CREATIVITY IN THE ENTREPRENEURSHIP DOMAIN

by

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ABSTRACT

Against the background of reports such as the Global entrepreneurship monitor (Foxcroft, Wood, Kew, Herrington & Segal 2002) and the World competitiveness report (2003), indicating that South African small businesses lag behind their counterparts worldwide with entrepreneurship, the research questions driving this study were:

- What is unique about creativity in the entrepreneurship domain i.e., can creativity as a concept be uniquely delimited in order to contribute towards the development of the concept of entrepreneurial skills?
- What are the perceptions among South African small business owners of their own creativity and their application of it?
- What are the implications of the above for the development of entrepreneurs?

A literature study of the entrepreneurship theory pointed to a number of unique concepts considered as crucial to venture growth, namely, sustained opportunity exploitation and maximisation which could be regarded as the "creative" activities of the entrepreneur. The entrepreneurial process was investigated to establish the entrepreneurial tasks and processes underlying opportunity exploitation and venture growth maximisation.

Apart from depicting activities such as opportunity identification, development and refinement of the business concept, assessment and acquiring of the necessary resources and implementation, the literature seemed vague and referred more often to skills required for the above tasks, such as entrepreneurial skills and management skills. It was established that entrepreneurial skills include, inter alia, creativity, visioning, risk taking and role modelling.

The creative process activities were linked with those of the entrepreneurial process to establish whether there are unique entrepreneurial applications of creativity. The following "creative acts" were identified as critical in the entrepreneurship domain:

- "creation of a business/opportunity",

- "synthesis" i.e., the putting together of systems/resources and even opportunities, and
- "modification" i.e., the adapting, changing of processes, etc., to realise growth.

The current situation pertaining to entrepreneurship training and development was investigated to establish whether the above was addressed in the existing training models and learning contents of the domain. It was concluded that despite great advancement having been made in the training and development of creativity and innovation in the entrepreneurship domain, the experiential element of applying the activities of creation, synthesis and modification in order to obtain sustained venture growth is difficult to address in formal learning programmes.

Against the background of research (Jung, Ehrlich, Noble & Baik 2001:42) that found that there were positive relationships between an individual's level of self-efficacy and performance, South African small business owners' perceptions of their own creativity, their businesses' innovativeness and their implementation orientation was tested empirically.

It was found that South African small business owners perceived themselves to be creative and their businesses to be reasonably innovative but that there was a negative relationship between these two perceptions and the implementation orientation. The high esteem of own creativity and innovation versus a lower implementation orientation is indicative of a need to develop experiential training programmes focused on the implementation of creative activities i.e., commercialisation of products and application of innovation in businesses.

In view of the high esteem South African small business owners have of their own creativity, the question is posed as to whether they would be willing to undergo training because they might think they do not need training in this field.

In view of the difficulties of incorporating experiential learning content in formal training programmes it is proposed that the possibility of integrated learning be investi-

gated and developed to include business information centres, networking, linkages, mentoring and tutoring.

EKSERP

Teen die agtergrond van verslae soos die Global entrepreneurship monitor (Foxcroft, Wood, Kew, Herrington & Segal 2002) en die World competitiveness report (2003), wat daarop dui dat Suid-Afrikaanse kleinsake eienaars agter hulle wêreldeweknieë staan met betrekking tot entrepreneurskap, was die navorsingsvraag onderliggend aan hierdie studie:

- Wat is uniek aan die konsep 'kreatiwiteit' in die entrepreneurskap domein, m.a.w. kan kreatiwiteit as konsep uniek afgebaken of begrens word ten einde 'n bydrae tot die ontwikkeling van die konsep 'entrepreneuriese vaardighede' te maak?"
- Wat is Suid-Afrikaanse kleinsake eienaars se persepsie van hulle eie kreatiwiteit en die toepassing daarvan in hulle besighede se innoverendheid?
- Wat is die implikasies van bogenoemde vir die ontwikkeling van entrepreneurs?

