the path from the resource relatedness to the time invested ($p < 0.05$). Thus, hypotheses H5c and H8a are strongly supported**.** Furthermore, the paths represented by H2c and H8b have an expected relationship even though they are non-significant. Therefore the support for these hypotheses is uncertain.

Table 7.13: Parameter estimates for structural model 3

H	**Hypothesized relationship**	**B**	**p-value**
H1c	Novelty ⟶ Terminated (+)	0.001	0.491
H2c	Knowledge relatedness ⟶ Terminated (-)	-0.037	0.321
H3c	Resource relatedness ⟶ Terminated (-)	0.078	0.141
H4a	Novelty ⟶ Time invested (+)	-0.099	0.196
H4b	Novelty ⟶ Money invested (+)	-0.095	0.201
H5c	**Time invested ⟶ Terminated (-)**	**-0.411**	**0.000**
H6c	Money invested ⟶ Terminated (-)	0.035	0.274
H7a	Knowledge relatedness ⟶ Time invested (-)	0.119	0.015
H7b	Knowledge relatedness ⟶ Money invested (-)	0.016	0.411
H8a	**Resource relatedness ⟶ Time invested** (-)	**-0.095**	**0.036**
H8b	Resource relatedness ⟶ Money invested (-)	-0.059	0.200

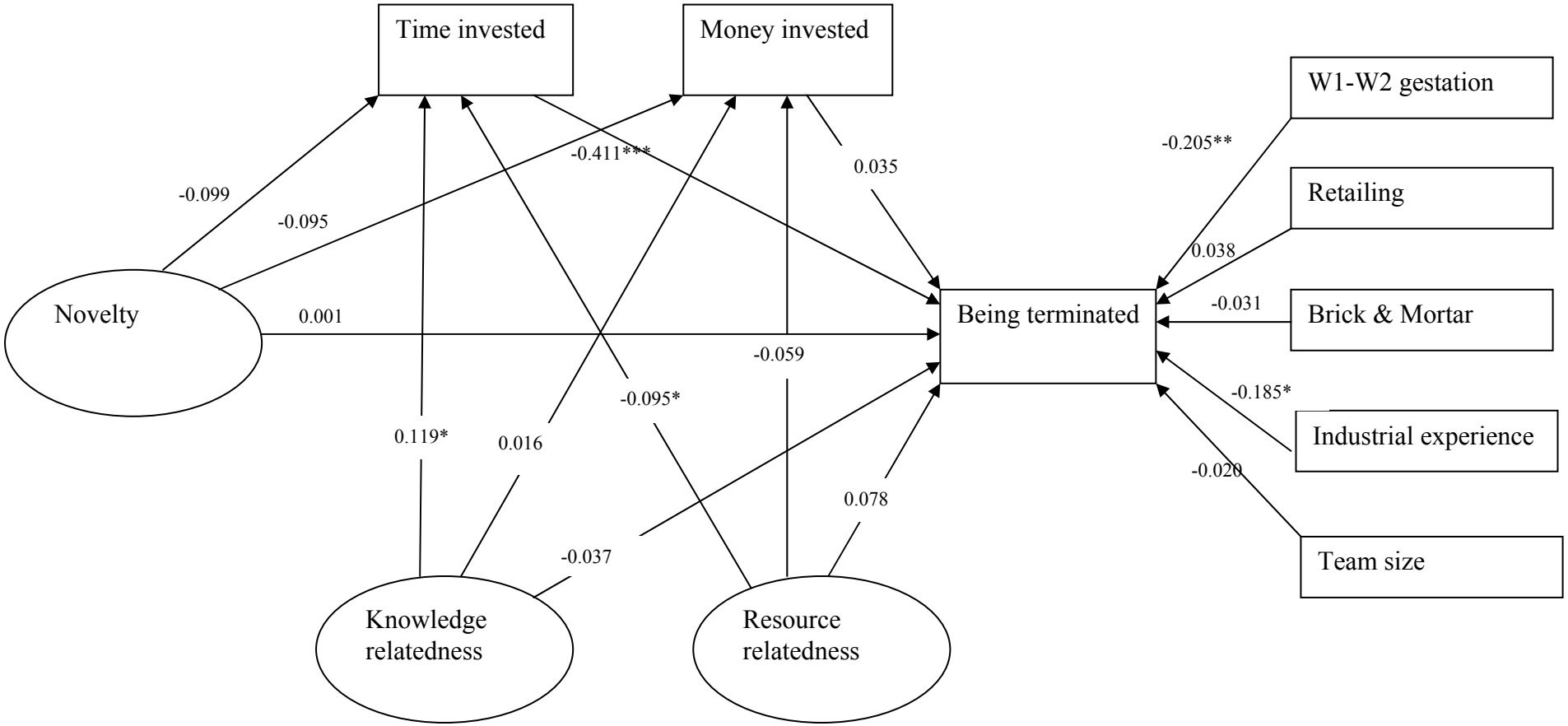
*****One-tailed significance test used for directional hypotheses.

Table 7.14: Model fit indices for structural model 3

Index	χ^2	Df	CFI	TLI	RMSEA	WRMR
Value	89.275(p=0.0000)	43	0.912	0.904	0.047	1.038

In structural model 3, novelty was assumed to be positively related to the venture performance in terms of the being terminated. However, the analysis showed that this hypothesis is not supported. This implies that novelty is not a factor that contributes to firm termination. Knowledge relatedness was hypothesised to be negatively related with the termination of firms. Though the results show that there is a hypothesised relationship, the relationship is not significant. Thus, the support for this hypothesis is uncertain. Resource relatedness was also hypothesised in the same way, but it was not supported, thereby suggesting that resource relatedness is not a factor to restrain firms' termination. Similarly, as hypothesised the novelty has no positive impact with the investment of money and time. This implies that, when the outcome variable is terminated, novelty does not entice more investment of money and time. Furthermore, the money investment was assumed to be negatively affected with the termination. The results show that this is not the case. However, the time investment negatively affected the termination as had been hypothesised. Knowledge relatedness is not negatively related with the hours and money invested. This suggests that knowledge becomes futile when the outcome variable is terminated. However resource relatedness has a negative relationship with time invested as was hypothesised.

Figure 7.5: Structural model 3



†p<.10, *p<.05, **p<.01, ***p<.001

7.4.4.4.4 Structural model 4

Positive cash flow (PCF) is another outcome variable used in this study. Most of the model fit indices in this model (CFI, TLI and RMSEA) confirm the model has an acceptable level as seen in Table 7.15. Four paths are shown in bold type in Table 7.16: (1) novelty to PCF ($P < 0.05$), (2) resource relatedness to positive cash flow ($p < 0.10$), (3) time invested to PCF ($P < 0.001$), and (4) resource relatedness to time invested ($p < 0.05$) have significant coefficients. Thus, hypotheses H1d, H3d, H5d and H8a are supported.

Table 7.15: Model fit indices for structural model 4

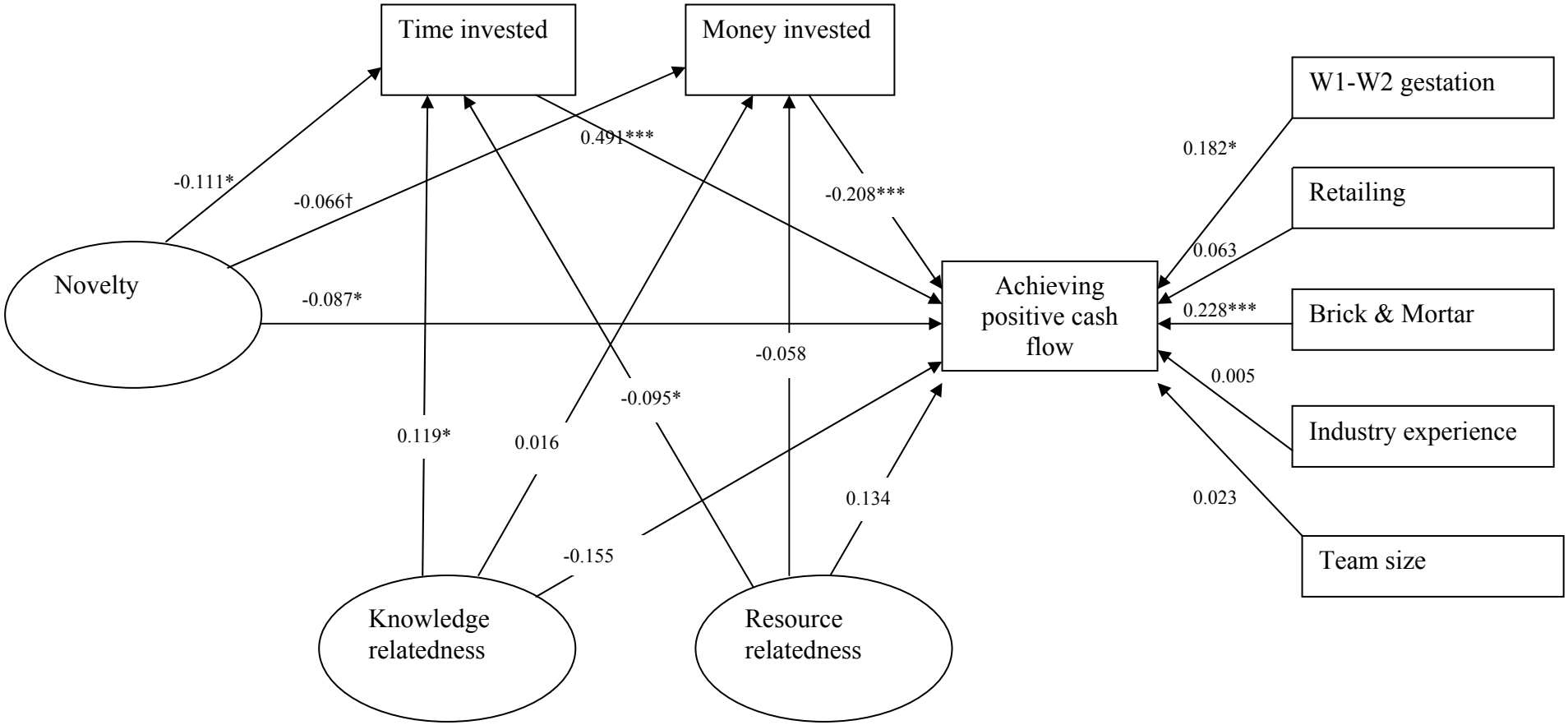
Index	χ^2	**df**	**CFI**	**TLI**	**RMSEA**	**WRMR**
Value	81.913(P=0.0002)	43	0.926	0.919	0.043	0.988

Table 7.16: Parameter estimates for structural model 4

H	**Hypothesised relationship**	**β**	**p-value**
H1d	**Novelty ⟶ positive cash flow (PCF) (-)**	**-0.087**	**0.032**
H2d	Knowledge relatedness ⟶ Positive cash flow (+)	-0.155	0.049
H3d	**Resource relatedness ⟶ Positive cash flow (+)**	**0.134**	**0.077**
H4a	Novelty ⟶ Time invested (+)	-0.111	0.025
H4b	Novelty ⟶ Money invested (+)	-0.066	0.087
H5d	**Time invested ⟶ Positive cash flow (+)**	**0.491**	**0.000**
H6d	Money invested ⟶ Positive cash flow (+)	-0.208	0.000
H7a	Knowledge relatedness ⟶ Time invested (-)	0.119	0.015
H7b	Knowledge relatedness ⟶ Money invested (-)	0.016	0.409
H8a	**Resource relatedness ⟶ Time invested (-)**	**-0.095**	**0.036**
H8b	Resource relatedness ⟶ Money invested (-)	-0.058	0.198

*****One-tailed significance test used for directional hypotheses.

Figure 7.6: Structural model 4



†p<.10, *p<.05, **p<.01, ***p<.001

It was postulated that novelty has a negative impact on the positive cash flow. As predicted, the analysis shows that this idea is supported. As in the case of getting operational, this result further confirms that novelty is a factor that curbs positive outcomes of emerging ventures. With regard to the knowledge relatedness it was predicted that this is positively related to the outcome variable. However, this has a negative relationship. This implies that knowledge relatedness is not a factor for the success of new venture creation process. However, resource relatedness has a positive relationship with the outcome variable. Therefore, it can be inferred that resource relatedness facilitates the venture creation process. In this model too, novelty has no impact on the increased investment of money and time. Instead, the results show that novelty has a significantly negative impact on them. This suggests that high novelty causes less investment of resources when the outcome variable is positive cash flow. The investment of time however positively affects the success of the venture as hypothesised. However, money investment significantly and negatively affects venture success. It was further hypothesised that knowledge relatedness is negatively related to the investment of time and money. Contrary to this, knowledge has a significant positive relationship with the amount of hours invested. This means that the amount of time invested is still an important factor for venture success despite the fact that high knowledge relatedness prevails. As anticipated, resource relatedness has a negative relationship with the amount of hours invested, but not for money invested. This implies that unlike knowledge relatedness, resource relatedness deters more investment of time.

7.4.4.4.5 Effects of control variables

Five control variables that affect venture performance were incorporated into the model. Table 7.17 depicts the coefficients of each control variable to each of the four outcome variables. Wave 1 gestation activities completed have a significant impact for all outcomes. In addition, brick and mortar industry have significant impact to the operational and positive cash flow. The retail industry has a significant effect to the operational. Industry experience negatively affects the termination of firms. Team size does not have significant impact to any of the outcome variables. All of these variables contributed to the respective model fit regardless of their impact to the outcome variables.

Table 7.17: Effects of control variables[a]

	Making progress	Getting operational	Being terminated	Achieving positive cash flow
W1 gestation activities completed	-0.116*	0.259***	-0.205**	0.182*
Retail	0.008	0.121*	0.038	0.063
Industry experience	0.068	0.052	-0.185**	0.005
Brick and mortar	-0.044	0.164**	-0.031	0.228***
Team size	0.022	-0.037	-0.020	0.023

*p<.05, **p<.01, ***p<.001
[a]two-tailed significant test was used for these variables

7.4.4.4.6 Indirect relationships

Apart from direct relationship, this analysis tested for where there are indirect relationships among variables. The analysis suggests that there are a number of indirect relationships between latent variables and the venture performance. Six paths of indirect relationships were identified. Table 7.18 provides paths that have indirect relationships across all four structural models.

According to Table 7.18, the estimates show that there is a small indirect effect between specified paths. At the same time, the analysis shows that most of the indirect relationships are non-significant. However, some have significant indirect relationships. For example, knowledge relatedness has a significant indirect effect on the making progress *(b = 0.093, P < 0.01)*. In the second structural model, knowledge relatedness demonstrates a significant indirect effect on the operational via hours invested *(b = 0.064, P < 0.05*). Similarly, knowledge relatedness has a significant indirect effect on the terminated category via the hours invested (*b = -0.049, P < 0.05)*. Moreover, in the fourth structural model, the novelty demonstrates a significant indirect effect on the positive cash flow *(b = -0.061, P < 0.10)*. In all of these instances, the *hours invested* have acted as the mediator variable between the variables. Thus, apart from the direct relationships, some significant indirect relationships also exist between variables.

