

## **Abstract**

### **A Founder's Strategy and Entrepreneurial Leadership are Critical Elements in Growing and Developing a Mid-Sized Venture**

This thesis reports on a formal cross-sectional study undertaken over three years (starting in 2002). Since that the South African entrepreneurial scenario had only recently embraced the theories of entrepreneurship and its promotion, it sought to delineate the critical elements that one would link to developing a mid-sized venture, to venture growth (VG) and to leadership provided by the founder.

Research within the Information Technology (IT) sector was driven by personal experience and by studies on strategic management, leadership, risk management, opportunity recognition, resource-leveraging and optimisation strategies. The researcher also sought empirical support in management and business strategy studies, in entrepreneurial organisational learning theories, "EOLT" (what this study terms "knowledge creation" and "knowledge – sharing"), and in scientific evidence that supports thinking on venture - creation, promotion or growth.

The primary purpose of this study was to (a) ascertain the depth of leadership involved in venture growth (VG) and (b) investigate whether or not founding-entrepreneurs used their leadership abilities, management strategies and skills in VG. A primary and final respondent population (N = 186) of IT company General Managers/Chief Executive Officers (CEOs) was tested. Respondents also had to be active shareholders, founders and leaders, and operationally (i.e. managerially) involved, as well.

Statistical considerations were applied to (i) sample-"validity and reliability" (VR), and (ii) sample-manipulation and prescription. Adoption of a two-pronged approach led to the refinement of assumptions, and to the formulation of initial entrepreneurial leadership and venture growth propositions and hypotheses.

To accommodate the given research purposes, a pilot-test was initiated amongst a sample of 20 CEOs from five different industries. An analysis of the results of this test

and the additional interviews conducted resulted in (a) the refinement of the initial propositions and (b) a topology and foundations for the final testing instrument.

Discussions with a subset of the test respondents resulted in the final propositions. Guided by empirical research parameters, four fundamental hypotheses were derived and tested (within the context of the variables in the final testing instrument).

Construct evolution resulted in these factors: Entrepreneurial Thinking/Risk perception (**F1**); Entrepreneurial Persistence (**F2**); and Unique Performance (**F3**). Extensive factor analysis testing was applied. The following hypothesis for F2 was also tested:

- $H_0$ : The greater the specific and general competencies of a founding entrepreneur, with regard to organisational skill, business knowledge and general past experience, the stronger the business output (i.e. success).
- The alternate hypothesis/ $H_a$ : The weaker the specific and general competencies of a founding entrepreneur, with regard to organisational skill, business knowledge and general past experience, the weaker the business output (i.e. success).

For F2, a high percentage of variance resulted, the mean = 4.2, the standard deviation = 0.4, and, with the existence of strong **statistical significance** represented,  $H_a$  was rejected. Responses to associated variables were highly polarised. These were interpreted to be indicative of differences in the manner in which founding entrepreneurs perceived vision-establishment as an enabling tool for VG and strategy.

A **strong prediction** for  $N = 162$  also resulted, which here indicated that a **strong relationship** existed between F2 and F3. In relation to F1, F2 and F3, the prediction also seemed to indicate that motivation and specific competencies also have paths to VG (with significant coefficients; where  $t > 2$ ; and  $p < .05$ ). Direct-effect domains, such as the specific skills associated with negotiating and contracting (IT deals), indicated the strongest relation to VG. Given the relevant age of most of the founding entrepreneurs in the population (36–45 years), this was not an unexpected result.

Although some relationships were found to exist for the other relationships of factors to the tested overall hypothesis, these tended to yield somewhat weaker than expected

significances. In relation to the above hypothesis, the study found that technical skill and industry experience exhibited reasonably significant relationships to and with VG.

It was also found that in South Africa a very small number of authors have attempted to integrate their thinking concerning founding entrepreneurs into EOLT and VG strategies. No longitudinal studies on the relationship between these elements could be found, and even less research was also found were the topics were tackled in combination-form.

The study also concludes that there is room for more research that integrates, links and shows the relationship between VG, founding entrepreneurs and leadership.

## Chapter 1

### Introduction to Study

#### 1.1. Research Context and Purpose

This formal cross-sectional study was started in 2002, with the predominance of the research being done in South Africa.

The study sought to delineate critical elements that one would normally link to growing and developing a mid-sized venture and to leadership provided by founding entrepreneurs because of the writer's understanding of the South African entrepreneurship environment and because it was believed that very little has been done to promote entrepreneurship, and that where entrepreneurship has been initiated it has been assumed to be the domain of an existing group of business initiators,.

The study concentrated on the "mid-sized venture" because it was further believed that the South African entrepreneurial scenario has only recently, as in the past ten to twelve years, embraced theories on entrepreneurship, its development and its promotion (See also Ladzani and Van Vuuren, 2002; McFarlin, Coster and Mogale, 1999). For the purpose of clarity of definition (and although defined under the heading "Industry Choice and Participating Company Size" later in this thesis), the study defines a medium-sized Information Technology (IT) services and solutions company as one that possess a revenue generation capacity of between ZA R100 million – R300 million p.a.

The researcher was also directed to working within this market segment by his (own) experiences, and consulted research on strategic management, risk management, opportunity recognition, venture performance, resource leveraging, and venture optimisation strategies. This thesis also adopted the latter conceptual and theoretical orientations and "own experiences" referred to above (including those noted by Themba, Chamme, Phambuka and Mogosa, 1999) as a platform from which to find substance for the research, as the researcher also wished to challenge, investigate and refute (albeit

indirectly and where necessary) the opinions expressed by Fynn (2005:7) in the statement that

“.... South African company and business leaders also need to see themselves as entrepreneurship promoters, venture initiators and sustainable global venture developers and creators. To do that as corporate South Africa venture leaders we need to firstly, create and sustain, instead of ignoring and stifling, an environment that is engendering of entrepreneurship and new competition.

Secondly, we need to curb the spiralling failure rate of new ventures and develop self - belief support and enforcement mechanisms. Research that helps us understand traits/motives, strategies and other factors related to successful entrepreneurs should direct us in that regard.

Thirdly, and through entrepreneurship promotion, we must build on and sustain a culture of innovation. That, in turn, means active involvement in entrepreneurship curriculum, development debate and development. But then we must, as happens in other global geographies, provide space for research within our own entities and ventures and positively support that research, and importantly, create and even apply new models of and criteria for venture performance.“

Because the study also wished to focus on the leadership traits/aspects of founding entrepreneurs, the researcher chose to work with a final population of General Managers/Chief Executive Officers (CEOs). These people are generally considered to be leaders of their respective companies in the IT industry sector, and are often regarded as the “brains” behind a business (Vecchio, 2003; Baum, Locke and Smith, 2001).

In the selection of participants the researcher insisted (and set as a precondition of involvement in this study) that these respondents also had to be actively involved at the shareholding, managerial and operations levels of their respective companies. This prescription was included because it was the perception and understanding of the researcher that leadership has to be integrally involved in entrepreneurship, otherwise a venture is doomed to fail. This prescriptive aspect of the research was also guided by the studies conducted on similar environments, by amongst others, Kuznetsov,

McDonald and Kuznetsov (2000); Locke, Kirkpatrick, Wheeler, Schneider, Niles and Goldstein (1991); Rosenstein and Wyatt (1997), Sull (2004) and, Shaver and Scott (1991). In particular, this study also noted the King II Report (2002), which addresses the issue of how South African companies, and especially new ones, should make key shareholders, such as the CEO, accountable to the venture, and its constituents and involve them in all critical decisions (See also Themba, et al., 1999).

Initial thinking for the pilot study was that it should be restricted to distribution amongst entrepreneurs from the IT sector. Communication with other entrepreneurship researchers, however, indicated that such a limitation to an initial sample of General Managers/CEOs from the IT industry sector would be too prescriptive, could be considered to have been manipulated and would create difficulties in the discussion regarding the “validity and reliability” aspects of the analyses (Bobko, 2001; Chandler and Lynn, 2001; Mouton, 2002). To refine the assumptions of the researcher about entrepreneurial leadership and the four elements noted here, and to adequately address the measures of “validity and reliability”, the study embarked on a two-pronged approach.

Firstly, the research study initiated a pilot test amongst a sample of 20 General Managers/CEOs who worked in Retail Property Management, Logistics Management, Computer (motherboard) Manufacturing for Cars, Telecommunications, and Information Technology Service Provider companies.

The researcher built this testing instruments on frameworks found in and adapted from those found in an initial literature review (Cavusgil and Das, 1997; Rosenthal and DiMatteo, 2001). This instrument was formulated against two proposition sets, and a pilot test topology and foundations were derived from this process.

Secondly, and following on the pilot testing, the study refined the broader (initial) propositions by relying on the preliminary analysis, additional interviews with the population sample set and the results derived from the pilot test (Sivakumar and Nataka, 2001).

Having again reviewed the proposal against a second (and smaller) subset of respondents, the researcher defined the sixteen (16) propositions into four main groups

of four each. Continued investigations into these 16 initial propositions resulted in a further grouping into Proposition Set 1 and Proposition Set 2, and further testing of these propositions. This testing resulted in a clustering of the foundation principles of these propositions into a final three (3) primary propositions, as also noted later in this thesis. This process of refinement was pursued because of the **initial** thinking and guidance on structuring

- what the Constructs for the thesis should eventually be; and
- the research-specific elements that the Hypotheses should entail.

Following on this construct and initial hypothesis formulation, and the research work done on these propositions, and guided by empirical research parameters found in available literature, the researcher finally formulated four initial fundamental hypotheses that specifically relate to the founding entrepreneur (See Section 1.4.1; and also Stone–Romero and Anderson, 1994). The refinement and moderation process in this investigation then led to a test in which the final testing instrument was applied to the selected population set (Bobko, 2001; Rosenthal and DiMatteo, 2001; Steel and Kammeyer–Mueller, 2002).

The primary purpose of this study was to (a) ascertain the depth of leadership involved in venture growth (VG) and (b) investigate whether or not founding-entrepreneurs used their leadership abilities, management strategies and skills in VG. Notwithstanding the issues raised by the preliminary work, the writer was further interested in knowing or confirming the variable factors and/or domains that drove (i) Entrepreneurial Thinking/risk perception, (ii) Entrepreneurial Persistence and (iii) Unique Performance – which were later considered to be the three primary constructs of the study.

As earlier remarked, to facilitate early thinking on these domains, the study was formulated as an initial 16 propositions, which were initially premised on an understanding that the research would also initially work with four hypotheses. Guidance from the literature and from the pilot test investigation resulted in these being reduced to eight propositions and finally to three (also described later). The propositions were also used as initial “operational definitions”, which the present study considered for each of the constructs of

- Entrepreneurial Thinking/Risk Perception (to later be F1),
- Entrepreneurial Persistence (to later be F2); and,
- Unique Performance (to be F3), respectively.

This process of proposition re-definition and construct formation was also critical to the research because it laid the foundations of early thinking on changes that could be made to Baum's (1994) measurement instrument – for which, as also pointed out elsewhere in this doctoral study, permission was obtained.

Accepting moderation and regression outcomes for the factors against the four noted hypotheses (Bryant and Yarnold, 1995), the study inferred from the analyses of the variables and data noted in Appendix B (Wilkinson and Task Force, 1999; Bobko, 2001) that an analysis for F2 (the Entrepreneurial Persistence factor) had to be carried out the following **overall** null and alternate hypothesis:

- $H_0$ : The greater the specific and general competencies of a founding entrepreneur, with regard to organisational skill, business knowledge and general past experience, the stronger the business output (i.e. success).
- The alternate hypothesis/ $H_a$ : The weaker the specific and general competencies of a founding entrepreneur, with regard to organisational skill, business knowledge and general past experience, the weaker the business output (i.e. success).

Whilst the emphases of the study were still placed on the above constructs, it also tested for accuracy/strength of prediction and for other associated variables. It noted cases of polarisation, and whether or not “direct effect” domains, such as the specific skills associated with negotiating and contracting (IT deals), indicated relationships to venture growth (Bryant and Yarnold, 1995; Lee and Bobko, 1994; Lenartowicz and Roth, 2001; Sivakumar and Nataka, 2001; Steel and Kammeyer–Mueller, 2002).

For this study, research support was found in management and business strategy studies, in entrepreneurial organisational learning theories, “EOLT”, (through what the thesis terms “knowledge creation” and “knowledge–sharing”), and in empirical and scientific evidence that supports thinking on venture creation and venture promotion/growth. From this research support base it was also found that only a limited



number of research studies had tackled these three interrelated topics in combination form.

Equally significant is the deduction from the literature review that an even smaller number of South African authors have made attempts to integrate new thinking on EOLT and growth strategies for mid-sized ventures. It was also found that no longitudinal studies on the relationship between these growth strategies and EOLT had been done in this country. The researcher therefore concludes that there is room for further engagement in research studies that integrate, link and show the relationship between growth in ventures, founding entrepreneurs, and entrepreneurial leadership.

## **1.2. Research Objectives**

An objective of this study was to research new venture creation and promotion and to discover the link with entrepreneurial leadership within a mid-sized venture/company environment. The thesis presented a process through which, as literature on entrepreneurship indicates, the study would be afforded sufficient scientific grounds for the constructions of propositions, constructs and testable hypotheses. This process therefore granted the writer the platform to argue that new venture creation and promotion are a function of a founding member's strategic management (Chandler and Jansen, 1992).

The primary purpose of this thesis was, however, to gain deeper insight into and about the variables that relate to entrepreneurial leadership and to mid-sized venture growth. Because of the supposition that the founding members of ventures are people who "create value by conceptualising, initiating, energizing, directing and guiding growth" (Baum, 1994:2) the study focussed on visionary thinkers and leaders who were involved in new venture creation (See also Drucker, 2004; Gartner, 2001; Gartner and Brush, 1999). This thesis was therefore approached with the aim of understanding

- (a) how successful entrepreneurs acted, what the factors were that influenced their actions, and which strategic alignments (choices) they applied (Bryman, 2004; Coglisier and Brigham, 2004; Chandler and Lyon, 2001);

- (b) the causes of venture success and the interests that founder entrepreneurs have in making their ventures succeed (See also Ensley, Carland and Carland, 2000; Wiklund and Shepherd, 2005).

As success is a key feature when a venture is initiated, and since the researcher believed that in the South African context, new ventures would have, in particular, a strong bearing on the social and economic value of the ecosystem within which they operate, this thesis also sought to add value to the empirical research base on venture performance. In so doing, it sought to clarify some of the more prominent Venture Performance Models (“VPMs”).

In this regard, VPMs consulted included those applied and tested by, amongst others, Chrisman, Bauerschmidt and Hofer (1998); Lipton (1996); Shrader and Simons (1997); Timmons (1999) and Zahra, Kuratko and Bogner (1999). In the context of South Africa, the study considered VPMs owing to the fact that entrepreneurship has not flourished to the expected levels as also noted by Fynn (2005) and by Driver, Wood, Segal and Herrington (2002). Consequently, it is believed that support for the implicit adoption of the VPMs by this thesis is not misplaced.

The point is best illustrated by reference to the Year 2000 South African Global Entrepreneurship Monitor Report, which described South Africa as having the smallest proportion of entrepreneurs, called “the lowest total entrepreneurial activity”, in comparison to any other developing country (Foxcroft, Wood, Kew, Herrington and Segal, 2001). This report was only a once-off result of research into entrepreneurship development in South Africa. The 2003 Global Entrepreneurship Monitor (GEM) Report further emphasises the point. It, for example, places

- (a) South Africa’s entrepreneurial firm development at the 4.46% mark – compared to the world average which is at the 11.49% mark;
- (b) South Africa’s firm entrepreneurship index at 1.12% – compared to the world average of 2.00%; and
- (c) South Africa’s employment percentage in entrepreneurial ventures at the 7.84% mark – compared to the world average, which is at the 12.31% mark. (See also McFarlin, Coster and Mogale, 1999; Jaeger and Kanungo, 1990.)

Whilst it must be appreciated that many developing countries will reflect similar rating images to those of South Africa (as noted in Honig, 2001; Libercap, 1993; Reynolds, Bygrave, Autio, Cox and Others, 2004), the point advanced by the writer for the VPM adoption is that if and where the social and political environments do not create the space for entrepreneurship to flourish, the statistics will remain very much the same over two consecutive research year periods. More importantly, the evidence provided by both the 2002 and 2003 GEM Reports indicates that national economic growth rates and enduring national trends/motives tend to exert an impact on the level and rate of entrepreneurial activity (Foxcroft, et al., 2002).

It must be emphasised, though, that reference by the thesis to these reports is merely illustrative of the foundations sought for the adoption of the VPMs. This thesis neither supports or argues against or in favour of the entrepreneurial support structures nor does it intend to look into the factors of “strength” or ‘weakness” or variations between countries in that regard, as is argued by Reynolds, et al. (2004). Rather the intent is to substantiate the position taken in the choice of consideration for the VPMs in this thesis.

Also, it should be noted that in the slant towards these VPM propositions the thesis used and expanded upon the combinations of enterprise conceptual development models from Ardichvili, Cardoza and Sourav (2003); Baum (2001); Carter, Carter and Reynolds (1996); Cavusgil and Das (1997) and several other authors in the fields of entrepreneurship. The VPMs’ slants noted in the latter studies were also investigated and included in the thinking for this thesis because they also tied into founding members’ leadership strategies and philosophies.

To further substantiate the chosen approach, the present thesis also explored most of the literature on strategy, organisational management and leadership theories as applied by Burgelman over the period 1984–2002. Other writers, who had focussed on entrepreneurial leadership and venture growth, albeit to a limited extent, were useful in explaining how entrepreneurial traits influenced founding entrepreneurs’ strategies for venture growth and development (Baum, Locke and Smith, 2001; Leff, 1978; Chrisman, Bauerschmidt and Hofer, 1998; Damanpour, 1991).

It is paramount to note in this regard that because of the abovementioned leadership strategies and philosophies, it is conceivable that in terms of the nature and the topic of this thesis, several other factors that relate to entrepreneurship could easily have been included in this study. Notwithstanding the temptation to refer to these factors, such as those noted in the work of Sapienza, Parhankangas and Autio (2004) and in Wiklund and Shepherd (2005), the research only concentrated on those factors that were relevant to this doctoral study.

All of the above positions indicate the difficulty in making a selection of which aspects, even within the limited scope of this thesis, have to be excluded. Reference to the different orientations on entrepreneurship clearly highlighted the need to consult widely within those fields of research that had an impact on the objective of the study. This cross-referencing process led the researcher to a sounder understanding of the impact of other related fields of study in economics, psychology, and business management; and, it is believed, to an increased legitimacy for the propositions reflected and arguments presented in the hypotheses of this study.

### **1.3. Definition of Entrepreneurship For The Study**

Research into entrepreneurship indicates that there are two schools of thinking on the subject.

The first and largest of these schools (+80%) focuses on the characteristics, motives or traits of entrepreneurial leaders. These characteristics include, amongst others, factors such as innovation, performance, and growth. Researchers from this school of thinking include, amongst others, Brockhaus (1980); Das and Bing-Shen (1997); Burgelman (1986) and Greene, Brush and Hart (1997). It is also important to note that with reference to this school, whilst there is agreement on traits/motives and actions, writers like Baum (1994); Bhide (2000); Wiklund and Shepherd (2005) and Tosi, Misangyi, Waldman and Yammarino (2004) argue that there is no consensus on specific variables. This lack of consensus, the study would further argue, is one of the reasons why there is ambiguity in the definition and why such ambiguity is consequently the reason given for much of the difficulty in operationalising it.

The second school focuses on the outcome of entrepreneurship, which includes factors related to value creation, leadership, the performance of the venture versus the performance of the entrepreneur, and risk taking. Amongst the plethora of scholars belonging to this school the study notes the examples of Bird and Brush (2003); Burgelman and Meza (2000); Dennis (2001); Locke, Kirkpatrick, Wheeler, Schneider, Niles, Goldstein, Welsh and Chah (1991) and, Lovas and Ghoshal (2002).

In arriving at an acceptable definition, this study was directed at taking important aspects from both of these schools but surrounding them with thinking from the school of strategic management – a third orientation. This orientation/thinking founded its beliefs on resource-based theory. It should be pointed out that this school initially arose out of organisational economics, psychology and the social sciences, and hence the initial entrepreneurial studies of, for example:

- Atkinson (1957); Baum, Locke and Smith (1998); Gollwitzer (1993); Lee and Bobko (1994) and Steel and Kammeyer-Mueller (2002), located in Applied and/or Social Psychology;
- Harrison and Pelletier (1995) and Kim and Hunter (1993), in Communications and/or in the Management Decision Sciences;
- Burgelman (1983 – 1986); Jaeger and Kanungo (1990); Kwak (2001) and McFarlin, et al. (1999), located in Management Science;
- Blanchflower and Oswald (1998), located in Labour Economics;
- Fama and Jensen (1983) being located in Law and Economics;
- Audia, Locke and Smith (2000); Burgelman (1991); March (1991) and Vecchio (2003), located in Organization Science and/or Management Theory;
- Black and Boal (1994); Farrell, Hunter and Saloner (1998) and Jacoby (1997), located in Economic and/or Strategic Management Theory;
- Neace (1999), in Political and Social Science;
- Baron, Hannan and Burton (1999); Brudel, Priesendorfer and Ziegler (1992); Granovetter (1985), and Thornton (1999), located in Sociology; and,
- Bradburd and Ross (1989), in Economics and/or Statistics.

Because of all of these influences, such a theory suggests that the success of a venture is predominantly driven by performance and application of its resources, and that performance is a function of the resource distribution (Burgelman and Doz, 2001; Clark, 1999; Morris, 1998; Taylor, Gilinsky, Hilmi, Hahn and Grab, 1990; Tosi, Misangyi, Fanelli, and Waldman, 2004).

The study was approached from this definition-perspective as it seemed (from other studies consulted) that resources determine a firm's competitive positioning. It was also believed that, if this was the case, then it stood to reason that the (strategic) actions and entrepreneurial motives associated with resource-allocation should relate to venture growth and survival (Hansen and Haas, 2001; Krueger and Carsrud, 1993; Yang, Grover and Palmer, 2001).

#### **1.4. Linking the Study's Objective, the Definition of Entrepreneurship and Hypotheses**

This thesis posited that venture development could not happen without the factors of resilience and persistence being present in a founder. The study sought to discover how these factors were related to the commitment of the founding entrepreneur (Boyd, 1995; Eisenhart and Schoonhoven, 1990; Ulrich, 1998). These three factors of resilience, commitment and persistence were always thought to be inherent to the thesis. They provided support for the Propositions Sets 1 and 2 and the Constructs noted in Chapter 3 of this thesis. This study regards them as significant because they created the initial beliefs for the hypotheses formulated.

These three factors were also pertinent to the thesis because it was fairly evident that as successful leadership by the founding member of a venture was enshrined in the title of this thesis, the study would be compelled to examine the success and performance of ventures alongside the general performance and motives of entrepreneurs.

The research investigation for this thesis found, for example, that 70% of new ventures fail within their first five years of existence (Bird, 1992; Black and Boal, 1994) and that many new venture survivors were marginal performers (Hofstede and Bond, 1988; House and Shamir, 1993; Rosa and Scott, 1998). Within the South African context

Ladzani and Van Vuuren (2002) also noted that 50% of small start-ups eventually fail within the first five years of their inception date (Kinunda–Rutashobya, 1999; McFarlin, et al, 1999). Knowing these challenges was critical in the creation of a clear objective for the study and, in the thesis thus arriving at acceptable and testable hypotheses.

#### **1.4.1. Propositions, Constructs and Hypotheses Evolution**

Through a series of refinement processes (which started with a pilot study, then one-on-one interviews, followed by proposition development), this research arrived at three constructs. In order to test the foundations of the title of the thesis (“A Founder’s Strategy and Entrepreneurial Leadership are Critical Elements in Growing and Developing a Mid-sized Venture”), the study aligned the propositions with to these constructs.

As earlier noted, the study initially used the eight propositions. As a result of the refinement process described and of working with these propositions, four fundamental hypotheses for the study were then formulated. Working on the clarity and evolution of the hypotheses for this study, the researcher eventually arrived at the overarching hypothesis (given above).

#### **1.4.2. Entrepreneurship Model Applied within the Eight Domain Context**

In applying the propositions and constructs, and eventually structuring the hypotheses (of which the analyses are provided in Chapter 5), the study also had two indirect aims.

The first was that it attempted to establish how well the chosen (broad) constructs related to a further definitive understanding of a venture founders’ thinking on venture growth and success.

Secondly, the study, by means of the refinement process, was directed at arriving at domains pertinent to empirical entrepreneurship research (Bobko, 2001; Chandler and Lyon, 2001; Rosenthal and DiMatteo, 2001). The following eight domains of variables constitute the result of that process:

- (a) Choice of industry
- (b) Level of formal education

- (c) Level of vocational training/education
- (d) Level of shareholding and level of management control
- (e) Promotion of the vision/strategy of a venture
- (f) Skill and/or business knowledge
- (g) Present and past experience
- (h) Business output (i.e. success) of venture.

(See also Chandler and Lyon, 2001; Lee and Bobko, 1994; Steel and Kammeyer–Mueller, 2002; Stone-Romero and Anderson, 1994.)

Each of these domains seemed to suggest several possible variables that relate to venture growth. Following the domain topology of the study conducted by Baum, Locke and Smith (2001), the thesis chose to view “variables” as first order factors and “domains” as second order factors, or direct and indirect domain variables.

Applying the fundamentals of the study’s noted definition of entrepreneurship, grouping and testing of these factors resulted in three constructs emerging (Gatewood, et al., 2002; Howell and Boies, 2004; Vecchio, 2003). These were classified as F1: Entrepreneurial thinking/risk taking; F2: Entrepreneurial Persistence; and F3: Unique Performance.

Using the chosen conceptual models and definition of entrepreneurship, and investigating these factors and others through various statistical tests, the research propagated F2 as the most appropriate factor to be tested, and one which could provide the greatest significance (Bryman, 2004; Mouton, 2002; Steel and Kammeyer–Mueller, 2002). The study then applied F2 and tested it within the context of the following hypotheses:

- $H_0$ : The greater the specific and general competencies of a founding entrepreneur, with regard to organisational skill, business knowledge and general past experience, the stronger the business output (i.e. success).
- The alternate hypothesis/ $H_a$ : The weaker the specific and general competencies of a founding entrepreneur, with regard to organisational skill, business knowledge and general past experience, the weaker the business output (i.e. success).



## 1.5. Outline of the Study

This study is organised into six chapters.

Chapter 1 provides an introduction to the thesis. It describes the fundamental debates and the thought that went into developing the thesis and it entails the process of engagement for the evolution of the findings (described in other parts of the research).

Chapter 2 undertakes the literature review. It presents the foundations and major tenets of the later arguments presented in this thesis. It addresses the research done by other researchers into entrepreneurship and considers the contingency theory applied, presents debates into motivation, leadership and entrepreneurial vision and investigates positions taken and suppositions made regarding entrepreneurial traits/motives.

In Chapter 3 the study examines the processes engaged in proposition, construct and hypothesis development. It also specifically addresses the pilot study, the interviews, data collection methods, the testing instruments and measures applied to the research. Reference is also made to rotated factor loadings and the outcomes that have resulted in the hypotheses to be tested.

The Research Methodology adopted for the study is presented in Chapter 4. The reasons for the choice of industry, market players, population selection and characteristics are provided. In this Chapter, measures of testing are focussed on more closely than in Chapter 3, and substantive evidence is provided for approaches to be applied in the analyses that follow.

Chapter 5 discusses the three identified Constructs (F1; F2 and F3) that emerged during the research period. It considers the relationship sought and reports on the results for F2 (the Entrepreneurial Persistence factor) when tested against the earlier noted null hypothesis and its alternate hypothesis ( $H_a$ ). It points to areas where strong and weak relationships were found to exist, and reflects on surprising findings.

Chapter 6, the concluding chapter, follows on the findings emanating from Chapter 5. It provides insight into and points to (a) prospective research (b) the limitations of the research undertaken, including limitations of this thesis itself. It directs researchers in

entrepreneurship to areas of interest and, in question format, presents topics for research whilst also addressing some of the implications for future research into this field of study.

A bibliography and a copy of the final testing instrument (Appendix A, which underpins the research) are also provided.

The thesis also provides an abstract of the study, which is also to be used in the submission of a paper to an international conference on entrepreneurship.

### **1.6. Importance of the Study**

Throughout the study several propositions by different authors in the field of entrepreneurship were presented. Whilst the temptation existed for the research to have moved towards those differing orientations, the study remained focussed on its topic for three reasons.