Table 7.18: Indirect relationships

Model	Indirect relationships (standardised)	B	p-value
1	Novelty → Time invested → GAC	0.024	0.177
	Novelty → Money invested → GAC	0.024	0.016
	Know rela → Time invested → GAC	*0.093*	*0.001*
	Know rela → Money invested → GAC	0.015	0.141
	Resorela → Time invested → GAC	-0.061	0.015
	Resorela → Time invested → GAC	-0.015	0.134
2	Novelty → Time invested → Operational	0.044	0.850
	Novelty → Money invested → Operational	-0.010	0.850
	Know rela → Time invested → Operational	*0.064*	*0.014*
	Know rela → Money invested → Operational	-0.002	0.765
	Resorela → Time invested → Operational	-0.051	0.041
	Resorela → Time invested → Operational	0.005	0.427
3	Novelty → Time invested → Terminated	0.041	0.395
	Novelty → Money invested → Terminated	-0.003	0.633
	Know rela → Time invested → Terminated	*-0.049*	*0.030*
	Know rela → Money invested → Terminated	0.001	0.834
	Resorela → Time invested → Terminated	0.039	0.072
	Resorela → Time invested → Terminated	-0.002	0.628
4	*Novelty → Time invested → PCF*	*-0.061*	*0.059*
	Novelty → Money invested → PCF	0.015	0.218
	Know rela → Time invested → PCF	0.065	0.036
	Know rela → Money invested → PCF	-0.004	0.819
	Resorela → Time invested → PCF	-0.052	0.036
	Resorela → Time invested → PCF	0.013	0.819

Table 7.19 further shows the direct, indirect and total effects accounted for and by the stated variables.

Table 7.19: Direct, indirect and total effects

Effects of → Effects on ↓	Making progress	Getting operational	Being terminated	Achieving PCF
Novelty				
Direct effect	0.120	-0.172	0.001	-0.087
Indirect effect	0.048	0.034	0.038	-0.041
Total effect	0.168	-0.138	0.039	-0.128
Knowledge relatedness				
Direct effect	0.070	-0.061	-0.037	-0.155
Indirect effect	0.108	0.062	-0.048	0.061
Total effect	0.178	0.001	0.085	-0.094
Resource relatedness				
Direct effect	0.491	0.110	0.078	-0.134
Indirect effect	-0.076	-0.046	0.037	-0.039
Total effect	0.415	0.064	0.115	-0.173

7.4.4.4.7 Interaction effects

It was hypothesised that knowledge relatedness and resource relatedness moderate the relationship between novelty and venture performance. Accordingly, relatedness was expected to weaken the direct negative effect of novelty on the venture performance in terms of good outcomes. The following section presents the results for the interaction effects of novelty and relatedness (both knowledge and resource relatedness) across the four outcome variables. It is worth noting at this point that the SEM analysis was done separately for interaction effects because Mplus software does not provide standardised coefficients for interaction effects. Therefore, unstandardised coefficients are reported in this analysis. Accordingly, interaction effect model as well as main effect model is reported in unstandardised coefficients. At the same time, results reported here included only for the performance variables, i.e. making progress, getting operational, being terminated and achieving positive cash flow. Other impacts derived from the SEM analysis, i.e. the impact of novelty, knowledge and resource relatedness on investment of time and money are excluded from reporting because interaction effects are estimated only for the relationship of novelty and venture performance.

Table 7.20 displays the main and interaction effect models for the making progress. Knowledge relatedness is the moderator variable in the interaction effect

model. It was hypothesised that knowledge relatedness weakens the negative relationship between novelty and venture performance. In the main effect model, a positive relationship between two variables has been established. This is contrary to the initial hypothesis. In the interaction model, this positive relationship has been further strengthened by the interaction effect between novelty and knowledge relatedness. Therefore, hypothesis H9a is rejected.

Table 7.20: Interaction effects of knowledge relatedness – making progress as the dependent variable[a].

	Main effect model	*Interaction effect model*
Novelty	0.131**	0.085
Knowledge relatedness	0.409	1.701*
Resource relatedness	0.045	-0.017*
Hours invested	1.313***	1.350***
Money invested	0.236**	0.239**
W1 gestation activities completed	-0.051*	-0.053*
Retail	0.065	0.082
Industry experience	0.378	0.398
Brick and mortar	-0.276	-0.323
Team size	0.000	0.000
Novelty*Knowledge relatedness	-	0.336*

*p<.05, **p<.01, ***p<.001
[a]one-tailed significance test used for directional hypotheses

Table 7.21 shows the interaction effect between novelty and resource relatedness. The interaction effect did not significantly weaken the original relationship between novelty and venture performance. Therefore, hypothesis H10a is not supported.

Table 7.21: Interaction effects of resource relatedness – making progress as the dependent variable[a]

	Main effect model	*Interaction effect model*
Novelty	0.131**	0.239*
Knowledge relatedness	0.409	0.437
Resource relatedness	0.045	0.025
Hours invested	1.313***	1.350***
Money invested	0.236**	0.245**
W1 gestation activities completed	-0.051*	-0.053*
Retail	0.065	0.065
Industry experience	0.378	0.364
Brick and mortar	-0.276	-0.268
Team size	0.000	.000
Novelty*resource relatedness	-	-0.076

*p<.05, **p<.01, ***p<.001
[a]one-tailed significance test used for directional hypotheses

It was further postulated that the interaction effect between novelty and relatedness weakens the negative relationship between novelty and nascent venture performance in terms of the firm becoming operational. Tables 7.22 and 7.23 demonstrate the main and interaction effect models for the operational incorporating knowledge and resource relatedness respectively. The analysis shows that neither knowledge relatedness nor resource relatedness has a significant interaction effect with novelty to weaken the negative relationship between novelty and venture performance. Therefore hypotheses H9b and H10b are not supported.

Table 7.22: Interaction effects of knowledge relatedness –operational as the dependent variable[a]

	Main effect model	*Interaction effect model*
Novelty	-0.009*	-0.022***
Knowledge relatedness	-0.141	-0.055
Resource relatedness	0.182	0.055
Hours invested	0.646***	0.194***
Money invested	-0.052	-0.022*
W1 gestation activities completed	0.042***	0.016***
Retail	0.365*	0.107*
Industry experience	0.106	0.023
Brick and mortar	0.380**	0.125
Team size	0.000	0.000*
Novelty*Knowledge relatedness	-	0.005

*p<.05, **p<.01, ***p<.001
[a]one-tailed significance test used for directional hypotheses

Table 7.23: Interaction effects of resource relatedness –operational as the dependent variable[a]

	Main effect model	*Interaction effect model*
Novelty	-0.009*	-0.020***
Knowledge relatedness	-0.141	-0.039
Resource relatedness	0.182	0.024
Hours invested	0.646***	0.194***
Money invested	-0.052	-0.023*
W1 gestation activities completed	0.042***	0.016***
Retail	0.365*	0.104*
Industry experience	0.106	0.022
Brick and mortar	0.380**	0.121**
Team size	0.000	0.000**
Novelty*Resource relatedness	-	0.008

*p<.05, **p<.01, ***p<.001
[a]one-tailed significance test used for directional hypotheses

Furthermore, the study hypothesised that the interaction effects between novelty and relatedness weaken the positive relationship between the novelty and termination of firms. The results that appeared in Tables 7.24 and 7.25 show that there are no significant interaction effects of knowledge relatedness or resource relatedness to weaken the positive relationship between the novelty and termination of firms. Therefore hypotheses H9c and H10c are also not supported.

Table 7.24: Interaction effects of knowledge relatedness – terminated as the dependent variable[a]

	Main effect model	*Interaction effect model*
Novelty	0.000	0.002
Knowledge relatedness	-0.086	-0.020
Resource relatedness	0.125	0.038
Hours invested	-0.551***	-0.196***
Money invested	0.023*	0.013
W1 gestation activities completed	-0.032**	-0.008**
Retail	0.110	0.036
Industry experience	-0.367**	-0.079*
Brick and mortar	-0.069	-0.003
Team size	0.000	0.000
Novelty*Knowledge relatedness	-	-0.005

*p<.05, **p<.01, ***p<.001
[a]one-tailed significance test used for directional hypotheses

Table 7.25: Interaction effects of resource relatedness – terminated as the dependent variable[a]

	Main effect model	*Interaction effect model*
Novelty	0.000	0.001
Knowledge relatedness	-0.086	-0.025
Resource relatedness	0.125	0.035
Hours invested	-0.551***	-0.196***
Money invested	0.023*	0.013
W1 gestation activities completed	-0.032**	-0.008**
Retail	0.110	0.036
Industry experience	-0.367**	-0.078*
Brick and mortar	-0.069	-0.004
Team size	0.000	0.000
Novelty*Resource relatedness	-	0.008

*p<.05, **p<.01, ***p<.001
[a]one-tailed significance test used for directional hypotheses

It was further expected that knowledge relatedness and resource relatedness moderate the relationship between novelty and positive cash flow. Accordingly, the study hypothesised that both types of relatedness weaken the negative relationship between novelty and positive cash flow. The results that can be seen in Tables 7.26 and 7.27 display that neither knowledge nor resource relatedness act as significant moderators. Thus hypotheses H9d and H10d are not supported.

Table 7.26: The interaction effects of knowledge relatedness –positive cash flow as the dependent variable[a]

	Main effect model	*Interaction effect model*
Novelty	-0.074*	-0.022
Knowledge relatedness	-0.361	-0.106*
Resource relatedness	0.210	0.052
Hours invested	0.646***	0.143***
Money invested	-0.134***	-0.046***
W1 gestation activities completed	0.028*	0.011***
Retail	0.181	0.034
Industry experience	0.009	0.005
Brick and mortar	0.502***	0.160***
Team size	0.000	0.000**
Novelty*Knowledge relatedness	-	0.026

*p<.05, **p<.01, ***p<.001
[a]one-tailed significance test used for directional hypotheses

Table 7.27: The interaction effects of resource relatedness –positive cash flow as the dependent variable[a]

	Main effect model	*Interaction effect model*
Novelty	-0.074*	-0.031*
Knowledge relatedness	-0.361	-0.078
Resource relatedness	0.210	0.078*
Hours invested	0.646***	0.142***
Money invested	-0.134***	-0.045***
W1 gestation activities completed	0.028*	0.011***
Retail	0.181	0.033
Industry experience	0.009	0.003
Brick and mortar	0.502***	0.160***
Team size	0.000	0.000**
Novelty*Resource relatedness	-	-0.024

*p<.05, **p<.01, ***p<.001
[a]one-tailed significance test used for directional hypotheses

In summary, the above results show that knowledge relatedness and resource relatedness cannot be regarded as successful moderators to weaken the direct negative effect of novelty on venture performance. However, with respect to the making progress category, it was revealed that knowledge relatedness has a significant positive effect to strengthen the positive relationship between novelty and the completion of gestation activities. In all other situations the relatedness does not undergo a significant interaction with novelty to change the original relationship

between novelty and venture performance. Table 7.28 depicts the summary of results.

Table 7.28: Summary of results

	Hypothesis	**Outcome dimension**			
		Making progress	**Getting operational**	**Being terminated**	**Achieving positive cash flow**
H1	*Novelty negatively/positively[a] affects the new venture performance.*	Rejected	Supported	Uncertain support	Supported
H2	*Knowledge relatedness positively/negatively[b] affects the new venture performance.*	Uncertain support	Not supported	Uncertain support	Not supported
H3	*Resource relatedness positively/negatively[b] affects the new venture performance.*	Uncertain support	Supported	Not supported	Uncertain support
H5	*Investment of time positively/negatively[c] affects the new venture performance.*	Supported	Supported	Supported	Supported
H6	*Investment of money positively/negatively[c] affects the new venture performance.*	Supported	Not supported	Not supported	Rejected
H9	*Knowledge relatedness weakens the relationship between novelty and the venture performance.*	Rejected	Not supported	Not supported	Not supported
H10	*Resource relatedness weakens the relationship between novelty and the venture performance.*	Not supported	Not supported	Not supported	Not supported

[a]Novelty positively affects with the termination.
[b]Knowledge and resource relatedness negatively affects with the termination.
[c]Investment of time and money negatively related with the termination.

Table 7.28: Summary of results (cont'd.)

	Hypothesis	Outcome dimension			
		Making progress	**Getting operational**	**Being terminated**	**Achieving positive cash flow**
H4a	*Novelty positively affects the investment of time in the venture creation process.*	Supported	Uncertain support	Not supported	Rejected
H4b	*Novelty positively affects the investment of money in the venture creation process.*	Supported	Uncertain support	Not supported	Rejected
H7a	*Knowledge relatedness negatively affects the investment of time in the venture creation process.*	Rejected	Rejected	Rejected	Rejected
H7b	*Knowledge relatedness negatively affects the investment of money in the venture creation process.*	Rejected	Not supported	Not supported	Not supported
H8a	*Resource relatedness negatively affects the investment of time in the venture creation process.*	Supported	Supported	Supported	Supported
H8b	*Resource relatedness negatively affects the investment of money in the venture creation process.*	Supported	Uncertain support	Uncertain support	Uncertain support

7.5 CHAPTER SUMMARY

This chapter presented results related to the nascent venture performance as predicted by novelty and relatedness. The chapter began by presenting the frequencies of outcome variables. The means, standard deviations and correlations for all variables were then presented. This was followed by presenting an analysis for the measurement model. Next, the chapter presented results relating to the

hypotheses testing. The nascent venture performance was measured across the four outcome variables. Thus, the hypotheses were tested based on the four structural models. Parameter estimates for each hypotheses were presented with the overall model fit indices. In addition to the results of direct effects, the chapter presented the results of the indirect relationships among variables. Lastly, the results of the interaction effects between novelty and relatedness were presented. The chapter concluded with an overall summary of results

Chapter 8: Discussion and Conclusion

8.1 INTRODUCTION

The purpose of this chapter is to present a critical evaluation of the overall study. The chapter begins with a summary of the research process. This is followed by a discussion of the research findings and an interpretation of the findings. The implications that emerge from these findings are then discussed in terms of theory, method and practice. This chapter also discusses the limitations of the study and recommendations for future research.