Firstly, the researcher's interest and that of other supportive researchers, such as Baum (at the University of Maryland, Washington), Pietersen (at MIT, Boston) and Robert Burgelman (at Stanford University, California), whose advice on global trends in entrepreneurship and whose research works on strategy speak for themselves, kept the focus very much in mind. As earlier indicated, initial thinking was to focus the study on a single IT company. However, over the period of this formal cross-sectional research, the researcher soon realised that a dearth of research into the topic under investigation existed. In attempting to review other studies, it became even more obvious that studies into the relationships identified for further research (See Chapter 6 of the present study) were almost non-existent. This discovery resulted in the inclusion of over 140 companies and 186 CEOs in the study.

Secondly, in the South African context, the importance of this study lies in the fact that it attempts to open up the debate on what entrepreneurial leadership should be doing to promote, grow, nurture and develop new ventures. The thesis also provides and initiates debate for policy makers and regulators concerning what some of the institutions

supporting VG, such as venture capitalists and financing institutions, should be doing to engage new venture development in South Africa (See Pietersen and Fynn, 2004).

The third significant contribution of this thesis is that by means of the research questions posed in Chapter 6, business and management schools are pointed to research avenues of engagement and curriculum development (See also Themba, Chamme, Phambuka and Mogosa, 1999; Van Vuuren and Nieman, 1999). It would be interesting to see case studies that use the questions and avenues (noted) as topics of fundamental debate.

### **1.7. Summary of Study**

On account of the various perspectives considered in investigating the primary focus of this thesis, many challenging yet very interesting ideas for further debate. It has presented much debate have been raised, to the extent that even before the final presentation of this thesis, seasoned members of strategic management, entrepreneurship and venture leadership researchers who were consulted have requested the final outputs of this study. It is believed that this is due to

- (a) of the level of engagement with CEOs in this research; and
- (b) the fact that this research presented the initial yet necessary debate and, through empirical methods has not only shown the relationships that support the position taken by this thesis but also simultaneously encouraged thinking into those permutations of context and variables that needed to be researched further.

(See also Howell and Boies, 2004.)

The researcher concedes that it is quite likely that a longer process of research might have produced a slightly different outcome. But the needs of research are such that any new area or combination of areas, such as those of venture leadership and entrepreneurship which this thesis has engaged, requires one to provide scientifically measurable outcomes for immediate engagement with the context of study and to suggest solutions – such as this thesis has done in Chapters 5 and 6.

The researcher is sufficiently convinced that the objective of engaging in this study has been achieved and that it has elucidated key elements of the topic.

## Chapter 2

### Literature Review

#### 2.1. Introduction

A vast array of literature on venture growth and development exists (Baum, 2001; Welch, 2001) and an even larger amount of literature ascribing the company's success to its Chief Executive Officer's vision, strategy, management style, entrepreneurship and leadership (Burgelman, 2002; Baum, Locke and Smith, 2001) is available.

Whilst most of the early research on entrepreneurship focussed on a limited perspective of personality traits, management and social influences (Leff, 1978; Komives, 1972; Duffy and Stevenson, 1984; Bennis and Nanus, 1985; Brockhaus and Horwitz, 1986; Bird, 1989; Aldrich and Fiol, 1994), recent research into entrepreneurship, which is that also applied in this study, broadens the definition of entrepreneurship, to include:

- ..:"those who initiate, energize, and guide the process of organizational emergence" (Baum, 1994: 22);
- those who use available resources, such as experience and skill (Shane, 2000), and combine the latter with initiative to
  1. find the additional resources, such as venture or family capital or even use a family-owned entity, to start their own ventures (Barber, 2001; Bamford and Burgelman, 1998; Neace, 1999; Palmer and Kirkpatrick and Baum, 2002);
  2. maintain it through its growth cycle (Lovas and Ghoshal, 2002; Morley and Schockley-Zalak, 1991; Rosenbaum, Bonker and Wagener, 2000);
  3. create, maintain and retain healthy competition for the business (Burgelman, 2002; Carroll and Hannan, 2000; Kirkpatrick and Baum, 2002; Palmer and Barber, 2001);
  4. manage expectations and subculture development through strategic intervention (Hofstede, 1998; Roe, 1994; Sorenson, 2000; Venkataraman, 1997);

5. take reasonable risk (Brockhaus and Horwitz, 1986; Covin, Slevin and Heeley, 2000; Das and Bing–Sheng, 1997; Rotemberg and Saloner, 2000); whilst promoting venture development and growth and fulfilling several roles in the business or company (Gartner, 2001; Hills, Schrader and Lumpkin, 1999; Palmer and Barber, 2001).

In following this line of thought and using the noted broad definition of entrepreneurship, the study found that many factors affect the inception, growth, development and maturity of a new venture. With particular reference to the factors that affect the success rate of a company, many researchers (Dess and Lumpkin, 1997; Kuratko, et al., 2001; Ropo and Hunt, 1995; Timmons, 1999; Chandler and Hanks, 1998) accept that control of essential venture development elements and attention to detailed delivery of a strategy are always paramount in the thought of the entrepreneur. They drive the thought processes that relate to a strategy for venture incubation and the inception, development and future growth of a company.

### **2.1.1. Measurement of Success and Entrepreneurship**

Another key element that many researchers also emphasise is that entrepreneurs distinguish themselves from ordinary managers in that they often, in their interactions with others, act as both leaders and managers (Fama and Jensen, 1983; Gollwitzer, 1993; Honig, 2001; Lubin, 2001). In acting in dual or multiple roles, the entrepreneur's success, which is often subtly down–played, is generally not measured in directly visible features. The measurement of such success is often interpreted in venture–relevant terms, which include, amongst others, measures of calibration which reflect:

- Financial outputs, revenue streams and profitability;
- Corporate control/visibility through corporate governance (Cf. King II Report on Corporate Governance for South Africa, 2002);
- Corporate Social Investment initiatives; and
- Alignment to the venture's overall strategy and vision in order to set objectives as measured against the venture's competition.

Vision inception, vision creation and its promotion and competition are never divorced from strategy. A further literature search shows that entrepreneurship is never divorced from being visionary. In this regard, Kuratko, et al. (2001:63) state, for example, that

“An entrepreneurial vision indicates what a company expects to achieve. [In addition] Environmental opportunities and the patterns of competition between the firm and its rivals influence this vision.... Moreover, in the global economy, the most effective vision highlights a firm’s commitment to product, process, and market innovations.”

(See also Baum, et al., 2001; Burgelman, 2001(a); Lichtenstein and Brush, 2001.)

The latter point is critical to an understanding of why (throughout this study) the emphasis has also been placed on an understanding of

- the fact that a founder’s reliance on an agreed vision is critical;
- entrepreneurial resilience, commitment and persistence;
- the use of venture growth elements, which include amongst others, strategy, innovation in new venture creation, leadership skill and expertise deployment; and
- the fact that the prerequisite skill and technological know-how in an IT-related environment are critical.

## **2.1.2 Sociological Perspectives on Entrepreneurial Traits**

### **2.1.2.1 Organisational Behaviour and Entrepreneurial Domains**

In approaching the present study from the above sociological perspective, the study relied on research perspectives taken by, amongst others, Baum (1994), Thornton and Ocasio (1999) and Tiesen (1997).

As a starting and comparative platform in the literature review on entrepreneurship, the researcher investigated the likelihood that, irrespective of the woodcrafting context and geography in which Baum’s study was done, entrepreneurial CEOs of IT companies in South Africa acted similarly to their counterparts in the USA. More importantly, it was found, like Baum, that:

“A review of the entrepreneurship, strategic management, and organizational behaviour literature revealed five research domains that had identified [both qualitative and material/paradigm changing] variables that are associated with venture performance. Each research domain had tested performance relationships in isolation from the others...”

The recent research of other experts in entrepreneurship, such as Baum (1994); Baum (2001); Black and Boal (1994); Chandler and Jansen (1998); Herron and Robinson (1993); Kelly and Rice (2002); Sathe (1989) and Tiessen (1997) clearly also supports this position.

In this study, the researcher has also reviewed an entrepreneur’s traits including those of leadership and management, entrepreneurial competencies and capabilities, entrepreneurial behaviours, entrepreneurial actions and entrepreneurial empowerment (Baum, 2001; Baron, Hannan and Burton, 1999; Welch and Byrne, 2001; Whetten, Cameron and Woods, 1994). Whilst these are elaborated on elsewhere in this study, in this section of the chapter they a sociological position is emphasised as it relates to the title of the thesis.

#### **2.1.2.2 Entrepreneurial Leaders as Managers in Intrapreneurial Environments**

Whilst it is understood that roles and job definitions exist and that managers and leaders are also prevalent in most entrepreneurial activity (Baum, 1994), the study also reviewed literature which likewise suggests that the leader and manager roles are often inseparable in newly created ventures – where the entrepreneur needs to act in both capacities and uses resources (which includes people and delegation authority) to achieve his or her entrepreneurial objectives (Audia, Locke and Smith, 2000; Brudel, Priesendorfer and Ziegler, 1992; Herron and Robinson, 1993; Zahra, Kuratko and Jennings, 1999).

Jack Welsh’s flair at General Electric constitutes an example where an entrepreneur used resources, multi-tasked and diffused his role - between that of manager and leader - to achieve entrepreneurial objectives. His entrepreneurial foresight and his fusion of both personality and capacity to meet corporate needs, especially in a changed

environment, altered the dynamic and understanding of entrepreneurship and simultaneously resulted in the achievement of individual and business objectives at General Electric (Welch and Byrne, 2001).

In the case of Jack Welch's entrepreneurial approach, he showed that it is not always necessary to fulfill all the roles in an organisation for entrepreneurship to be effective. Instead, it could be argued that one could relatively easily, depending on how one provides intra-corporate coaching and leadership guidance, deliver the entrepreneurial results expected from employees of the venture.

It is further argued in this thesis that such an inculcation of intra-corporate leadership becomes a corporate-wide initiation into entrepreneurship for everybody involved in the running of the venture, so that the thinking (of those so-involved) is focused on a particular element of entrepreneurship, which may be, for example, venture growth or performance. This guidance or coaching consequently involves imbuing all parties concerned with the organisation's vision.

### **2.1.2.3. Management Orientations in Entrepreneurship**

Baum (2001) has also illustrated that several other dynamics are prevalent in the development and promotion of entrepreneurship. In his earlier (1994:34) doctoral study he notes that in some cases entrepreneurs delegated the

“...operations of their growing organizations to growth competent managers, while they performed the entrepreneurial role that enabled the founding and initial survival of their firms” (Also see Alvarez and Barney, 2000; Beach, 1990; Chandler and Hanks, 1998; De Geus, A. 1997; Kreuger and Carsrud, 1993).

The literature review of management and leadership styles leads the researcher to believe that most entrepreneurs manage or lead, or even find substitutes, to achieve their objectives. As with Baum (1994), this study also adopts a similar view regarding entrepreneurial leadership, activity, traits, and management-related activity.

In summary, the study also included results from management studies because some entrepreneurship researchers have drawn comparisons between many of the



entrepreneurial traits (including those researched here) and those that are attributed to successful managers and leaders (Bamford and Burgelman, 1998; Baum, 1994; Black and Boal, 1994; Ensley, Carland and Carland, 2000; Man, Lau and Chan, 2002). To study these leadership and management research works in isolation would be to ignore the reality of their relationship to entrepreneurship, and their providing a more accurate picture of venture initiation and growth (Davidsson and Wiklund, 2001).

## **2.2. Literature Review of Entrepreneurship Contingency Theories**

In this study entrepreneurship is broadly defined. Research indicates that any definition of entrepreneurship should also focus on the creation and development of new organisations. The literature review places emphases on innovation, incubation and development, and has also considered the value of interdisciplinary perspectives linking management, leadership and entrepreneurship (Morley and Schockley–Zalak, 1991; Aldrich and Wiedenmayer, 1993). Such an interdisciplinary perspective allows for a broader interpretation and understanding of entrepreneurial behaviour and the social institutions that shape and promote economic activity (Herron and Robinson, 1993).

Further literature reviews suggest that for a broader definition of entrepreneurship to be adopted, one has to go beyond merely researching entrepreneurial behaviour and the influencing effects of social institutions. For such a definition to emerge one has to accept that entrepreneurial behaviour studies (such as the one embarked upon here) have to consider both supply-side driven and demand-side orientations (Baron, 1998; Mitchell, Smith, Seawright and Morse, 2000).

Therefore, given this study's interest in both of these orientations, it is believed that sufficient evidence is available that suggests that behavioural domains can never exist in isolation from the social fabric and public institutions that support them (Aldrich and Fiol, 1994; Kuratko, Ireland and Hornsby, 2001; Thornton, 1999; Thornton, 2001). In this regard, Johnson (1990) and Thornton and Tinsley (2001) respectively argue, for example, that traits are strongly influenced by

- affective factors, which the study has defined as demand-side factors, and

- the motivational and cognitive psychological process, which is defined in this study as supply-side oriented factors.

### **2.2.1 Supply and Demand-side Orientations in Entrepreneurship Studies**

Recent research reviewed also indicates that supply side perspectives focus on the traits, the capacity, personal characteristics, the capability of entrepreneurs, the effects of previous work experiences and the availability of suitable individuals to grow into and (over time) become entrepreneurs.

Demand-side orientations, on the other hand, draw on and emphasize the push and pull of context, the number and the nature of multiple entrepreneurial roles that are to be occupied/filled. Thornton and Tinsley (2001) further argue that these also focus on how social and economic institutions shape and create environments conducive to the development of entrepreneurs (Bird, 1993; McMullan and Long, 1990; Shaver and Scott, 1991). Through the application of a demand-side perspective to his study Romanelli (1989 and 1991), for example, popularised this multi-faceted approach to the study of entrepreneurship by promoting the notion that, irrespective of cultures, geographies, or ventures, the availability of ideas and resources creates fertile ground for entrepreneurs to emerge.

This multi-faceted orientation allows for issues in this thesis to be raised about individualism versus structuralism in explaining “entrepreneurship”. It also allows for the research to examine entrepreneurship in multidisciplinary and multi-directional perspectives. Baum (1994) clearly illustrated the point of applying these perspectives. In his study he also noted that

“...Despite the apparent importance of traits and motives for outcomes, direct associations with outcomes have been elusive. ...

In addition to these difficulties, it may be impossible to capture universally valid predictors among a diverse group of individuals like entrepreneurs. For example, individuals who establish high – tech operations appear to have high task knowledge and low sensitivity to risk, compared to founders of restaurants, but

both are included as part of the entrepreneur population in entrepreneurship personality studies (Baum, 1994: 36).

As many of the early studies (Begley and Boyd, 1987; Brockhaus, 1980; Granovetter, 1985; Libecap, 1993) have arrived at inconclusive results to support supply-side orientations and since, according to Thornton and Tinsley (2001:3), this focus has also had

...“ serious methodological problems such as sampling on the dependent variable and a lack of controls for important variables such as age, education, gender, and work”,

the present study has therefore taken an all encompassing approach so as to create a balance of opinion on the subject – hence the inclusion of the demand-side orientation.

### **2.2.2. Historical Perspectives on Supply and Demand-side Orientations**

An adoption of these two orientations is not unique. Research into the early stages of the development of entrepreneurship indicates that the works of Trice and Byer (1991); Bird (1989); Bird (1993); Davidsson and Wiklund (2001) and Kreuger and Carsrud (1993), amongst others, also drew on both supply and demand-side orientations.

Bird's (1993) work, for example, considered the effects of people's previous work experiences and personal characteristics on decisions to become involved in entrepreneurial activity. She posited, for instance, that previous industry experience and entrepreneurial work-activity or experience were strong predictors of future entrepreneurial activity. She also hypothesised that successful entrepreneurs use very well educated managers but are themselves not always generally well educated.

Baum's (2001) study also shows a stronger leaning towards a dual orientation. As research about traits and motives seems to have originated largely from within the school of psychology (Baum, 1994) and then spread, through various stages and academic research, to organizational behaviourist theorists and researchers, there is reason for one to believe that

- (a) individuals are socialized into possessing values, motivation, and skills that encourage entrepreneurial behaviour, and therefore engagement in positive economic activity (Thornton and Tinsley, 2003; Neace, 1999);
- (b) multi-level perspectives recognise the importance of the noted supply- and demand-side orientations in explaining entrepreneurship (Burgelman, 2002).

### **2.2.3 Institutionalisation of Entrepreneurship and Macro - Culture**

The summarised findings concerning the above contingency theories, as they relate to an understanding of entrepreneurship, venture development and venture growth, parallel the findings regarding socialisation and institutionalisation of entrepreneurship. Scholars, like Baum (2001); Scott (1997); Scott (2000); Rotemberg and Saloner (2000) and Thornton and Ocasio (1999), have increasingly embraced the notion of institutional perspectives in the field of entrepreneurship. This seems to suggest that

...“the institutional perspective is [also] useful as an integrative framework to study entrepreneurship as it can link the micro supply-side and macro demand-side perspectives within population–level studies. This dovetails with trends in institutional theory to integrate ... resource – driven perspectives [which were referred to earlier in this study] with ... cognitive perspectives” [which it were also alluded to under “traits” earlier in this study]

(Thornton, and Tinsley, 2003:9).

The researcher accepts that institutionalisation, which involves the social process by which entrepreneurs and entrepreneurial cultures come to voluntarily accept rules of social interaction, seems to relate positively to the development of entrepreneurial flair (Aldrich and Fiol, 1994; Aldrich and Wiedenmayer, 1993; Begley and Boyd, 1987; Chandler and Hanks, 1998). However, follow–on and/or recent research in several other institutionalised environments, by Bamford and Burgelman (1998); Baum (2001); Bhide (2000); McDougall, et al. (1992) and Vecchio (2003), does not appear to categorically identify different levels of success for entrepreneurs or to distinguish them from the general public.

## **2.3. Motivation, Locus of Control and Risk Taking Propensity**

### **2.3.1. Achievement Motivation**

The need for achievement (“nAch”) theories were gradually recognised and they were developed in the 1950’s.

McClelland (1961) explored psychological explanations of why societies achieved at different levels. He hypothesised that an individual’s need for achievement (nAch) energises an entrepreneur to perform better. These hypotheses have formed the basis for research programmes, such those of Johnson (1990), which were directed at further explorations around the “personality characteristics of the entrepreneur”.

McClelland’s nAch hypotheses were extended to include measurements that relate to causality which were based on cognitive process extensions in the work of Weiner (1972) and Weiner, et al. (1978). Using the individual’s attributions concerning success as the basis of research, the tests and models were used to explain persistence in nAch related tests and tasks. Research indicates that these attributions were based upon tests of personality, locus of ability, effort, intentionality, and ability to handle difficulty of tasks (Weiner, 1986).

A recent and further research study by Yasin (1996), amongst an Arab population set, used similar constructs and hypotheses to those applied by Weiner et al. (1978) and Weiner (1986) and subsequently, by Tracy (1992).

Yasin’s empirical research also focused on attributions. It differed from Johnson’s (1990) research in that it concentrated on effectiveness and nAch. His research, like that of Johnson (1990), also took the personal causality of entrepreneurs into consideration.

The researchers Weiner (1986), Weiner, et al. (1978), Johnson (1990) and Yasin (1996) all suggested (in their respective studies) that highly motivated people seem to ignore the notion of luck in entrepreneurship and in their understanding of success. Instead, they attribute success and failure (where the latter happens) to their exclusive efforts, insights and foresight – which this study translates to mean strategy.

It should be mentioned, though, that in reviewing Yasin's research, the present research has found that success or failure is also indirectly attributed to the (Arab) institutional support to which this study also earlier referred – and the relevance of embedded societal or family cultures cannot be ignored either.

All of the above mentioned empirical research works seem to concur with McClelland's proposition that high nAch leads people, and in particular entrepreneurs, to tend to act in ways that best allow them to fulfil the entrepreneurial and leadership role successfully.

### **2.3.2. Locus of control**

Other related research work, such as that of Rotter (1966), also measured and compared achievement motivation to the locus of control variable – the latter implying that when a person perceives that a reward that follows his/her behaviour is contingent upon his/her actions, skill or ability, she/he has a belief in internal control; and vice versa.

Rotter's research has been extended in recent research performed by psychologists like Venkaththy (1984) and Kauffman, et al. (1995). As early as 1984, Venkaththy postulated in his psychological research on entrepreneurs that the latter would be more likely to have an internal locus of control. The recent empirical work conducted by Kauffman, Welsh and Bushmarin (1995), amongst entrepreneurs in what was a highly State-regulated and institutionalised Russia, seemed to confirm both Rotter and Venkaththy's respective hypotheses on locus of control.

These researchers found reasonably strong associations between motivations for achievement and/or success, and between internal causal ascriptions and success (Baum, 1994; Baron, 1998; Hirsh, 1997). The challenge to these studies is that an internal locus of control in entrepreneurs does not necessarily differentiate managers from entrepreneurs, and vice versa (See also Baum, 1994).

Burgelman (2002) also takes this point a step further and demonstrates how locus of control and strategy can be used to promote a company's development. In his most recent longitudinal multi-stage, nested case study - which he started in 1988 alongside the CEO and managers of Intel Corporation's - he also illustrated

- how locus of control and strategy were critical elements in organisational change and adaptation; and
- that managers felt limited by a new work environment (“organisational ecology”) and strategy which was directed at increasing their functioning abilities – therefore creating space for a shared locus of control.

In response to the query as to how managers, as opposed to the CEO/the entrepreneur, reacted to ambiguity (a point addressed later in this review), he demonstrated the negative effect that a lack of and misinterpretation of a shared locus of control and decision making of managers can offer. Burgelman (2002:26) goes on to point out, in this regard, that

“Intels’ matrix organisation did not provide managers with much opportunity to learn to make trade–offs amongst various functional considerations. This impeded the development of new generations of general managers’ ability to develop new business. Also business–level managers must resolve the initial ambiguity about the correct strategy of a new business.... In order to continue to obtain corporate support the process of strategic context determination must be activated [a point also made later in this study under “Leadership and Vision setting”] which helps link the new business strategy to the corporate strategy. This explorative, iterative process involves multiple levels of management in building a new strategic thrust for the corporation.”

His latter point is pertinent to answering the present study’s question, “Should locus of control always only be the domain of the entrepreneur; and, if so, why should managers always be driven to act in accordance with this variable when they are part of a larger organisation?” The researcher believes that this trait should be inferred in the organisation’s vision and then translated in praxis.

The study proposes that at this stage in the history of research, even more complex studies with varied configurations of personality variables seem to find associations with generalised behaviour and not specifically with entrepreneurship, per se (Miller, 1999; Rotemberg and Saloner, 2000; Zahra, Kuratko and Jennings, 1999; Thornton and Ocasio, 1999).

### **2.3.3. Risk Taking Propensity and Persistence**

#### **2.3.3.1. Risk Taking Propensity**

It is also noted that the motive or need to achieve (nAch) is often closely associated with the propensity to take risk. This finding in research into entrepreneurship is also not new. Baum (1994:46) pointed out, for example, that

“...the study of the assumption of risk has a long history in the analysis of new ventures [and therefore the development of entrepreneurship]”.

Relying on the hypotheses of motivation for achievement, many studies have also indicated that entrepreneurship and venture creation involve risk, which according to Brockhaus (1980) is defined as the tendency to under-evaluate or comfortably accept that entrepreneurship involves moderate risk. Atkinson (1957) also showed that persons who possess strong motivation for achievement generally prefer moderate risk.

Therefore, and notwithstanding the facts that entrepreneurs exhibit a high motivation for achievement, an internal locus of control and prefer not to fail, they however do take reasonably higher levels of risk which they can control (Das and Teng, 1997; Rotemberg and Saloner, 2000; Tracy, 1992). The reality is that very few studies have shown a reasonably strong correlation between a venture's success and the entrepreneur's risk-taking propensity and that this aspect of entrepreneurship needs to be explored further. This point is pertinent in that whilst variable configurations and elements of risk taking have been included in studies, such as those undertaken by researchers like Brockhaus (1980), Das and Teng (1997) and by Khilstrom and Laffont (1979), very little of this research applies directly to entrepreneurs.

Additionally, much criticism is levelled at some of these earlier and even at certain recent studies. For example, Stoner's (1961) study – which applied a Choice Dilemma Questionnaire for the measurement of risk attitude – is strongly criticised for the shortcomings in its methodology. The argument presented is that

- (a) the choices related to someone other than the risk-taker



(b) the task set tests a “risky shift” instead of an alignment to a set of enduring personality traits – which it is argued would be generally found in entrepreneurs (Baum, 1994; Tracy, 1992).

A further criticism is that recent research into cognitive psychology in entrepreneurship seems to place stronger emphases on how entrepreneurs assess their risk. This does not mean that such research is irrelevant to a study of entrepreneurship. On the contrary, the researcher’s argument runs that whilst this study attempts to further demystify the science of entrepreneurship and thereby gain a deeper understanding of the relevant traits, its methodologies should be directed at specific constructs and provide clarity regarding its hypotheses. In so doing, the researcher should also apply entrepreneurship-specific frameworks for elucidation of ideas.

This thesis also acknowledges that several attempts in the direction of defining risk-propensity have already been made. One such attempt is that provided by Das and Teng (1997). They have developed a framework for analysing entrepreneurial risk-taking behaviour. Their framework concentrates on temporal dimensions in risk-assessment.

The works of Audia, Locke and Smith (2000); Rotemberg and Saloner (2000) and Shaver and Scott (1991) are further examples of research that is being undertaken to clarify risk-taking propensity in entrepreneurs.

The first challenge to most of the emerging research, in this regard, is found in how the present doctoral study reconciled, addressed and credibly tested the assertions that:

- entrepreneurial leadership and risk are inextricably bound to ownership;
- entrepreneurs will mostly act as leaders (as opposed to followers/employees) of their organizations;
- entrepreneurs view strategy setting and implementation as critical to the development of their ventures;
- entrepreneurs react differently to most (employed) managers and leaders;
- entrepreneurs view their ownership of their respective entities as a reflection and a determinant of their (the entrepreneurs’) success (See also Beach, 1990; Greene, et al., 1999; Romanelli, 1991; Stuart, et al., 1999)

The second challenge to most of the emerging research is that of testing (through a pool of research) how ownership, risk-taking and, what Baum (1994:45) calls, "...an association of tolerance of ambiguity with entrepreneurship performance" would or could assist one to best understand entrepreneurial behaviours and venture creation.

### **2.3.3.2. Persistence/Tenacity**

Earlier in this review the study referred to the need or motive for achievement (Ach), risk-taking, socialisation and the locus of control. The researcher also reviewed previous studies, which strongly supported the arguments that all of these factors influenced the ways in which entrepreneurs behave. The motive of an entrepreneur's persistence is implicit in his/her passion and therefore in traits like those regarding the need for achievement (Baum, 1994; Baum, 2001). In this regard (Baum, 1994:48) further points out that

"Tenacity, or persistence, is a motive that involves sustaining goal-directed energy across time, despite many obstacles. Duration of effort and intensity are components of tenacity...".

Earlier research by Tracy (1992) also indicates that most entrepreneurs' nAch factors seem to influence or play a meaningful role in an entrepreneur's level of enthusiasm and tenacity. Success, it is further argued, plays a key role in advancing tenacity.

Informed by the research work into

- tenacity (Chandler and Jansen, 1992; Greene, et al. 1999; Yasin, 1996)
- evolutionary organisational theory (Baum and McKelvey, 1999; Tiessen, 1997)
- neo-institutional theory (Thornton and Ocasio, 1999; Zuckerman, 2000)
- organisational ecologies (Baron, et al., 1999; Thornton and Ocasio, 1999) and
- behavioural theory of organisations (Dess, et al., 1997; Romanelli, 1991)

led the researcher to believe that the variable of tenacity cannot be considered in isolation from the entrepreneur's need to be successful.

The behavioural studies of Timmons, Smollen and Dingee (1990) in entrepreneurship comprise but one example of research that supports this view. After years of supervising visiting entrepreneurs at Babson College, Timmons, et al. (1990) carefully recorded the

opinions of entrepreneurs in terms of what the entrepreneurs interpreted or saw as the most critical factor in their success. From these longitudinal studies it emerged that a very large number mentioned tenacity, nAch, and persistence at solving venture-specific problems. These entrepreneurs also indicated that they did not work at sustaining their respective levels of tenacity. They did however suggest that personal and family time sacrifices were part of the tenacity factor, as were commitment, resilience and venture development (See also Tracy, 1992; Couto, 2002).

#### **2.4. Leadership and Entrepreneurial Vision**

There exists a vast array of literature that ascribes the success of a venture to the leadership, strategy and vision of an entrepreneur. Some of this research places the business leader, who is also generally the entrepreneur, at the forefront (Burgelman, 2002; Bird and Brush 2003; Eggers, 1999; Miller, 1999; Welch, 2001). Other studies modestly place the entrepreneur in the background (Bamford and Burgelman, 1998; Covin, Slevin, and Heeley, 2000; Dyck and Starke, 1999).

All research done in the area of entrepreneurial leadership appears to indicate that such leaders generally tend to exhibit all of the nAch characteristics. In relation to factors that affect this kind of leadership, further research into this nAch factor helps the researcher to understand Audia, Locke and Smith's (2000), Gollwitzer and Moskowitz's (1996) and Lee and Bobko's (1994) respective arguments that success tends to increase an entrepreneur's leaders feelings of self-efficacy. Such research also helps in evaluating the position taken by Miller and Chen (1994) in which their study suggested that pervasive success in entrepreneurial leadership causes complacency and "drifting" without further motivation for improvement on the last successes attained (Cf. also McMullan and Long, 1990; Miller, 1999; Rotemberg and Saloner, 2000).

These and other similar studies are not in conflict with each other regarding the possible relationship between leadership, vision and the resultant strategic direction-setting; they do thus seem to indicate that these variables are indeed mutually dependent (Aldrich and Wiedenmayer, 1993; Bennis and Nanus, 1985; Carter, et al, 1996; House and Shamir, 1993).

These psychological sources of research into entrepreneurial cognition also nonetheless draw attention to the potential of what Burgelman (2000) calls “guided evolution” – which theory maintains that entrepreneurially-directed organisations are usually successful because the leader has a clear vision of where she/he wants the organisation to be and thus strategically drives it in that direction. This study argues that for an elucidation of the term “vision” as applied in this thesis, leadership-vision should exhibit the following four properties according to Bird and Brush (2003: 5):

.... “unique vibrant possibilities to improve the organisation; drawing from the organisation’s existing values, culture, and traditions; communication that draws people in, tapping their energy, emotion, and commitment; and allowing people to see a role for the play.

(Also compare our points made earlier under “Locus of control”)

Research undertaken in the early 1990’s by Busenitz (1992); Kao (1991); Reuber, Dyke and Fischer (1990) and Roe (1994), respectively, also concurs with this definition of vision and its relationship to venture creation and development. A broad review of their studies suggests that they too seem to indicate that the distinction between entrepreneurial visions and entrepreneurial leadership lies in the further differentiation of purpose and context (Beach, 1990; Bird and Brush, 2003; Ensley, et al., 2000).

In a further elaboration of entrepreneurial vision and entrepreneurial leadership, other researchers, such as Locke, et al. (1991) and Locke (1993), have similarly, during this period, also concentrated on leadership in entrepreneurs. For example, Locke, et al. (1991) found (through their research) that entrepreneurs exhibited the traits and motives of

- high levels of self-confidence;
- high levels of a need to lead;
- high regard for honesty and integrity,
- high levels of originality and/or creativity;
- high levels of drive which included nAch, ambition, initiative taking, and tenacity;  
and
- flexibility and charisma (See also Howell and Boies, 2004).

Van de Ven (1992: 181), for example, pointed out that longitudinal studies in leadership, vision and strategy can be relatively demanding yet very rewarding because through contact "...with the manager's temporal and contextual frame of reference" one is able to study more deeply and perceive a stronger correlation between these variables.

Using a similar contextual frame of reference to that applied in Van de Ven's research, Locke (1993) followed up on the earlier research carried out with his (Locke's) co-researchers. In addition to the motives and traits that entrepreneurs exhibited, he found entrepreneurial leaders to be

- independent and active-minded;
- ambitious and tenacious;
- passionate about work;
- competent;
- fair in giving of rewards and having a high regard for ability;
- visionary; and,
- highly focused on action and reality

(See also Fynn, 2005 and Pietersen and Fynn, 2004).

His qualitative study and analyses were supported by research applied to American "business heroes" such as Mary Kay Ash, Andrew Carnegie (Carnegie Foundation), Bill Gates (Microsoft Inc.), Ross Perot (EDS Inc.) and Sam Walton (Walton's Group). Over and above the listed traits, a passion for work was undoubtedly a prominent feature of all of these entrepreneurial leaders. Dedication to vision and philanthropy were also alluded to by all (See also Trice and Byer, 1991).

There is a plethora of other studies, in different fields of research (such as sociology, cognitive-psychology and leadership, per se), and these studies have strongly supported research into defining entrepreneurial leadership, vision and strategy (Bird and Brush, 2003; Bradburd and Ross, 1989; Ensley, et al., 2000; Rotemberg and Saloner, 2000). The conclusions of all of these studies are significant and tend to be consistent. They also tend to be used to make inferences about the success of ventures (See Pietersen and Fynn, 2004).

## **2.5. Entrepreneurial Intent, Self-efficacy and Opportunity Recognition and/or Formulation**

Earlier in this literature survey the four key properties that are relevant to an understanding of entrepreneurial vision were noted. The study also elaborated on the traits/motives of leadership, and detailed how this field has developed and why entrepreneurs drive strategy through reliance on entrepreneurial vision. Research into these traits seems to indicate that entrepreneurial vision is supported by the constructs of

- intention (Bird and Brush 2003; Baum, 2003; and Burgelman, 2003);
- self-efficacy (Alvarez and Barney, 2000; Welch and Byrne, 2001);
- opportunity recognition and/or formulation (Baum, 2003; Welch and Byrne, 2001).

In this regard, Bird and Brush (2003:16) point out that “Like vision, these constructs include future-oriented cognitions but they differ temporally and in content”. This thesis will now review each of these constructs.

### **2.5.1. Entrepreneurial Intent**

Like the other two constructs, entrepreneurial intention, as cognition, has been widely researched by scholars such as Bird (1993), Burgelman (2003) and by Bird and Brush (2003). In terms of this cognition, Bird (1993) points out, for example, that “entrepreneurial intention as a cognition” is “...sequentially focused over time and the goal is a new venture”. Researchers, like Jenkins and Johnson (1997); Kreuger and Carsrud (1993); Gollwitzer (1993); Gollwitzer and Moskowitz (1996) and Thornton and Ocasio (1999), all posit that visionary entrepreneurs tend to form implementation intentions for the immediate to short term, without isolating intentions that are set for the longer term.

These intentions are focused on action and the application of technical, human and financial resources. They are achievement- and success-oriented. To this extent visionary entrepreneurs convert their intentions to action. Aldrich and Foil (1994) suggest that during this conversion process the entrepreneurial visionary cognitively

processes the “unseen” and formulates it in such a way that it becomes real and visible to others and the organisation that needs to deliver in terms of such an intention.

As the entrepreneur is involved in demonstrating the credibility of the intention, she/he (in so doing) also motivates his/her team to achieve mutually acceptable outcomes. In this way, the visionary entrepreneur creates images of success, and the values enshrined in the intention become extensions of his/her expressions and nAch. Thus “... the vision’s imagery and values as seen by the entrepreneur serve as the basis and content for the myriad of communications and action plans...” (Bird and Brush, 2003:18. See also Welch and Byrne, 2001).

This approach to implementation of intention and conversion of image to reality is also strongly supported by similar positions taken by other researchers on this construct, such as Aldrich and Fiol (1994); Bhide (2000); Burgelman (2003); Stone and Brush (1996); and Stevenson and Bartunek (1996).

In summary, this thesis has hypothesised that the creation of a venture is often preceded by entrepreneurial vision. This vision often starts in an entrepreneur’s mind as an idea and is then converted into a concept, which is then acted upon. The researcher would argue that this process of vision creation and implementation is critical to strategy formation and to the eventual success of the intended venture. Whilst at the beginning of the thought process the vision for a venture is loosely construed, through a process of what Bird and Brush (2003:19) call “naïve entrepreneuring”, research studies (Burgelman, 2003; Welch and Byrne, 2001; McMullan and Long, 1990) seem to indicate that it is nonetheless a key component of the set of activities that are intended for implementation at the start and during the lifetime of the venture.

### **2.5.2. Self-efficacy and Opportunity Recognition and/or Formulation**

Self-efficacy is perceived in this thesis as an antecedent of intention and thus of entrepreneurial vision creation. For the purpose of this study this construct is defined as the belief that something is feasible and can be converted or driven through strategic intention into action (Bird, 1993; Burgelman, 2003). Delivering the concept of “strategic intent”, by implementation, is not divorced from the ability either to recognise an

opportunity or to formulate one during the vision creation process. The studies by Bird and Brush (2003) and the longitudinal case studies of Burgelman (2003); Baum (2000) and Shane (2000) indicate that there are usually two levels of self-efficacy.

The first, they posit, occurs where the entrepreneur recalls past activities and experiences, and fantasises about what being a “successful entrepreneur” means – this recollection helps him/her assess his/her future role in the business. Most entrepreneurs associate this level of self-efficacy with opportunity formulation or recognition and would retrospectively, as suggested in Baum, Locke and Smith (1998); Chandler and Jansen (1992) and Hills, et al. (1999), agree that this self-efficacy concept was at the root of their attempt at starting the business.

The second level of self-efficacy relates to the cognitive process regarding how the entrepreneur views him/herself as being active in the future/intended organisation and what he perceives his role to be in that venture. This process represents a further stage in the cognitive process. It involves the shaping of the concept and the refinement of the ideas and vision. It also includes the verbal testing of the ideas within a closed social network and engages the entrepreneur in a “loose” consolidation of ideas on where to start and what resources to accumulate or engage.

Both of these levels of self-efficacy are time and context driven. The nAch motive is usually a pre-determinant of how soonest the entrepreneur wishes to convert the idea to reality. Bird and Brush (2003:22) have argued that all of the processes involved in self-efficacy could most aptly and collectively be referred to as “visionary entrepreneuring”. This term is largely accepted by other researchers (Burgelman, 2002; Honig, 2001; Vecchio, 2003) to mean the iterative processes involved in visioning, opportunity formulation (at times from an existing context), and the action and resource-allocation necessary for taking the next step in the development of a venture.

By implication, the present study also reads into this process that several partnerships or relationships are necessary for the development of entrepreneurial visioning to occur and be successful. These relationships could potentially be formed with business partners, other stakeholders and even with financiers, such as venture capitalists or entrepreneurs’ families as also noted in Bergmann–Lichtenstein and Brush (2001); Burt (2000);



Chandler and Hanks (1998); Kirkpatrick and Baum (2002); Kortum and Lerner (2000) and by Pietersen and Fynn (2004).

## **2.6. Entrepreneurial Empowerment**

Linked to entrepreneurial leadership and vision is entrepreneurial empowerment. However, given the historically skewed manner in which business were conducted and entrepreneurship developed and promoted by the previous apartheid government in South Africa, it is argued that many previously disadvantaged individuals were left out of the loop of economic development. This in essence is the reason for the very limited perspective of entrepreneurship in South Africa. In addition, apart from those institutions that took it upon themselves to drive the concept of entrepreneurship, only a very small amount of South African-based research material on the topic can be found. Where it does exist, such research is

1. as recent: originated during the past 6 – 12 years;
2. the result of a concerted effort by a limited number of individuals.

The above background is important in that, as commented elsewhere in this doctoral study, entrepreneurial empowerment has not been sufficiently attended to. In the context of this thesis the term empowerment acknowledges the fact that since venture creation is by its very nature dynamic and at times unpredictable in its development, entrepreneurial empowerment in South Africa (and elsewhere) must be preceded by a change in the characteristics of the individuals involved in entrepreneurial activity (Whetten, Cameron and Woods, 1994; also refer to the points made on the dynamics associated with entrepreneurial leadership).

This is a pertinent point since entrepreneurial empowerment and activity are assumed to bring with them a better life, self-realisation through success and self-efficacy. As Conger and Kanungo (1988) point out, empowerment, in its broader sense, involves the process of “enablement” and in its definition consequently includes the motivational concept of self-efficacy. Bandura (1997:477) cautions against believing that the process of empowerment is one of grand standing, political rhetoric or expecting “something to be done” to or for one as a result of an edict. Rather, the argument presented in favour of entrepreneurial empowerment is that “it is gained through development of personal

efficacy that enables people to take advantage of opportunities and to removal constraints” (Also refer to the concluding positions presented by this thesis in Chapter 6).

In initially acknowledging the legacy left by apartheid in South Africa, the present doctoral study contends that empowerment, and in particular Black Economic Empowerment (“BEE”) - a term also clarified in this thesis - should not lead to a belief in entitlement or a reversal of the gains made in empowering previously [economically and politically] disadvantaged groups. Whilst the Republic of South Africa’s government promotes economic development through BEE, the research of Luthans, Stajkovic and Ibrayeva (2000) also seems to support the position taken by the present study. In reference to their concept of “transitional economies”, the important work of Luthans, et al. (2000) suggests that the emergence of entrepreneurs and their survival through the process of developing their businesses is largely a function of the entrepreneurial potential of that society.

Like Luthans, et al. (2000), in arguing for the development of an entrepreneurial society, Neace (1999) also posits that systematic effort has to be put into positively advancing the factors that promote the development of business, culture, self-efficacy and the venture creation climate. This is very important to a transitional economy such as that of South Africa. Luthans, et al. (2000) in further elaboration of their point on transitional economies postulate that massive capital infusions are not the most appropriate ways of achieving self-efficacy and empowerment. The approach suggested for such economies is one that is all-inclusive, fosters initiative (rather than self-reliance) in the individual, teaches self-motivation at school level, and relies on self-efficacy promotion programmes aimed at entrepreneurial development, empowerment and growth.

## **2.7. Approaches to Experiential Learning in Entrepreneurship**

It has been found, by for example Burgelman and Sayles (1986); Ensley, Carland and Carland (2000); Markman, Balkin and Baron (2002); Shane (2000) and Shepherd, Zacharis and Baron (2003), that experienced entrepreneurs, especially habitual ones, use different approaches to take different decisions. This does not mean that they do not err in their judgement and decision-making processes. Recent research into such decision-making and judgement processes, by Shepherd, Zacharis and Baron (2003),

also indicates that greater experience does not necessarily (and always) lead to better decisions. Experienced entrepreneurs may, for example, be over-confident, sometimes “over-fit” their work and business environment, and in so doing use unconventional means of arriving at conclusions (Burgelman, 1983 (b); Burgelman, 1984; Burgelman and Sayles, 1986).

To this extent, experienced entrepreneurs may use heuristics, mental shortcuts, and over-generalisations to arrive at incorrect conclusions in a similar manner to the approaches sometimes taken by novice entrepreneurs. This process of not “checking-for-evidence” undermines judgement and decision-making and could potentially lead to the experienced entrepreneur missing the opportunity and thereby limiting the growth of the venture.

To overcome this problem, Shepherd, et al. (2003), undertook further research in which they sought a curvilinear relationship between an entrepreneur’s experience with the venture capital task (as an external determinant) and the efficiency of their decision-making processes. They found that as decision-makers’ experiences increased, intra-judgment reliability increased at first, and then decreased with time. In summary, they noted the 14-year experience level to be the ideal. Beyond this “optimal” point it was found that highly experienced decision makers

- tended to rely on “automatic” information processing which could, at times, be erroneous and risky for the venture; and that
- instead of formally evaluating all of the information at hand, they relied on features or characteristics that matched past success or failures. (See also Kwak, 2001, Zahra, Kuratko and Jennings, 1999.)

These aspects may increasingly make experienced entrepreneurs susceptible to bias.

In Greene, et al. (1999) it is argued that success hurdles to and boundaries of success differ in relation to the individual founding entrepreneur and the corporate entrepreneur. These authors also note that various degrees of porosity and rigidity exist for the individual/founding entrepreneur on the one hand, and the corporate entrepreneur on the other.

For the corporate entrepreneur these boundaries for personal experience and risk taking propensity, for example, are pre-determined by the parent company; and they may be stretched or limited at the behest of the company. In the case of the individual entrepreneur, the definition of such a boundary is largely determined by the founding entrepreneurs' needs. Bogner, Thomas and McGee (1998) expand the point by arguing that the process, by which corporate entrepreneurs develop competencies for both the venture and themselves, exhibits two distinct, yet related learning activities.

Firstly, there is the development of organisation-wide knowledge. Through skills transfer and knowledge-transfer, learning takes place around specific functional requirements or technology-related activities, which could lead to innovation or the development of a product offering (Sapienza, et al., 2004; Ulrich, 1998). Organisation-wide skill sharing, which emanates from the leader's creativity or innovation, manifests itself as a new competence in which the corporate entrepreneur and the venture are both beneficiaries.

This innovation and "new competence" development could also potentially lead to the organisation challenging its existing assumptions and assist it to redefine

- its mission,
- competency sets,
- competitive positioning and
- business artillery which includes, amongst others, its culture, innovation capabilities and swiftness-to-market approaches

(Boisot, 1998; Erikson, 2002)

Some of these elements were included in the pilot study instrument. However, the recent research argues here that this so-acquired experience and knowledge might assist the employee, who is a beneficiary of this experiential process, when she/he leaves his/her employer to start his/her own venture (Gatewood, et al., 2002; Simon, Houghton and Aquino, 1999; Zahara, Nielsen and Bogner, 1999).

Secondly, the redefinition of the core values, mission and competition results in the existing knowledge base being strongly augmented in the venture and this further results in the venture being re-positioned in its growth path and in the marketplace. This

augmentation results in the company using the new knowledge base to its best advantage in that it bundles both past and existing knowledge into a new market product offering (Zahara, Nielsen and Bogner, 1999; von Krogh, Ichijo and Nonaka, 2000).

These two processes result in what could be termed “knowledge development”. Critical to this process of new knowledge development and innovation is the concept of fostering a culture of resource-knowledge-sharing. Burgelman and Meza (2000) and Simon (1994) also regard this “resource-knowledge-sharing” position as significant. In this respect, Burgelman and Meza (2000:10) argue that executive leadership can engender a culture of resource-sharing amongst corporate entrepreneurs through the application of various approaches. They note, for example, that Bob Pittman, co-Chief Operations’ Officer (COO) of AOL Time Warner,

... “is renowned for his ability to get independent business-unit leaders to collaborate. He does so by convincing them that they will win bigger by cooperating and also makes sure to give them the credit for successful cooperation” (See also Clark, 1999; Erikson, 2002; Yang, Grover and Palmer, 2001; Su – Chang and Ong, 2002).

Another example of significant corporate-wide knowledge sharing is that of Hewlett-Packard (HP). Burgelman and Meza (2000:15) also observed that to emphasise and “enforce” the culture of innovation and resource-knowledge-sharing, the then newly appointed CEO (Carly Fiorina) of HP “... created a strong sense of interdependence at the top-management level”. She did this by changing the way the executive council operated. Whilst incentives are not the focus of our study, it is also noted that “...she altered the incentive structure, making top executives’ variable compensation dependent on the overall performance of the corporation” (See also Gatewood, et al., 2002; Hofstede, 1988; Kim and Hunter, Sapienza, et al., 2004)

The advantage of boundary for the corporate entrepreneur is that it occurs within a guided, well-resourced and strategically focused environment. On the other hand, the challenge in the founding entrepreneurs’ case is that there is no real guidance and that the boundaries are far more flexible, insofar as organisational structure is only meant for “fit” of purpose. It is also therefore accepted that because of the emerging nature of such

a venture, those boundaries provide for increased flexibility in the accumulation and application of human capital, which includes experience (Boisot, 1998; Burgelman and Sayles, 1986; von Krogh, et al., 2000; Zahra, Kuratko and Jennings, 1999).

## **2.8. Literature Review Summary**

In the sources researched for this thesis reference has been made to practically all of the respective fields (psychology, cognitive psychology, economics, entrepreneurship) that could have a bearing on the present study.

The doctoral research has attempted to review as much as possible of the relevant literature as it pertains to the general and specific motives/traits for the research.

The researcher has defined a position for the study and used various sources of empirical research to support the direction taken on venture growth and the hypotheses, postulates and proposition sets (1 and 2) which were investigated as support arguments for and to the theoretical postulates. Consistent with these arguments, this section has also dealt with the practices involved in the literature regarding

- (a) traits/motives;
- (b) general management;
- (c) social networks;
- (d) competencies of entrepreneurs;
- (e) entrepreneurial leadership and strategic actions; and
- (f) commitment, venture creation and growth.

This research does not examine time and self-management as it holds the assumption that entrepreneurs, by their very nature, possess this characteristic. What was not done was to concentrate effort exclusively on company size because the thesis' empirical base is located within the Information Technology industry in South Africa – which when measured against that of its counterparts in the USA or the UK is relatively smaller in (financial and economic) size. Other factors, which influence entrepreneurial venture growth, will be covered in the analyses section of this thesis.

## Chapter 3

### Propositions, Constraints and Hypotheses

#### 3.1. Introduction

The initial proposal for this study it was purported to examine the specific traits of entrepreneurs and to ascertain what features distinguished founding entrepreneurs from managers and/or general business leaders – who, per our definition, are not necessarily considered as entrepreneurs. In the investigation for the thesis the researcher embarked on an in-depth literature review (as indicated in Chapter 2) and, research into entrepreneurship and venture growth led to a further refinement of the proposal and the subsequent version.

Although the initial intention was to look at an operations focussed CEO, the initial and later literature review also soon indicated that the present doctoral study – which focuses on the founding entrepreneurs' traits, leadership and the environmental (“exogenous”) elements that influence his/her thinking about venture growth - had to be all encompassing. To test the validity of approaching this doctoral study from this “all-encompassing perspective” and so that a refined proposal could be resubmitted for final candidature, the study pilot-tested eight (8) propositions in a population sample of founding–entrepreneurs.

##### 3.1.1. Structure and Generation of Pilot Test Questionnaire

The pilot-test questionnaire was structured

- (a) to comprise ten (10) very easy–to-answer questions;
- (b) so that it contained very specific/directed questions;
- (c) so that the questions were clustered into two (2) class groups, of “Direct Effect” and “Indirect Effect” factors affecting entrepreneurship and entrepreneurial leadership as described by Baum, et al. (2001).

Given the focus of the study and so as to arrive at an early indication of which factors were pertinent to the study's propositions and to the later research-projected

hypothesis testing, operationalised through the final testing instrument (Questionnaire/Appendix A), the study further directed these to fit pre-determined correlation factors (elaborated upon in Chapters 4 and 5). The importance of this approach to the study lies in understanding that for a detailed examination of consistency between hypotheses arrived at or formulated and constructs operationalised, the structural elements of construct validity dictate that the analytical techniques applied must match the theoretical models (Chandler and Lyon, 2001:112).

Thus, and in relation to the implied constructs, the initially superficial interpretations of statistical output were strongly guided by

1. reference to research work specifically noted in the Literature Review and, generally, in various other parts of this study;
2. the application of methodologies on constructs and the (pilot and final) testing instruments which were further scrutinised for validity and reliability (Compare here, the data analysis techniques as they are applied in the research models of Bird (1989) and of Krueger, et al. (2000)); and
3. the inclusion of compelling and significantly relevant statistical evidence theory and tested models.

Observance of these guidelines was critical to the study at this stage: It was accepted here that even with the existence of *a priori* knowledge of discriminant analysis and convergent validity measures, considerations for the future applications of factor analysis, and where relevant item analysis, in the final testing instrument were to be observed in the study.

It is also important to note that our classification of “Direct Effects” in this Pilot Questionnaire differs from the social networks and business context within which Baum et al. (2001) carried out their study. For the present thesis, the definition of “Direct and Indirect Effects” is influenced by an understanding of a post – 1994, emerging South African market economy versus the more established USA one, in which Baum, et al. (2001) conducted their research (See also Thornton and Tinsley, 2001; Bygrave and Minniti, 2000; Neace, 1999). It is consequently accepted in this



study that the context of “Direct and Indirect Effects” classification is one in which the present social and regulatory frameworks are being redefined and one in which broader participation in the economy, which has a knock-on effect on entrepreneurship promotion and venture growth, is also undergoing reformation and change (Cf. also Fynn, 2005). Thus, whilst the research focuses on the business context for founding entrepreneurs, for this doctoral study:

1. “Direct Effects”-related questions included elements of traits and motives with a specific orientation to those entrepreneurial leadership factors which are related to ability and technical skill, passion for work, vision, tenacity, proactivity, and industry skill; and
2. “Indirect Effects”-related questions included elements of traits and motives with a specific orientation to competency/business skill, personal confidence and business/venture growth factors, as also described in the Literature Review chapter.

### **3.1.2. Pilot Test Questionnaire Distribution and Analyses**

Having reviewed the foundations of the pilot test questionnaire and having satisfied the basic tenets of preliminary findings against the proposition sets (described later), the researcher submitted the pilot test questionnaire in a one (1)-page questionnaire format to a population sample set of twenty (20) CEOs from five disparate industries or industry-sectors. The selected disparate industries or industry-sectors included Retail Property Management, Logistics Management, Computer (motherboard) Manufacturing for Cars (CMC), Telecommunications, and Information Technology Service Providers (IT-SPs). Of this CEO population sample for the pilot study,

- Two (2) were employed in Retail Property Management,
- Five (5) founding entrepreneurs were from Logistics Management,
- Five (5) founding entrepreneurs were from CMC,
- Three (3) founding entrepreneurs of Telecommunications’ companies, and
- Five (5) founding entrepreneurs were from the IT - SPs industry sector.

IT-SP CEOs were chosen as participants because they were founding entrepreneurs of IT companies and because the study also wished to “test” for experiential learning and

skill as possible constraints – as the elements would be included later on in the study in Appendix A (the final questionnaire). As the study assumed that prior knowledge, leadership and previous skill are key elements in founding a venture and in growing it (also key foci of this study) the researcher also ensured that three (3) of the five (5) selected founding IT firm entrepreneurs were/are also involved in the daily operations of their respective entities. This orientation to the Proposition refinement process was driven by the understanding that

- (a) it was expected that these IT company entrepreneurs would form part of the later population who were to respond to the final questionnaire (Appendix A);
- (b) the writer of the present doctoral study is also an IT firm's founding entrepreneur and a Board member of several IT companies, and wished to test his own assumptions regarding the characteristics of a founding entrepreneur and how such a person grows a venture when/if one possesses the aforementioned traits.

#### **3.1.2.1. Participant Selection Criteria for Pilot Test**

Because the literature review had been undertaken over a fairly long period (over the period 2002 – 2004/5), the study also considered the following factors as relevant to the pilot test questionnaire and the sample:

- (a) The founding entrepreneur's work experience;
- (b) The founding entrepreneur's personal experience, which is what Greene, et al. (1999) call "rudimentary experience";
- (c) Social capital networks; and
- (d) Risk perception.

The researcher used these factors, though not directly, in identifying the type of person he wished to engage in the study; also because it seemed reasonable to assume (even at this stage of the study) that a positive relationship exists between the above factors and the success that a founding entrepreneur would attribute to venture growth (Baum, et al. 2001; de Cantillon, 2001; Greene, et al., 1999; Kolotouros, Maggioncalda and Burgelman, 1996).

Given the five factors below and before proceeding any further, it is necessary to clarify and examine the key assumptions, foundations and "definitions" applied in the pilot

study. Consequently, the study will also inform the reader of the extended theoretical sub-model/s on which the research chose to build the pilot study instrument (Sivakumar and Nataka, 2001); and examine relevant literature (Cavusgil and Das, 1997) and research into the foundations of the topic (Chandler and Lyon, 2001).

### **3.1.2.2. Pilot Test Topology: Assumptions, Foundations and Generic Dimensions in Literature**

Validity of the pilot test was a crucial element of this study. Consequently, the writer also sought to identify and examine key assumptions, foundations and a fairly detailed yet non-intricate topology for the pilot test.

Caution was exercised in the proposed topology of the pilot study because a generic topology has restrictions. The noted application of caution was drawn from the study of Rosa (1998: 15) who warns that in applying a topology and for it “to be useful for theory construction or for the formulation of policy, each generic entrepreneur must be clearly associated with a distinctive mode of entrepreneurial behaviour that distinguishes him/her from other types”.

Noting this caution, the researcher found it convenient to deal briefly with the key aspects, individually (as described earlier in this section) but to do so with greater clarity and a deeper understanding of what the relevant authors were saying.

#### **(a) Founding entrepreneur’s work experience**

Literature abounds on the topic of work experience – as also indicated in the earlier Literature Review chapter. Many writers in and studies on entrepreneurship indicate the work experience factor as being a key component of venture growth and development (Burgelman; 2001; Blanchflower and Oswald, 1998; Kolotouros, et al. 1996; Kolotouros and Burgelman, 1998).