8.2 DISCUSSION AND RESULTS

8.2.1 A SUMMARY OF THE RESEARCH PROCESS

In conceptualising contemporary entrepreneurship research, the subject is construed as the nexus between individuals and venture ideas. Accordingly, the study of the characteristics of individuals as well as the characteristics of venture ideas is equally important in entrepreneurship (Shane & Venkataraman, 2000). This suggests there is a role for differences in venture ideas over and above the individuals in the entrepreneurial process (Shane, 2003; Smith et al., 2009). This also includes the contextual fit between the venture idea and the individual (Davidsson, 2004). It is further acknowledged that entrepreneurship research should focus on the examination of the early stages of the venture creation process rather than purely investigating already established ventures (Davidsson & Honig, 2003; Shane & Venkataraman, 2000). However, to date insufficient scholarly attention has been paid to the study of the characteristics of venture ideas, their contextual fit and how they affect the performance of the early stages of the venture creation process (Davidsson, 2004). This study sought to help fill this research gap by investigating how venture idea novelty and relatedness affect the performance of nascent ventures. The study also focused its attention on how the characteristics of venture ideas affect their perceived attractiveness.

The study sought to address the following primary research questions:

1. How do the characteristics of a venture idea, in terms of novelty and relatedness, affect the attractiveness as perceived by experienced entrepreneurs?
2. How do the characteristics of a venture idea in terms of novelty and relatedness affect the performance of emerging ventures?

The study adopted two empirical studies to address these questions. Study 1 was designed to answer research question 1 and consequently estimated the preferences for different attributes with respect to idea characteristics. In this regard thirty-two experienced entrepreneurs in Sri Lanka were provided with 32 alternative idea characteristic profiles and asked to assign a preference score to each profile. Consequently, the relative importance of each attribute was computed. Study 2 was the core study of this thesis. It was designed to examine how novelty and relatedness affect the performance of the venture creation process. The study developed a model that illustrated the relationship between variables and developed a set of hypotheses using extant theory and research. Data from a sample of 493 adult individuals in Australia who were in the process of starting venture were used in the study. Further, the data used in analysis were collected at two points in time during a period of two consecutive years.

Chapter 1 discussed the background to the study and its relative importance; in including how and why the study was undertaken. Chapter 2 was devoted to a discussion of the current literature, focussing on the main concepts that surround this project. Thus, new venture creation, opportunities, venture ideas, novelty, relatedness and attractiveness of venture ideas were discussed in detail this chapter. Based on the model developed in Chapter 3 sseveral hypotheses were developed. The main ideas behind these hypotheses are:

1. Novelty negatively affects the probability of nascent ventures achieving positive business outcomes;
2. Relatedness positively affects the probability of nascent ventures achieving positive business outcomes;
3. Novelty is positively related to the investment of resources in nascent ventures;
4. The investment of resources positively affects the probability of nascent ventures achieving positive outcomes;

5. Relatedness negatively affects the investment of resources; and
6. Relatedness moderates the relationship between novelty and venture outcomes for nascent ventures;

Chapter 4 explained the research methods used in this study. Since the study is composed of two sub studies, this chapter elucidated the manner in which the overall study was designed, how samples were chosen, the methods employed for data collection, the variables involved, the measurement procedures and the data analysis techniques for both of the studies. Chapter 5 presented the results of study 1 which examined utility values of each level of attributes and the relative importance of various attributes in terms of the attractiveness of venture idea. Chapter 6 reported the results relating to the types and degrees of novelty and relatedness entrepreneurs introduce to the market. The results reported here were basically frequencies of different types and degrees of novelty and relatedness introduced by different firm settings such as nascent vs. young firms, high potential vs. regular firms, production vs. service sector firms, solo, partner and teams, and founders with experience vs. founders without experience. Chapter 7 discussed the results of study 2 which was designed to understand how novelty and relatedness affect nascent venture performance. In this analysis several variables were controlled and performance was measured using four outcome variables. Descriptive statistics, correlations, and analysis of hypotheses testing were reported in this chapter. Finally, Chapter 8 provides an interpretation of the study's findings discusses the overall findings, a discussion of the study's contribution and limitation, suggestions for further research and some concluding remarks.

8.2.2 INTERPRETATION OF THE FINDINGS

8.2.2.1 Types and degrees of novelty introduced by new ventures

This study identified that firms introduce not only novel products/services but also new production processes, methods of promotion and tap into new markets/customers. Similarly, ventures introduce different degrees of novelty, which lie between the extremes of radical innovation and imitation. Accordingly, the study identified four degrees of novelty for each dimension of venture idea that was introduced by new firms: new to the world; new to the served market; substantial improvement; and imitative. Novelty and relatedness were examined across different

business settings such as: regular nascent vs. high potential nascent firms; different industry sectors; solo, partner and teams; founders with previous start-up experience vs. founders without previous start-up experience; and founders with previous industry experience vs. founders without previous industry experience. Statistical tests indicate that the degree of novelty can vary significantly for some business settings. The following section delineates how the degree of novelty for each dimension of novelty varies across different business settings.

8.2.2.1.1 Product novelty

The results of this study indicate that nascent entrepreneurs generally introduce a moderate degree of product novelty, but not radically new ones. This is true for all types of entrepreneurs concerned except for the high potential firms. The majority of high potential firms introduce what they perceive to be "new to the world" products. This is not surprising as, as indicated in Chapter 6, high potential firms are by definition more innovative. Despite most of the regular nascent firms introducing a moderate degree of product novelty some regular firms also introduce a high degree of innovative products to the market. However, in general regular firms are in the middle of the imitation-innovation continuum. This suggests that most of the regular firms do not like to undertake high risk or high complex venture ideas. In a similar vein, it seems that they do not like to stay with low risk and familiar imitative products. High potential firms also produce some low degree of novel products and they do not totally rely on radical new products.

Having taken consideration of different industry sectors, it appears that firms in general introduce a moderate degree of novelty. However some industry sectors are more novel than others. For example, manufacturing, mining and utilities, health, education and social services firms, and communication and transportation firms introduce more innovative products. On the other hand, sectors such as construction and real estate and hospitality firms are more imitative. Further, statistical test analysis indicates that novelty is significantly different among different industry sectors. However, the pattern of novelty is inconsistent and cannot be categorised according to traditional industry classification, i.e., primary (e. g., agriculture), secondary (e.g., manufacturing) and services (e.g., retailing).

Solo firms dominate the nascent firms more than de facto partner teams and other teams. All three types of firms have concentrated on a moderate degree of novelty. However, teams introduce more innovations than the other two groups. This may be in part because when firms are composed of more members with different and unique skills they have more tendencies to introduce more novel products. However, statistical test analysis indicates that there is no significant difference among these groups in introducing product novelty.

Furthermore, there are more founders with previous start-up experience among nascent entrepreneurs than non-experienced founders. As in other cases, both types of founders introduce a moderate degree of novelty. However, founders with experience introduce more innovative products. Nevertheless, chi-square test analysis revealed that both founders with previous start-up experience as well as founders without such experience equally introduce product novelty. This means that having previous start-up experience is not an important factor for introducing a high degree of novelty. These findings are contrary to the findings of Ucbasaran, Westhead and Wright (2007; 2009) who found that the greater the extent of business ownership experience, the more innovative was the exploited opportunity by firm founders.

Similarly, founders with high industry experience are more common among nascent entrepreneurs than founders with less industry experience. Both types of founders are centered on a moderate degree of novelty. In this case too, within the studies sample founders with experience introduce a higher degree of novelty than others. However, statistical test analysis indicates that there is no significant difference between two groups in introducing product novelty. These findings are against the findings of Cliff et al. (2006) which state that founders who possess experience in the field tend to head more innovative firms. However, these findings are consistent with Ucbasaran et al. (2007) who found that founders' previous experience has no impact on the pursuit of innovative opportunities. However, the samples of the above two studies were not nascent. According to the present study previous start-up as well as previous industry experience is not associated with introducing innovative offerings for nascent entrepreneurs.

8.2.2.1.2 Promotion novelty

With respect to the promotion novelty, most firms prefer to introduce imitative promotions. This is common for all types of firm considered, including high potential firms. In spite of that, high potential firms are more predisposed to introduce a high degree of promotion novelty than regular firms. But they are not so innovative in terms of promotional methods as they are for products/services.

Firms in different industry sectors also demonstrate that most firms introduce imitative promotions. However, some sectors are more imitative than others. For example, manufacturing, mining and utilities, agriculture, business consulting and finance services. On the other hand sectors such as retail and wholesale, health, education and social services are relatively more innovative than other sectors. Statistical test analysis also confirms that promotion novelty is different among different industry sectors.

More of solo, spouse teams and other teams also introduce imitative promotions. However other teams introduce more innovative promotions than the other two groups. However, the difference is not statistically significant.

Both founders with start-up experience as well as founders without such experience are more inclined towards imitative promotions. Nevertheless, experienced founders introduce more innovative promotions. In this case too, difference between the two groups is not statistically significant. Similar results are reported from the founders with high previous industry experience and founders with low previous experience.

Overall, according to the continuum of promotion innovation, the majority of firms lie at the extreme of imitation. A very small percentage of firms introduce new to the world promotions. This means that most firms wish to stay with promotional methods that others are adopting in the market. Results suggest that firms may not wish to go for radical promotional methods and are confined to the traditional promotional methods such as advertising, personal selling, sales promotions and public relations. These results could be expected because going for a radical promotional method would not be as easy as product innovations.

8.2.2.1.3 Process novelty

As regards the process novelty, most entrepreneurs introduce imitative processes across all firm settings. A much smaller percentage of firms introduce new to the world processes compared to the new to the world products. High potential nascent firms as usual introduce more new to the world processes than regular nascent firms. But they are not more innovative in terms of the method of production as they are in products.

With regard to different industry sectors, larger firms across all sectors introduce imitative processes. Among those sectors, business consulting, finance, and insurance, communication and transportation firms are more inclined to introduce imitations. On the other hand, some industry sectors such as agriculture, construction and real estate firms introduce more new to the world processes. In this case too, statistical test analysis shows that there is a significant difference among the industry sector in introducing process novelty.

Most of solo, spouse teams and other teams prefer to introduce imitative processes. However, other teams are more disposed to introduce more innovative processes. In this case, statistical test analysis also confirms that there is a significant difference among types of firms in introducing process novelty.

Founders with previous start-up experience tend to introduce more innovative processes than founders without previous start-up experience. But the difference is not statistically proven. Similar results were found from founders with high previous industry experience and founders with low previous experience.

Since process innovation is mostly internally focused and efficiently driven, results overall show that entrepreneurs mostly prefer to stay with existing processes that are sufficient to secure the quality, efficiency and price/performance of firms. They have little inclination for radical or technological discontinuities. High potential firms also are not different from other firms in this regard.

8.2.2.1.4 Market novelty

Compared to other dimensions of novelty, nascent entrepreneurs generally introduce a high degree of market novelty. Regular nascent firms as well as high potential nascent firms serve in a high level of innovative markets. The majority of entrepreneurs serve the markets that most of the other firms have not entered

(corresponding to the "new to the served market" in other dimensions of novelty). High potential firms are in the forefront in serving in highly innovative markets.

Market novelty among different industry sectors is also statistically significant. Most of the firms in all sectors serve in markets where most of the other firms do not operate. While a majority of communication and transport sector firms operate in a low innovative market, a high percentage of hospitality firms operate in a radically market than other sectors.

Market novelty among solo, partner and other teams does not show as significantly different. A majority of firms serve in a market where most of the other firms do not operate.

Founders with start-up experience as well as founders without start-up experience do not show statistically significant differences in serving markets. This is true for founders with high previous experience and founders with low industry experience.

Overall, entrepreneurs prefer to serve in a relatively innovative market compared to other types of novelty. Even though differences of degrees of novelty are significant among regular vs. high potential firms in different industry sectors, differences are not significant among firms which are categorised based on ownership and founders' experience.

8.2.2.2 Types and degrees of relatedness introduced by new ventures

Based on Shane (2000) and Sarasvathy's (2001) work, two types of relatedness were identified. Shane asserts that one of the important factors that determine the discovery of venture ideas is individuals' prior knowledge. The fit between individuals' knowledge and venture ideas was referred to as the knowledge relatedness. Sarasvathy claims that venture development is primarily based on individuals' intellectual, physical and financial capital. Thus, the fit between individuals' resource endowments and venture ideas was labelled the resource relatedness.

As stated in Chapter 6, business founders generally introduce ventures that have a high degree of knowledge and resource relatedness. This is the case across all of the firms concerned, i.e., among regular and high potential firms, different industry sectors, solo, partner and teams and among entrepreneurs who have/have not

previous start-up experience and industry experience. However, some differences could be observed across different firm settings. For example, compared to high potential firms regular nascent firms adopt high levels of both knowledge and resource relatedness. This is somewhat surprising because since founders of high potential firms generally have high education and experience (Senyard, et al., 2009), we could expect rather a high relatedness from them. As regards the industry sector, all industry sectors have a high degree of knowledge and resource relatedness except hospitality and consumer services firms. However, these differences are not statistically significant. Solo, spouse teams as well as other teams also have a high degree of knowledge and resource relatedness. Among these, spouse teams are embodied with higher knowledge as well as resource relatedness. But the differences are not statistically significant. Both founders with previous start-up experience and founders without such experiences follow a high degree of knowledge and resource relatedness. Among them founders with previous start-up experience have high relatedness in both types of relatedness than the other group. Further differences are statistically significant. This suggests that entrepreneurs with previous start-up experience rely more on their knowledge and resources in the discovery of venture ideas and venture development process. However, founders' previous industry experience does not seem to be an important factor in adopting knowledge and resource relatedness. This is surprising because industry experience is regarded as a source of knowledge (Shane, 2000). On the other hand, it appears that all firms except high potential firms rely more on knowledge relatedness than on resource relatedness. These results are consistent with the results of the conjoint study (study 1) which indicates that entrepreneurs place considerable weight on alignment with the knowledge and skills they already possess in choosing a particular venture idea, but not on alignment with other resources.

8.2.2.3 Novelty and nascent venture performance

To date entrepreneurship research has lacked a theory to explain the performance implications of novelty of venture ideas for nascent ventures. Based on multiple strands of research, it was argued that the highly novel venture ideas restrict the early stage performance of ventures because such ventures are confronted with high risk, uncertainty, complexities, liability of newness and different legitimacy

issues in introducing these venture ideas. Accordingly, it was envisaged that high novelty drives a slow pace of progress in the venture creation process, restrains firms from becoming operational, propels the firm towards termination, and hampers the achievement of positive cash flows. As detailed in the previous chapter, the empirical findings of this study supported this argument in general. Novelty has a significant negative impact on the nascent venture performance in terms of firms getting operational and achieving positive cash flow. This suggests that firms that adopt high novel venture ideas appear to have a low probability of becoming operational and achieving positive cash flow or at least that it takes them longer to reach these outcomes. This suggests that the venture creation process is rather difficult for innovative venture ideas. Further, descriptive results indicate that the number of firms that became operational and achieved positive cash flow is rather small in the sample. Similarly, the number of firms that achieved positive cash flow is far less than the number of firms that became operational. The latter suggests that even though firms receive sales they are not sufficient to cover firms' costs in the initial stages of the venture creation process. As this study's data are confined to a one year period, the former imply that one year may not be a sufficiently long period for firms to become operational and receive an income that exceeds their costs. This further implies that the process may be more complex and take longer for novel venture ideas.