Similar research by Baum (1994), amongst others, indicates that novice entrepreneurs acquire, over time, certain advantages (which they use later) as they grow in experience.

Kolotouros, Maggioncalda and Burgelman (1996: 10) point out that such entrepreneurs, particularly primary founders or replacement ones, become more efficient and learn to ignore peripheral issues and variables that could defocus them in the promotion of their strategy. These authors add that industry-specific competencies and technical know-how are integral elements of any intellectual capital power base; and these variables strongly support the implementation of the entrepreneur's vision and strategy (Howell and Boies, 2004; Pietersen and Fynn, 2004).

Subsequent research by Baum, et al. (2001), Gartner (2001), Korunka, et al. (2003) and Vecchio (2003), respectively, also showed that these variables, which support the domain of specific competencies, were strongly correlated with the growth of the venture. Kolotouros and Burgelman (1998) and Tegarden, et al. (2000), respectively, in relation to strategy development and promotion, argued that whilst venture adaptation (to new circumstances) is crucial, the resources and experience of the lead-entrepreneur are crucial to venture growth and opportunity recognition.

Prior knowledge and experience have also been strongly promoted by researchers, such as Ardichvili, et al. (2003) and Thornton & Tinsley (2001). Amongst other authors, they also consider this factor to be significant in determining variables in opportunity recognition. Like many writers on the topic of entrepreneurship, they too argue that the main factors that influence this opportunity-recognition (which, in turn, result in venture-concept consolidation, venture-strategy conceptualisation and venture creation), are:

- the type of opportunity;
- entrepreneurial alertness and creativity;
- information assimilation and prior knowledge (itself);
- personality traits, including optimism, and self-efficacy;
- social networks (with which this study will also deal later in this section).

These factors are not necessarily different to those proposed by Ardichvili, et al. (2003:106 - 7).

The thesis does, however, highlight the caution that, strictly speaking, experience alone may not necessarily enhance opportunity-recognition ability. Ucbasaran, et al. (2001)

found, for example, that whilst novice entrepreneurs used more information in their opportunity recognition search process, they also tended to tread very carefully in unknown territory. On the other hand, experienced ones (especially those with higher levels of self-efficacy and confidence) tended to look for less information (Kwak, 2001; Lee and Bobko, 1994). Their risk management control levels and search-for-information processes were guided by information provided by mentors, other entrepreneurs, financiers and social network structures including business contacts and family members (McElvey, 2004; Simon, 1994; Ucbasaran, et al., 2001).

This thinking was also infused into the questions used in the personal discussions with the sample population for the pilot study.

### **(b) Founding entrepreneur's personal experience**

Having done an extensive literature review (See Chapter 2) – which this study will not repeat here – the study's interest is in considering what literature specifically recorded about the entrepreneur's personal experience.

It was found that many entrepreneurs had been through several levels of venture experimentation (Burgelman and Sayles, 1986; Burgelman, 1991; McElvey, 2004; Sapienza, et al., 2004; Shrader and Simon, 1997). Personal sacrifice and commitment were noted as non-negotiable elements in practically all entrepreneurs who saw their respective futures as being inextricably tied to their (new/existing) venture's development. Through this process of commitment to success, they had steadily become resilient to failure (Coutu, 2002; Lee and Bobko, 1994; Ulrich, 1998).

Whilst theories abound on resilience amongst other fields of research, this study did not uncover the same pattern here as it related directly to founding entrepreneurs and entrepreneurship. Instead, this study found that persistence, which is closely related to resilience, was often identified. Much of the limited research, such as that of Coutu (2002), Howell and Boies (2004), Lenartowicz and Roth (2001) and Markman, et al. (2002), indicated that some level of research into resilience and founding entrepreneurs has started emerging. With reference to entrepreneurs, Coutu (2002) established in interviewing the CEO of Adaptiv Learning Systems - who had gone through various

levels of personal trauma (including being married twice) – that resilience was a key element in developing and growing a venture.

Bricklin (2001:54) also speaks directly (from his personal experience) to entrepreneurial resilience; and he indicates that

“Some 20 years and four start-ups later, ...Times haven't been easy. I've lived through a lawsuit, layoffs, two acquisitions, and a failed start-up ... But life as an entrepreneur, ... has brought me many joys.”

In a similar vein but simultaneously emphasising the nature of resilience, Coutu (2002:47) describes her research subject as stating that

“...More than education, more than experience, more than training, a person's level of resilience will determine who succeeds and who fails, That's true in the cancer ward, it's true in the Olympics and its true in the Boardroom.”

Resilience by its very nature requires that an entrepreneur is able to distinguish inherent risk and manage that risk as well as the associated outcomes of decisions taken. In this respect, Coutu (2002:48), firstly, goes on to point out that almost all the theories on resilience – factors which were also found in the entrepreneurs interviewed for this doctoral study - overlap in three ways. Resilient people possess

1. “a staunch acceptance of reality;
2. a deep belief, often buttressed by strongly held values, that life is meaningful; and
3. an uncanny ability to improvise”.

(Also see the earlier point made on entrepreneurial flexibility and boundary stretching; and McElvey, 2004; Sapienza, et al., 2004).

Secondly, she points to the link between resilience and the ability to be innovative and create meaning, or what she calls “the ability to see reality” as: “... This dynamic of meaning making is, most researchers agree, the way resilient people build bridges from present-day hardships to a fuller, better constructed future” (Coutu, 2002:50).

Thirdly, this resilience generally translates to passion about success and survival as perceived through the proactive steps taken by entrepreneurs. Kuemmerle (2002: 123) also adds that “Winning entrepreneurs feel comfortable skirting the boundaries of propriety”. (See our earlier point on “boundary stretching”.) This study then emphasises that entrepreneurs “... are passionate about their ideas to assume enormous personal risk” for the sake of growing the venture.

The present thesis therefore argues that a founding entrepreneur’s resilience is linked to the venture’s success and its survival. It further postulates that survival, as with success, is a measure of venture performance. Following Rosa’s (1998) research into habitual entrepreneurs, the present writer was also able to argue further that survival and success (as two separate constructs) can be closely associated with the personal experiences of habitual founding entrepreneurs. This was discovered (in two instances) to be the case in the population for the final study instrument (Cf. also Gartner, 2001; Kwak, 2001; Rosa and Scott, 1998).

Entrepreneurial performance, as Baum (2001), Simon, et al. (1999) and Sarasvathy (2001) also point out, is not necessarily or exclusively concerned with competitive management practices. These practices are evolutionary in nature and will be dependent upon the entrepreneur’s sets of experience/s in life and at work. Tegarden, Echols and Hatfield (2000), in response to the question why start-up ventures succeeded or failed, also argued that those with a lower survival rate were linked to the entrepreneur’s lack of resources and/or work and/or personal experience. (For similar reasons and arguments for the South African entrepreneurial environment, see also Fynn, 2005; Ladzani and Van Vuuren, 2002; and Pietersen and Fynn, 2004; respectively).

In terms of the argument presented above and supported by the positions taken by Burgelman (1986; 2002 (a)), Howell and Boies (2004), Sapienza, et al. (2004) and Wilkund and Shepherd (2004), entrepreneurial competencies can sometimes explain how new and existing opportunities are transformed into successful venture performance; as such, those competencies are the result of the founding entrepreneur’s experience.

Competitive efficiency, which is a consequence of the entrepreneur's personal experience set and self-efficacy, emerged as a key feature to be aware of in the development of our pilot study (See also Fynn, 2005; Hofstede and Bond, 1988; Lee and Bobko, 1994; Markman, et al., 2002; Simons, 1994; Tegarden, Echols and Hatfield, 2000).

**(c) Social capital networks**

Much of the research reviewed for the pilot study and for the main study indicates that many successful entrepreneurs, whilst possessing know-how and skill, also rely on and have many social networks (Burgelman, 1986, 2002; Floyd and Woolridge, 1999; Kuemmerle, 2002; Kwak, 2001; Rosa and Scott, 1998; Simons, 1994; Taylor, 2001).

Rosa (1998) argued that irrespective of the culture or whichever country one chooses, and even across different industry sectors, entrepreneurial activity tends to be geographically concentrated. In addition, evidence gained from across geographical areas seems to suggest that different levels of entrepreneurship may emerge from very similar economic and institutional environments (Granovetter, 1985; Rosa and Scott, 1998; Taylor, 2001).

In the case of the individual entrepreneur, the environment for social network creation is largely a less formal one, and the social network tends to be used for information sourcing, procuring assistance and for gaining access to venture capital – of which the last-mentioned is not readily available to novice entrepreneurs in South Africa (Pietersen and Fynn, 2005).

In a cross-sectional qualitative study done amongst 91 habitual entrepreneurs in Scotland, Rosa (1998) found that they tended to use their social networks exceptionally well because many of them were Directors of more than one company at a time. He also posited that the behavioural patterns and risk assessment adopted by such serial entrepreneurs in social interaction was largely predetermined by their economic and institutional environments. The present study argues that this tends to happen because of the self-reinforcing nature of entrepreneurship and because, as Fynn (2005) too argues, the realities of the game pretty much dictate the rules of interaction in



entrepreneurship (See also Burgelman, 1984; Floyd and Woolridge, 1999; Kwak, 2001; Granovetter, 1985; Taylor, 2001).

Kuemmerle (2002) adds that, besides allowing the entrepreneur a platform to reference and cross-check ideas before implementing them, business partnerships (by their very nature) extend the social network environment. A partnership, such as that noted by Kuemmerle (2002), allows for the optimal exploitation of networks and the development and promotion of social capital. Social capital, which develops out of trust within an entrepreneur's network, is an instrumental resource and/or an investment made by the entrepreneur, in order to acquire other crucial types of resources. (See also Burt, 2000; Clark, 1999; Erikson, 2002.)

Because networks are created on the basis of inter-group credibility, a corporate or individual entrepreneur builds much of his/her social capital through allegiance, counter-sharing of knowledge and other business contacts. Greene, Brush and Hart (1999) asserted that these social networks are key to the promotion, growth and sustaining of profits in a venture (See also Greene, Brush and Hart, 1997).

Though it would be useful to create sponsored networks for novice entrepreneurs, the present research is not really sure that such "sponsored networking" situations would automatically benefit entrepreneurs, that their profits would automatically improve, and that their companies would holistically be competitively advantaged by being able to secure, for example, resources (See also Erikson, 2002). The researcher nonetheless kept an open mind on this aspect in the formulation of the pilot study for the thesis.

#### **(d) Risk perception**

Following research into the postulation formulated by Coutu (2002) regarding the application of social networks and risk management, that of Simon, et al. (1999) on cognition, risk perception and new venture formation, and that of Wiklund and Shepherd (2005) on entrepreneurial orientation and variance in performance, this study was also able to argue further that survival and success (as two separate constructs) can be closely associated with the personal experiences of founding entrepreneurs.

Additional research, by for example Markman, Balkan and Baron (2002) and Korunka, et al. (2003), seems to indicate that most founding entrepreneurs will conceptualise, initiate and start their ventures from within a circle of familiarity – which is within their field of expertise. Excluding corporate entrepreneurs, such as those noted by Burgelman and Sayles (1986) and Burgelman (1991), literature abounds with examples of situations where entrepreneurs hardly venture outside of their understanding and expertise. This aspect of the present doctoral study is relevant to our understanding of how founding entrepreneurs

- (a) select the venture that they are to begin (i.e. the nature of the venture to be started);
- (b) apply strategies to control risk and therefore their perceptions of risk; and
- (c) employ managerial skills and business tools (structure, control systems, incentives and behavioral norms) - although this was not the focus of the present study.

Whilst literature indicates that venture capitalists have many ways of managing their risk, such as only being a part-funder of the business, managing uncertainty remains a critical task for the founding entrepreneur – notwithstanding the fact that the rewards of founding a successful venture are unattainable without risk. Sull (2004) posits that risk perception and the management thereof is subject to the entrepreneur:

- formulating a hypothesis;
- assembling resources and
- eventually designing and running experiments.

The longitudinal study carried out by Burgelman, Carter and Bamford (1999), and the research case studies conducted by Burgelman and Meza (2002(a)) into HP and Intel Corp's respective strategy-making processes, highlight the above three stages. They also illustrate the processes that entrepreneurs engage in when confronted with what they perceive as risk - even though the present writer would concede that these studies were done within the context of corporate entrepreneurship. The challenge is that the entrepreneur has to act in terms of his/her experience when she/he recognises or even perceives risk within the venture.

It is safe to say that in the development of the pilot study the researcher was conscious of not exclusively basing the out-of-sample predictions of the pilot study on the above noted factors. However, the risk perception as it applied to the construction of the pilot study is noted here.

### **3.2. Proposition Set Development**

Relying on the preliminary analysis and the results obtained from the above-noted industry-sector-directed questionnaires, and having again reviewed the proposal against a second (and smaller) set of respondents, the writer sought to follow the outline noted under the Data Collection Process at 4.3 below. Although, as earlier stated, the study initially began with two proposition sets, these were eventually reduced to one set: Propositions 1 – 8 below.

In developing the said propositions the study's key focus was to find ways of testing the validity and reliability of each of the constructs that would emerge out of the further analyses. To establish these criteria within the Propositions, the study supported each Proposition with in-depth research and a relevant understanding of Correlation Analysis, Factor Analysis, Regression Theories, and MANOVA testing (Bobko, 2001; Chandler and Lyon, 2001; Cohen and Holliday, 1998; Mouton, 2002).

In arriving at these propositions, this study has also relied on express permission granted by Baum for the present researcher to use his work and to apply his Direct and Indirect Effects' postulates to entrepreneurial behaviour and theories further researched and applied. This permission was sought so that the present doctoral study could

- (a) elucidate those constructs that were seen as relevant to the research on founder-entrepreneurs (See also Baum, 1983 (a); Baum, 1998; and Baum, 2001); and
- (b) look into the intersection of leadership and entrepreneurship, at a secondary level (Cogliser and Bringham, 2004).

This juncture in the thesis was critical in the further development of the conceptual arguments for the propositions and the solidification of the constructs discussed later. It also aided the researcher in presenting more scientifically plausible and acceptable foundations for arguments on

(i) why the present thesis viewed leadership - a much more established field – as being linked to and informing this thesis and other studies in entrepreneurship; and

(ii) how this thesis also contended that mid-sized venture founders could use management strategies and leadership principles to “lessen this young [entrepreneurship] field’s growing pains” (Cogliser and Bringham, 2004:771).

The above points are also very pertinent to further clarifying and understanding the challenges that the writer faced in arriving at definitional concepts for leadership and entrepreneurship, as pointed out in the earlier comments under Section 1.3.

The further significance of these aspects of the thesis lies in the belief that linked to entrepreneurial leadership and the thesis structure is an in-depth understanding of the theory of

- (a) entrepreneurial leadership, which was further gained through the literature review process; and-
- (b) agentic theory, which according to Bandura (2001; 1986), sets the parameters of thinking in entrepreneurship; to the extent that new venture creation and venture growth, as this doctoral thesis also argues, are the results of an entrepreneur’s
  - (directed) intentions (“intentionality”),
  - social and physical exposures and
  - entrepreneurial behaviours (which are often also referred to as “entrepreneurial orientations”).

### **3.2.1 Entrepreneurial Intent, Agentic Theory and Propositions Development**

As the study is primarily focussed on venture creation and entrepreneurial leadership, the propositions presented paid due regard to the above theoretical orientations. Whilst neither attempting to reformulate conceptual frameworks already presented nor the definitions of entrepreneurship as presented by numerous researchers, it should be noted that the study has also taken cognisance of the statistically verified position taken by Kreuger and Carsrud (1993) on entrepreneurial intentions. Such a position indicates that entrepreneurial intentions by definition include commitment to starting and growing a

venture and that, by implication, contributing to the promotion of economic activity goes far beyond just owning a business.

Bird (1989) and Bird (1992) extend the argument on entrepreneurial intentions. In both of her studies Bird posits that an understanding of the factors that precede entrepreneurial intentions is useful in that it increases one's understanding of entrepreneurial behaviour.

Significantly persuasive research evidence exists on the link between agentic - factor theory and entrepreneurial intentions theory. For example, Bird's empirically non-validated model of entrepreneurial intentionality suggests that self-efficacy in individuals – a construct described in this doctoral study – helps one to understand entrepreneurial intentionality and the conditions under which such intentions are operationalised.

Another model in this regard is that presented by the research of Kreuger, Reilly and Carsrud (2000) into the two intention-based models of

- Ajzen (1991) on “planned behaviour patterns”, and
- the less strongly validated one by Shapero (1982) on entrepreneurial “event”.

In this comparative study Kreuger, Reilly and Carsrud (2000) showed that to encourage economic development through the development of new ventures, one specifically has to increase the perceptions of desirability, credibility, propensity to act and feasibility. Their study also demonstrated that both perceived desirability and perceived credibility, and thus propensity to act adequately, explain more than half of the variances in entrepreneurial intentions, with perceptions on the feasibility aspect explaining the greatest variance. As Kreuger, et al. (2000) further point out, time delays do not deter attempts at venture creation. The work of Kreuger, et al. (2000) directed the present study into further research into agentic factor theory (“agentic theory”).

To provide a bridge for a better understanding of the important and embedded assumptions that underlie the Propositions presented (below), the study also considered agentic theory and entrepreneurial intentions as being valuable to the development of the noted propositions. It should however also be observed that since there is a paucity of

sufficiently strong evidence which supports the postulate that intentions eventually result in venture creation, one of the present study's underlying considerations was that of commitment to sustainable venture creation (Kwak, 2001; Stone and Brush, 1996; Su-Chang and Ong, 2002).

In Chapter 2 of the present study the development of the propositions was referred to. This thesis therefore notes the above entrepreneurial domains and factors that have also contributed to and influenced the development of the propositions noted below. These contributions and influences have likewise impacted on

- the direction taken by the study,
- the ensuing iterative process pursued in
  - (a) the definition of the primary propositions noted below, and
  - (b) the eventual overall hypothesis-formulation of the present doctoral study.

### **3.2.2 Primary Propositions for the Research**

The propositions are as follows:

- **Proposition 1:** A relationship exists between Company Vision Formulation and Risk Perception (Construct 1).
- **Proposition 2:** A relationship exists between Company Vision Formulation (V69) and Entrepreneurial Persistence (Construct 2)
- **Proposition 3:** A relationship exists between Company Vision Formulation (V69) and Unique Performance (Construct 3).

Note that these propositions were subjected to further refinement as described in several places in this study.

### **3.3 Proposition Set Refinement and Hypothesis Formulation**

It is reiterated that the above propositions formed the basis for the final measurement instrument (Appendix A). Working with these propositions, and employing further refinement processes, the study formulated and proposed four initial fundamental hypotheses for the study that specifically relate to the founding entrepreneur (Bobko,

2001; Bryant and Yarnold, 1995). These were further refined to form the overall hypothesis.

In so doing, the researcher sought alignment between and amongst the noted propositions and the primary focus of each of the question items A through to and including J (in Appendix A). These items were specifically highlighted as overall section-headings and recorded in the final testing instrument as:

- A. Personal Characteristics
- B. Information Technology (IT) Skills and Business Knowledge
- C. Assessment of your Current Experience, Knowledge, and Skill
- D. Choice of The IT Industry and the Company that you are now in
- E. Overall Philosophy of Business
- F. Organisations that you must deal with
- G. Exploring the way you think about problems
- H. Vision and the use of the Company Vision
- I. Setting Goals for Overall Company Performance
- J. Assessing the Way You Feel About Your Job, Your Ability and Your Style of Work.

This alignment was sought so that one could

- first, find the correlations, where these existed, between factors (Bobko, 2001; Steel and Kammeyer-Mueller, 2002); and
- then, structure the initial corresponding hypotheses (Bobko, 2001; Bryant and Yarnold, 1995; Mouton, 2002);
- finally, test the factors against and within the so-emerging constructs and the overarching/overall hypothesis (Bryant and Yarnold, 1995; Cohen and Holliday, 1998; Steel and Kammeyer-Mueller, 2002).

In Table 3.1 (below), which refers to the process adopted (as described above) and notes all correlations sought for the hypothesis formulation, the study illustrates which propositions were applied to arrive at the foundations for the main/overall hypothesis of this study:

**Table 3.1: Correlations Sought and Hypotheses Formulated (From Proposition Sets)**

<b>Correlations sought AND Corresponding Hypotheses</b>	<b>Propositions (from which constructs were derived)</b>
<b>The choice of industry</b> made has a high relationship to the <b>level of formal/academic education</b> of a founding entrepreneur	Proposition No.1; Proposition No. 3
<b>The choice of industry made has a high</b> relationship to the <b>level of formal technical/ vocational education</b> of a founding entrepreneur	Proposition No. 3; Proposition No. 8
<b>The level of shareholding and level of management control</b> of a venture by its founding entrepreneur has a high relationship to <b>the promotion of the vision of a venture.</b>	Proposition No. 2; Proposition No. 5; Proposition No. 7; Proposition No. 8
<b>The skill, business knowledge and past experience level</b> of a founding entrepreneur has a high relationship to <b>business output (i.e. success) of venture</b>	Proposition No. 2; Proposition No. 4; Proposition No. 6; Proposition No. 8

In identifying the above correlations that support the study's position on the overall hypothesis formulation (analyses are provided later), and in a bid to establish how well the chosen (broad) constructs related to a further definitive understanding of venture founders and their thinking on venture growth and success, eight domains of variables were presented.

In relation to Items A to J above and to the originally proposed correlations in Table 3.1 above these were:

- (a) Choice of industry
- (b) Level of formal education
- (c) Level of vocational training/education
- (d) Level of shareholding and level of management control
- (e) Promotion of the vision of a venture



- (f) Skill and/or business knowledge
- (g) Present and past experience
- (h) Business output (i.e. success) of venture.

### 3.4 Designated Names For Variables Used In This Study

Whilst this research study provides the relevant analyses in Chapter 5 and refers to variables by their designation (such as V1; V31, etc), it was decided that even at the pilot test stage, it would be useful to have a legend and names for the variables used for ease of reference. The designated names for the variables are provided here even though these are referenced elsewhere in this study:

**Table 3.2: Designated Names for Variables**

CODE	VARIABLE NAME	CODE	VARIABLE NAME	CODE	VARIABLE NAME
V1	Respondent Number	V14	Initial Project Management Skill	V27	Present Systems' Integration Skill
V2	Respondent Age	V15	Initial It Consulting Skill	V28	Present It Outsourcing Deal Structuring Skill
V3	Formal Academic Education	V16	Initial Business Management Skill	V29	Present Bidding Practice Skill
V4	Formal Technical/Vocational Education	V17	Initial Systems' Integration Skill	V30	Present Knowledge Of Customers
V5	Short Course Attended	V18	Initial It Outsourcing Deal Structuring Skill	V31	Present Contracting Negotiation Skill
V6	Percentage Shareholding Held	V19	Initial Bidding Practice Skill	V32	Present Knowledge Of Firms Competitors/ Market Knowledge Indicator
V7	Extent Of Management Control	V20	Initial Knowledge Of Customers	V33	Choice Of Job
V8	No Of I.T. Firms Worked For	V21	Initial Contracting Negotiation Skill	V34	Choice Of Company Purchased
V9	Origin Of Co Ownership	V22	Initial Knowledge Of Firms Competitors	V35	Choice To Stay In Industry
V10	Net Worth At Start Of Venture	V23	Present Project Management Skill	V36	Family Business In Industry
V11	Personal Investment In Firm	V24	Present Software Development Skill	V37	Job Dissatisfaction
V12	Funds Borrowed To Investment In Firm	V25	Present It Consulting Skill	V38	Reason For Leaving: No Challenge
V13	Initial Software Development Skill	V26	Present Business Management Skill	V39	Reason For Leaving: Business Failure

**Table 3.2: Designated Names For Variables (Cont/...)**

CODE	VARIABLE NAME	CODE	VARIABLE NAME	CODE	VARIABLE NAME
V40	Reason For Leaving: Personality Conflict	V57	Company Growth Focus	V74	No Confidence to improve/better sales
V41	Reason For Leaving: Be Own Boss	V58	Innovation Through Productivity Monitoring	V75	Confidence to beat 2004 sales by 100%
V42	Customer Relationship Philosophy	V59	Performance Evaluation	V76	Confidence to beat 2004 sales by 75%
V43	Current Pricing Structure Competition	V60	% Of Market Share By Top 4 Firms	V77	Confidence to beat 2004 sales by 50%
V44	Quality Of Product And Service Competition	V61	% Of Market Share By Own Firms	V78	Performance Rating
V45	Attention To Service Detail (Competition)	V62	No Of Employees Of Competitor	V79	No Confidence to improve/better on 2004 sales
V46	Difference In Software Development	V63	Experience – Based Problem Solving Through Methodical Application	V80	Goal orientation
V47	Difference In Systems' Architecture	V64	Problem Solving Through Gut Feel	V81	Constant improvement
V48	Business Growth Area (Difference)	V65	Problem Solving Through Intuition		
V49	Difference In Business Consulting Services	V66	Ability To Generate Venture Survival Resources		
V50	% Difference In Software Development	V67	Feel Good Factor For Achievement		
V51	% Difference In Systems' Architecture	V68	Employee Awareness Of Company Vision		
V52	Business Growth Area (% Difference)	V69	Company Vision Formulation		
V53	% Difference In Business Consulting Services	V70	Confidence To Improve Sales By 100%		
V54	People Focus	V71	Confidence To Improve Sales By 75%		
V55	Market Focus	V72	Confidence To Improve Sales By 50%		
V56	Venture Creation: Quality And Service Reputation	V73	Confidence To Improve Sales By 25%		

### 3.4.1 Additional Foundation for Designated Names For Variables Used

This study also stringently reviewed literature review related to each of these variables (Rosenthal and DiMatteo, 2001) in order to determine the existence, or otherwise, of

substantive theoretical support for the domain of variables or empirical evidence where it existed (Bobko, 2001; Bryman, 2004).

Whilst, as far as could be ascertained, these were not specific to South Africa, or even the sub-Saharan environment, the study found that several conceptual foundations and multiple combinations had been used to justify the existence of various permutations of these variables in different contexts. This situation was found to be the case in the studies done by, amongst others, Bird (1993); Burgelman and Sayles (1986); DiMaggio and Powell (1983); Eisenhardt and Schoonhoven (1990); Hamilton (1987); Hofstede and Bond (1988); Reuber and Fischer (1999) and Sivakumar and Nakata (2004).

Nonetheless, the research studies of Takyi-Asiedu (1993); Kinunda-Rutashobya (1999); Tan (2002) and Themba, et al. (1999) were found to be contextually relevant to the needs of this thesis insofar as the application of these variables is concerned. On account of their relevance to the sub-Saharan context and because they respectively refer to the emerging economy environments within which this thesis is located, they also provide support for the choice of domains of the variables selected and discussed in this thesis.

## Chapter 4

### Research Methodology

#### 4.1. Introduction

The previous chapter explained how the Propositions were developed and how the Hypotheses were arrived at. The iterations and refinement process that led to the finalisation of the initial results of the pilot study were also elaborated upon. The chapter also described the fundamentals of the Direct and Indirect Effects - which also guided the refinement processes for the then emerging constructs and the final questionnaire/testing instrument.

In attempting to establish a better understanding of the relationship between what the study termed “the domains of variables“, venture growth and development as presented by founding entrepreneurs, the researcher pursued an in-depth review process of recent literature on founding entrepreneurs and also revisited available unpublished papers such as those of Burgelman (2002 (a)); Bird and Brush (2003); and Thornton and Tinsley (2001). During this literature review the present study also sought revalidation of the domains of variables and again also interrogated the empirical evidence for these domains.

#### 4.2 Further Overview of Statistical Tests Applied in this Thesis

Although the research methodology is discussed in detail later in this chapter, the writer notes here that various statistical tests were applied for analyses of the various dependent and independent variables noted in Table 3.1 and Table 3.2.

As an example,

- (a) in the pilot test and later in the final test using the population sample for the thesis, non-parametric measures of association/relationship (like chi-square) were employed to test and confirm (in some cases) the strength of the relationships between test variables (Mouton, 2002; Steel and Kammeyer-Mueller, 2002); and

- (b) a variety of chi tests, such as the chi-square test, phi Cramer's V, and contingency coefficient C, amongst others, were applied in this thesis. The purpose of the inclusion of such applications was for the thesis to measure/detect the relationship between test variables (Bobko, 2001; Bryant and Yarnold, 1995; Cooper and Schindler, 2001).