While novelty has a negative relationship with achieving operational status and positive cash flow, as hypothesised it has a positive relationship with the termination of firms. However, this is not significant and the coefficient of termination is of rather trivial magnitude. This may suggest that any problems associated with high novelty are not a common reason for firms to give up their venture efforts. This circumstance compels us to search for other reasons for the termination of emerging firms, whilst leaving out novelty as a probable factor.

Surprisingly, the findings suggest that novelty has a positive relationship with the completion of gestation activities. That is, the results indicate that the higher the novelty the higher the chance of making progress. This is contrary to what this study hypothesised. However, this may suggest that when high novelty exists, founders may tend to complete their gestation activities faster in order to reach the market before competitors imitate the venture ideas (Choi & Shepherd, 2004) and they therefore reap the benefits of innovation early (Lieberman & Montgomery, 1988).

Thus, the fact that novelty encourages the completion of gestation activities implies that uncertainty, liability of newness and other unfavourable issues may be relatively inconsequential in the completion of some of the gestation activities.

By and large, it can be concluded that the novelty restricts the performance of nascent ventures in the short run. This suggests that if they want to get their firms to yield a positive return quickly founders should go for less novel offerings. However, in order to get rich they may still be required to create rather innovative ventures. However, the longer term outcomes will be revealed by a further wave of data collection.

8.2.2.4 Knowledge relatedness and nascent venture performance

It is widely documented in entrepreneurship research that the prior knowledge of firm founders is a main factor that affects the discovery of venture ideas (Shane, 2000; Shepherd & DeTienne, 2005). However, the performance implication of the fit between the knowledge of firm founders and venture ideas has remained unexplored. Based on the view that *inter alia* knowledge is a specific cognitive skill of individuals and that it is also a value creating strategy, it was argued that firms that have discovered their venture ideas based on founders' knowledge would record a better performance in the venture creation process. In other words, it was hypothesised that knowledge relatedness positively affects the probability of achieving positive business outcomes. However, the findings revealed that knowledge relatedness has no significant impact on venture performance in general. It is not positively related with firms getting operational and achieving a positive cash flow. However it has an uncertain support for the completion of the gestation activities and the termination of firms. This latter suggests that even though the knowledge relatedness does not help firms to become operational, it may still facilitate the completion of gestation activities. It should be noted that it may be premature to give a conclusion regarding performance implications of knowledge relatedness since we are confined to a one year period of time in the venture creation process. Nevertheless, we can state that venture ideas discovered through the prior knowledge of founders (Shane, 2000; Shepherd & DeTienne, 2005), do not have better performance in the short run. Accordingly, we cannot include knowledge relatedness as a factor that determines the nascent venture performance. This either

means that some previous research has exaggerated the importance of knowledge relatedness or that our measure of relatedness does not work very well.

8.2.2.5 Resource relatedness and nascent venture performance

Building on Sarasavathy's (2001) effectuation theory, which postulates that entrepreneurial activity is hinged on founders' resource endowments, this study conceived that resource relatedness positively affects the nascent venture performance. Accordingly, the resource relatedness was considered to be a factor that drives the firm to become operational and have a lower tendency for termination. Moreover, it was anticipated that resource relatedness triggers firms to receive positive cash flow as well as to complete more gestation activities in the venture creation process. Findings confirm that the resource relatedness affects the firms getting operational. This advocates that firms that discovered their venture ideas based on founders' financial, physical and other resources have a potential to reach the market more comfortably than other firms. However, the support is uncertain for making progress and positive cash flow. The longer term outcome effects require further study. Unlike knowledge relatedness, resource relatedness facilitates the efforts of the venture creation process even in the short run. However, resource relatedness does not seem to be a factor that curbs the termination of firms. By and large, resource relatedness can be considered as an important predictor for the performance of nascent ventures.

8.2.2.6 Novelty and resource investments

It was further postulated that novelty is positively related with resource investment in terms of money and time. As the novelty is involved with high risk, uncertainty, and different legitimacy problems as well as being more prone to liability of newness, it was envisaged that novelty requires more investment of money and time investment to mitigate these problems and to enter the market. On the other hand, since novelty is involved with high profits, first mover advantages and a source of competitive advantages, the study expected that the novelty would entice more investments of money and efforts from its founders. As detailed in the last chapter, the support for these hypotheses is not consistent across analysis of different outcome variables. When the outcome variable is making progress, the

novelty is assigned a significant impact with the investment of money and time. At the same time, when the outcome variable is getting operational, novelty has a non-significant positive relationship with the investment of time and money. However, this relationship is negative when terminated and positive cash flow are the outcome variables. Therefore, a conclusive judgement about the relationship between novelty and investment of money cannot be made.

8.2.2.7 Investment of resources and venture performance

The time investment registers a strong impact to the venture performance in terms of all outcome variables concerned. This means that when founders exert more time and effort on the venture creation process, this assists in achieving more favourable outcomes such as early sales, positive cash flows, less termination and more completion of gestation activities. These findings are corroborated with the Gatewood et al. (1995) findings, which assert that when one exerts more time and effort to accomplish a task, it is more likely that the achievement of this task will occur. According to Reynolds and Miller (1992) this is a result of an increased commitment of the founders for the entrepreneurial tasks. These results further confirm Reynolds's (2007) assertion that the intensity of effort is a clear indicator for venture success, which he set forth through the evidence of PSED.

However, the investment of money does not seem to be as significant a factor as the investment of time in affecting the performance of nascent firms. These results are opposed to the cross sectional findings of Brush, Edelman and Manolova (2008) who found that investment of financial and physical resources have a strong effect on achieving first sales for nascent entrepreneurs. In the present study it has a significant positive relationship only with the making progress category, thereby implying that an increased investment of money helps to complete more gestation activities. However, the results suggest that the amount of money invested is not a factor that affects becoming operational and achieving positive cash flow and curbing termination. It may be the case that different ventures need different investments and higher investments are often associated with more complex ventures that take longer to establish. The inclusion of venture type controls may not fully account for this contingency (Cassar, 2004). However, if this were the only reason one would still expect a negative relationship between investments of money termination.

8.2.2.8 Relatedness and investment of resources

It was further hypothesised that the investment of time and money become less important when high relatedness exists. This was hypothesised on the premise that when firms are embodied with knowledge and resources relatedness, founders could run their firms without high investments of time and money. On the contrary, the analysis shows that knowledge relatedness has a significant positive effect with the investment of time. This implies that in the early stages of the venture creation process knowledge relatedness does not seem to be a factor that reduces the investment of time, instead it increases the investments of time. This suggests that new ventures need more investment of time when venture ideas are related with founders' knowledge. This situation may further suggests that firms cannot adopt bricolage strategy in the early stages of the venture creation process. Instead it could be applied for already established ventures or ventures that have some track record. However, knowledge relatedness has no impact on the investment of money.

In contrast to the effects of knowledge relatedness, resource relatedness has a strong negative impact on the investment of time under all outcome dimensions. That is when there is a high resource relatedness firms need no more investment of time. This suggests that when firms are abounding with resource relatedness, founders should not exert more of their time because resource relatedness acts as an antidote to it (Cooper et al., 1994) and firms can also adopt bricolage strategy. Nevertheless, the hypothesis that resource relatedness is negatively related with the investment of money is supported only at the making progress as the outcome variable. In the other cases their relationships are uncertain.

The above delineation portrays that the existence of knowledge relatedness enhances the investment of time while resource relatedness reduces it. This further suggests that in the early stage of venture creation process, having high knowledge relatedness means that more involvement and efforts of founders are required by firms. However, having high resource relatedness in the early stages of the venture creation process does not require more involvement of founders in the venture creation process. Nevertheless, knowledge or resource relatedness has no effect on the investment of money in general.

8.2.2.9 The moderating role of relatedness on the novelty-performance nexus

The study assumed that relatedness would moderate the relationship between novelty and venture performance. Accordingly both knowledge relatedness as well as resource relatedness by interacting with novelty were supposed to weaken the negative relationship between novelty and venture performance in terms of positive business outcomes and vice versa for the negative business outcomes. The results in general show that relatedness has no interaction effects with novelty to weaken or strengthen the outcomes as hypothesised. On the contrary, the knowledge relatedness has an interaction effect with novelty to strengthen the relationship between novelty and making progress. The positive sign of the interaction effect is not surprising since the original relationship between novelty and making progress was also positive for this outcome. This relationship suggests that knowledge relatedness strengthens the positive effects of novelty on making progress.

8.2.2.10 Attractiveness of venture ideas

As an experimental study, the attractiveness of venture ideas was examined concurrently by incorporating the characteristics of venture ideas as predictors. This was done in order to gain more insight into the characteristics of venture ideas in the venture creation process. Furthermore, it was also supposed that it would explain in part why some venture ideas are more popular among entrepreneurs and others are not. Thus, the study assumed that the characteristics of venture idea in terms of their newness, relatedness and potential finacial gain have an impact on the attactiveness of venture ideas as perceived by experienced entrepreneurs.

Conjoint analysis reveals that entrepreneurs prefer to introduce a moderate level of novelty with regard to the products/services. Entrepreneurs neither prefer to go for radical innovations nor imitations with regard to the products/services. These results are consistent with the results of Study 2. This means that there may be no fundamental differences between Sri Lankan entrepreneurs and Australian entrepreneurs with regard to the product novelty. On the other hand, it appears that they prefer to serve a market that is substantially different from those served by others and markets that most of the other firms have neglected. These results are also compatible with the conjoint results. Indeed, with respect to the market novelty entrepreneurs in the both countries are more likely to be attracted to new markets

rather than operating in a market where others operate. With regard to the promotion novelty, the conjoint results show that entrepreneurs are more attracted by the introduction of substantially improved (i.e., moderately novel) promotional methods. However, according to Study 2 Australian nascent entrepreneurs prefer to go for imitative promotions. The conjoint results further reveal that entrepreneurs are more attracted to introducing imitative processes. This is also true for Australian entrepreneurs in Study 2. It appears that entrepreneurs generally wish to introduce production processes that others offer in order to enhance their quality and efficiency rather than disrupting existing technologies to create more wealth (Dewar & Dutton, 1986).

Knowledge relatedness appears to be an important attribute in the selection of venture ideas according to conjoint results. Its utility value is second only to the product novelty, suggesting that entrepreneurs rely significantly on knowledge in introducing their venture ideas. These results corroborate with Shane's (2000) and Sarasvathy's (2001) assertions which state that the discovery of venture ideas is determined by the knowledge and other resources of individuals. When this researcher met with the entrepreneurs for the interviews, as also indicated in Table 5.1, the majority of them expressed that their knowledge was a main motivational factor in starting ventures.

Descriptive statistics of Study 2 also indicate that entrepreneurs in Australia rely heavily on knowledge relatedness. However, in the Sri Lankan conjoint study resource relatedness is not a dominant factor in the attractiveness of venture ideas when compared to knowledge relatedness. The potential financial gains play a substantial role in the attractiveness of a venture idea; however this is not a dominant factor in the attractiveness. This suggests that entrepreneurs do not solely start their ventures in order to achieve profits. These results are consistent with studies undertaken on the reasons for different career choices (Carter et al., 2003) and motivation of small business managers (Wiklund, Davidsson, & Delmar, 2003).

8.3 CONTRIBUTION OF THE STUDY

Knowledge concerning the venture creation process has been limited due to various conceptual gaps, methodological challenges and inconclusive empirical findings in the field. This thesis addressed some of the issues associated with venture

ideas and nascent venture performance. The important contributions that this study offers to the existing literature can be described in terms of theory, method and practice.

8.3.1 THEORETICAL CONTRIBUTION

Early research assumed that the individual is in the foreground in entrepreneurship. The decision to form new ventures and their success were assumed to hinge on individual traits and socio demographic characteristics. As suggested by Shane and Venkataraman (2000), this study identified that the venture idea has a role in the venture creation process over and above that of the individual. This thesis contributes to entrepreneurship theory by demonstrating that venture idea novelty plays an important role in the performance of emerging ventures. Specifically, novelty accounts for a significant part of the variance in the probability of getting operational and achieving positive cash flow. Furthermore, it appears to be a significant predictor for making progress. These findings fill a theoretical void in nascent entrepreneurship research by demonstrating that novelty is a factor that *restricts the short term performance* of nascent ventures.

As stated above, the study found that a high degree of novelty hampers the performance of nascent ventures. This is because novelty is replete with rather high risk, uncertainty, and is more prone to liability of newness and legitimacy issues. Despite the fact that novelty curbs short term venture performance, the findings reveal that venture idea novelty is not a factor in the termination of firms. This finding contributes to entrepreneurship theory by demonstrating that novelty or innovativeness is not a reason for a firm disbanding, even though their roles and competencies vary from existing firms (Aldrich & Martinez, 2001) and they lack social ties and legitimacy during their initial stages (Aldrich & Fiol, 1994; Delmar & Shane, 2004).

Shane and Venkataraman (2000) stressed that entrepreneurship is the nexus between individuals and venture ideas. While individuals and venture ideas have a role in the entrepreneurial process, their contextual fit can also play an important part in the venture creation process. The latter was empirically examined by this study. Even though knowledge relatedness does not appear to be a factor in determining venture performance, resource relatedness found to be a significant contributor to

venture success. For example, the findings show that resource relatedness contributes to short term firm performance in terms of 'positive cash flow' and 'getting operational'. These findings further empirically support Sarasvathy's (2001) effectuation theory which postulates that the resource endowment of individuals affects venture development.

Even though knowledge relatedness was not found to affect nascent venture performance, it was found to positively affect the investment of time. That is, when high knowledge relatedness exists more time investments are made by firm founders. However, knowledge relatedness appears to have no impact on financial investment. On the other hand, while resource relatedness is a factor that contributes to nascent venture performance, this study contributes to entrepreneurship research by asserting that it is also a factor that reduces investment of time in the new venture creation process. This means that, when high resource relatedness exists, there is less of a need to invest money in the exploitation of venture ideas. This has implications for bricolage theory suggesting that when high resource relatedness exists, firms can adopt a 'making do with what is at hand' resource strategy (Baker & Nelson, 2005). However, resource relatedness has no impact on the investment of money in general.

Despite the fact that knowledge relatedness does not directly affect short-term nascent venture performance, it indirectly affects performance via the hours invested. It has a positive impact in terms of making progress and getting operational. Similarly, knowledge relatedness was negatively associated with termination through hours invested. However, knowledge relatedness had no indirect effect on firm performance via money investment.