The stepwise discriminant analysis (BMDP 7M) tests, including those of the ANOVA (F-value) and MANOVA, were applied to the various permutations of the data obtained from the final test.

#### **4.2.1 Chi - square**

This non-parametric test is typically used for nominal measurements in bi-variate or cross break tabular analyses (Bobko, 2001). Whilst this test is used in many research contexts, it also generally occupies the lowest status of all statistical tests (Mouton, 2002) because:

- (a) it is a "rough estimate of confidence" (Cooper and Schindler, 2001:554);
- (b) it accepts weaker and at times less accurate data as input than would most parametric tests, like t-tests (Cohen and Holliday, 1998);
- (c) in any correctly performed test of statistical significance, it would indicate the level/degree of confidence for the acceptance or rejection of an hypothesis (Cooper and Schindler, 2001:555). Note here that "statistical significance" does not help to interpret the nature or provide an explanation of the relationship between variables. (Cohen and Holliday, 1998; Mouton, 2002);
- (d) it is generally linked to inference/s drawn when applying it to hypothesis testing (Cooper and Schindler, 2001:555; Mouton, 2002). Such a general inference is linked to whether or not two different samples are sufficiently different in some behavioural characteristic or element to allow for the generalisation that the population from which the sample was drawn is also different in characteristic or nature of behaviour (Cohen and Holliday, 1998).

The advantages of chi-square test applications are that, whilst working within the frequencies provided by the bi-variate tables, they do not minimise or inflate the column and row totals. To achieve this effect, however,

1. the data must be reported as raw frequencies, not percentages,

2. observed frequencies cannot be too small;
3. the sample must be randomly drawn from the population set;
4. measure variables must be independent (Cooper and Schindler, 2001:555); and
5. values on both dependent and independent variables must be mutually exclusive and exhaustive (Mouton, 2002).

Consequently, the chi-squared test of significance

- is a mathematical computation that compares the physically observed frequencies (sometimes called the “actual observed frequencies”) with the expected frequencies if no relationships existed between the two (chosen) variables in the bigger (sampled) population. (Cohen and Holliday, 1998. Also, see the comments on validity and manipulation of data in the pilot study and the further explanation of the refinement process engaged by this thesis.)
- allows for arguments on null hypothesis rejection/acceptance as it also allows for decisions about whether a relationship(s) exist(s) between two or more variables. If, for example, a null hypothesis is rejected, one can draw the conclusion that a statistical significance exists between the variables, provided that one can demonstrate the degree of correlation or measurement of strength of association between the variables chosen – hence the rotations noted in Tables 3.1 and 3.2. This correlation is usually referred to as the value that is greater than the p-threshold (e.g.  $p < 0.50$ ) relative to the degrees of freedom.

The point is made again here that “statistical significance” does not help to interpret the nature or provide an explanation of the relationship between variables. However, the chi-square value does indicate the degrees of confidence one may have/hold that the association between the variables mentioned in the results (Mouton, 2002) is “established to be systematic in the larger population and not attributable to random error as might be suspected” (Bryant and Yarnold, 1995:15).

For these reasons the term “statistically significant” is reserved to explain that the pattern of distribution and association between variables, which is found in the data of the sample, can be confidently generalised to “fit” the larger population from which the random sample was drawn (Bobko, 2001; Bryant and Yarnold, 1995).

#### 4.2.2 Probability (or P) - Value

This research refers to the p-value above and will now attempt to explain this statistical value in more detail. The probability (or p)-value of a hypothesis test is the probability of realising a value of the test statistic as either extreme or more extreme than that merely observed by chance, if  $H_0$ , the null hypothesis, is true. Cooper and Schindler (2001:494) also state that it is the probability of wrongly rejecting  $H_0$  when it is in fact true. The p-value is equal to the significance level of the test for which the null hypothesis would simply be rejected (Mouton, 2002). When this p-value is small, the result is noted as significant. Generally,

1. to calculate a p-value, first the collected sample data is computed using the prerequisite statistical test, which could be t-testing for means, chi-square (described below) or F-statistic for testing variance. Secondly, applying a theoretical distribution of the test statistic, and integral calculus (or look-up tables) one must determine the area under the curve (for continuous variables) in the direction/s of the alternate hypothesis;
2. the smaller the p-value, the greater the tendency to rejection of the null hypothesis;
3. a p-value that is very close to zero suggests that a null hypothesis is false, and that a difference could exist;
4. the p-value indicates the strength of evidence for rejecting the  $H_0$ /the null hypothesis. Null hypotheses are typically considered as statements of no difference or effect. “Therefore, instead of subjectively just providing unsubstantiated conclusions on rejecting or accepting  $H_0$ /the null hypothesis, one could say
  - 4.1. ‘reject the  $H_0$ /the null hypothesis as the  $p < y$ ... which indicates...’ or
  - 4.2. ‘do not reject the  $H_0$ /the null hypothesis since the  $p < m$ ...which indicates...’...” (Mouton, 2002; Cohen and Holliday, 1998);
5. small p-values suggest that  $H_0$ /the null hypothesis is unlikely to be true. For example, if the  $H_0$  for a test were computed and found to be 0.02, and 0.02 was considered to be the rejection point for the  $H_0$ , then it would be reported as “ $p < 0.02$ ”. In the given example, such a p-value indicates only a 2% chance of drawing the sample being tested if the  $H_0$ /the null hypothesis was actually true.

The point is that each statistical test has an  $H_0$ /the null hypothesis and that the p-value is the probability that the sample could have been drawn from the population being tested **if** the null hypothesis is true (Bobko, 2001).

Equally important is observation that in most recent studies the tendency is for results to be summarised by a statistical test(s) [earlier noted] and for decisions about the significance of the results to be based upon the p-value (Bryant and Yarnold, 1995; Mouton, 2002).

#### 4.2.3 Phi

The thesis does not refer to Cramer's V and Cramer's phi, or Mantel – Haenszel's chi-square respectively. The reason for their exclusions is that these tests were not directly applied in the investigation. Instead Phi, another measure of relationship or association for nominal non-parametric variables (applied in 2 x 2 chi-square tables and with  $X^2$  contingency tables) is noted here.

The phi-test is directed at correcting chi-squares proportionately; and its coefficient is appropriate for 2 x 2 chi-square tables. The value for phi is computed from the  $c^2$  value, and in the 2 x 2 chi-square tables referred to, its values range from +1 to -1. But for the "+/-" sign to be meaningful (for interpretation and analyses), the variables must be ordinal (Cooper and Schindler, 2001:554), and; phi – coefficient values between

- -1.0 to - 0.7 are generally interpreted to indicate strong negative associations;
- - 0.7 to - 0.3 are generally interpreted to indicate weak negative associations;
- - 0.3 to + 0.3 are generally interpreted to indicate little or no associations;
- + 0.3 to + 0.7 are generally interpreted to indicate weak positive associations;
- + 0.7 to + 0.1 are generally interpreted to indicate strong positive associations.

#### 4.2.4 Contingency Coefficient "C"

The Contingency Coefficient C (a measure of association for nominal non-parametric variables) measures the degree of relationship/association of dependence of the classifications in the frequency table (Cooper and Schindler, 2001:554).

This test can be applied to any size of chi-square table. The upper limit varies with the size of the table. For example, a 2 X 2 chi-square table has an upper limit of .71; a 3 X3



chi-square table has an upper limit of .82; and a 4 X 4 chi-square table has an upper limit of .87. Note here that

- the maximum value of the coefficient is determined by the number of rows and columns in the table and the value can never be greater than 1.
- It is generally accepted that the greater the value of the coefficient  $C$ , the greater the degree of association.

#### **4.2.5 Likelihood Ratio Chi-Square**

This test is typically considered to be an alternative to the hypothesis of no association of columns and rows in nominal-level tabular data (Cooper and Schindler, 2001). It is part of the SPSS analysis output and is based on maximum likelihood/estimation. Mouton (2002) argues that although the computations for the results in this test are performed differently, the likelihood ratio chi-square is interpreted in the same manner (Bobko, 2001; Bryant and Yarnold, 1995).

#### **4.2.6 Fischer Exact Test**

The thesis has addressed applications relevant to hypothesis testing and contingency tables above. In relation to these tables, the Fischer Exact Test is a statistical tool that examines how, in a contingency table, different treatments or adjustments have produced different outcomes. It is

- premised on the null hypothesis that treatments do not affect outcomes; that the two are independent and that the given null hypothesis can be rejected if  $p$  is almost inconsequential, i.e. “very small” (Bobko, 2001); and
- used to calculate an exact  $p$ -value for 2 X 2 tables, where the expected frequencies are small, and where the chi-square test is inappropriate to the analysis requirements (Cooper and Schindler, 2001:498).

Before the writer expands on multiple correlation and multiple regression testing (as is depicted in the results and the analyses in Chapter 5), it is important to note that, with

- (a) correlation, an index is calculated to measure the nature of the relationships between the variables or “correlation coefficients” (Bobko, 2001:22); whilst

(b) regression, on the other hand, is an equation that was/is developed to predict variable values. (See also Cooper and Schindler (2001:553) on multiple correlation and regression.)

#### **4.2.7 F-value (ANOVA)**

This test is typically considered to be a measurement of distance between individual distributions. Note that as the F-value increases, the p-value decreases, and interpreted broadly the F-value simply reflects the level of confidence in there being a difference between two means. To that effect, the testing of two independent variables sometimes calls for the introduction of the Analysis Of Variance (ANOVA). According to Bryant and Yarnold (1995) ANOVA is used

- to test the primary interaction effects of categorical variables on a continuous dependent variable; and
- simultaneously, to control for the effects of other selected variables which co-vary with the dependent variable (Bobko, 2001).

The control variable is also referred as the “covariate” and there may be many at a time. It is often viewed as a “what if” analysis tool, as it is said to be asking the question “What would happen if all of the cases researched, scored equally, on the covariate (Cohen and Holliday, 1998) so that true effects of the selected factors, over and beyond the covariates, can be isolated?” (Bryant and Yarnold, 1995). In quasi-experimental (observational) designs, experimental designs and in regression cases ANOVA reduces the error term in the model selected.

This statistical test

1. involves multiple regression (Cooper and Schindler, 2001:555) in which (a) the dependent variable is considered continuous, (b) the observed/study factors of interest are all treated as nominal variables (often called “dummy variables”), (c) the covariates may be measurements on any measurement scale provided and (d) provided there is no interaction between the covariate(s) and the study variables (Bryant and Yarnold, 1995; Mouton, 2002).
2. adjusts for disparities in covariate distribution over groups by making the assumption that all groups have the same set of mean covariate values. For

example, in this thesis, if/when the factors of risk perception, entrepreneurial persistence, and unique performance are the covariates and these three factors are compared, the ANOVA adjustment treatment results in all three factor groups being treated as if

2.1. the means were constant/equal for all three of the given factors; and

2.2. there is common distribution, i.e. the adjustment assumes that the entire distribution of covariates in the combined sample is the same as the distribution of the covariates in each group.

Because of these assumption features, Cohen and Holliday (1998) and Bryant and Yarnold (1995) respectively argue that ANOVA testing is best not applied when the relationships between the covariates and the response(s) in each group are not the same, since such non-parallelism, or even interaction, might be reflected (Also see Cooper and Schindler, 2001).

ANOVA testing also serves three purposes:

- In quasi-experimental (observational) designs, it removes the effects of variables that modify the relationship of the categorical independents to the interval dependent;
- In experimental designs, it controls for factors that cannot be randomised, but which can be measured on an interval scale. Typically, randomisation can control for all unmeasured variables (Bobko, 2001): it is an accepted principle that in experimental research the addition of covariates is rarely if ever done or needed. Bobko (2001) posits that this is typically the case because if a covariate is added and it is uncorrelated to the independent (“the treatment”) variable, it becomes difficult to interpret, as in principle the co-variable is already involved in controlling for an item it has already controlled for through randomisation. Bryant and Yarnold (1995: 35) extend this line of argument by pointing out that if the covariate is correlated with the treatment variable, then “the result is an underestimation of the effective size or magnitude of the treatment”.
- In regression models, which have been displaced by other methods including logistic regression (Mouton, 2002), ANOVA fits regressions where both

categorical and interval independents exist (Bryant and Yarnold, 1995; Steel and Kammeyer-Meuller, 2002)

#### 4.2.8 Mann-Whitney (or Rank Sum) Test

This non-parametric statistical test compares two unpaired groups, by ranking values from the lowest to the highest value whilst paying no attention to which group each value belongs.

The Mann – Whitney test uses the p-value as a way of explaining significance between groups. The p-value here attempts to answer the question, “If the populations of the two sets have the same median, what is the chance that random sampling would result in a sum of the ranks as far apart as that observed in the given experiment?” (Bobko, 2001; Bryant and Yarnold, 1995).

In performing this Mann – Whitney/Rank Sum test,

- (a) the smallest number/value is given a rank of 1;
- (b) the largest number/value receives a rank of N, where N is the total number of values in the two groups compared); and,
- (c) where two numbers have the same value or are the same, they are given the average score of the two ranks which they tie/share (Cooper and Schindler, 2001:498 – 499).

The sums are then ranked for each group, and the two sum scores are then reported. If the sum ranks are very different, then the p-value will be small (Bryant and Yarnold, 1995). Depending on the size of the sample, one of two cases will prevail:

- If the samples are small, the exact p – value is calculated.
- If the samples are large, the test provides a Gaussian approximation for the p-value. Note however that whilst the approximation will be quite accurate for large samples, reference to the term “Gaussian” has to do with the distribution of sums of ranks, and in no way implies that data should reflect a Gaussian distribution pattern.

Because **principal component analysis** was also a consideration, the researcher duly accepted the research validity and reliability position noted by Bryant and Yarnold

(1995:100). The argument presented by these authors is that for the results of principal component analysis to be accepted as reliable, the minimum number of sample observations should be at least five (5) times the number of variables. The study met and exceeded this statistical research criterion in that it secured 186 individual responses. Statistically stated, the subject to variables ratio, when calculated, was found to be greater than five (5).

As indicated earlier, the study (very early on in the research process) sought to clarify the constructs noted. It also sought to re-phrase the intent of each question (in relation to the variable) by augmenting the earlier results from the pilot study with interviews. The additional objectives in so doing were to

- (a) arrive at clearer and, where possible, well-defined and unambiguous responses from the final questionnaire's respondents; and
- (b) again validate initial thinking about the topic of this research (Bobko, 2001; Bryant and Yarnold, 1995; Rosenthal and DiMatteo, 2001).

### **4.3 Data Collection Process**

Another dimension of this refinement process (Cohen and Holliday, 1998; Chandler and Lyon, 2001; Steel and Kammeyer-Mueller, 2002) was that this population sample set of founding entrepreneurs was requested to respond to and return the questionnaires within one week of delivery and receipt on 15 March 2004.

A 100% return rate was achieved, and the initial test showed that the writer needed to

1. separate the propositions into two main categories – which the researcher subsequently did;
2. use the refined propositions to develop relevant hypotheses – which were to form the basis for the formulation of the final questionnaire (Appendix A); and
3. then use the hypotheses to arrive at correlations between given/defined constraints (noted in Table 2 below).

Follow-on verbal interviews were held with 12 CEOs from the original sample set. These interview discussions, held in April and May 2004, focussed exclusively on founding

entrepreneurs and venture growth – albeit that some of these were not from the IT – SP industry sector.

These verbal interview discussions had two main objectives. The first objective was to arrive at an acceptable set of domains for the variables later defined for Appendix A and to understand how seriously founding entrepreneurs viewed skill, business experience, education, business philosophy and management control. The second objective was to arrive at a final measurement model, in which, according to Baum (1994), the initial model, in our case the pilot test, is reconfigured according to decisions that were reached in the “concept validity” and “reconfiguration of variables” stages (Cf. also Rosenthal and DiMatteo, 2001; Stone-Romero and Anderson, 1994).

A large number of the discussants/interviewees showed a considerable understanding of these factors. The preliminary analyses pointed to two important, yet early, untested factor-analysis results. These were that the

1. situationally-specific motivation factors of vision, growth and what the present study later calls, “Unique performance” (in Table 2) are interdependent (See also Campbell and Yeung, 1991; Lipton, 1996); and
2. skill and business/industry competencies exposure are affected by other traits, such as confidence (See also Baum, 2001; Baum, et al., 2001; Miller, 1999).

Confidence in skills was a key factor and was fairly pronounced. Of the situationally specific motivation factors the most pervasive of these were, however, the promotion of a company vision, tenacity, risk taking and personal involvement in the venture.

Whilst it is acknowledged that it would be dangerous to assume that the other factors are not as important, or to draw the conclusion that vision is the single most important factor; it would also be unacceptable for this study not to acknowledge its importance. It is therefore not surprising that Baum (1994:143) also noted in his work that

“... No other domain of antecedents of entrepreneurship growth received such strong support as vision. All of the entrepreneurs felt that it was important to have personal image of what they wanted their company to be and that all

businesses benefit from a clear, well articulated vision.” (See also Harrison and Pelletier, 1995; Wright, Robbie and Ennew, 1997.)

These findings aided the researcher in the (earlier mentioned) development of the proposition sets. To that extent, the earlier noted constructs were operationalised and, after testing them the responses were also subjected to factor analysis. Again, the purpose of subjecting these to a maximum number of factor analyses was so that inter-correlations between factors could be reflected.

#### 4.3.1 Determining Factors for Company Vision, Tenacity, Risk-taking and Personal Involvement/Commitment

To decide on the optimal number of factors to retain, factors that reflected Eigen-values of more than 1 (in observance of the “Kaiser stopping rule”) were adopted. In addition, in the case of the sorted rotated loadings’ matrix, the alpha value for each individual factor was calculated. This was achieved by only using those variables chosen for their loading (in the sorted rotated loadings’ matrix). All of the items loaded significantly on more than one factor, and with optimal loadings of less than 0.03.

Through the above elimination process the study was able to arrive at the effective loadings, on discriminant functions, for each of the factors reflected. Note, for example, that for Variable No. 69 (“V69”) – which in the attached measurement instrument represents the F1; F2 and F3 –

- (a) only two Groups (1 and 2) were identified,
- (b) the variables F2 and F3 were operationalised/noted;
- (c) for 186 cases read, the Classification Functions process (also noted below) resulted in the constants of -58.88596 and -46.90749, respectively:

**Table 4.1: Analysis Of Coefficients Of Variants In Three Factors Across Two Groups**

CLASSIFICATION FUNCTIONS		
	Group 1	Group 2
<b>Variable</b>		
F2	17.985	16.552
F3	9.919	8.235
<b>Constant</b>	-58.886	-46.907

Two further categories, namely categories 1 and 2, were created and their respective frequencies were noted as 162 and 24, respectively. The means reflected for these Rotated Factor Loadings are also noted here as:

**Table 4.2: Application of Rotated Factor Loadings To Three Groups**

Variable	Group 1	Group 2	All the groups
F1	3.03210	3.13333	3.04516
F2	4.31862	3.95000	4.27097
F3	3.90329	3.28472	3.82348
<b>Counts</b>	162	24	186

These factor loadings and the corresponding variables were used throughout the present investigation. Where the corresponding variables had no significance to the factor, the study used statistical evidence either to eliminate them or to re-assign and apply them against another factor where it was thought that they would yield the expected or at least some significance for the relationships sought (Bobko, 2001; Mouton, 2002; Stone-Romero and Anderson, 1994; Wilkinson, et al., 1999).

Although the focus here was testing for the significance, the most important elements in the analysis were the coefficients of variants recorded in Table 4.1 (above). The study notes here that in F2 and F3 the variation was less in Group 1 than in Group 2. However, in F1 the variation was the largest for F1.

Notwithstanding the importance of the above and of the fact that very little could be deduced from the initial stepwise analysis process, for a 186 sample case

- a U-Statistics (Wilks' Lambda) of 0.849, with two (2) degrees of freedom,
  - an approximate F-statistic of 16.318 and two (2) degrees of freedom,
- resulted in the following inter-correlations classification functions and matrix:

**Table 4.3: Analysis Within Inter-Correlations With Three Factors Across Two Groups**

CLASSIFICATION FUNCTIONS		
Variable	Group 1	Group 2
F2	17.985	16.552
F3	9.918	8.235
<b>Constant</b>	-58.885	-46.907



Extending the understanding of the research into the above factors, meant applying the two groups against two (2) specifically classified cases depicted in Table 4.4 here:

**Table 4.4: Classification Matrix for Two Cases Across Two Groups**

Group	Percent Correct	Number of cases classified	
		1	2
1	66.7	108	54
2	70.87	7	17
<b>Total</b>	67.2	115	71

For the study, this simply indicates that the predictions made for the variables in these groups cannot be ignored. Such predictions (where the Eigen-value is 0.17834) reflect a 67.2% accuracy (for the inter-correlations).

In Tables 4.1 – 4.4 the study illustrated some of the correlations between the described domains of variables and the three constructs. These, and others, will be analysed further in Chapter 5. This study does not in any way, at this stage of the research, provide a definitive explanation of the relationships, or demonstrate in Table 4.1 that the constructs are the only ones that could be investigated. The present research is focussed on founding entrepreneurs' strategies and leadership traits, and therefore the thesis is guided by this position.

#### **4.4 Industry Choice and Participating Company Size**

This study embarked on understanding the dynamics of entrepreneurship and the distinguishing features of founding entrepreneurs in the South African IT sector. Using Baum's (1994) work as the platform on which to model our research, and as an implicit comparative guiding principle, the researcher sought to establish how founding entrepreneurs saw themselves, and what they considered as important to the development of venture growth and entrepreneurship in the South African IT sector (See also McFarlin, et al., 1999).

As also earlier mentioned, these IT company founding entrepreneurs were selected from over 160 companies, ranging between 10 – 1000 employees, and this study specifically targeted founding entrepreneurs who were also involved in the operations of their companies (Gartner, 2001; Howell and Boies, 2004; Erikson, 2002; Simons, 1994).

To provide clarity on the demographical and market spread of the participants involved, the researcher chose to use

- (a) founding entrepreneurs from South Africa (98%), Botswana (1%) and Namibia (1%). The original intention was to focus the study exclusively on South African entrepreneurs. However, because the latter mentioned countries are close in proximity and in business-orientation to South Africa, founding entrepreneurs of IT companies in those countries were also included.
- (b) A mix of small, medium-sized and large companies. This doctoral study defines
  - a small IT services and solutions' company to have a revenue generation capacity of less than ZA R100 million p.a.;
  - a medium-sized IT services and solutions' company to have a revenue generation capacity of between ZA R100 million – R300 million p.a.; and
  - a large IT services and solutions' company to have a revenue generation capacity that exceeds the ZA R300 million p.a. mark.

The researcher chose to concentrate on the IT services and solutions sector of the IT market because this writer was sufficiently convinced that, per Baum (1994); Burgelman (2002(a); Bryant and Yarnold (1995) and Rosenthal and DiMatteo (2001), a single industry would be easier to work with and would also demonstrate the relationship with significance for the variables to be tested. This study also chose to adopt the approach of working within one industry sector because the researcher was convinced that it would sufficiently demonstrate the correlations between variables and support the hypotheses whilst simultaneously creating clarity on "...the effects of different individual personality characteristics, intentions, and behaviours" (Baum, 1994:161. See also Bobko, 2001; Korunka, et al., 2003; Mouton, 2001; Sull, 2004). Attention, in this regard, is drawn to the frequencies elucidated in Chapter 5.

#### **4.5 Market Participants and Population for the Study**

This study embarked on understanding the dynamics of entrepreneurship in the South African IT companies, and particularly those in the services and solutions (versus the hardware providers) part of the industry. As earlier mentioned this study chose to use founding entrepreneurs who were experienced practitioners and who had preferably, during their personal growth stage, worked in and for more firms than their own

company. Although family-owned businesses were also included these tended to be in the minority. This happened because whilst the researcher was particularly interested in founders, he set out to select those founders who did not have the advantage of being handed-down the company (For further comments on this aspect, also see Markman, et al., 2002; Gatewood, et al., 2002; Howell and Boies, 2004).

This study submitted the questionnaire (Appendix A) to 186 CEO/General Managers, over the period of September – October 2004. These respondents were geographically spread throughout a total of twelve (urban and non-urban) regions.

By early December of 2004 a 65% questionnaire return-rate had been achieved. Most of the returns were done via

- personal collection by the researcher, or
- return-courier delivery, or
- mail (in a sealed envelope supplied to the respondents) to a given address in Johannesburg.

Over the mid to late December 2004 period, another 25% of the questionnaires were returned, with the last 10% of these returns only being received in early January 2005 and only after the researcher had telephonically contacted the respondents.

A final population size of 186 respondents was selected because

- (a) whilst statistical research on covariance matrix modelling does not seem to suggest a minimal sample, the rule-of-thumb seems to indicate that the sample size should not be less than 100 (Bobko, 2001; Chandler and Lyon, 2001; Mouton, 2001);
- (b) Validity of the rule-of-thumb for samples is largely influenced by the complexity of the data model and as Baum (1994:169) points out, “In general, larger sample sizes are desirable for structural model tests to minimise model rejections because of unacceptable potential statistical error.” (Bobko, 2001; Bryant and Yarnold, 1995; Jones-Evans, 1995; Rosenthal and DiMatteo, 2001; Sull, 2004).

#### **4.6 Population Characteristics: Market Players and Dynamics of Entrepreneurial Founders versus Intrapreneurs**

As earlier noted our population consisted of founding members of small, medium and large entities. For clarity this study distinguished between entrepreneurs and intrapreneurs in the selected mixture of companies that constituted the population.

Intrapreneurs in our study tended to be located in the larger companies. These (larger) companies tend to be driven by Multinational Corporation and stock/security exchange profit imperatives. These companies, which include the likes of Accenture, Computer Sciences Corporation (CSC), KPMG-Atos; HP, IBM Inc., Tata IT Consulting (to name but a few), tend to occupy about 30% of the IT service providers' market. The leadership, strategy, growth and general management are also predetermined and usually come from outside of the South African trading environment.

Although there appears to be a shift in favour of choosing a South African to lead these corporations/subsidiaries in South Africa, a fair number of the Country CEO's, who are called "Country Managers", were therefore considered for inclusion in our study.

These Country Managers are predominantly chosen from outside of South Africa. They tend to be "in-grown" and trained by these multinational companies. Only two of the eight Country Managers can (for our purposes) be considered to be founding entrepreneurs as they had to start the venture from scratch – even though they had the advantage of their funding, strategy, vision-setting and financial backing being based elsewhere (in comparison to the non-multinational company founders).

Within the population researched, these multinational corporations/subsidiaries (in South Africa) each also tend to employ between 500 - 700 people from the IT industry as a whole. It was found (through personal discussions held between the Country Managers of these companies and the researcher) that most of these companies had recorded reasonable revenues and profits over the two years (FY 2001/2 and FY 2002/3) preceding the present study.

The research also indicates that these multinational corporation subsidiaries collectively reap about 40% of the South African ITSPs' revenue spent (See Variable 60 – Variable

62 in Appendix A) – although this number is dropping because of the South African market and government's Black Economic Empowerment (BEE) regulatory terms and conditions on procurement. For the non-South African reader, BEE is an institutionalised process through which previously disadvantaged individuals are enabled and granted opportunities to be engaged and participate in the economic and business activities of the country. This process is further strongly supported by the South African government and the business community, in general.

BEE policies that “enforce” compliance are adopted in procurement processes and these are supported by practically all business sectors of the economy. The various government and business-initiated charters (which are enforceable regulatory frameworks) also have as their objective the normalisation of the economy through a measure of positive and well-managed political, social and economic re-engineering.

#### **4.7 Population Characteristics: Market Players and Dynamics of Entrepreneurial Founders**

The remaining 70% of the ITSPs are small to mid-size in nature. These companies also employ between 50 - 300 people each, with the much smaller ones (being predominantly smaller ITSP consulting houses) only employing between 10 - 15 people.

From the beginning of this study it has been focussed on founders who drove and grew their ventures, and who were found in this subset of our population, since the writer defined founding entrepreneurs as those industry participants who are/were owners, irrespective of the shareholding percentage, and who had initiated and guided their businesses (Baum, 1994; Blanchflower and Oswald, 1998; Burgelman, 2002 (b); Oster, 1994). This study furthermore in this definition also applied Baum's (1994: 163) perspective that entrepreneurs “... included owner/ founders and buyers who actively managed their businesses beyond establishment and who, at one point in the last ten years, intended to grow their businesses beyond ‘income substitution’ operating levels” (See also Sapienza, et al., 2004; Tosi, et al., 2004; Wiklund and Shepherd, 2005).

It was established (through personal discussion with founders of these companies) that most of these companies had recorded average revenues. They were also asked to rank their confidence (on a scale of 1 to 10, where 1 is low and 10 is high) for improving

revenues and sales ratios. It was very interesting to discover then that their respective profits over the two years (FY 2001/2 and FY 2002/3), preceding the present study, were relatively high (at an average of 65% of them recording positive trends for the sector; and with a further 85% of them indicating their profits to have been between 30 – 35%).

These findings were significant for the following two reasons.

1. As these respondents considered declaration of financial information to be competitive-edge-creating detail, none of them had initially agreed to openly provide the researcher with their financial results until they had taken him into their total confidence. They had also all indicated that they were not prepared to submit this financial data even if requested for the more detailed and later refined test instrument.
2. When measured against the fact that they had also survived the global business depression after the “dot.coms” bubble burst, it was found that all of them noted that they had taken risk control and management much more seriously.

This researcher considered these results important since in the compilation of the test instrument the present research had validated thinking on this question by applying the McGrath and MacMillan (1995) approach. This discovery-driven approach is generally considered to be an accessible and useful process to surface and test assumptions. Application of the said approach in the present study resulted in the embedded assumptions held about

- vision,
- competitive - edge creation,
- maintenance,
- risk management,
- commitment establishment, and
- strategic – intent facilitation

surfacing during the personal interview sessions (with very little probing being done).

Equally important for this study were the numerous ways in which entrepreneurs related risk to “uncertainty”, and “risk management” to the future of the venture. What is further important to note is that the “incompleteness” of this variable in relation to the

entrepreneur's decision-making and forecasting for venture growth was often noted by at least six CEOs as being “a matter to live carefully with”. In addition, complexity of unknown variables in every business model for each venture seemed to create an increasing difficulty of predicting outcomes. When questioned about the “complexity” factor the result is that many founding entrepreneurs found it more comforting, under most circumstances, to revert to their old habits of dealing with the known and basing their decisions on past success instead of handling the uncertainty with creativity – this is also a point remarked on earlier in discussing the pilot study section.

Whilst this result was considered as a useful finding for the purpose of this study, it is not unique to the school of thought in which economic theory, entrepreneurship and the management of uncertainty are linked. For example, Kirzner (1979) proposed the manner in which new entrepreneurs responded to risk as a focal domain variable in his entrepreneurial discovery theory. Also research studies on this topic, like those of de Cantillon (2001); Damanpour (1991); DiMaggio and Powell (1983); Cyert and March (1963); Nelson and Winter (1982); Pfeffer and Salancik (1978) and von Mises (1996: 252-256), and the "The Austrian School" constitute a long and distinguished trail of research into the relationship that exists between the given variables. In his work, de Cantillon (2001) also, for example, illustrates the point that most entrepreneurs will always act as economic agents. They deploy resources in new uses and circumstances and therefore face the challenges of risk, uncertainty and incomplete knowledge about the returns from the resources in such situations.

Whilst the risk management element is important and this study's focus and the researcher's interest lies in the (individual) founding entrepreneur and venture growth, it is also significant to note that the interviewees saw risk control as an issue for which they were solely responsible for in the life cycle of their respective ventures. This position seems to contrast sharply with recent research such as that of Brown and Eisenhardt (1998); Eisenhardt and Schoonhoven (1990); DiMaggio and Powell (1983) and Kolotouros, Maggioncalda and Burgelman (1996). Such research seems to have focused on the team, rather than the individual entrepreneur, as a mechanism for managing the variable of risk and the surrounding drivers of uncertainty. (See also



Burgelman, 1983 (a); Burgelman, 1983 (b); Eisenhardt and Tabrizi, 1995; Chaudhuri and Tabrizi, 1999.)

Nevertheless, and even considering the elements of uncertainty noted, none of the companies in the sample had been liquidated, sequestrated or placed under curatorship by the South African Registrar of Companies. Additionally, these companies collectively take between 55 – 60% of the South African IT services and solutions revenue spend (See V 60 – V 62 in Appendix A). It is also projected that this number is set to increase (and has been increasing at a growth rate of some 10% year-on-year since FY 2000 because of the government's procurement conditions with reference to BEE.

This study found that because of the refinement process pursued in the pilot test and the subsequent interviews with respondents, very few questionnaires were returned unanswered; and less than 0.5% of the questionnaires were not fully completed.

#### **4.8 Measures Relevant To The Thesis**

The purpose of this section is to provide an overview of the definition of the dependent and independent variables. Even though the research has provided some explanation of these measures in Chapter 3 at Section 3.4, it now seeks to explain the methodology adopted in the case of a combination of measures for variable quantification.

As earlier noted, the study adopted and adapted the testing model from Baum (1994) to arrive, eventually, at Appendix A. The thesis notes that the adaptations to Baum's testing instrument resulted in only about 30% of the measures applied in his study being used for the present thesis. The Likert response format was also applied in our research instrument (See questions 30 – 34 or V63 – v67 as examples, in Appendix A).

To avoid errors or to mitigate the likelihood of errors, measures were combined according to "disattenuated" coefficients that optimally fit the Lisrel 8 test (Linear Structural Relations). These coefficients are factor scores, or similar to them, in that they develop during factor analysis. Lisrel 8 tests were, in this study, used to

- (initially) evaluate the pilot study,
- develop and verify the validity of concepts and domains referred to in the proposition sets;



- impute missing data – although this was not necessary for this research; and
- evaluate concept validity and to perform confirmatory factor analyses (CFA).

This study also tested for statistical validity, which is present if the data provided has sufficient power to produce significant conclusions, and if sampling is representative and random, and freed from statistical bias. Because the response rate was high and N = 186 (which is greater than the rule-of-thumb mark), the writer was comfortable in applying it. Having said this, the study accepts that an over-simplification of this technical process would be inappropriate to this research, especially as this study also sought to apply covariance solutions to the data collected from the 186 respondents.

This point is also pertinent as

- (a) the thesis calculated more than three measures of venture growth using dependent and independent variables (See Section 3.3. and Table 2 above);
- (b) the investigative research also noted these measures of venture growth to have included promotion of the company vision, skill and/or business knowledge of a venture; past and present experience; business philosophy and business output (i.e. success) of venture;
- (c) this study also later evaluated the accuracy of the performance data against the constructs noted in Table 4.1, and
- (d) the thesis sought correlations between factors through hypothesis testing (Cohen and Holliday, 1998; Bryant and Yarland, 1995; Mouton, 2002) – the results of which will be provided in much greater detail in the following Chapter.

## Chapter 5

### Research Analyses

#### 5.1. Introduction to Research Analyses

In order that the focus and the direction of this research is clearly understood, in this section this study

- (a) provides a review of the objectives of this doctoral research;
- (b) provides a review of the results;
- (c) explains the relevance of the inclusion of the rotated and unrotated factor loadings,
- (d) points out the limitations of the study, and then
- (e) also explains how the conclusions were arrived at. Such conclusions, in turn, point to the directions for future research and briefly refer to the implications thereof (as noted in Chapter 6).

#### 5.2. Objectives and Proposition Frameworks

To reiterate: The focus of this study is on founding entrepreneurs. The topic is approached from this vantage point because this study found, through three years of entrepreneurial research and through the literature review (in Chapter 3) that only a limited amount of empirical research on “founding entrepreneurs” had been done internationally. Also, whilst many business and management schools in South Africa seem to emphasise general traits of leadership and management, this study also discovered a scarcity of empirical studies related to “founding entrepreneurs” and venture growth.

By means of research, the writer also wished to answer two primary research questions. These were:

1. which domain variables, as interpreted by founding entrepreneurs, impacted on venture growth? (See Table 4.1).

2. which relationships could strongly be considered as being relevant, reliable and valid? (See the earlier remarks on Constructs in Chapter 4).

As a reminder, this thesis used Baum's study on general traits and competencies as it considered these relevant to the present study in terms of entrepreneurship, organisational behaviour and strategic management in general (See Chapter 3 above). The present study extended these constructs and elaborated on the identified domains by testing both the reliability and validity of these against a pilot study population and then against a final population set of CEO/GMs.

In applying **internal validity** in the earlier noted pilot study model the doctoral study found, in about 30% of the responses, an insignificant factor loading of less than 2.6% in some of the measures. This created a caution regarding conclusions that could be drawn, as

- about 2.5% of the positive variance between variables could have been the result of common data collection – of which the researcher was neither aware at the beginning of the initial pilot study nor pre-empted in the interviews with the CEOs;
- such conclusions drawn in what this study would consider as the exploratory stage of the analyses – in which important relationships among variables and domains/constructs were sought and also highlighted (in Tables 4.1 and 4.2) – could be questioned.

The researcher was not surprised to find that even though the geographical spread of questionnaires to CEOs was largely predetermined and even though this study asked the CEOs in the noted neighbouring countries to respond, the present study, like that of Baum's, found that "... Whilst traits and motives are stable across time and setting, and while they are determinants of behaviour, many other forces [as this study too has found] also affect action" (Baum, 1994:269).

To ascertain whether founding entrepreneurs also always focussed on venture growth this study, like Baum (1994), likewise mapped the research domains of entrepreneurship, organisational behaviour and strategic management against the research domains of

1. motives/general traits;
2. skills and/or competencies;

3. strategic behaviours, such as decision making and what this study has termed “unique performance”;
4. situationally specific motivation;
5. vision.

(See also Lee and Bobko, 1994; Ulrich, 1998; Steel and Kammeyer-Mueller, 2002).

Whilst venture growth was highlighted in many studies (Bergmann-Lichtenstein and Brush, 2001; Kirkpatrick and Baum, 2002; Kuznetsov, McDonald and Kuznetsov, 2000), the present research study has also found that the relationships between the traits in founding entrepreneurs that lead to venture growth seem to be present yet are never strongly researched.

Management theorists and entrepreneurship scholars alike would also argue that all entrepreneurs are visionaries, and are thus prone to not distinguishing between their goal setting (which includes venture growth) and the vision which they have set for the organisation or company that they drive. Whilst this study accepts this position, the existence of empirically supported evidence regarding what Baum (1994:264) calls “vision-setting and vision-communication” remains limited (See also Bird and Brush, 2003; Su-Chang and Ong, 2002).

Research by Burgelman and Meza (2000); Carroll and Hannan (2000); Cogliser and Brigham (2004) and by Kim and Hunter (1993), also supports the present study’s perspective on the paucity of research on “vision-setting” and “vision-communication”. Bird and Brush (2003), for example, also seem to argue that very little research is done to satisfy and fill this entrepreneurship gap because these domains are sublime and difficult to make explicit, and that the relationship to venture growth should best be pursued through longitudinal or case study research interests – as demonstrated by Burgelman (2002 (b)); Burgelman and Doz (2001); Clark (1999); Kolotouros, et al. (1996), and Shivdasni and Yermack (1999).

This study has also found that the sublime element in entrepreneurial visioning is present because the founding entrepreneur is unintentionally limited by his/her situationally-specific motivation factors, which include those of leadership expectations and those of

business management and shareholder expectations (hence the indicated inclusions of Questions 5 and 6 on shareholding and management control in Appendix A).

### **5.3. Demographics and Descriptive Statistics**

#### **5.3.1. Background to process**

As earlier remarked, results indicated that questionnaire refinement, pilot testing (for both ease of completion and time taken to complete the questionnaire) and data collection strategy, i.e. personal collection and telephone call follow-ups, were the reasons for a very high (100%) response rate.

The results of the pilot study, the post-response receipt (of Appendix A), discussions and the analyses of the final testing instrument showed the “typical” IT-company CEO to be

- (a) a person who had received some measure of graduate training
- (b) one who had also taken up a fair amount of vocational and on the job-skilling or training;
- (c) involved in the financial and general risk management of the company;
- (d) a shareholder and company Director;
- (e) passionate about work and hardworking (in general);
- (f) an individual who had either started the venture with his/her money and/or that of other people (and lending institutions);
- (g) one who had worked in more than one company (This feature was a key distinguishing factor for the present research especially in those cases where the CEO had taken over the family business – as this study pointed out in the previous chapter).

#### **5.3.2. Description of Factors: Frequency Procedures for Eight Variables**

Having worked through the various variable iterations, it was felt that the inclusion of an additional set of variables – beyond the variables initially tested but including the Company Vision Formulation Variable – would be useful for

- understanding the skewness or kurtosis of the “Company Vision Formulation Variable in relation to the other (below mentioned) seven variables;

- testing for significance in the Variables V68 ; V69; V78; V48; V45; V31; V29 and V32; noted in Table 5.1. (below).

**Table 5.1: Designated Names for Variables Subjected to Frequency Procedure**

VARIABLE		
NEW	CODE	SPECIFIC NAME FOR CODE
1	V68	Employees' Understanding Of Company Vision
2	V69	Company Vision Formulation
3	V78	Performance Rating
4	V48	Business Growth Area
5	V45	Attention To Service Detail
6	V31	Past Experience Application
7	V29	Personal Experience Indicator
8	V32	Market Knowledge Indicator

At the time of measurement instrument formulation the study took the position that as Variable 68 is linked to Variable 69, “Company Vision” had to be included in both of these variables. By virtue of the extent of the factor analysis testing applied, these and each of the noted variables were included in **the frequency testing process**.

In executing the frequency procedure for the above variables, the following frequencies were obtained:

**Table 5.2: Variables Subjected to Frequency Procedure and Outcomes Displayed**

Variable 68 (Employees' Understanding of Company Vision)	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	183	98.39	183	98.39
2	3	1.61	186	100
Variable 69 (Company Vision Formulation)	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	162	87.10	162	87
2	24	12.90	186	100
Variable 78 (Performance Rating)	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0.	4	2.15	4	2.15
1.	8	4.30	12	6.45
2.	10	5.38	22	11.83
3.	5	2.69	27	14.52
4.	60	32.26	87	46.77
5.	16	8.60	103	55.38

6.	43	23.12	146	78.49
7.	40	21.51	186	100
<b>Variable 48 (Business Growth Area)</b>	<b>Frequency</b>	<b>Percent</b>	<b>Cumulative Frequency</b>	<b>Cumulative Percent</b>
25	58	31.18	58	31.18
50	71	38.17	129	69.35
75	46	24.73	175	94.09
100	11	5.91	186	100
<b>Variable 45 (Attention to Service Detail)</b>	<b>Frequency</b>	<b>Percent</b>	<b>Cumulative Frequency</b>	<b>Cumulative Percent</b>
1.	22	11.83	22	11.83
2.	33	17.74	55	29.57
3.	57	30.65	112	60.22
4.	74	39.78	186	100
<b>Variable 31 (Past Experience Application)</b>	<b>Frequency</b>	<b>Percent</b>	<b>Cumulative Frequency</b>	<b>Cumulative Percent</b>
2.	11	5.91	11	5.91
3.	106	56.99	117	62.90
4.	69	37.10	186	100
<b>Variable 29 (Personal Experience Indicator)</b>	<b>Frequency</b>	<b>Percent</b>	<b>Cumulative Frequency</b>	<b>Cumulative Percent</b>
1.	2	1.08	2	1.08
2.	4	2.15	6	3.23
3.	81	43.55	87	46.77
4.	99	53.23	186	100
<b>Variable 32 (Market Knowledge Indicator)</b>	<b>Frequency</b>	<b>Percent</b>	<b>Cumulative Frequency</b>	<b>Cumulative Percent</b>
1.	1	0.54	1	0.54
2.	3	1.61	4	2.15
3.	58	31.18	62	33.33
4.	124	66.67	186	100

Although graphic representations for all of these variables could be commented upon, in general, all the other variables have either a distribution skewed to the right or a distribution skewed to the left.

With reference to the data set above, we deduce the following meanings of the skewed or symmetrical distributions for the noted variables:

1. **The Business Growth Area (V48) and Past Experience Application (V31)**  
variables have symmetrical distributions – which can be seen from
  - the (almost) equal number of observations larger than the mean, and
  - smaller than the mean;
2. **The Employee Awareness of Company Vision (V68)** (also referred to as the “Employees’ Understanding of Company Vision”) variable was recorded:
  - More employees were indicated as being aware of the company vision than those who are not aware;
3. **The Company Vision Formulation Variable (V69):**
  - More CEOs participated in the company vision than those that did not;
4. **The Performance Rating Variable (V78):**
  - This variable is left skewed. 25% up versus the others (which includes confidence levels that sales will be 100% up, or by 75%; or up 50% and/or no change);
  - Of those who said they would be able to increase (“up”) this percentage by 25%, most of the CEO respondents (viz., 44.62%) were very confident, i.e. they gave a rating of 6 or 7;
5. **The Business Growth Area Variable (V48):**
  - Approximately an equal number of CEOs reported that 25% of their Business Process Implementation services were delivered differently than 5 years ago, when compared to 75% of CEOs who reported that their services were delivered differently than 5 years ago;
6. **The Attention to Service Detail Variable (45):**
  - This variable is skewed to the left.
  - Approximately 40% of the CEOs reported that their service delivery compares poorly to that of their competitors as opposed to the



approximately 12% who reported that their service delivery compares very well to that of their competitors;

**7. The Personal Experience Indicator Variable (V31):**

- This variable also represents a skew to the left.
- Approximately 96% of the CEOs reported having moderate or no experience (at the time) of bidding practices. The researcher expected this result primarily because in a mid-sized company the responsibilities are shared with other senior management who would necessary have a deeper level of hands-on involvement than the CEO;

**8. The Market Knowledge Indicator Variable (V32):**

- Approximately 98% of the CEOs reported having moderate or no experience of their company's competitors. This was a surprising result as one would have expected founding CEOs to have had this information or have had access to it especially given that their focus was on venture growth. Notwithstanding the observation made here, it is worthwhile noting that confidentiality on competitor information is not generally disclosed to "outsiders".

**5.3.3 Evolutionary Analysis Process for Factors Selected**

The initial stage of the research into the noted domains was driven by the need to determine the number of relevant factors – which were later termed F1 – F3. For this purpose, nine factors were selected, and 186 cases read.

For the N = 186, the study noted

- the initial communalities [the Squared Multiple Correlations (SMC)];
- the number of factors limited to the number of Eigen – values greater than 1.000 (Refer to the later comment on Kaiser criterion); and
- the maximum of 50 rotations applied.

These results of these are given below in Table 5.3 and they provide some perspective on the **initially selected and rotated** variables:

**Table 5.3: Variables Read To Determine (a) Number of Relevant Factors (b) SMC, and (c) the Cronbach's Alpha**

VARIABLE		SMC	CRONBACH'S STANDARDIZED ALPHA
NEW	CODE		
1	Best Job Choice (V33)	0.1326	-0.0068
2	Best Company Choice (V34)	0.0905	0.0903
3	Industry Training And Skilling (V35)	0.0660	0.1393
4	Family Training In Business (V36)	0.2537	-0.0383
5	(Business) Leadership Choice (V41)	0.1402	0.2733
6	Job Satisfaction (V37)	0.1225	-0.0692
7	Job Challenge (V38)	0.2487	-0.1621
8	Job Change Factor (VV39)	0.3078	0.1386
9	Personality Conflict (VV 40)	0.2548	-0.0880
<b>ALPHA FOR ALL VARIABLES</b>			0.0527

### 5.3.3.1. Testing for Reliability through Cronbach's Alpha

It was interesting that the researcher's initial assumptions on the reliability of initially selected variables (in Table 5.3) were confirmed to be true since, firstly, each of the initial variables exhibited different coefficient values/outcomes for different variables, with V33; V36; V37; V38 and V40 being negative; and secondly, five of the nine individual variable alphas produced values higher than the total alpha value.

It was further worth noting that in relation to Table 5.3 (above), for each of the Cronbach's **ALPHA VALUES** for "Best job choice", "Best company choice"; "Leadership choice" and, "Job change factor " the variables were considered as appropriate since each of those noted exhibited a result above the 0.0527 (the total alpha) point. This allowed for the investigation to conclude therefore that the **internal level of consistency** of the measurement instrument was acceptable for these variables.

### 5.3.3.2. Naming the Factors for the Noted Constructs

Through an extensive factor analysis process and construct definition search, the study arrived at the following names for the association of the construct with the factor:

- **Construct 1:** Risk Perception,
- **Construct 2:** Entrepreneurial Persistence and
- **Construct 3:** Unique Performance.

To clearly highlight the point here, the constructs are designated as

- **F1 = Risk Perception**
- **F2 = Entrepreneurial Persistence** and
- **F3= Unique Persistence**

Each of the above constructs, as they further referred or related to the factor, were simply referred to as F1, F2 and F3, respectively, in this study.

#### 5.3.4 Communalities, Analyses for “Company Vision Formulation” and Alpha Values

Extension of the application of the factor analysis methodology in this study arrived at the following Variables loadings for the F1, F2 and F3 for “Company Vision Formulation” (V69):

**Table 5.4: Loadings For Nominated Variables**

VARIABLE		UNROTATED FACTOR LOADINGS			COMMUNALITIES (From 3 factors after 4 iterations)	ROTATED FACTOR LOADINGS		
		F1	F2	F3		F1	F2	F3
V54	1.	0.418	-0.231	0.047	0.231	0.474	-0.090	0.065
V55	2.	0.367	-0.247	-0.081	0.202	0.452	-0.049	-0.073.
V58	3.	0.161	0.173	0.123	0.071	0.034	0.122	0.260
V59	4.	0.320	0.079	0.395	0.265	0.188	-0.056	0.471
V64	5.	0.619	-0.297	-0.099	0.481	0.697	-0.006	-0.50
V65	6.	0.615	-0.190	-0.027	0.415	0.630	0.042	0.051
V67	7.	0.132	0.159	0.139	0.062	0.015	0.094	0.211
V80	8.	0.662	-0.204	-0.038	0.481	0.679	0.050	0.047
V81	9.	0.347	0.270	-0.478	0.422	0.215	0.583	-0.292
V82	10.	0.361	0.228	-0.068	0.187	0.200	0.330	0.087

**Table 5.4: Loadings For Nominated Variables (Cont/...)**

V83	11.	0.099	0.541	-0.189	0.338	-0.173	0.574	0.012
V84	12.	0.147	0.553	-0.188	0.365	-0.138	0.597	0.027
V85	13.	0.136	0.2380	0.529	0.355	-0.069	-0.052	0.606
V86	14.	0.487	0.173	0.324	0.3720	0.291	0.11	0.469
V87	15.	0.323	0.556	0.019	0.4140	-0.013	0.539	0.264
V88	16.	0.019	0.173	0.373	0.1682	-0.117	-0.055	0.411
	<b>VP (i.e. variance explained by the factor)</b>	<b>2.297</b>	<b>1.490</b>	<b>1.039</b>		<b>2.048</b>	<b>1.485</b>	<b>1.245</b>
					<b>ALPHA VALUES (for rotated factor loadings for F1 – F3)</b>	<b>0.722</b>	<b>0.646</b>	<b>0.546</b>

It is worthwhile noting that w.r.t. Table 5.4:

1. although the research initially expected 10 factors/constructs (and indeed tested for these given the initial propositions), these were eventually reduced to three, namely F1 – F3.
2. responses to the 39 item (88 variable) questionnaire (Appendix A) were subjected to an exploratory factor analysis using squared multiple correlations as prior communality estimates. The principal factor method was used to extract the above noted factors, and this was followed by a direct obliminal (oblique) rotation. As also remarked elsewhere in this study, the scree-test applied suggested three meaningful factors, which were the only ones that were retained for further investigation.

In interpreting the rotated factor pattern, the study accepted that an item was said to load on a given factor if the factor loading was 0.30 or greater for that factor, and was less than 0.30 for the other. Using these two criteria, the study found that for

(a) **F1 (Risk Perception)**, the following five items were found to load (and this considered as representative of the factor):

- Variable 54: People Focus;
- Variable 55: Market Focus;
- Variable 64: Problem Solving through Gut-feel;
- Variable 65: Problem Solving through Intuition;
- Variable 80: Goal Orientation.

(b) **F2 (Entrepreneurial Persistence)**, the following five items were found to load:

- Variable 81: Constant Improvement;
- Variable 82: Occupational Focus;
- Variable 83: Work Orientated/orientation
- Variable 84: Tenacity
- Variable 87: Problem-solver.

(c) **F3 (Unique Persistence)**, the following six items were found to load:

- Variable 58: Innovation through Productivity Monitoring;
- Variable 59: Performance Evaluation;
- Variable 67: Feel-good Factor for Achievement;
- Variable 85: Individualistic Focus;
- Variable 86: Ability to Delegate;
- Variable 88: Objective Driven.

It is also important to note that even though most variables were applied for the loadings noted in Table 5.4, some variables were missing from the data analysis process remarked upon here (also refer to the constructs table below). The explanation offered

for this statistical phenomenon is that many of the omitted variables had loadings on all the factors – even after several iterations.

Other variables exhibited very low loadings BUT also opposed on all of three factors.

When evaluating the questions associated with the variables, the following additional constructs were noted:

- (a) **F1**: Productivity, knowing markets, customers, “gut-feel” decision making, and problem solving;
- (b) **F2**: Performance orientation, goal specification, persistence, challenge-handling, problem - analysis and problem resolution;
- (c) **F3**: Productivity monitoring, performance to (declared) standards, attitude to success or failure, and goal achievement.

In further investigating research into these factors, it was also found (by means of the literature review) that Baum, Locke, and Smith (1998) and Bryman (2004), respectively, posit that all of the activities noted for each of F1 – F3, in (a) – (b) above, have a reasonably strong bearing on

1. venture growth,
2. the risk taking appetite of the founder/CEO of the venture, and
3. leadership displaying characteristics.

These further findings (as also demonstrated by the results of the factor analysis results presented) were considered as confirmatory for the purpose of understanding the position taken by this study on founding entrepreneurs’ leadership capabilities and strategies adopted for growing their ventures.

In relation to Table 5.4 the factor correlations (below) sought justified the writer’s earlier thinking on founding entrepreneurs’ traits and, in particular, on leadership demonstrated (See also “factor correlations” below).

### 5.3.3.3 Factor Correlations

#### 5.3.3.3.1 Factor Correlations for Rotated Factors

**Table 5.5: Factor Correlations for Rotated Factors**

	<b>FACTOR 1</b>	<b>FACTOR 2</b>	<b>FACTOR 3</b>
<b>Factor 1</b>	1.000		
<b>Factor 2</b>	0.118	1.000	
<b>Factor 3</b>	0.102	0.195	1.000

#### 5.3.3.3.2 Factor Score Covariance

**Table 5.6: Factor Score Covariance**

	<b>FACTOR 1</b>	<b>FACTOR 2</b>	<b>FACTOR 3</b>
<b>Factor 1</b>	0.777		
<b>Factor 2</b>	0.117	1.000	
<b>Factor 3</b>	0.109	0.179	0.650

#### 5.3.3.3.3 Determining the optimum number of factors

During the process of further investigation and confirmation of factors, the study also selected additional variables and tested these for additional inclusion and for relevance and correlation. These are noted here (below) as part of the process of determining the optimum number of factors.

**Table 5.7: Variables Read To Determine The Number Of Relevant Factors and Squared Multiple Correlations (SMC)**

<b>VARIABLE</b>		<b>SMC</b>	<b>CRONBACH'S STANDARDIZED ALPHA</b>
<b>NEW</b>	<b>VARIABLE NAME (CODE)</b>		
1.	Best Job Choice (V33)	0.133	-0.006
2.	Best Company Choice (V34)	0.091	0.090
3.	Industry Training And Skilling (V35)	0.066	0.139
4.	Family Training In Business (V36)	0.254	-0.038
5.	(Business) Leadership Choice (V41)	0.140	0.273
6.	Job Satisfaction (VV37)	0.123	-0.069
7.	Job Challenge (VV38)	0.249	-0.162
8.	Job Change Factor (VV39)	0.308	0.139
9.	Personality Conflict (VV40)	0.255	-0.088
<b>ALPHA FOR ALL VARIABLES</b>			0.053

Through the iterations performed, the third column above provided one with variances extracted for the new factors. These are expressed as a percentage (in the third column) of the total variance. As can be seen

- F1 accounts for 22.91 percent of the variance;
- F2 accounts for 18.17 of the variance;
- F3 accounts for 12.56 of the variance, amongst others.

The factors F1, F2 and F3 were retained on the basis of the application of the Kaiser (1960) criterion. This criterion, according to Cooper and Schindler (2001), indicates that only those factors with Eigen values greater than 1 [i.e. unless a factor extracts at least as much as the equivalent number of 1 (one) original factor] are retained. Whilst not necessarily depicted in this study, the Scree-test, first proposed by Cattell (1966), could also have been applied to eliminate those factors that should not be considered.