Finally, the study contributes to entrepreneurship theory by exposing some of the factors that affect their attractiveness of venture idea. The entrepreneurship literature is relatively limited with regards to why some venture ideas are discovered and exploited and others are not (Shane, 2003). This study found that characteristics such as novelty, relatedness and the potential for financial gain play a role in the determining the attractiveness of venture ideas. In particular, process novelty and knowledge relatedness were found to be dominant factors affecting the attractiveness of venture ideas.

8.3.2 PRACTICAL IMPLICATIONS

Apart from the theoretical implications, there are a number of practical implications which can also be derived from the results of this study. It is widely agreed that the selection of the right venture idea is one of the most important activities of a successful entrepreneur (Ardichvili, et al., 2003). Grégoire, Barr and Shephered (2010) claim that recognising high-potential opportunities can lead to substantial gains in profit, growth, and/or competitive positioning. Accordingly, individuals who intend to start new ventures should carefully assess the merits of their venture ideas before pursuing them.

Given that the implementation of venture ideas which have a high degree of novelty slows down progress on the venture creation process individuals who expect early returns for their venture efforts should take caution in investing in innovative venture ideas. Instead, they should follow venture ideas that have a low degree of novelty. On the other hand, if they have the patience and financial resources to wait they should go for innovative venture ideas because pursuing such ideas does not appear to be a driver for shutting down venture efforts. Research also suggests that the probability of high performance in the longer run is greater for innovative ventures (Kleinschmidt & Cooper, 1991). What these entrepreneurs should do is to exert more effort in venture activities because investing more of the founders' time will aid them in bringing the ventures to the market sooner.

The study's findings also show that the discovery of venture ideas based on the individuals' resource position paves the way for improved venture performance. That is resource relatedness appears to be a factor in the successful exploitation of venture ideas. Thus, it is better to invest in ventures that are based on the resources available to the founder rather than on the knowledge of the founder.

As novel venture ideas are generally fraught with high risk, uncertainty, complexity, liability of newness and legitimacy problems investors could expect to need more resource investments for such projects. At the same time, investors could expect that because innovative projects have more financial benefits they will require more investments. These findings are important for potential investors, consultants and resources providers.

This study further found that resource relatedness is negatively related with the investment of time. That is, when high resource relatedness exists firms need not

have more time investment. This has implications for firm founders if they intend to adopt bricolage strategy in the venture creation process.

8.3.3 METHODOLOGICAL CONTRIBUTIONS

Previous entrepreneurship research has invariably been criticised for having poor methodological approaches. On the one hand, they do not represent the process perspective of the venture creation process and on the other hand they poorly reflect the emergence of firms. Also many of these studies suffered from survivorship and/or hindsight bias. The present study used a representative sample of ongoing start-ups and applied longitudinal data. This substantially reduced the risk of survivor and hindsight biases. Therefore, the application of these novel approaches can be regarded as a contribution to entrepreneurship research methodology.

Further, the use of a measure of novelty can be regarded as a methodological contribution of this study. As stated in the method chapter, the scale of novelty was originally developed by Dahlqvist (2007). With some modifications (such as the inclusion of indicators), this study used this scale in order to identify four degrees of novelty for four types of venture ideas. Thus, this is the first study that has used such a measure to identify different degrees of novelty for different venture ideas (i.e., product/service, method of production, method of promotion, tapping into new market/customer) in an empirical study of this field.

This study, for the first time in entrepreneurship research, introduces the measures of knowledge and resource relatedness. These two measures reflect the fit between venture idea and knowledge and resource endowments of firm founders, respectively. Even though the phenomenon of individual-opportunity nexus is an important concept in entrepreneurship, research has not made an attempt so far to measure the fit between venture ideas and individuals in terms of founder's knowledge and resource investment. This is the first attempt to develop a measure of relatedness in an empirical application. Further, these measures show good reliability in terms of Cronbach's alpha (Hoyt et al., 2006).

This study related a number of independent variables to several different outcome measures (i.e., making progress, getting operational, being terminated and achieving positive cash flow). Accordingly, it was found that the negative novelty-

performance relationship holds for adhering *positive cash flow* while the result is the opposite for *making progress*.

The use of structural equation modelling (SEM) for the data analysis can also be cited as a methodological contribution. This method allowed this study to take into account how well each of the observed variables fit the latent construct. In multiple regression or ANOVA this attribute is ignored and the construct is generally computed only by a summation of the observed variables. At the same time, this technique provided the opportunity to test the whole model in one step or iteration. Other similar linear techniques generally use different iterations and hierarchies in testing models (e.g., hierarchical regression). Further, this technique allowed testing of the model fit. Thus, according to this author's knowledge, this is the first study in entrepreneurship research that has adopted SEM in modelling *nascent venture performance*.

The use of conjoint analysis to estimate the preference of entrepreneurs can also be regarded as a methodological contribution as there is a belief that this analytical technique is relatively little used in entrepreneurship research (Lohrke et al., 2010). Most importantly, this study considered four levels for some attributes of the characteristics of venture ideas in estimating preferences. Other studies in entrepreneurship research that used conjoint analysis have mostly used only two levels per attribute.

8.4 LIMITATIONS OF THE STUDY

While this research makes important contributions to entrepreneurship, it is not without limitations.

First, this research used data collected at two points in time within a 12 month period. As stated elsewhere in this thesis, venture creation is a process that often unfolds over several years to form a viable venture. According to Reynolds and Miller (1992) venture creation can sometimes take 10 years. Therefore data collected within a one year period may not reflect the process perspective of venture creation clearly. Thus, this time period may not be sufficient to predict accurately how novelty and relatedness affect nascent venture performance.

Second, some of the outcome measures used in this study may not be appropriate in evaluating nascent venture performance. For example, there are some

arguments regarding the interpretation of 'operational' and 'terminated' in terms of success. Davidsson et al. (2008) contend that 'operational' is not necessarily a good outcome whereas 'terminated' is not always a bad outcome. This is so because cases that get operational without ever becoming profitable would be better terminating early rather than late. Thus, these outcome variables may not represent the real success and failure of nascent ventures.

Third, the constructs of knowledge relatedness do not seem to have good convergent validity. Even though the composite reliability (CR) is satisfactory, construct loadings and variance extracted (VE) are quite low. This suggests poor convergence of the construct with more error remaining in the items of knowledge relatedness than variance explained by the construct (Hair et al., 2006).

Fourth, even though knowledge relatedness is positively correlated with industry experience (see Table 7.4), results show that industry experience may not capture the true variance in relatedness very well. As described in Chapter 6, industry experience of founders does not appear to be significantly associated with knowledge relatedness.

Fifth, the samples of entrepreneurs used in the two studies are different. Study 1 used experienced entrepreneurs in Sri Lanka and Study 2 used randomly sampled entrepreneurs in Australia. Therefore, the results may not be optimal as the study involved country differences as well as differences in entrepreneurs.

Sixth, a sample of 32 entrepreneurs was used in Study 1. This may not be sufficient to give a comprehensive conclusion about the attractiveness of venture ideas. Some conjoint research suggests that at least 50 respondents should be in a conjoint study sample (Shepherd & Zacharakis, 1999).

Finally, data from this study were collected from survey questionnaires, which may be subject to informants' personal biases.

8.5 FURTHER RESEARCH

One of the main aspects this research focused on is how novelty affects the performance of nascent ventures. Even though the study identified that there are four types of novelty, the study considered novelty as one latent construct by taking the four types of novelty as manifest variables. Further research can focus on how each

of these types of novelty (i.e., product, process, and market and promotion novelty) can affect the performance of nascent ventures.

This study concentrated on only two characteristics of venture ideas that affect venture performance. Accordingly, future research can accommodate more characteristics such as the expected value of venture ideas, perceived desirability etc. to predict nascent venture performance in order to better understand the role of idea characteristics.

Future research could also concentrate on studying the phenomena of this study with subsamples such as young firms and high potential firms, solo vs. teams etc. Such an examination would provide more conclusive evidence regarding novelty and relatedness as predictors of nascent venture performance.

In addition to the outcome variables used in this research, future researchers could use other outcomes in the examination of the characteristics of venture ideas. Researchers could examine the phenomena using such outcome measures as recovering all start-up costs and profitability as well as accommodating significant milestones achieved in the venture creation process.

Furthermore, future researchers could focus their studies on how the characteristics of venture ideas affect the discovery and exploitation of venture ideas, taking into consideration the pace of progress and/or the sequence of venture activities.

8.6 CONCLUDING REMARKS

Even though it has been emphasised that venture ideas have a role in the venture creation process (Shane & Venkataraman, 2000), there has been little scholarly attention focused on the study of this phenomena. In order to help fill this gap this study undertook an investigation of how venture idea novelty and relatedness affect the performance of nascent Australian ventures. Parallel to this main investigation another experimental study was designed using a sample of experienced entrepreneur from Sri Lanka to gain additional insights into the characteristics of venture ideas and how they affect the attractiveness of venture ideas.

Accordingly, the study identified that emerging ventures generally introduce moderate degree of product novelty, imitative processes and imitative promotional

methods. However, they are more innovative in introducing market novelty. High potential nascent firms are more innovative than regular nascent firms. Further, while nascent ventures were found to demonstrate a high degree of knowledge and resource relatedness they were more reliant on knowledge relatedness.

The main study evaluated venture performance around four outcomes. The results revealed that there is a role for venture idea characteristics in the determination of the short term performance of emerging ventures. Specifically, the findings of this study suggest that the novelty of venture idea acts as an impediment to the performance of ventures. In addition, resource relatedness has an encouraging effect on venture performance. However, the results indicated that knowledge relatedness has no impact on venture performance. It should be noted that the study was confined to an analysis of the short-run performance of nascent firms. Their long-run performances may be different.

The experimental study revealed that the characteristics of venture ideas have a role in the attractiveness of venture ideas. Results suggest that concerning the attributed considered, a moderate degree of product novelty is the main determinant of the attractiveness of venture ideas. Knowledge relatedness was found to be another dominant factor on determination the venture idea attractiveness, but the potential for financial gain was not significant. Furthermore, some of findings of this experimental study corroborate the findings of the main empirical study.

Overall, this study identified that there is a role for the characteristics of venture ideas in the venture creation process over and above the individuals. Further research in this area will enhance our understanding about the characteristics of venture ideas in the venture creation process.

References

Abernathy, W., & Clark, K. B. (1985). Innovation: Mapping the winds of creative destruction. *Research Policy, 14*, 3-22.

Acs, Z. J., & Audretsch, D. B. (2003). Innovation and Technological Change. In J. A. Acs & D. B. Audretsch (Eds.), *Handbook of Entrepreneurship Research: An interdisciplinary survey and introduction* (pp. 55-80): Springer.

Ahuja, G., & Lambert, C. M. (2001). Entrepreneurship in the large corporation: A longitudinal study of how established firms create breakthrough inventions. *Strategic Entrepreneurship Journal, 22*, 521–543.

Alavi, M., & Leidner, D. E. (2001). Review: Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues. *MIS Quarterly, 25*(1), 107-136.

Aldrich, H. E. (1999). *Organizations Evolving*. Newbury Park, CA: Sage Publications.

Aldrich, H. E., & Auster, E. R. (1986). Even dwarfs started small: Liabilities of age and size and their strategic implications. In B. M. Staw & L. L. Cumming (Eds.), *Research in organizational behavior* (Vol. 8, pp. 165-168). Greenwich CT: JAI.

Aldrich, H. E., & Baker, T. (1997). Blinded by the cities? Has there been progress in the entrepreneurship field? In D. S. R. Smilor (Ed.), *Entrepreneurship 2000* (pp. 377-400). Chicago, IL: Upstart Publishing Company.

Aldrich, H. E., & Fiol, C. M. (1994). Fools Rush In? The Institutional Context of Industry Creation. *Academy of Management Review, 19*(4), 645-670.

Aldrich, H. E., & Kenworthy, A. (1999). The accidental entrepreneur: Campbellion antinomies and organizational foundings. In J. R. Baum & B. McKelvey (Eds.), *Variations in Organization Science: in Honour of Donald T. Campbell*. Newbury Park, CA: Sage.

Aldrich, H. E., & Martinez, M. A. (2001). Many are Called, but Few are Chosen: An Evolutionary Perspective for the Study of Entrepreneurship. *Entrepreneurship: Theory & Practice, 25*(4), 41.

Aldrich, H. E., & Martinez, M. A. (2003). Entrepreneurship as social construction: a multi level evolutionary approach. In J. A. Acs & D. B. Audretsch (Eds.),

Handbook of Entrepreneurship Research: An Interdisciplinary Survey and Introduction (pp. 359-399): Springer.

Ali, A. (2000). The impact of innovativeness and development time on new product performance for small firms. *Marketing Letters, 11*(2), 151-163.

Alsos, G. A., & Kolvereid, L. (1998). The Business Gestation Process of Novice, Serial and Parallel Business Founders. *Entrepreneurship Theory and Practice, 22*(4), 101-114.

Alvarez, S. A., & Barney, J. A. (2007). Discovery and creation: Alternative theories of entrepreneurial actions. *Strategic Entrepreneurship Journal, 1*, 11-26.

Alvarez, S. A., & Busenitz, L. W. (2001). The entrepreneurship of resource-based theory. *Journal of Management, 27*(6), 755-775.

Amason, A. C., Shrader, R. C., & Tompson, G. H. (2006). Newness and novelty: Relating top management team composition to new venture performance. *Journal of Business Venturing, 21*(1), 125-148.

Amit, R., & Zott, C. (2001). Value drivers in e-business. *Strategic Management Journal, 22*, 493-520.

Anderson, J. C., & Gerbing, D. C. (1988). Structural equation modelling in practice: A review and recommended two-step approach. *Psychological Bulletin, 103*(3), 411-423.

Arbuckle, J. L. (1995-2008). Amos 17.0 user's guide. Chicago: Amos Development corporation.

Ardichvili, A., Cardozo, R., & Ray, S. (2003). A theory of entrepreneurial opportunity identification and development. *Journal of Business Venturing, 18*(1), 105-123.

Aspulend, A., Berg-Utby, T., & Skjevdal, R. (2005). Initial resources' influence on new venture survival: a longitudinal study of new technology-based firms. *Technovation, 25*, 1337–1347.

Atuahene-Gima, K. (1995). An Exploratory Analysis of the Impact of Market Orientation on New Product Performance: A Contingency Approach. *Journal of Product Innovation Management, 12*, 275-293.

Bagozzi, R. P., & Yi, Y. (1998). On the evaluation of structural equation model. *Academy of Marketing Science, 16*(1), 074-094.

Baker, T., & Nelson, R. E. (2005). Creating something from Nothing: Resource Construction through Entrepreneurial Bricolage. *Administrative Science Quarterly, 50*(3), 329-366.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*, 191–215.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99-120.