Applying exactly the same approach (as the one above), and to reiterate an earlier point, the following variables were retained for the respective factors F1 – F3:

- the Company Vision Formulation (Variable 69),
- Performance Rating (Variable 78);
- Attention to Service Detail (Variable 45);
- Business Growth Area (Variable 48); and
- Past experience application (Variable 31).



## Chapter 6

### Conclusions on Analyses

#### 6.1. Introduction

Even though the descriptive statistics for variables provided the means and the standard deviations and three factors each for the

- Company Vision Formulation Variable;
- Attention to Service Detail Variable;
- Business Growth Area Variable; and
- Past Experience Application Variable,

the stepwise analysis for each of them indicated a result of “No variables” entered.

The further iterative process applied to the Company Vision Formulation Variable realised the statistical information provided in the tables below and the analyses provided. Through this iterative process, the study was also able to identify the constructs (F1, F2 and F3) against which various combinations of factor relationships were tested.

Additionally, the study reiterates that supporting evidence from the verbal interviews and from the empirical studies consulted helped in the creation of the founding principles for the domain of variables, and in clarifying these constructs.

#### 6.2 Factor Analysis

##### 6.2.1 Factor Analysis in Construct Development

The application of a stepwise factor analysis process in each of these constructs resulted in the following variables being considered as significant to the construct and to further investigation:

Table 6.1 Three Foundation Constructs for

1. Correlations Sought and
2. (later) Hypothesis Testing

CONSTRUCT	(INITIAL) FACTOR and/or RELATIONSHIP INVESTIGATED	VARIABLE APPLIED (IN TESTING INSTRUMENT – APPENDIX A)
<b>Construct 1: Risk Perception</b>	Decision making capacity and risk taking propensity based on experience	
		<b>Question No. 31:</b> When I decide important things, I use my “gut feel” based on experience Variable Name: Gut feel decision-making.
		<b>Question No. 32:</b> Sometimes when I am deciding important things, the answer to the problem just seems to appear in my mind. Variable Name: Experience based decision-making.
		<b>Question No. 39.A. (i):</b> Trying for specific goals is more fun than just doing my best. Variable Name: Goal orientation
		<b>Question No. 39.A. (ii):</b> I continuously try to beat my past performance. Variable Name: Constant improvement

CONSTRUCT	(INITIAL) FACTOR and/or RELATIONSHIP INVESTIGATED	VARIABLE APPLIED (IN TESTING INSTRUMENT – APPENDIX A)
<b>Construct 2: Entrepreneurial Persistence</b>	Personal application, focus and commitment	
		<b>Question No. 21:</b> I focus more on people's productivity than on “getting to know” our customers well Variable Name: People focus.
		<b>Question No. 22:</b> I focus more on marketing opportunities than on “getting to know” our customers well Variable Name: Market focus.
		<b>Question No. 24:</b> I have been a pioneer in the use of new IT solutions and processes Variable Name: Company growth focus.

		<p><b>Question No. 39.A. (i):</b> Trying for specific goals is more fun than just doing my best.</p> <p>Variable Name: Goal focus.</p>
		<p><b>Question No. 39.B. (i):</b> I am able to perform challenging work for longer periods</p> <p>Variable Name: Work oriented</p>
		<p><b>Question No. 39.B. (ii):</b> I can think of many times when I persisted with tasks that others wanted to quit.</p> <p>Variable Name: Tenacity</p>
		<p><b>Question No. 39.C. (iii):</b> I like to work at something until the goal is achieved even if the chance of succeeding may not be 100%.</p> <p>Variable Name: Objective driven.</p>

<b>CONSTRUCT</b>	<b>(INITIAL) FACTOR and/or RELATIONSHIP INVESTIGATED</b>	<b>VARIABLE APPLIED (IN TESTING INSTRUMENT – APPENDIX A)</b>
<b>Construct 3:</b> Unique Performance	Performance, commitment to task and dedication to venture.	
		<p><b>Question No. 39. A. (ii):</b> I continuously try to beat my past performance.</p> <p>Variable Name: Super Performance.</p>
		<p><b>Question No. 26:</b> In evaluating employees, I also ask my colleagues to tell me how I am performing against a declared set of standards.</p> <p>Variable Name: Performance Evaluation.</p>
		<p><b>Question No. 39. B (iii):</b> I do not care what others think of my success or failure.</p> <p>Variable Name: Individualistic focus.</p>
		<p><b>Question No. 39. C (ii):</b> When something goes wrong, I immediately analyse the cause of the problem and take action.</p> <p>Variable Name: Problem resolver.</p>
		<p><b>Question No. 39.C. (iii):</b> I like to work at something until the goal is achieved even if the chance of succeeding may not be 100%.</p> <p>Variable Name: Commitment focus.</p>

Several factor analysis iterations produced only those variables that were relevant to the constructs given here. With reference to the above table a few equally important points to note are that

- the variable (in the testing instrument) did not necessarily match the construct noted;
- even though many other variables or combinations of variables (in Appendix A) were tested, not all of them were significant or produced valuable coefficient values.

It is also important for the reader of this thesis to be aware that the reason for the inclusion of the above Table 6.1. here (instead of placing it after Appendix A) is to avoid any ambiguity of purpose and to draw attention to the relevant constructs, the (initial) factor and/or relationship investigated and the corresponding variable applied (in Appendix A).

### **6.2.2. Correlations and Further Stepwise Applications**

After the construct clarification process had been completed, further analysis of the results – which emanated from work done through the testing instrument (in Appendix A) – indicated that the study also had to include stepwise factor analysis (SFA) and regression testing and verification. This further SFA inclusion was essential to the research for the following primary reasons:

- Firstly, because some of the earlier noted variables – which were tested – did not provide statistically significant correlation coefficients even though these were anticipated to be the case from the pilot-test and from evidence provided by other research studies consulted and noted in the Literature Review Chapter. A multiple correlation coefficient of 0.7 or higher is considered to be a high relationship according to Cohen and Holliday (1998:101 – 2).
- Secondly, it was found that the results emanating from some of the tests done on the noted variables did not seem to be vulnerable to the impacts of multicollinearity.

It must be pointed out here that in the fairly large CEO population tested for this doctoral study one would have expected a greater significance (for each of the variables)

reflected than that revealed. This was not found to be the case for all of the variables in the research into this population set. The counter-arguments in favour of not always finding anticipated levels of significance are those presented by Bobko (2001) and Mouton (2002:50 - 53), respectively.

Bobko (2001:78), for example, posits that significance is not necessarily and only exhibited in large population samples. The importance of this statement to the present study is the argument that even in cases such as that noted for the present thesis in which 186 cases were read, extremely low coefficients can also be statistically significant. The extended argument presented is that a coefficient is not outstanding because it is noted as “statistically significant”. Rather, as Aiken and West (1991) also point out, in relation to correlation definitions it should be reasonably high in order to be statistically significant at the 0.05 to 0.01 levels.

Of significance to the present study was the finding that for the initial nine (9) variables under study and presented for the squared multiple correlations (SMC) – as represented in Table 5.3 (above) in which  $N = 186$  – the Cronbach’s Alpha result exhibited (for all these variables) was found to be 0.053. This outcome resulted in the variables under study being considered as significant for inclusion.

Mouton (2002) supports a similar position on correlation analyses but also extends the argument by noting that some variables reflect negative directions of association. This seems to indicate that when correlations for two variables are noted, the one variable could be higher (“positively indicated”) whilst the other [correlated] variable could be lower (“negatively indicated”). Similar views on “negative directions of association” are also expressed by Aiken & West (1991:52); Bobko (2001:73); Chandler and Lyon (2001); Davidson and Wiklund (2001) and Stone-Romero and Anderson (1994:86).

With reference to the points noted by these researchers regarding negative directions of association, the present study also confirms that several examples of this phenomenon have also been registered. These are recorded in Table 5.5 above. For example, in the regression and correlation testing for the “People-focus” variable(V54) across F1 – F3, the correlation coefficient for V54 was found to be - 0.231 and - 0.090, respectively (for both rotated and unrotated factor loadings) when correlated with the F2.

### 6.3 Analysis of Variance (ANOVA), Multiple Regressions And Results

Once the research had found and listed the factors, the investigation then led to a further search for statistically supported and qualified answers to questions such as:

- Does the CEO's participation in vision setting and/or formulation influence the risk perception (Factor 1) of a CEO?
- Does the percentage of business process improvement in an IT company influence a CEO's risk perception (Factor 1) and/or entrepreneurial persistence (F2)?
- Does a CEO's involvement in service delivery with reference to his/her competition influence his/her risk perception (Factor 1)?

Other statistically relevant and significant questions asked were:

- What is the influence of Company Vision Formulation, Performance Rating, Business Growth Area, Attention to Service Detail and Past Experience Application on Factor 1?
- What is the influence of the Business Growth Area and Attention to Service Detail variables on Factor 2?
- What is the influence of Performance Rating and Business Growth Area and Attention to Service Detail on Factor 3?

Note though that because of the very low values initially loaded for Company Vision Formation (V78) from the data set, two classes were created in which the lower scores were grouped into one class and the higher ones into another (where five levels was considered as optimal). This process resulted in V78, being reclassified as VV78.

The study would have been incomplete had the above additional questions not been adequately answered. In evaluating these questions associated with the variables, the ANOVA tests were found to be important. The researcher points out that

1. the research investigation's outputs of the tests for each of F1, F2 and F3 are given below in Table 6.2 (for which the GLM procedure was applied);

2. **regression procedure** executed for each of F1, F2 and F3, further noted as the Dependent Variables (DV).

### 6.3.1. ANOVA Outputs for Factor 1

(NB: In the following three models of regression [represented in the Table 6.2 – Table 4]

- the abbreviation
  - (a) “Co-eff. Var.” means Co-efficient Variance; and
  - (b) “DV” means the noted Dependent Variable for the ANOVA test.
- parts of each of the Tables 6.2 – 4 are repeated below in Tables 6.5 – 6.7).

**Table 6.2 ANOVA Test Results for F1**

DV: F1						
SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F-VALUE	PR > F	
MODEL	13	7.537	0.579	0.83	0.627	
ERROR	172	120.003	0.698			
CORRECTED TOTAL	185	127.541				
	R-square	0.059		Root MSE	0.835	
	Co-eff. Var.	27.429		F1 mean	3.045	
Source (for independent variable [IV])	DF	Type III SS	Mean Square	F-value	Pr > F	
Company Vision Formulation (V69)	1	0.386	0.386	0.55	0.458	
Performance Rating (VV78)	4	2.152	0.538	0.77	0.545	
Business Growth Area (V48)	3	1.169	0.389	0.56	0.643	
Attention to Service Detail (V45)	3	3.128	1.0426	1.49	0.218	
Past Experience Application (V31)	2	0.575	0.2877	0.41	0.663	

Given the above model in which V69, VV78, V48, V45 and V31 were entered,

- an R-squared value of 0.059 was obtained. This indicates that an extremely weak value of 5.91% of the variation in F1 is attributable to variation across the levels of the five variables. The study notes the variance as extremely weak because 95% of the variance in Factor 1 remains unexplained.

- The test done for this model did not provide an R-adjusted square value. Had this value have been computed, then it would have been easier to predict/indicate where the goodness - of - fit to population positioning would have been.
- an F-value of the regression model – which has an overarching role for the presented model – is provided. Each of the noted independent variables [IV's] being V69, VV78, V48, V45 and V31 is noted and evaluated in this study through a separate Type III – SS test. Thus,
  - (a) 13 degrees of freedom (DF) with an F-value of 0.83 produces, through this ANOVA test, an R-squared value of 0.059 (rounded).
  - (b) An application of this statistical information in an examination of the F-values for each variable indicates that, **apart from V45** (which was further integrated through stepwise regression), none of the others were considered to be statistically significant. (Also, see the earlier remarks made regarding the reasoning for the statement that  $H_0$  could not be rejected as all the p-values are  $>0.05$ .)

### 6.3.2. ANOVA Outputs for Factor 2

**Table 6.3 ANOVA Test Results for F2**

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F-VALUE	PR > F
MODEL	6	0.307	0.0512	0.21	0.974
ERROR	179	43.956	0.245		
CORRECTED TOTAL	185	44.263			
	R-square	0.007		Root MSE	0.496
	Co-eff. Var.	11.603		F1 mean	3.045
<b>Source (for Independent variable [IV])</b>	<b>DF</b>	<b>Type III SS</b>	<b>Mean Square</b>	<b>F-value</b>	<b>Pr &gt; F</b>
Business Growth Area (V48)	3	0.0597	0.0199	0.08	0.970
Attention to Service Detail (V45)	3	0.219	0.0728	0.30	0.829



For this ANOVA test, two IV's were tested in this model. Note here that V45 was again included in the test, as the expectation was that it would again reflect a strong relationship (in relation to the DV and of the overall F-value). This supposition was premised on a reasonably strong relationship being reflected to the previous DV/F1. Although six degrees of freedom were reflected, an extremely weak R-square of 0.007 emanated from this test. Also it was found that neither of these factors had any influence on the DV.

### 6.3.3. ANOVA Outputs for Factor 3

**Table 6.4 ANOVA Test Results for F3**

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F-VALUE	PR > F
MODEL	10	6.515	0.651	1.76	0.0714
ERROR	175	64.828	0.370		
CORRECTED TOTAL	185	71.343			
	R-square	0.0913		Root MSE	0.608643
	Co-eff. Var.	15.918		F1 mean	3.823477
Source (for Independent variable [IV])	DF	Type III SS	Mean Square	F-Value	Pr > F
Performance Rating (vv78)	4	1.049	0.262	0.71	0.5877
Business Growth Area (V48)	3	1.513	0.504	1.36	0.2561
Attention to Service Detail (V45)	3	3.756	1.252	3.38	0.0196

In this model, the evaluation produced an overall F-value of 1.76 for the regression model – in which 10 degrees of freedom were noted and three IV's were evaluated. As in the model for F2, another weak R-squared of 0.09 resulted. The Attention to Service Detail variable (V45) was found to have been statistically significant. This variable is the only variable found to have been consistent in its influence on all of F1 – F3.

### 6.3.4. ANOVA Outputs and Significance Of Source

#### 6.3.4.1. ANOVA Outputs In Relation To Variable Source Tested For Factor 1

In addition to analysing these ANOVA outputs for F1, the study also further investigated the significance of the source (viz. the Company Vision Formulation; Performance Rating; Business Growth Area; Attention to Service Detail and Past Experience Application variables) for F1. Application of these variables in relation to the ANOVA above elicited the following results in Table 6.5 (below):

**Table 6.5 ANOVA Outputs In Relation To Variable Source Tested For Factor 1**

Source	DF	Type III SS	Mean Square	F-Value	Pr > F
Company Vision Formulation	1	0.386	0.386	0.55	0.458
Performance Rating	4	2.152	0.538	0.77	0.545
Business Growth Area	3	1.169	0.389	0.56	0.643
Attention to Service Detail	3	3.128	1.043	1.49	0.218
Past Experience Application	2	0.575	0.288	0.41	0.6623

When evaluating the

- (a)  $H_0$  that any of the above variables (In Table 6.5) has **no** influence on F1, and
- (b)  $H_1$  that any of the above variables (In Table 6.5) **has** an influence on F1;

it was found that

1. none of the factors had an influence on F1; and;
2.  $H_0$  could not be rejected as all the p-values are  $>0.05$ .

#### 6.3.4.2. ANOVA Outputs In Relation To Variable Source Tested For Factor 2

Applying the same methodology as in 6.3.4.1 (above), the study also further investigated the significance of the source for the “Business Growth Area” and “Attention to Service Detail” Variables. Note that the latter variables were also used in relation to F1.

Application of the Business Growth Area Variable and Attention to Service Detail Variables in relation to the ANOVA outputs in which the variable source(s) tested for Factor 2 produced the results noted in Table 6.6 (below).

**Table 6.6 ANOVA Outputs In Relation To Variable Source Tested For Factor 2**

Source	DF	Type III SS	Mean Square	F-Value	Pr > F
Business Growth Area (V48)	3	0.059	0.019	0.08	0.970
Attention to Service Detail (V45)	3	0.219	0.073	0.30	0.828

When evaluating the

- (a)  $H_0$  that any of the above variables (In Table 6.6) has **no** influence on F1, and
- (b)  $H_1$  that any of the above variables (In Table 6.6) **has** an influence on F1;

it was found that

1. none of the factors had an influence on F2; and
2.  $H_0$  could not be rejected as all the p-values are  $>0.05$ .

#### 6.3.4.3. ANOVA Outputs In Relation To Variable Source Tested For Factor 3

In the ANOVA test for F3, the study investigated the significance of the source for the

- Performance Rating – which was also presented in F2 and,
- Business Growth Area and Attention to Service Detail Variables, which were also used in relation to F1.

Application of the Business Growth Area and Attention to Service Detail variables in relation to the ANOVA outputs in which the variable source(s) tested for Factor 2 produced the results noted in Table 6.7 (below):

**Table 6.7 ANOVA Outputs In Relation To Variable Source Tested For Factor 3**

Source	DF	Type III SS	Mean Square	F-Value	Pr > F
Performance Rating (V78)	4	1.049	0.262	0.71	0.588
Business Growth Area (V48)	3	1.513	0.504	1.36	0.256
Attention to Service Detail (V45)	3	3.756	1.252	3.38	0.019

When evaluating the

(a)  $H_0$  that any of the above variables (In Table 19) has **no** influence on F1, and

(b)  $H_1$  that any of the above variables (In Table 19) **has** an influence on F1;

it was found that

1. since the p-value for the Attention to Service Detail Variable is less than 0.05 (i.e. the p-value for this variable is 0.0196), **this Variable** was the only variable that **had an influence** on any of the factors;
2. neither Performance Rating nor the Business Growth Area variable had any influence on any of F1, F2 or F3.

### 6.3.5. Remarks on Correlation Significance

Since evidence-based research indicates that correlation significance should be checked before comparisons can be made (Cooper and Schindler, 2002; Bobko, 2001), it should also be mentioned that multiple correlations and multiple regression (MR) analyses were carried out to determine the predicted relationship(s) between specified variables. However, given that the hypothesis test by definition is a one-tailed test, and that the  $H_0$  (null hypothesis) states a correlation = zero, and with correlation being significant at a 95% probability level, the reader is reminded that for this study **multiple regressions** were performed for the hypothesised relationships. The purpose of bringing in stepwise application in this study was to allow for the data to build the regression equation.

As earlier illustrated in the discussion on correlations, this was an important process for the study since MR allowed for the portioning of variance with/from correlated predictors (Bobko, 2001:218 – 219). This consequently reduced the likelihood of Type 1 errors occurring (See also Stone-Romero and Anderson, 1994:354 – 356; Bryant and Yarnold, 1995).

#### 6.3.5.1 Moderator Variables and Multiple Regressions

The nature of this study dictated that a very limited number of moderator variables were introduced; especially where it was found that the relationship between two variables was contingent upon the value of a third variable. Moderator analysis according to Steel

and Kammeyer-Mueller (2002: 95 – 97) occurs in a two-stage fashion, which is at the moderator-detection and at the moderator-estimation levels.

The purpose in noting this point in the development of the present study is that this thesis is concerned with the moderator-estimation level, i.e. that the study primarily attempts to determine what proportion of variance can be attributed to which (identified) variable/s.

In all of the above cases the ANOVA test was applied here to test the significance of the differences amongst group means. The purpose for the application of ANOVA was to test whether the groups' responses to the dependent variable were significantly different, or differences in mean scores were/are due to sampling errors – which the present study clearly attempted to avoid as noted elsewhere.

This study was also directed towards these orientations because it was found that the relative power of moderated MR generally proves to be superior to sub-group correlation coefficients in the detection of moderating effects (Bobko, 2001:218; Stone-Romero and Anderson, 1994: 354). This point is equally pertinent to understanding

- (a) why this study also applied greater caution in the manner in which it conducted the pilot study and
- (b) the statistically guided approach it adopted in the way in which it reported the preliminary findings that emanated from that pilot study.

#### 6.4. Basic Statistical Measures for Variable 69 and Factors 1 – 3

Following the CFA, univariate testing produced the following simple statistics for V69:

**Table 6.8 Simple Statistics of Location and Variability for F1; F2 and F3 (in V69)**

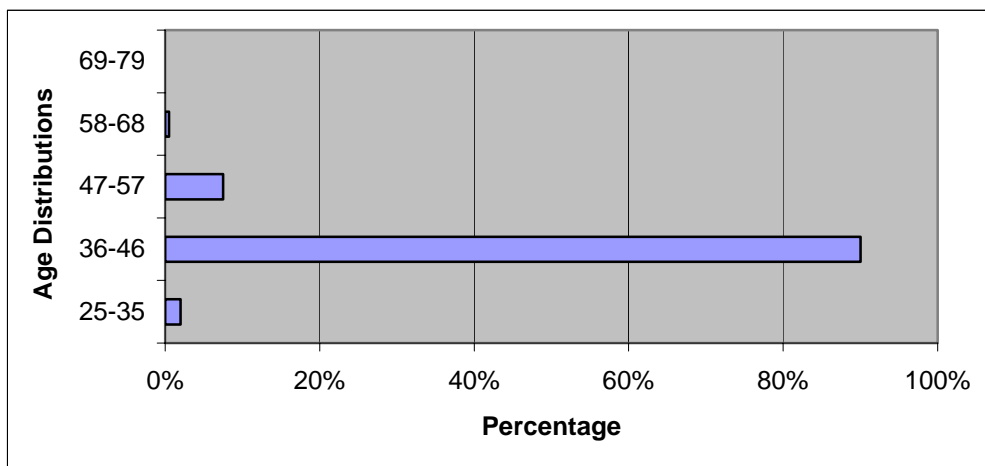
Variable:	Location				Sum Observations	Min	Max	Kurtosis
	N	Mean	SD	Variance				
F1	186	3.045	0.830	0.689	566.4	1.2	5.1	-0.588
F2	186	4.271	0.489	0.239	794.4	3.2	5.0	-0.813
F3	186	3.823	0.621	0.386	711.2	2.333	5.0	-0.257

Given the variables in the above table it was significant to observe that for all three of the factors firstly, a slight difference existed between the respective means of variable 69 for each of the three factors; and secondly, in order, from highest to lowest score, the dimensions that influence VG are F2, followed by F3, and then F1.

It should also however be noted that these results were, in retrospect, not surprising to the researcher as many of the CEOs interviewed noted the persistence factor as being critical to venture growth and leadership in a developing business. In addition, at least 60% of those who were involved and were the founders of mid-sized ventures thought that strong strategic leadership could never be divorced from direction-setting and vision-supporting when the company was still in its early years of growth and development. Other CEOs felt that strategic focus was critical to keeping the business itself focussed.

Although it was initially expected that most of the CEOs ages would predominantly fall within the two specific age ranges (36-45 years and 46-55 years), the results proved otherwise. 90% of the CEO population set fell in the mid-age group (36-45 years). This study found the remaining age-group distributions to be: (a) 2% in the younger-age group (25-35 years), (b) 7.5% in the older-age group (46-55 years), and (c) less than 0.5% in the oldest-age group (more than 55 years).

**Figure 1: Sample Characteristics: Age of Respondents**

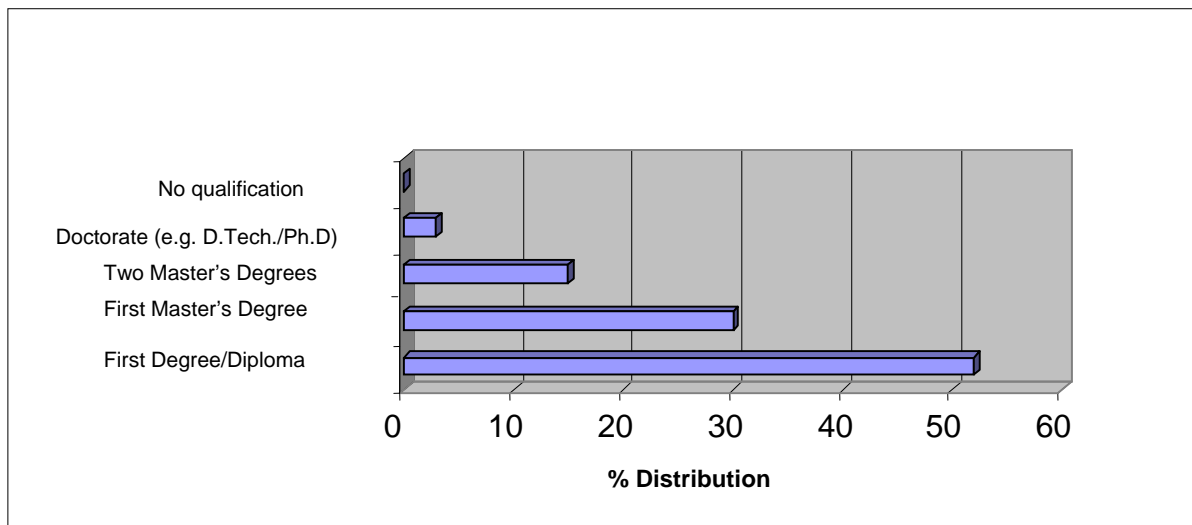


Because the majority of the respondents were found to be in the average age-group band (36 – 46 years), this study deduced from the statistical dispersion that

1. these entrepreneurs were going to be around (in their IT businesses) for the foreseeable future (notwithstanding that less than 1% of them were in the retirement age group);
2. their average age also indicated that many had matured or grown in the industry (See Questions 7–15; and 16 in Appendix A).

Because many of them were cognitively well-advanced (by reference to their qualifications), they would be reasonably comfortable in dealing with matters of IT skill, complex negotiations, competitiveness and management confidence (Refer here, for example, to Questions 19 – 20; Questions 21 – 29 in Appendix A).

**Figure 2: Sample Characteristics: Formal Academic Qualifications of Respondents**

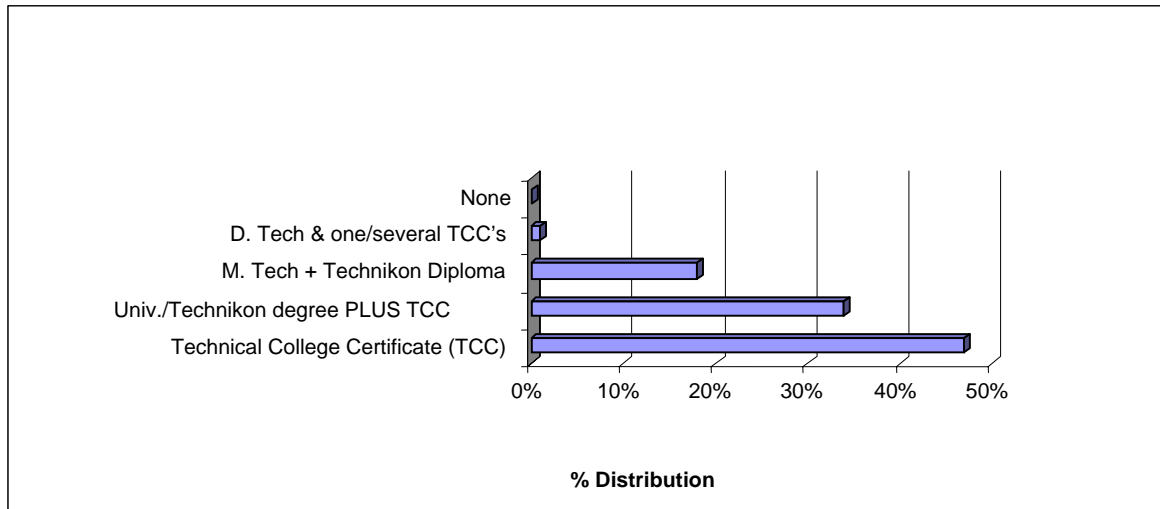


As with Baum's (1994) study and as compared to scores on other traits (such as passion for work, vision setting and unique performance), the present thesis too found very low Likert responses to questions on whether founding entrepreneurs were truly concerned about status (See for example Questionnaire 39 3B(iii) or V85 in Appendix A).

It would therefore not be untrue also to postulate here that negative relations exist between status and VG or development as has been also demonstrated by Boyd (1995); Hamilton (1987); Harris and Ogbonna (1999); Man, Lau and Chan (2002). This is a limitation of this study as it certainly did not concentrate on this factor and

indeed it was not the intention of the researcher to explore it any further. It does however open an avenue for further research as noted in Chapter 6.

**Figure 3 Sample Characteristics: Respondents' Technical/Vocational Formal Education**



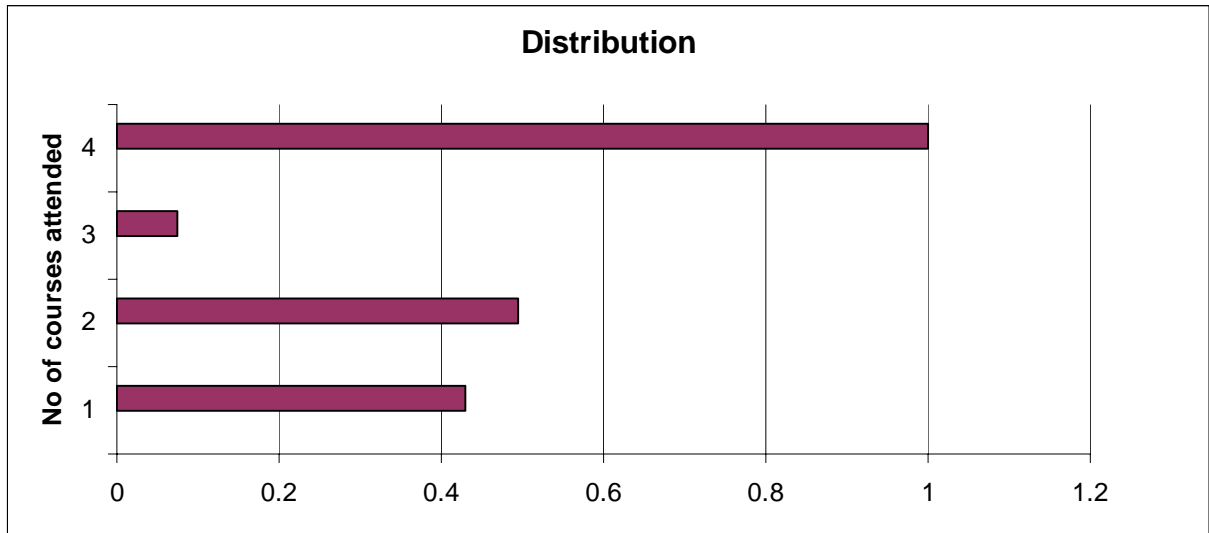
It was equally interesting to note that Technical and/or Vocational Education and Training played a key role in initiating and growing a venture. This result did not come as a surprise to the researcher. Many of the respondents, in one-on-one interviews indicated that a reasonably good understanding of IT (defined in this research study as “domain knowledge”) was critical to starting, developing and growing a business.

When questioned about whether they (the respondents) thought that they should attend regular training, some of them gave responses like, for example, that:

- “such training would be good for other employees”;
- “vocational training is what you do before you start a venture”;
- “it would detract from focussing on leading the company and growing profits”;
- “ ... when you start a company, your heart and soul has to be in it”;
- “Commitment counts, not more formal vocational and technical training. That you leave to the techies; your role as founder is to lead, drive, deliver value.”



**Figure 4: Sample Characteristics: Number of Courses attended by Respondents**



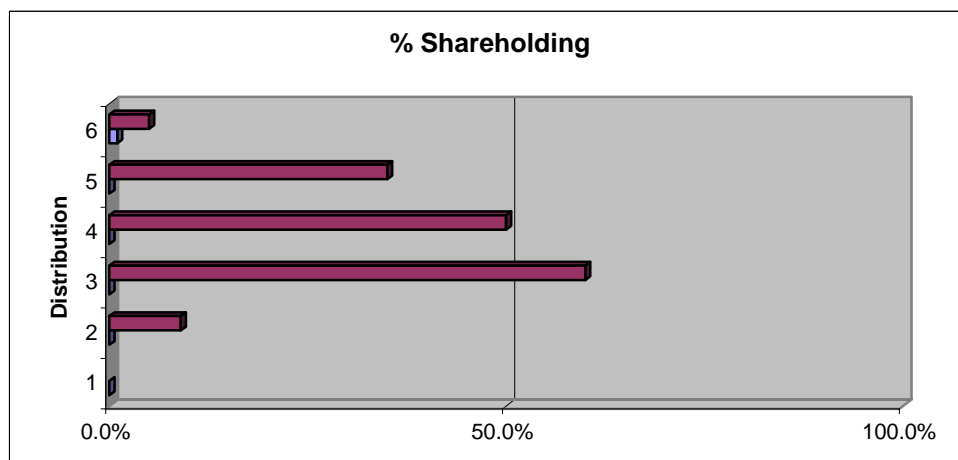
Whilst many of the founding entrepreneurs raised issues about formal training, it was interesting to note that many of them had attended more than four courses.

Many of them found the number of courses attended to be very valuable (albeit that this was again in one-on-one discussions).

Even then a fair number of founders indicated to the researcher that course attendance gave them time to “view their world of work differently”, and “to re-think strategy” and “competitive tactics” (albeit that that was not the intent of the question noted in the testing instrument).

**Figure 5: Sample Characteristics: Respondents’ Shareholding Distribution**

The study found that practically all of the entrepreneurs held shares in the particular



company. The range between 26 – 41% exhibited had the highest number of shareholding entrepreneurs. This point is significant in that it demonstrates that

- (a) none of the entrepreneurs consider their ventures as places where one simply works for a salary. Rather, their shareholding, however small or however linked to performance of the venture, reflects their commitment to a longer term goal since their personal assets (translated from their percentage shareholding) have to be grown alongside the development of the venture;
- (b) the 25,1% shareholding represents a critical minority shareholders' protection threshold in terms of the South African Companies Act. This threshold can also be used to promote or stop decisions taken by the executive directors of the company (King II Report on Corporate Governance for South Africa, 2002);
- (c) although more than 80% of the respondents to Question 6 in the final measurement instrument responded positively ("YES") to this question, they did not fully understand the implications of the minority shareholders' protection threshold.

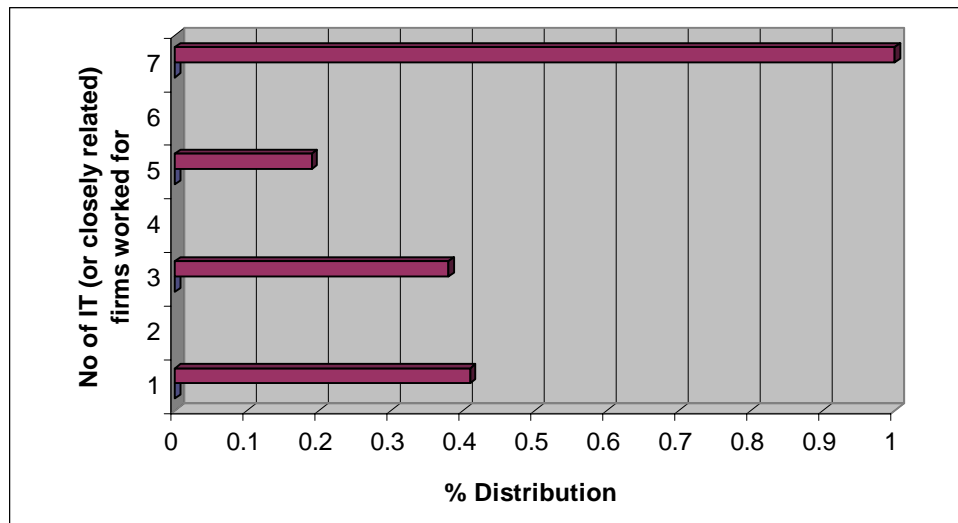
The deduction made is that although the respondents perceived themselves as being in control of the destiny of the entity, especially where the founder/s of the entity were in the leadership of the venture, they did not realise that when they part-owned their respective ventures with others (as was tested in Question No. 8 of the final measurement instrument), "the noted threshold was key to freedom of management and control of the destiny of the company" (per responses given by at least five of the respondents in the pilot-study - when questioned by the researcher).

This would also by implication mean that being a significant stakeholder of 25,1% and being the leader of the venture automatically created the flexibility necessary for the risk-taking and directing the growth of the company within a restricted regime.

Importantly, during the one-on-one interviews it was very clear to the researcher that many entrepreneurs tended to ignore this threshold. This was largely due to the fact that many entrepreneurs thought of

- “getting the venture going”;
- “this aspect as being a matter for the lawyers to deal with”; or
- “nothing else but how to grow the company”; or
- “how soonest one could be seen to being in a viable business”.

**Figure 6: Sample Characteristics: No of IT (or closely related) Firms Worked for by Respondents**



As with formal and vocational training/education, many of the founding entrepreneurs possessed a range of experiences as a result of working in different IT companies and environments before starting out on their own. The largest distribution was found in those that had worked in more than seven (7) companies before venturing out on their own. Again, many of them indicated that a spread of experiences broadened their horizons, especially in the years leading up to these entrepreneurs venturing on their own (or in partnership with others).

### 6.5. Concept validity

Earlier in this chapter and elsewhere in this study “internal validity” was referred to. The writer also noted where the concept had been applied. In this chapter this study also cautioned against the pitfalls of drawing biased or empirically-unsound conclusions when using “internal validity”. This cautionary note is emphasised because of the particular reference to how the researcher had approached the pilot-

study work, the follow-on interviews and the thesis itself (See also Sivakumar and Nataka, 2001).

Because founding entrepreneurs' traits/motives and VG are key elements of the present study, it was important to focus on the **concept validity** analyses of both elements. To that extent (and as this study also indicated earlier), the measurement model had to be refined since the initial tool would have been inadequate to

- elicit the expected results regarding founding entrepreneurs and
- demonstrate the complexity in the relationship of traits to VG, venture development and sustainability and venture success.

Through this refinement process a final measurement tool was derived, which, it is believed, produced the expected convergences and **significant discriminant validity** among the earlier mentioned domains and variables (Bobko, 2001). It was considered that such a refinement process was satisfactory for the present study in that it also resulted in a statistically acceptable measurement tool that reflected more **reliability** than would have been the case had this study not taken this route (Steel and Kammeyer-Mueller, 2002).

Because the present study uses Baum (1994) as a foundation, this research did not apply the LISREL 8 test. The SS-type test, amongst others, was applied so as to maintain some measure of understanding of the general validity of the measurement model later employed (Bryant and Yarland, 1995; Cooper and Schindler, 2001). Unlike Baum (1994) in which he had investigated CEOs and their associates, this study exclusively relied on CEOs. Univariate and multivariate testing methods were applied in the noted sample and N = 186 population sets.

Whilst this study did not always achieve surprising outcomes, it nonetheless found that

- (a) general individual differences between entrepreneurial founders may have less internal validity than data about more observable individual differences and organisational differences as also pointed out by Baum (1994); Burgelman (2002(a)); Hofstede (1998); and Greene, Brush and Hart (1999).

- (b) Even though general entrepreneurial trait/motive tendencies were secondary to this study, like Baum (1994: 269), it was also found that “...More statistically significant distribution differences appeared among general traits/motives than among other domains”.

### 6.5.1. Evolutionary Process For Factors Selected

Using Discriminant Analysis (“DA”) as the basis of the analysis, it is reiterated that the study used the Company Vision Formulation Variable (described earlier). For this variable the research

- (a) investigated whether a relationship exists between an entrepreneur’s vision conceptualisation and the operationalisation thereof, and
- (b) mapped that against the three constructs of Risk Perception, Entrepreneurial Persistence and Unique Performance.

Thus, the idea is to predict whether a CEO participates in the formulation of the company’s vision or not using F1, F2 and F3 in DA. Table 6.9 (given below) shows the success of the DA, i.e. an overall 67.2% of the CEOs are correctly classified as either participating or not participating in the formulation of the company’s vision.

**Table 6.9: Classification Matrix**

Group	Percent Correct	No. of cases classified	
		1	2
1	66.7	108	54
2	70.87	7	17
<b>Total</b>	67.2	115	71

As was suspected, the association between the Company Vision Formulation variable and the three factors could be considered to be systematic in the larger population and not attributable to random error, as again shown by the very small p-values in Table 6.10. This result also proved that the approach adopted for the pilot test was also appropriate, as no difference was detected between sample used and the larger (final) population (Bryant and Yarnold, 1995:15).

Thus, the responses to the Company Vision Formulation variable could be categorised into two groups, and when using F2 and F3,

1. a strong prediction results for N = 186 and
2. a re-classification rate of 67,2%, was obtained (resulted); i.e. 67,2%, was correctly classified using DA (as depicted by reference to the “Classification Matrix” for the factors noted).

Whilst also accepting here that responses to the associated variables (per the questionnaire) are highly polarised, and may also indicate differences in the manner in which founding entrepreneurs perceive vision establishment as an enabling tool for VG, the strong prediction referred to does however indicate that a strong relationship exists between Entrepreneurial Persistence and Unique Performance – which this study also investigated.

This prediction also seems to indicate that motivation and specific competencies (noted by reference to the associated questions in the earlier tables), also exhibit relationship paths to VG, with significant coefficients (where  $t > 2$ ; and  $p < .05$ ).

The same cannot be said for the Variable 78 (which the study earlier denoted as the “Performance Rating” variable) in which five (5) groups were established. Here, as with the Business Growth Area and the Attention to Service Detail variables, the results indicated that no variables were found to be statistically significant in the DA with the F-enter being 4.

Using F1 – F3, an attempt was made during the research to use discriminant analysis to group the Past Experience Application variable (V31) as illustrated in Table 6.10 here:

**Table 6.10 Classification Matrix for Variable 31**

Group No.	Sample size	Number of Cases Classified Into Group			Row Total
		2 (Two)	3 (Three)	4 (Four)	
2	11	63.6 %	9.10%	27.3%	100
3	106	38.67	17.93	43.40	100
4	69	24.63	13.04	62.33	100

For further clarity, V31 was also accepted as alluding to assessment of experiential learning, skill and knowledge. The results for this variable, in which the percentage correctly classified was 37.1%, were found to be interesting for two reasons: Firstly, this study would argue that this solution is better than any other with only one predictor – described earlier. Secondly, it seems to indicate a strong and positive relationship to the entrepreneurial persistence factor.

For the F2 factor and, in applying the noted data, this study also tested

- $H_0$ : The greater the specific and general competencies of a founding entrepreneur, with regard to organisational skill, business knowledge and general past experience, the stronger the business output (i.e. success).
- The alternate hypothesis/ $H_a$ : The weaker the specific and general competencies of a founding entrepreneur, with regard to organisational skill, business knowledge and general past experience, the weaker the business output (i.e. success).

To test this hypothesis, the study used the data mentioned earlier and converted it into percentage values in the following contingency table:

**Table 6.11 Classification Matrix for V31**

Group No.	Sample Size	Number of Cases Classified Into Group			Row Total
		2 (Two)	3 (Three)	4 (Four)	
2	11	63.6 %	9.10%	27.3%	100
3	106	38.67	17.93	43.40	100
4	69	24.63	13.04	62.33	100

The marginals (when rounded) give a score of 100%.

Given the mean for F2 to be 4.2, the standard deviation to be 0.4 (as per the “Univariate Procedure” analysis), and the existence of strong **statistical significance** represented, and with the high percentage of variance explained, this study is now able to reject the alternate ( $H_a$ ) hypothesis.

Even with the rejection of  $H_a$ , it would be interesting to know how strongly founding entrepreneurs think experiential learning, skill and knowledge influence venture development at the different stages of a new venture (versus an existing one).

Although some relationships were found to exist for the other relationships of factors to the tested hypotheses  $H_1$ , somewhat weaker than expected significances were found for the other factors. In relation to these hypotheses this study found that the technical skill and industry experience of founding entrepreneurs exhibited reasonably significant relationships to and with VG.

## **6.5. Closing Commentary on Domains and Hypotheses**

### **6.5.1. Concluding Remarks on Domain Specific Skill**

Direct effect domains, such as the specific skills associated with negotiating and contracting (IT deals), indicated the strongest relation to VG. Given the average age of most of the founding entrepreneurs in the population, this was not an unexpected result. One would normally assume that

- because of the domain/job- specific IT skills necessary, and
- because success tends to be the primary business driver for founding entrepreneurs (in general),

any IT venture founder-entrepreneur would at least possess a fair amount of IT technical skill before establishing such a venture, and that notwithstanding the other significant domain variables, the establishment of such a venture would largely be dependent on the additional tenacity of the entrepreneur.

This finding confers with the positions taken by other researchers and research theorists like Bamford and Burgelman (1998); Baum (2001); Das and Bing – Sheng (1997); Hansen and Haas (2001) and Shane (2000). With respect to the specific skills and competencies propositions they argued that experience is a strong driver for the development of job-specific knowledge, and that knowledge assists the founding entrepreneur in his/her efforts at understanding the risk dynamics of the work environment.

### **6.5.2. Concluding Remarks on Hypotheses**

Whilst this study concurs with this postulate, and since it did not focus exclusively on really examining the tripartite relationship between experience, job-specific knowledge



and the risk variable, the researcher concedes that this is also a limitation of the present study – but one that is also open to research in the future.

This study also established that

1. general traits (referenced in the hypotheses) had strong relationships with more specific variables;
2. the shift of general variable variance to mediation paths was fairly evident in those variables that showed more significant relationships to VG. This was particularly obvious in responses that were given to questions that related to confidence, age, and overall business philosophy (See also Reuber and Fischer, 1999). This finding was of particular importance to the research study because it reflected and confirmed the findings of Baum (1994) and Wright, Robbie and Ennew (1997), respectively;
3. as in Baum's (1994) study, status seeking did not feature prominently. Instead, it developed a very this study significant coefficient. It is argued that this result emanates from founding entrepreneurs being focussed on delivery to the objectives of the business, on VG and its success.

Other researchers, like Campbell and Yeung (1991); Chandler and Hanks (1998); and Kuznetsov, McDonald and Kuznetsov (2000) argue that a founding entrepreneur's primary focus is the success of the venture; and that anything beyond that (whilst important) becomes secondary to that process.

Baum (1994: 274) goes one step further in that he asserts that "...It may be that those who do not need approval from others are better able to take unpopular, but necessary, action."

4. despite the relatively low levels of research into the relationship between founders' traits associated with venture growth on the one hand, and self-efficacy, vision establishment and goal setting on the other, this study postulates that these motivation traits belong to the study of entrepreneurship, and in particular to founding a venture.

The present study notes this position here because, like Baum (2001), Burgelman (2002(b)) and Miller (1999), the researcher is conscious that further research might indicate that founding entrepreneurs are strongly driven by these situationally-specific domain variables.

5. because of the first order correlation between VG and price, quality and service (V43 – V45), this thesis expected vision establishment to have a strong correlation with these variables. This did not happen. Instead, it was found, as in the research by Baum (1994), that the variables V43 – V45 had a stronger first order correlation/association with innovation and productivity (V54; V57; V58)

#### **6.5.2.1. Acceptance or Rejection of Hypotheses**

It must be noted that the relationship expressed under the Propositions (as expressed in Chapter 3) could be investigated with different hypotheses from the one proposed as the overall hypothesis. The rejection or acceptance of such hypotheses could very well be further investigated where different variables from the ones given in this study are derived. The basis for the acceptance or rejection of those will largely be determined by the environment in which the study is conducted. In the case of the present research it was found that some variables simply did not reflect the expected outcomes or that their loadings (even when rotated) could not be found to be useful.

Whilst the pilot test revealed some indications as to what could be expected in the final measurement instrument, these deviations from the expected outcomes for the testing instrument are not unique. Several empirical works in entrepreneurship have also found this phenomenon to be present in their respective research studies. Notably,

- (a) Baum (1994:282), for example, argues that this deviation from the expected correlations' outcomes might "explain the significant indirect effect for price/quality/service emphasis" when associated with strategic action, which could be competition directed as explained through a LISREL 8 path model configuration.

- (b) Rosa and Scott (1998), additionally, point out that in such instances, such a configuration could possibly demonstrate the point that the founding entrepreneur's market entry and strategic decision to grow the venture is based upon a strong positioning at the higher end of the value chain (in terms of pricing). In a bid to out do the competition, such a strategy may, for example, be supported by a strategy of applying cutting edge IT practices, best-of-breed processes and future-proof IT innovations.
- (c) Schilling and Hill (1998) hold a similar view to the one this thesis has stated here. They postulate that in a situation such the one this study has described, strategic intent is not always realisable through direct interpretation. Rather, observance of its operationalisation is usually visualised as a factor in how successfully the venture has been grown and in the extent to which its competitors acknowledge it.
- (d) Burgelman (1991) argued, in this regard, that the intraorganisational ecology of strategy making and organisational adaptation are always interrelated. He further adds that in dealing with entrepreneurial founders one must be conscious that the strategy development focuses on building the business/venture.
- (e) Research by, for example, Eisenhardt and Tabrizi (1995), Hitt, Keats and DeMarie (1998) and by Cottrill (1998) strongly emphasises this point. In fact, the Hitt, et al. (1998) argument extends this debate. It points out that strategic intent and business philosophy are in most instances - where the founder is involved in the operations of the venture - to be read as implied in the service or product differentiation, as this is one of the ways that it could be made visible (See also Sarasvathy, 2001; Simon, et al., 1999; Utterback, 1994).

Nonetheless, in the present doctoral study, although the polychoric correlation of variables showed a high correlation among the variables in the initial factor analysis, the final analysis did not demonstrate a sufficiently stronger association in the results of V42 – 49 (See Table 6.1 for designated names of these variables). This disappointing outcome could be the result of how and where the questions were placed in the

questionnaire in relation to what the respondents were expected to provide as responses (See also Bobko, 2001; Bryant and Yarland, 1995; Mouton, 2002).

Whilst this study has found some weak associations between venture growth and some variables, such as those of general skills and general traits, the researcher is reasonably satisfied with evidence that seems to indicate that direct relationships do influence the ways in which founding entrepreneurs grow their ventures. This finding is also supported by the work of Burgelman (1983 (b)); D'Aveni (1994); Lumpkin and Dess (1996) and Greene, Brush and Hart (1999).

## Chapter 7

### Research Conclusions, Directions and Implications

#### 7.1. Introduction

This study researched founding entrepreneurs, entrepreneurial leadership and traits and examined how these were applied to grow and develop a venture. It also highlighted how founding entrepreneurs applied and aligned these elements to the strategy of their respective ventures.

Furthermore, this study has argued that the formation of new ventures is a function of strategic decision-making, entrepreneurial leadership, company size, context and various business models. Consequently this study believes that these orientations on venture development and growth are linked to

- (a) the nature and availability of resources,
- (b) processes related to venture development, and
- (c) support systems and knowledge - bases

as illustrated in the theoretical and empirical literature available.

#### 7.2. Theoretical Frameworks To Be Addressed In Responding

An extension of the theory for the noted orientations, of which elements were subsequently found also to have been applied by Chrisman, James and Hofer (1998); Cogliser and Brigham (2004); McElvey (2004); Sull (2004); Tosi, et al. (2004) and Wiklund and Shepherd (2005) supports the research this study has presented. This theory for the orientations mentioned by this thesis suggests that a link exists between the variables presented (See the three earlier Propositions), the three constructs applied and the founding entrepreneurs' traits as they in turn relate to entrepreneurial leadership, new venture growth and development.

The theoretical position presented by this doctoral study identifies two critical aspects.

Firstly, venture growth and development is a function of the founding entrepreneur's decisions and behaviours in, for example, recognising and exploiting an opportunity, gathering resources and building networks, structuring the venture for optimal performance, and then applying a chosen strategy to create realisation of the initial concept (Chrisman, James and Hofer, 1998; Gartner, 2001).

Secondly, the decision to initiate the venture begins with conceptualisation based upon the selection of the industry sector – a point very clearly articulated by all CEOs interviewed. Support for this postulate is found by reference to Chrisman, et al. (1998:24) who point out that “Regardless of the type of venture, the structure of the entered industry is critical to survival and success”.

### **7.3. Proposed Future Research Questions To Be Addressed**

Given the above-mentioned model and the issues raised on entrepreneurial leadership, entrepreneurial motives/traits and the findings in Chapter 5, this study believes that future research should attempt to find solutions and/or provide answers to the following questions emanating from the present research:

- (a) Do negative relations exist between entrepreneurial leadership status and venture growth or development? This study noted this to be a limitation for the research, as it did not concentrate on this question.
- (b) Does a relationship exist between an entrepreneur's vision-conceptualisation and the operationalisation thereof; and what is the relationship? (See also Howell and Boies, 2004.)

This study also researched the links between experiential learning, skill and knowledge and how these influence venture development. It would be interesting to know how strongly founding entrepreneurs believe that experiential learning, skill and knowledge influence venture development at the different stages of a new venture's growth life cycle.

Research seemed to suggest that experience is a strong driver for the development of job-specific knowledge, and that such knowledge assists the founding entrepreneur in his/her efforts at understanding the risk dynamics of the work environment. Whilst (as

earlier observed) this study concurred with this postulate, the writer would suggest that future research focuses on looking for the tripartite relationship between experiences, job-specific knowledge, and the risk variable.

In relation to risk perception and the management thereof, further research should also investigate the relationship between risk, resilience and the ability to be innovative and the creation of meaning in entrepreneurial idea conceptualisation.

Resilience to failure through risk management has also been addressed in this thesis. It is argued here that entrepreneurship and entrepreneurial leadership will remain stifled if venture capital resources in South Africa are strictly provided and limited only to existing ventures or to habitual (and successful) entrepreneurs in the IT sector. The research question that needs to be answered is "Why is venture capital for novice entrepreneurs in South Africa not readily available?" (Pietersen and Fynn, 2004).

#### **7.4. Concluding Remarks on Future Research**

For all of the above research perspectives to be adequately addressed, this study would suggest that any future researcher first carries out confirmatory research to test the basic tenets and assumptions has proposed above, and subsequently test, through an exploratory process, each of the variables contained in the skeletal propositions made above. It is suggested that such an exploratory process be guided by

- initial testing,
- a series of appropriately applied interventions and well-defined criteria; and
- a follow-on test/measurement several years later (through longitudinal study)

so that a scientifically acceptable and robust model can be developed.

Whatever the proposal arrived at out of testing for these propositions, it is hoped that greater clarity will be achieved on

1. entrepreneurship models and their practical applications; and
2. contingency theories regarding variables/factors that influence venture development by founding entrepreneurs.

In that regard, Fynn (2000:8) points out that in the South African context,

“...This means embracing novice/new entrepreneurs, allowing for meaningful innovation, creating incubation centres (where possible), sharing knowledge and opening our social networks to a wider audience. Fourthly, as South Africans and as Africans, we must be sculptors of our own entrepreneurial destiny and not merely consumers of entrepreneurial knowledge theories and recyclers of foreign or even former apartheid, untested entrepreneurial models. To do that, we must open our doors to entrepreneurship research.

On account of that involvement, this study will be providing critical thinking, thought- leadership and input into entrepreneurship curriculum development, paper debating and prospectively in co-paper presentations provide future-proof solutions. I would therefore argue that our active participation in universities and technikons, alongside university teachers and professors, on the subject of “entrepreneurship” is critical (Markman, Phan, Balkin, and Gianiodis, 2005) and will, over time, become reinforcing to the development that this [entrepreneurship] is searching for. That will, consequently, result in the formation and growth of entrepreneurial leadership.”

### **7.5. Implications for Future Research**

A further research proposition is to examine what entrepreneurship development could mean not only economically, socio-economically, politically but also for prospective entrepreneurs. The present study has indirectly looked at these propositions and offered what the researcher believes to be critical to the extension of the field of entrepreneurship. Much more work will need to be done to create a far more conducive environment for the development of entrepreneurship. It is posited here that national trade and industry regulators and legislative authorities can also play a meaningful role in the promotion of entrepreneurship. To argue that the role of government is exclusively to create legislation is not being open-minded to the needs of South Africa. More debate around what really constitutes entrepreneurship will need to be engaged in.

On a socio-economic level, the benefits of an entrepreneurial society to the economy cannot be over-emphasised. But for that to happen, a much more accommodating



regime of incentives, such as longer yet regulated tax breaks, softer loans, and other such initiatives which encourage entrepreneurs could also be researched and selectively applied. Entrepreneurship is not only about creating wealth for the founder. It also concerns making a contribution to the development of the society in which the entrepreneur finds him/herself. It is likewise about creating an environment in which people are encouraged to

- (a) develop a culture of saving with the purpose of starting a business;
- (b) take reasonable business risks and are not seen as business outcasts because they could possibly fail (or have failed).

Such an approach to entrepreneurship therefore also assumes that, over time, fewer people will be dependent on the state for financial support – which will free government from the inherited burden of having to care for all people irrespective of their needs.

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## **Appendix A**

### **CEO's Questionnaire submitted**