Baron, R. A. (2006). Opportunity Recognition as Pattern Recognition: How Entrepreneurs "Connect the Dots" to Identify New Business Opportunities. *Academy of Management Perspectives, 20*(1), 104-119.

Baron, R. A., & Shane, S. (2005). *Entrepreneurship: a Process perspective*. South-Western: Thompson.

Baum, J. R., & Locke, E. A. (2004). The relationship of entrepreneurial traits, skills and motivation to subsequent venture growth. *Journal of Applied Psychology, 89*(4), 587-598.

Baumal, W. J. (1990). Entrepreneurship: Productive, unproductive, and destructive. *Journal of Political Economy, 98*, 893–921.

Becker, G. S. (1964). *Human Capital*. Chicago: University of Chicago Press.

Begley, T. M., & Boyd, D. P. (1987). Psychological characteristics associated with performence in entrepreneurial firms and smaller businesses. *Journal of Business Venturing, 2*(1), 79-93.

Bentler, P. M. (1995). EQS structural equations program manual. Encino:CA: Multivariate Software.

Berman, M. G., Jonides, J., & Lewis, R. L. (2009). In search of decay in verbal short-term memory. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 35*(2), 317-333.

Bhave, M. P. (1994). A process model of entrepreneurial venture creation. *Journal of Business Venturing, 9*(3), 223-242.

Birley, S., & Westhead, P. (1994). A taxonomy of business start-up reasons and their impact on firm growth and size. *Journal of Business Venturing, 9*, 7–31.

Blythe, J. (1999). Innovativeness and newness in high-tech consumer durables. *Journal of Product and Brand Management, 8*(5), 415-429.

Bollen, K. A. (1989). *Structural equations with latent variables*. New York: Wiley.

Bollinger, A. S., & Smith, R. D. (2001). Managing organizational knowledge as a strategic asset. *Journal of Knowledge Management, 5*(1), 8-18.

Boyd, N. G., & Vozikis, G. S. (1994). The Influence of Self-Efficacy on the Development of Entrepreneurial Intentions and Actions. *Entrepreneurship: Theory & Practice, 18*(4), 63-77.

Branford, C. E., Dean, T. J., & McDougall, P. P. (1999). An examination of the impact of initial founding conditions and decisions upon the performance of new bank start-ups. *Journal of Business Venturing, 15*(253-277).

Brockhaus, R. H. (1982). The Psychology of the Entrepreneur. In C. A. Kent, D. L. Sexton & K. H. Vesper (Eds.), *Encyclopedia of Entrepreneurship* (pp. 39-71). Englewood Cliffs, NJ: Prentice Hall.

Brush, C. G., Edelman, L. F., & Manolova, T. S. (2008). The effects of initial location, aspirations, and resources on likelihood of first sale in nascent firms. *Journal of Small Business Management, 46*(2), 159–182.

Brush, C. G., Greene, P. G., & Hart, M. M. (2001). From initial idea to unique advantage: The entrepreneurial challenge of constructing a resource base. *Academy of Management Executive, 15*(1), 64–78.

Brush, C. G., Manolova, T. S., & Edelman, L. F. (2008). Properties of emerging organizations: An empirical test. *Journal of Business Venturing, 23*(5), 547-566.

Busenitz, L. W. (1996). Research in entrepreneurial alertness. *Journal of Small Business Management, 36*(5), 35-44.

Busenitz, L. W., & Barney, J. B. (1997). Differences between entrepreneurs and managers in large organizations: Biases and heuristics in strategic decision-making. *Journal of Business Venturing, 12*(1), 9-30.

Bygrave, W., & Hoffer, C. W. (1991). Theorizing about entrepreneurship. *Entrepreneurship Theory and Practice, 16*(2), 13-22.

Bygrave, W., & Zacharakis, A. (2008). *Entrepreneurship*. USA: John Wiley & Sons, Inc.

Carroll, G. (1983). A stochastic model of organizational mortality: Review and reanalysis. *Social Science Research, 12*, 303-329.

Carroll, G., & Hannan, M. (2000). *The Demography of Corporations and Industries*. Princeton, NJ: Princeton University Press.

Carroll, G., & Mosakowski, E. (1987). The career dynamics of self-employment. *Administrative Science Quarterly, 32*, 570-589.

Carter, N. M., Gartner, W. B., & Reynolds, P. D. (1996). Exploring start-up event sequences. *Journal of Business Venturing, 11*(3), 151-166.

Carter, N. M., Gartner, W. B., Shaver, K. G., & Gatewood, E. J. (2003). The career reasons of nascent entrepreneurs. *Journal of Business Venturing, 18*(1), 13-39.

Cassar, G. (2004). The financing of business start-ups. *Journal of Business Venturing, 19*, 261–283.

Cassar, G. (2006). Entrepreneur opportunity costs and intended venture growth. *Journal of Business Venturing, 21*(5), 610-632.

Cassar, G., & Craig, J. (2009). An investigation of hindsight bias in nascent venture activity. *Journal of Business Venturing, 24*(2), 149-164.

Casson, M. (1982). *The Entrepreneur*. Totowa, NJ: Barnes and Noble Books.

Chandler, G. N., & Hanks, S. H. (1993). Measuring the performance of emerging ventures: A validation study. *Journal of Business Venturing, 8*, 391-408.

Cho, H. J., & Pucik, V. (2005). Relationship between innovativeness, quality, growth, profitability, and market value. *Strategic Management Journal, 26*, 555-575.

Choi, Y. R., Lévesque, M., & Shepherd, D. A. (2008). When should entrepreneurs expedite or delay opportunity exploitation? *Journal of Business Venturing, 23*(3), 333-355.

Choi, Y. R., & Shepherd, D. A. (2004). Entrepreneurs' Decisions to Exploit Opportunities. *Journal of Management, 30*(3), 377-395.

Choi, Y. R., & Shepherd, D. A. (2005). Stakeholder Perceptions of Age and Other Dimensions of Newness. *Journal of Management, 31*(4), 573-596.

Chrisman, J. J., Bauerschmidt, A., & Hofer, C. W. (1998). The Determinants of New Venture Performance: An Extended Model. *Entrepreneurship: Theory & Practice, 23*(1), 5-29.

Christensen, C. M. (1997). *The Innovators Dilemma: When new technologies cause great firms to fail*. Boston, MA: Harvard Business School Press.

Cliff, J. E., Jennings, P. D., & Greenwood, R. (2006). New to the game and questioning the rules: The experiences and beliefs of founders who start

imitative versus innovative firms. *Journal of Business Venturing, 21*(5), 633-663.

Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: a new perspective on learning and innovation. *Administrative Science Quarterly, 35*, 128–152.

Cooper, A. C., & Bruno, A. V. (1977). Success among high-technology firms. *Business Horizons, 20*(2), 16-28.

Cooper, A. C., Gimeno-Gascon, F. J., & Woo, C. Y. (1994). Initial human and financial capital as predictors of new venture performance. *Journal of Business Venturing, 9*(5), 371-395.

Cooper, A. C., Woo, C., & Dunkelberg, W. (1988). Entrepreneurs' perceived chances for success. *Journal of Business Venturing, 3*(2), 97-108.

Corbett, A. C. (2007). Learning asymmetries and the discovery of entrepreneurial opportunities. *Journal of Business Venturing, 22*, 97–118.

Covin, J. G., & Selvin, D. P. (1990). New venture strategic posture, structure, and performance: An industry life cycle analysis. *Journal of Business Venturing, 5*, 123-135.

Dahlqvist, J. (2007). Measuring the market newness of new ventures. In J. Dahlqvist (Ed.), *Assessing New Economic Activity: Process and Performance in New Ventures* (pp. 185-204). Jonkoping University: Jonkoping International Business School.

Damanpour, F. (1991). Organizational Innovation: A Meta-Analysis of Effects of Determinants and Moderators. *The Academy of Management Journal, 34*(3), 555-590.

Damanpour, F., & Gopalakrishnan, S. (2001). The dynamics of the adoption of product and process innovations in organizations. *Journal of Management Studies, 38*, 45–65.

Damanpour, F., & Wischnevsky, D. J. (2006). Research on innovation in organizations: Distinguishing innovation-generating from innovation-adopting organizations. *Journal of Engineering and Technology Management, 23*(4), 269-291.

Danneels, E., & Kleinschmidt, E. J. (2001). Product innovativeness from the firm's perspective: its dimensions and their relation with project selection and performance. *Journal of Product Innovation Management, 18*(6), 357-373.

Davidsson, P. (2004). *Researching Entrepreneurship*. New York: Springer.

Davidsson, P. (2006). Nascent entrepreneurship: Empirical studies and developments. *Foundations and Trends in Entrepreneurship, 2*(1), 1-76.

Davidsson, P. (2008). The types and contextual fit of entrepreneurial processes. In P. Davidsson (Ed.), *The Entrepreneurship Research Challenge*. Cheltenham, UK: Elgar.

Davidsson, P., & Honig, B. (2003). The role of social and human capital among nascent entrepreneurs. *Journal of Business Venturing, 18*(3), 301-331.

Davidsson, P., & Klofsten, M. (2003). The Business Platform: Developing an Instrument to Gauge and to Assist the Development of Young Firms. *Journal of Small Business Management, 41*(1), 1-26.

Davidsson, P., Lindmark, L., & Olofsson, C. (1998). Smallness, Newness and regional development *Swedish Journal of Agricultural Research, 28*, 57-71.

Davidsson, P., Steffens, P., Gordon, S., & Reynolds, P. D. (2008). Anatomy of New Business Activity in Australia: Some early Observations from the CAUSEE Project. *available at: eprints.qut.edu.au/archive/00013613. Brisbane: School of Management, Faculty of Business, QUT.*

Delmar, F., & Shane, S. (2004). Legitimating first: organizing activities and the survival of new ventures. *Journal of Business Venturing, 19*(3), 385-410.

Delmar, F., & Shane, S. (2006). Does experience matter? The effect of founding team experience on the survival and sales of newly founded ventures. *Strategic Organization, 4*(3), 215-247.

DeTienne, D. R., Shepherd, D. A., & De Castro, J. (2008). The fallacy of ‘‘only the strong survive’’: The effects of extrinsic motivation on the persistence decisions of underperforming firms. *Journal of Business Venturing, 28*, 528-546.

Dew, N., Velamuri, S. R., & Venkataraman, S. (2004). Dispersed knowledge and an entrepreneurial theory of the firm. *Journal of Business Venturing, 19*(5), 659-679.

Dewar, R. D., & Dutton, J. E. (1986). The Adoption of Radical and Incremental Innovations: An Empirical Analysis. *Management Science, 32*(11), 1422-1433.

Diamantopoulos, A., Riefler, P., & Katharina, P. R. (2008). Advancing formative measurement models. *Journal of Business Research, 61*(12), 1203–1218.

Dimov, D. (2010). Nascent Entrepreneurs and Venture Emergence: Opportunity Confidence, Human Capital, and Early Planning. *Journal of Management Studies, 47*(6), 1123-1153.

Diochon, M., Menzies, T. V., & Gasse, Y. (2007). Attributions and success in new venture creation among Canadian nascent entrepreneurs. *Journal of Small Business and Entrepreneurship, 20*(4), 165-187.

Douglas, E. J., & Shepherd, D. A. (2002). Self-Employment as a Career Choice: Attitudes, Entrepreneurial Intentions, and Utility Maximization. *Entrepreneurship: Theory & Practice, 26*(3), 81-90.

Drucker, P. (1985). *Innovation and entrepreneurship*. New York: Harper & Row.

Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: what are they? *Strategic Management Journal 21*, 1105-1121.

Fiet, J. O. (1996). The informational basis of entrepreneurial discovery. *Small Business Economics, 8*, 419-430.

Fiet, J. O. (2002). *The Systematic Search for Entrepreneurial Discoveries*. Westport, Conn: Quorum Books.

Fiet, J. O., Piskounov, A., & Patel, P. C. (2005). Still searching (systematically) for entrepreneurial discoveries. *Small Business Economics, 25*, 489–504.

Forbes, D. P. (1999). Cognitive approaches to new venture creation. *International Journal of Management Reviews, 1*(4), 415.

Gaglio, C. M. (2004). So what is an entrepreneurial opportunity? In J. E. Butler (Ed.), *Opportunity identification and Entrepreneurial Behaviour*. Greemwich: Information Age publishing.

Galbraith, J. (1982). The stage of growth. *Journal of Business Strategy, 3*(1), 70−79.

Galbreath, J. (2005). Which resources matter the most to firm success? An exploratory study of resource based theory. *Technovation, 25*, 979-987.

Galia, F., & Legros, D. (2004). Complementarities between obstacles to innovation: evidence from France. *Research Policy, 33*, 1185–1199.

Garcia, R., & Calantone, R. (2002). A critical look at technological innovation typology and innovativeness terminology: a literature review. *Journal of Product Innovation Management, 19*(2), 110-132.

Gartner, W. B. (1985). A Conceptual Framework for Describing the Phenomenon of New Venture Creation. *Academy of Management Review, 10*(4), 696-706.

Gartner, W. B. (1988). "Who is an Entrepreneur?" Is the Wrong Question. *American Journal of Small Business, 12*(4), 11-32.

Gartner, W. B. (1990). What are we talking about when we talk about entrepreneurship? *Journal of Business Venturing, 5*(1), 15-28.

Gartner, W. B., Bird, B., & Starr, J. (1992). Acting as if: Differentiating entrepreneurial from organizational behavior. *Entrepreneurship Theory and Practice, 16*(3), 13-30.

Gartner, W. B., & Carter, N. M. (2003). Entrepreneurial behaviour and firm organizing process. In J. A. Zoltan & D. B. Audretsch (Eds.), *Handbook of Entrepreneurship Research: An Interdisciplinary Survey and Introduction*: Springer.

Gartner, W. B., & Shaver, K. G. (2004). Opportunities as attributions: The enterprise-serving bias. In J. E. Butler (Ed.), *Opportunity identification and Entrepreneurial behaviour*. Connecticut: IAP.

Garud, R., & Karnoe, P. (2003). Bricolage versus breakthrough: Distributed and embedded agency in technology entrepreneurship *Research Policy, 32*, 277–300.

Gatewood, E. J., Shaver, K. G., & Gartner, W. B. (1995). A longitudinal study of cognitive factors influencing start-up behaviors and success at venture creation. *Journal of Business Venturing, 10*(5), 371-391.

Gatington, H., Tushman, M. L., Smith, W., & Anderson, P. (2002). A structural approach to assessing innovation: Construct development of innovation locus, type, and characteristics. *Management Science, 48*, 1103-1122.

Geroski, P. A. (1995). What do we know about entry? *International Journal of Industrial Organization, 13*(421-440).

Grant, R. M. (1996). Toward a knowledge based theory of the firm. *Strategic Management Journal, 17*, 109-122.

Green, P. E., & Srinivasan, V. (1978). Conjoint analysis in consumer research: issues and outlook. *Journal of consumer research, 5*(2), 103.

Green, P. E., & Srinivasan, V. (1990). Conjoint analysis in marketing: New developments with implications for research and practice. *Journal of Marketing, 54*(4), 3-19.

Grégoire, D. A., Barr, P. S., & Shepherd, D. A. (2010). Cognitive process of opportunity recognition: the role of structural allignment. *Organization Science, 21*, 413-431.

Grégoire, D. A., Shepherd, D. A., & Lambert, L. S. (2010). Measuring Opportunity-Recognition Beliefs. *Organizational Research Methods, 13*(1), 114-145.

Gupta, A., & Govindarajan, V. (2000). Knowledge flows and within multinational corporations. *Strategic Management Journal 21*(4), 473-496.

Gustafsson, A., Ekdhal, F., & Bergman, B. (1999). Conjoint analysis: a useful tool in the design process. *Total Quality Management, 10*(3), 327-343.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate Data Analysis* (6th ed.). Upper Saddle River, NJ: Pearson Education inc.

Harrison, R. T., Mason, C. M., & Girling, P. (2004). Financial bootstrapping and venture development in the software industry. *Entrepreneurship and Regional Development, 16*, 307-333.

Hayek, F. (1945). The use of knowledge in society. *American Economic Review, 35*(4), 519-530.

Haynie, J. M., Shepherd, D. A., & McMullen, S. (2009). An Opportunity for Me? The Role of Resources in Opportunity Evaluation Decisions. *Journal of Management Studies, 46*(3), 337-361.

Hitt, M. A., Ireland, R. D., & Hoskisson, R. E. (2007). *Strategic Management Cometitiveness and Globalization: Concepts and Cases* (7th edition ed.). South Western: Thompson.

Holcombe, G. H. (2003). The origin of entrepreneurial opportunities. *The Review of Austrian Economics, 16*(1), 25-43.

Hoyt, W. T., Warbasse, R. E., & Chu, E. Y. (2006). Construct Validation in Counselling Psychology Research. *The Counselling Psychologist, 34*(6), 769-805.

Hu, L. T., & Bentler, P. M. (1988). Fit indices in covariance structure modeling: sensitivity to underparameterized model misspecification. *Psychological Methods, 3*(4), 424–453.

Ireland, R. D., Hitt, M. A., & Sirmon, D. G. (2003). A model of strategic entrepreneurship: The construct and its dimensions. *Journal of Management, 29*(6), 963-989.

Jarvis, C., MacKenzie, S., & Podsakoff, P. A. (2003). Critical review of construct indicators and measurement model misspecification in marketing and consumer research. *Journal of Consumer Research, 30*(2), 199-218.

Javoski, B. J., & Kohil, A. K. (1990). Market orientation: the construct, research propositions, and managerial implications *Journal of Marketing, 54*, 1-18.

Johannessen, A., Olsen, B., & Lumpkin, G. T. (2001). Innovation as newness: what is new, how new, and new to whom? *European Journal of Innovation Management, 4*(1), 20-31.

Jöreskog, K. G., & Sörbom, D. (1996). *LISREL 8: User's reference guide*. Chicago: Scientific Software International.

Katz, J., & Gartner, W. B. (1988). Properties of emerging organizations. *Academy of Management Review, 13*(3), 429-441.

Kazanjian, R. K. (1988). Relation of dominant problems to stages of growth in technology-based new ventures. *Academy of Management Journal, 31*(2), 257–279.

Kirzner, I. M. (1973). *Competition and Entrepreneurship*. Chicago: University of Chicago Press.

Kleinschmidt, E. J., & Cooper, R. G. (1991). The impact of product innovativeness on performance. *Journal of Product Innovation Management, 8*(4), 240-251.

Kline, R. B. (2005). *Principles and practice of structural equation modeling* (2nd ed.). New York: Guilford.

Knight, F. (1921). *Risk, Uncertainty and Profit*. New York: Houghthon Mifflin.

Kogut, B., & Zander, U. (1992). Knowledge of the firm, combinative capabilities, and the replication of technology. *Organization Science, 3*, 383-397.

Kor, Y. Y., Mahoney, J. T., & Michael, S. C. (2007). Resources, capabilities, and entrepreneurial perceptions. *Journal of Management Studies, 44*(7), 1187-1212.

Krueger, N. F. (1993). The Impact of Prior Entrepreneurial Exposure on Perceptions of New Venture Feasibility and Desirability. *Entrepreneurship: Theory & Practice, 18*(1), 5-21.

Krueger, N. F., & Brazeal, D. V. (2004). Entrepreneurial potential and potential entrepreneur. *Entrepreneurship Theory and Practice, 18*(3), 91-104.

Kuratko, D. F., & Hodgetts, R. M. (2004). *Entrepreneurship: Theory, process and practice* (6th ed.): Thompson, South western.

Liao, J., & Welsch, H. (2008). Patterns of venture gestation process: Exploring the differences between tech and non-tech nascent entrepreneurs. *Journal of High Technology Management Research, 19*(2), 103-113.

Liao, J., Welsch, H., & Tan, W.-L. (2005). Venture gestation paths of nascent entrepreneurs: Exploring the temporal patterns. *The Journal of High Technology Management Research, 16*(1), 1-22.

Lichtenstein, B. B., Carter, N. M., Dooley, K. J., & Gartner, W. B. (2007). Complexity dynamics of nascent entrepreneurship. *Journal of Business Venturing, 22*(2), 236-261.

Lichtenstein, B. B., Dooley, K. J., & Lumpkin, G. T. (2006). Measuring emergence in the dynamics of new venture creation. *Journal of Business Venturing, 21*(2), 153-175.

Lieberman, M. B., & Montgomery, D. B. (1988). First mover advantages. *Strategic Management Journal, 9*, 41-58.

Lohrke, F. T., Holloway, B. G., & Woolley, T. W. (2010). Conjoint Analysis in Entrepreneurship Research: A Review and Research Agenda. *Organizational Research Methods, 13*(1), 16-30.

Low, M. B., & MacMillan, I. C. (1988). Entrepreneurship: Past Research and Future Challenges. *Journal of Management, 14*(2), 139-161.

Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review, 21*(1), 135-172.

Lynn, G. S., Morone, J. G., & Paulson, A. S. (1996). Marketing and discontineous innovation: the probe and learn process. *California Managment Review, 38*(3), 8-37.

MacCallum, R. C., & Austin, J. T. (2000). Applications of structural equation modeling in psychological research. *Annual Review of Psychology, 51*, 201-226.

MacKenzie, S., Podsakoff, P. A., & Jarvis, C. (2005). The Problem of Measurement Model Misspecification in Behavioral and Organizational Research and Some Recommended Solutions. *Journal of Applied Psychology 90*(4), 710–730.

Madrid-Guijarro, A., Domingo Garcia, D., & Auken, H. V. (2009). Barriers to Innovation among Spanish Manufacturing SMEs. *Journal of Small Business Management, 47*(4), 465–488.

Martens, M. P. (2005). The use of structural equation modelling in counselling psychology research. *The Counselling Psychologist, 33*(3), 269-298.

McClelland, D. C. (1961). *The achieving society*. Princeton: Van Nostrand.

McEvily, S. K., & Chakravarthy, B. (2002). The persistence of knowledge-based advantage: an empirical test for product performance and technological knowledge. *Strategic Management Journal, 23*(4), 285–305.

McMullen, J. S., & Shepherd, D. A. (2006). Entrepreneurial Action and the Role of Uncertainty in the Theory of Entrepreneurship. *Academy of Management Review, 31*(1), 132-152.

Micheal, K., Rochford, L., & Wotruba, T. R. (2003). How New Product Introductions Affect Sales Management Strategy: The Impact of Type of ''Newness'' of the New Product. *Journal of Product Innovation Management, 20*, 270–283.

Muthén, L. K., & Muthén, B. O. (1998-2007). *Mplus user's guide* (5th ed.). Los Angeles:CA: Muthén & Muthén.

Naveh, E., Meilich, O., & Marcus, A. (2006). The effects of administrative innovation implementation on performance: an organizational learning approach. *Strategic Organization, 4*(3), 275–302.

Newbert, S. (2005). New firm formation: a dynamic capability perspective. *Journal of Small Business Management, 43*(1), 55-77.

Nonaka, I. (1991). The knowledge-creating company. *Harvard Business Review, 69*(6), 96-104.

Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization Science, 5*, 14-37.

OECD. (2005). Proposed guidelines for collecting and interpreting technological innovation data. *OSLO manual*.

Orme, B. (2007). Which Conjoint Method Should I Use? *Sawtooth Software Research Paper Series*,

Parker, S. C., & Belghitar, Y. (2006). What happens to nascent entrepreneurs? An econometric analysis of the PSED. *Small Business Economics, 27*(1), 81-101.

Penrose, E. T. (1959). *The theory of the growth of the firm*. New York: John Wiley & Sons.

Peteraf, M. A. (1993). The cornerstones of competitive advantage: a resource—based view *Strategic Management Journal 14*, 179–191.

Petter, S., Straub, D., & Rai, A. (2007). Specifying formative constructs in information systems research. *MIS Quarterly, 31*(4), 623-656.

Pfeffer, J., & Salancik, G. R. (1978). *The External Control of Organizations*. New York: Harper & Row.

Plummer, L. A., Haynie, J. M., & Godesiabois, J. (2007). An Essay on the Origins of Entrepreneurial Opportunity. *Small Business Economics, 28*, 363–379.

Reynolds, P. D. (2000). National panel study of U.S. business startups: Background and methodology *Advances in Entrepreneurship, Firm Emergence and Growth* (Vol. Volume 4, pp. 153-227): Elsevier.

Reynolds, P. D. (2007). New firm creation in the USA: A PSED 1 overview. *Foundations and Trends in Entrepreneurship, 3*(1), 1-150.

Reynolds, P. D., Bygrave, W. D., & Autio, E. (2003). *GEM 2003 Global Report*. Kansa MO: Kauffman Foundation.

Reynolds, P. D., Carter, N. M., Gartner, W. B., & Green, P. G. (2004). The Prevalence of Nascent Entrepreneurs in the United States: Evidence from the Panel Study of Entrepreneurial Dynamics. *Small Business Economics, 23*(4), 263–284.

Reynolds, P. D., & Curtin, R. T. (2008). Business Creation in the United States: Panel Study of Entrepreneurial Dynamics II Initial Assessment. *Foundations and Trends in Entrepreneurship, 4*(3), 155-307.

Reynolds, P. D., & Miller, B. (1992). New firm gestation: Conception, birth, and implications for research. *Journal of Business Venturing, 7*(5), 405-417.

Rogers, E. M. (1995). *Diffusion of Innovations* (4th ed.). New York: The Free Press.

Ronstadt, R. (1988). The Corridor Principle. *Journal of Business Venturing, 3*(1), 31-40.

Ruef, M. (2002). Strong ties, weak ties and islands: Structural and cultural predictors of organizational innovation. *Industrial and Corporate Change, 11*(3), 427.

Ryan, M., & Hughes, J. (1997). Using Conjoint Analysis to Assess Women's preferences for Miscarriage Management *Health Economics, 6*, 261-273.

Samuelsson, M. (2004). *Creating New Ventures: A longitudinal Investigation of the Nascent Venturing Process. Doctoral dissertation*. Jonkoping International Business School: Jonkoping.

Samuelsson, M., & Davidsson, P. (2009). Does venture opportunity variation matter? Investigating systematic process differences between innovative and imitative new ventures. *Small Business Economics, 33*(2), 229.

Sapienza, H. J., Parhankangas, A., & Autio, E. (2004). Knowledge relatedness and post-spin-off growth. *Journal of Business Venturing, 19*, 809–829.

Sarasvathy, S. D. (2001). Causation and Effectuation: Towards a Theoretical Shift from Economic Inevitability to Entrepreneurial Contingency. *Academy of Management Review, 26*(2), 243-263.

Sarasvathy, S. D., Dew, N., Velamuri, S. R., & Venkataraman, S. (2003). Three views of entrepreneurial opportunity. In J. A. Zoltan & D. B. Audretsch (Eds.), *Handbook of Entrepreneurship research: An Interdisciplinary Survey and Introduction*: Springer.

Schaupp, L. C., & Bélanger, F. (2005). A Conjoint Analysis of Online Consumer Satisfaction. *Journal of Electronic Commerce Research, 6*(2), 95-111.

Schumpeter, J. A. (1934). *The Theory of Economic Development*. Cambridge:MA: Harvard University Press.

Senyard, J. M., Davidsson, P., Gordon, S. R., & Steffens, P. (2009). *The comprehensive Australian Study of entrepreneurial emergence (CAUSEE) high potential nascent entrepreneurs : some preliminary findings*. Paper presented at the 6th AGSE International Entrepreneurship Research Exchange.

Sexton, D., & Bowman, N. (1983). Comparative Entrepreneurship Characteristics of Students'. In J. Hornady, J. Timmons & K. Vesper (Eds.), *Frontiers of Entrepreneurship Resarch* (pp. 213-232). Babson Park, US: Babson College.

Shane, S. (2000). Prior knowledge and the discovery of entrepreneurial opportunities. *Organization Science, 11*(4), 448-469.

Shane, S. (2003). *A General Theory of Entrepreneurship: The Individual-Opportunity Nexus*. Cheltenham, UK: Edward Elgar.

Shane, S., & Eckhardt, J. (2003). The Individual-Opportunity Nexus. In J. A. Acs & D. B. Audretsch (Eds.), *Handbook of Entrepreneurship Research: An Interdisciplinary Survey and Introduction* (pp. 161-191): Springer.

Shane, S., & Venkataraman, S. (2000). The Promise of Entrepreneurship as a Field of Research. *Academy of Management Review, 25*(1), 217-226.

Sharma, P., & Chrisman, J. J. (1999). Towards a reconciliation of the definitional issues in the field of corporate entrepreneurship. *Entrepreneurship Theory and Practice, 22*(3, spring), 11-27.

Shaver, K. G., Gartner, W. B., Crosby, E., Bakalarova, K., & Gatewood, E. J. (2001). Attribntions Abont Entreprenenrship: A Framework and Process for Analyzing Reasons for Starting a Business. *Entrepreneurship Theory and Practice, Winter*, 5-32.

Shepherd, D. A., & DeTienne, D. R. (2005). Prior knowledge, potential financial reward, and opportunity identification. *Entrepreneurship Theory and Practice, 29*(1), 91-112.

Shepherd, D. A., Douglas, E. J., & Shanley, M. T. (2000). New venture survival: Ignorance, external shocks and risk reduction strategies. *Journal of Business Venturing, 15*, 393-410.

Shepherd, D. A., & Zacharakis, A. (1999). Conjoint analysis: a newmethodological approach for researching the decision policies of venture capitalists. *Venture Capital, 1*(3), 197-217.

Shepherd, D. A., & Zacharakis, A. (2003). A New venture's Cognitive Legitimacy: An Assessment by Customers. *Journal of Small Business Management, 41*(2), 148-167.

Shook, C. L., Kitchen, D. J., & Hult, G. T. M. (2004). An assessment of the use of the structural equation modelling in strategic management research. *Strategic Entrepreneurship Journal, 25*, 397-404.

Short, J. C., Ketchen, D. J., Jr., Shook, C. L., & Ireland, R. D. (2010). The Concept of "Opportunity" in Entrepreneurship Research: Past Accomplishments and Future Challenges. *Journal of Management, 36*(1), 40-65.

Singh, J. V., Tucker, D. J., & House, R. J. (1986). Organizational Legitimacy and the Liability of Newness. *Administrative Science Quarterly, 31*(2), 171-193.

Singh, R. P. (2001). A Comment on Developing the Field of Entrepreneurship Through the Study of Opportunity Recognition and Exploitation. *Academy of Management Review, 26*(1), 10-12.

Sirmon, D. G., Hitt, M. A., & Ireland, R. D. (2007). Managing firm resources in dynamic environments to create value. *Academy of Management Review, 32*(1), 273–292.

Smith, B. R., Matthews, C. H., & Schenkel, M. T. (2009). Differences in entrepreneurial opportunities: The role of tacitness and codification in opportunity identification. *Journal of Small Business Management, 47*(1), 38-57.

Song, X. M., & Montoya-Weiss, M. M. (1998). Critical development activities for really new versus incremental products. *Journal of Product Innovation Management, 15*(2), 124-135.

Soutar, G. N., & Ridley, S. (2008). Looking at leaders: a conjoint analysis. *Leadership & Organization Development Journal, 29*(5), 461-472.

Soutar, G. N., & Turner, J. P. (2002). Students' preferences for university: a conjoint analysis. *International Journal of Educational Management, 16*(1), 40-45.

SPSS. (1993-2007). SPSS 17.0 Brief Guide. Chicago: IL: SPSS inc.

Stevenson, H. H., & Jarilo, J. C. (1990). A paradigm of entrepreneurship: Entrepreneurial management. *Strategic Management Journal, 11*, 17-27.

Stevenson, H. H., Roberts, M. J., & Grousbeck, H. I. (1985). *New Business Ventures and the Entrepreneur*. Irwin: Homewood, IL

Stinchcombe, A. L. (1965). Social structure and organizations. In J. G. March (Ed.), *Handbook of organizations* (pp. 142-193). Chicago, Rand McNally.

Storey, D. J. (1994). *Understanding the small business sector*. London: Routledge.

Teoh, H. Y., & Foo, S. L. (1997). Ambiguity and Risk Taking Propensity on the Role Conflict Perceived Performance Relationship:Evidence from Singaporean Entrepreneurs. *Journal of Business Venturing, 12*, 67-81.

Timmons, J. (1999). *New Venture Creation: Entrepreneurship for the 21st Century*. Boston: MA: Irwin McGraw-Hill.

Tourigny, D., & Le, C. D. (2004). Impediments to innovation faced by Canadian manufacturing firms. *Econ. Innov. New Techn., 13*(3), 217-250.

Tushman, M. L., & Anderson, P. (1986). Technological discontinuities and organizational environments. *Administrative Science Quarterly, 31*, 439-465.

Ucbasaran, D., Westhead, P., & Wright, M. (2007). Opportunity identification and pursuit: does an entrepreneur's human capital matter? *Small Business Economics, 30*, 153–173

Ucbasaran, D., Westhead, P., & Wright, M. (2009). The extent and nature of opportunity identification by experienced entrepreneurs. *Journal of Business Venturing, 24*(2), 99-115.

Vaghely, I. P., & Julien, P.-A. (2008). Are opportunities recognized or constructed?: An information perspective on entrepreneurial opportunity identification. *Journal of Business Venturing, 25*(1), 73-86.

Vaghely, I. P., & Julien, P.-A. (2010). Are opportunities recognized or constructed?: An information perspective on entrepreneurial opportunity identification. *Journal of Business Venturing, 25*(1), 73-86.

van der Veen, M., & Wakkee, I. (2004). Understanding the Entrepreneurial Process. In D. Watkins (Ed.), *Annual Review of Progress in Entrepreneurship Research (Aprent)* (Vol. 2, pp. 114-152). Brussels: European Foundation for Management Development.

van Praag, C. M., & Versloot, P. H. (2007). The economic benefits and costs of entrepreneurship: A review of the research. *Foundations and Trends in Entrepreneurship, 4*(2), 65-154.

Venkataraman, S. (1997). The Distinctive Domain of Entrepreneurship Research. In J. Katz & R. Brockhaus (Eds.), *Advances in Entrepreneurship, Firm Emergence and Growth* (pp. 119–138). Greenwich, CA: JAI Press.

Vesper, K. H. (1990). *New Venture Strategies* (2nd ed.). Englewood Cliffs, NJ: Prentice Hall.

Weiner, B. (1985). An Attributional Theory of Achievement Motivation and Emotion. *Psychological Review, 92*(4), 548-573.

West, G. P., & Noel, T. W. (2009). The impact of knowledge resources on new venture performance. *Journal of Small Business Management, 47*(1), 1-22.

Weston, R., & Gore, P. A. (2006). A brief guide to structural equation modelling. *The Counselling Psychologist, 34*(5), 719-751.

Wiklund, J., Davidsson, P., & Delmar, F. (2003). What do they think and feel about growth? An expectancy-value approach to small business managers' attitude towards growth. *Entrepreneurship Theory and Practice, 27*(3), 247-270.

Wiklund, J., & Shepherd, D. A. (2003). Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium-sized businesses. *Strategic Management Journal, 24*(13), 1307-1314.

Winborg, J., & Landstrom, H. (2001). Financial bootstrapping in small businesses: Examining small business managers' resource acquisition behaviours. *Journal of Business Venturing, 16*, 235–254.

Wittink, D. R., & Cattin, P. (1989). Commercial Use of Conjoint Analysis: An Update. *Journal of Marketing, 53*(3), 91-96.

Zimmerman, M. A., & Zeitz, G. I. (2002). Beyond survival: Achieving new venture growth by building legitimacy. *27*(3), 414-431.

Appendices

APPENDIX A: QUESTIONNAIRE FOR EXPERIENCED ENTREPRENEURS (ENGLISH VERSION)

D.M.Semasinghe

PhD Student, Queensland University of Technology, Australia

Senior Lecturer, Department of Commerce & Financial Management, University of Kelaniya, Sri Lanka

d.semasinghe@qut.edu.au

+ 94 112914485, +61 738768404

Attractiveness of Venture Idea
Questionnaire for Entrepreneurs

This questionnaire consists of two sections; Section A and section B. **Section A** intends to indentify some of your personal, social and firm background whereas the **section B** intends to identify how you trade off among different plans of venture idea characteristics.

Section A

Please answer to the following questions by placing 'X" in the appropriate cage. This information will be kept completely confidential.

1. **What is your sex?**

Male	1
Female	2

2. **What is your age?**

.....

3. **Which of the following best describes the highest level of education you have completed**

Up to grade 8	1
GCE O/Level	2
GCE A/Level	3
Bachelors degree	4
Post graduate diploma	5
Higher Uni degree [e.g. Masters, Doctorate]	6
None of these	7

4. **Which of the following best describes your ethnic background**?

Sinhalese	1
Tamil	2
Muslim	3
Burger	4
Malay	5
Other	6

5. **Were you born in Sri Lanka?**

yes	1
No	2

6. **Did your parents ever work for themselves or run their own business, alone or together**

yes	1
No	2

7. **How many of businesses have you started to now?**

.....

8. **How many were success among the businesses you have started so far?**

.....

9. **How many were failures among the businesses you have started so far?**

.....

10. How many businesses, if any, are you running right now (alone or with others)?

.....

11. If you run/ran more than one business, please indicate highest annual sales you have ever have/ had at any point time?

……..

12. If you run/ran more than one business, please indicate highest number of employees you have ever have/ had at any point time?

…….

13. Please indicate what prompted you to select above venture idea from the following.

Knowledge	1
Resource	2

Section B

The aim of this section is to investigate how attracted you are by different venture ideas. First, we would like to define what venture idea or business idea is. By 'business idea' or " venture idea" we mean your core ideas about things like what you are going to sell; who you will sell it to; how you will sell it, and how you will acquire or produce what you are going to sell. Therefore you may consider different types venture ideas as regards their degree of newness in terms of;

1. product/service
2. method of production/sourcing
3. method of promotion
4. selection of target market/customer

In choosing/considering these venture ideas you may consider following

1. Their degree of newness

2. The degree of association with knowledge you already have
3. The degree of association with resources you already possess
4. The anticipated level of profit.

As regards the degree of newness you may wish to offer your venture idea either to

1. **New to the world**- no company has ever offered this type of product/service before anywhere in the world
2. **New to the market only**- no other firms offers the same type of product/service in your particular market, but it has been offered before elsewhere
3. **Substantially improved one compared to existing product**- while not entirely new it offers some distinct improvement over competitors offers in your market
4. **A 'tried and true "imitative product**- other firms are already offering the same product/service in your market.

Likewise in considering your knowledge, your resources position and anticipated financial gain you may use or expect following levels for each of them;

1. high
2. low

Resources

1. **High**- you already have access to most of the resources needed to start a firm based on this idea.
2. **Low**- most of the resources needed to start a firm based on this idea are such that you currently do not possess or have easily access to.

Knowledge

1. **High**- based on earlier experience and/or education you already have most of the knowledge needed to start a firm based on this venture idea.

2. **Low**- starting a firm based on this venture idea requires essential knowledge that you currently do not have based on your experience and/or education.

Potential financial gain

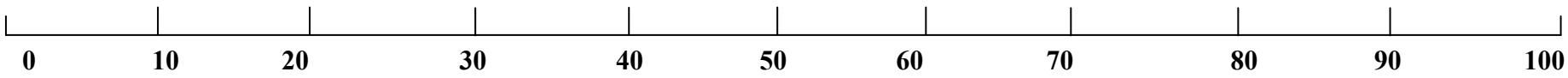
1. **High**- if successfully implemented this venture idea could be the basis of a growing firm that can make its founder rich.
2. **Low**- If successfully implemented this venture idea could be the basis of a healthy small business, but it could probably not grow large or become spectacularly profitable.

We need to know how you indifferent between different profiles. We provide you 32 different profiles for consideration. Please score for each of profile from 0 to 100 according to your preference.

APPENDIX B: AN EXAMPLE OF A PROFILE (ENGLISH VERSION)

Card ID	**Product novelty**	**Process novelty**	**Market novelty**	**Promotion novelty**	**Knowledge Relatedness**	**Resources relatedness**	**Financial gain**
1	Offers a product or service that is substantially improved	Uses a method of production that is new to the world	Serves a market or customers, where other firms operate	Uses a promotion method that substantially improved over other firms	This venture idea does not build on your current knowledge	This venture idea requires that you want more resources	This venture idea, if successful, will give you a higher financial gain

Please score your preference from 0 to 100 (0 = no attractiveness at all, and 100 = highly attractive)



Not attractive at all **Highly attractive**

APPENDIX C: VENTURE IDEA NOVELTY QUESTIONNAIRE

Q1 I would now like to ask some questions about the characteristics of your 'business idea', or 'business model'. By 'business idea' and 'business model' we here mean your core ideas about things like What you are going to sell; who you will sell it to; how you will sell it, and how you will acquire or produce what you are going to sell. For each of the following statements please answer 'yes' or 'no'.

Will you offer a product/service, which is entirely new for the industry?

1	Yes
2	No
7	Refused
9	Don't know

Q2 Will the product/service be entirely new to the world or entirely new just in the places where you are going to be active?

1	New to World
2	New only in places where active
7	Refused
9	Don't know

Q3 If not *entirely* new, will the product/service be a *substantial improvement* compared to what other businesses have offered before?

1	Yes
2	No
7	Refused
9	Don't know

Q4 Will you use a method for promotion or selling, which is entirely new for your industry?

1	Yes
2	No
7	Refused
9	Don't know

Q5 Will the method for promotion or selling be entirely new to the world, or has it been used before in other places or industries?

1	New to World
2	Has been used before
7	Refused
9	Don't know

Q6 If not *entirely* new, will the method for promotion or selling somehow be *substantially different* compared to what have used before?

1	Yes
2	No
7	Refused
9	Don't know

Q7 Will you use a method for producing or sourcing your products, which is entirely new for your industry?

1	Yes
2	No
7	Refused
9	Don't know

Q8 Will the method for producing or sourcing be entirely new to the world, or has it been used before in other places or industries?

1	New to World
2	Has been used before
7	Refused
9	Don't know

Q9 If not *entirely* new, will the method for producing or sourcing somehow be *substantially different* compared to what the industry have used before?

1	Yes
2	No
7	Refused
9	Don't know

Q10 Will you focus on customers or target markets that other businesses have totally neglected?

1	Yes
2	No
7	Refused
9	Don't know

Q11 Does that mean that you will focus on serving customers or target markets that *NO* other businesses focus on or those that *MOST* other businesses fail to serve?

1	Markets/customers served by NO other firms
2	Markets/customers not served by MOST other firms
7	Refused
9	Don't know

Q12 Will your selection of customers or target markets somehow be *substantially different* from what other businesses apply?

1	Yes
2	No
7	Refused
9	Don't know

APPENDIX D: VENTURE IDEA RELATEDNESS QUESTIONNAIRE

I will now read to you a number of statements about your business idea or business model. For each of the statements I want you to say whether you completely disagree; partly disagree; are neutral; partly agree, or completely agree with the statement.

To what extent do you agree or disagree with the following statements

	Completely disagree	**Partly disagree**	**Neutral**	**Partly agree**	**Completely agree**
The *PRODUCT/SERVICE offerings* are selected so that they are very closely matched with the *knowledge and skills* that you already had	01	02	03	04	05
The *customers* or target markets are selected so that they are very closely matched with the *knowledge and skills* that you already had	01	02	03	04	05
The *methods for producing or sourcing* are selected so that they are very closely matched with the *knowledge and skills* that you already had	01	02	03	04	05
The *methods for promotion and selling* are selected so that they are very closely matched with the *knowledge and skills* that you already had	01	02	03	04	05
The *PRODUCT/SERVICE offerings* are selected to very closely match the financial, physical and other *resources* you have access to	01	02	03	04	05
The *customers* or target markets are selected to very closely match the financial, physical and other *resources* you have access to	01	02	03	04	05
The *methods for producing or sourcing* are selected to very closely match the financial, physical and other *resources* you have access to	01	02	03	04	05
The *methods for promotion and selling* are selected to very closely match the financial, physical and other *resources* you have access to	01	02	03	04	05