'n Literatuurstudie van die entrepreneurskapteorie het 'n aantal unieke konsepte uitgewys wat krities is vir besigheidsgroei, nl. volgehoue geleentheidsbenutting en groei maksimering wat as die "kreatiewe" aktiwiteite van die entrepreneur gesien kan word. Die entrepreneuriese proses is ondersoek om vas te stel watter entrepreneuriese take en prosesse is onderliggend aan geleentheidsbenutting en besigheidsgroei maksimering.

Buiten die aanduiding van aktiwiteite soos geleentheidsidentifisering, die ontwikkeling en verfyning van die besigheidskonsep, beoordeling en verkryging van die nodige hulpbronne en implementering, was die literatuur vaag en is daar meer na vaardighede vir hierdie take verwys, bv. entrepreneuriese vaardighede en bestuursvaardighede. Die literatuurstudie dui daarop dat die domein die volgende as entrepreneuriese vaardighede erken: kreatiwiteit , risikoneming, visie ontwikkeling en rol modellering.

Hierna is gepoog om die aktiwiteite van die kreatiewe proses met die van die entrepreneuriese proses te verbind op soek na helderheid oor unieke leerinhoude vir

entrepreneuriese toepassing van kreatiwiteit. Die volgende “kreatiewe” aktiwiteite is geïdentifiseer as krities vir die realisering van entrepreneurskap:

- “die skep van ‘n geleentheid / besigheid”,
- “sintese” of die samevoeging van stelsels en hulpbronne, en
- “modifisering” oftewel die aanpassing, en/of verandering van prosesse ens. ten einde groei te bewerkstellig.

Die literatuurstudie is verder uitgebrei na entrepreneurskap opleiding en ontwikkeling ten einde vas te stel hoe bestaande modelle, leerinhoude wat ervaring en toepassing behels, inkorporeer. Daar is vasgestel dat ten spyte van vordering op hierdie gebied die ervaringsgedeelte van toepassing moeilik in formele opleidingsprgramme aangespreek kan word.

In die lig van navorsing (Jung, Ehrlich, Noble & Baik 2001:42) wat bevind het dat daar ‘n positiewe verband bestaan tussen individue se assessering van hulle eie bekwaamheid met betrekking tot ‘n spesifieke taak en prestasie toets die empiriese gedeelte van die studie vir gapings tussen Suid-Afrikaanse kleinsake eienaars se persepsies van hulle eie kreaitiwiteit, hulle besighede se innoverendheid en hulle implementeringsgesindheid.

Daar is bevind dat Suid-Afrikaanse kleinsake eienaars hulleself as kreatief beskou en hulle besighede innoverend, alhoewel tot ‘n mindere mate as hulle eie kreatiwiteit. Daar was egter ‘n negatiewe implementerings gesindheid. Die hoë selfvertoue ten aansien van eie kreatiwiteit en innovasie teenoor die laer implementeringsoriëntering dui op die noodsaaklikheid van dringende aandag aan ervaringsopleidingsinhoude ten aansien van besigheidskepping, geleentheid-skepping, die samevoeging van stelsels en hulpbronne en modifisering of die aanpassing, en/of verandering van prosesse ens. ten einde groei te bewerkstellig.

Die vraag word egter gevra of kleinsake eienaars gewillig sal wees om opleiding ten aansien van kreatiwiteit te kry, in die lig van hulle hoogskatting van hulle eie vermoëns ten aansien van kreatiwiteit en besigheidsinnovering.

Aangesien ervaring moeilik in formele opleiding geïnkorporeer word, word voorgestel dat daar wyer gekyk word na geïntegreerde ontwikkeling wat ook besigheid-inligtingsentrums, netwerke, skakels met besigheidsgeleenthede, mentorskap en konsultering insluit.

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CHAPTER 1

1 INTRODUCTION

All over the world the importance of the small business sector in the economic and social development of countries is recognised. The logic of hailing innovation as the golden route towards growth and prosperity is as follows:

> By developing new businesses, extra sources of cash flow are created, which result in increased shareholder value. By creating value for stakeholders, cash flow may increase, enabling investment in further development of products, services and/or processes, closing a reinforcing loop (Janszen 2000:7).

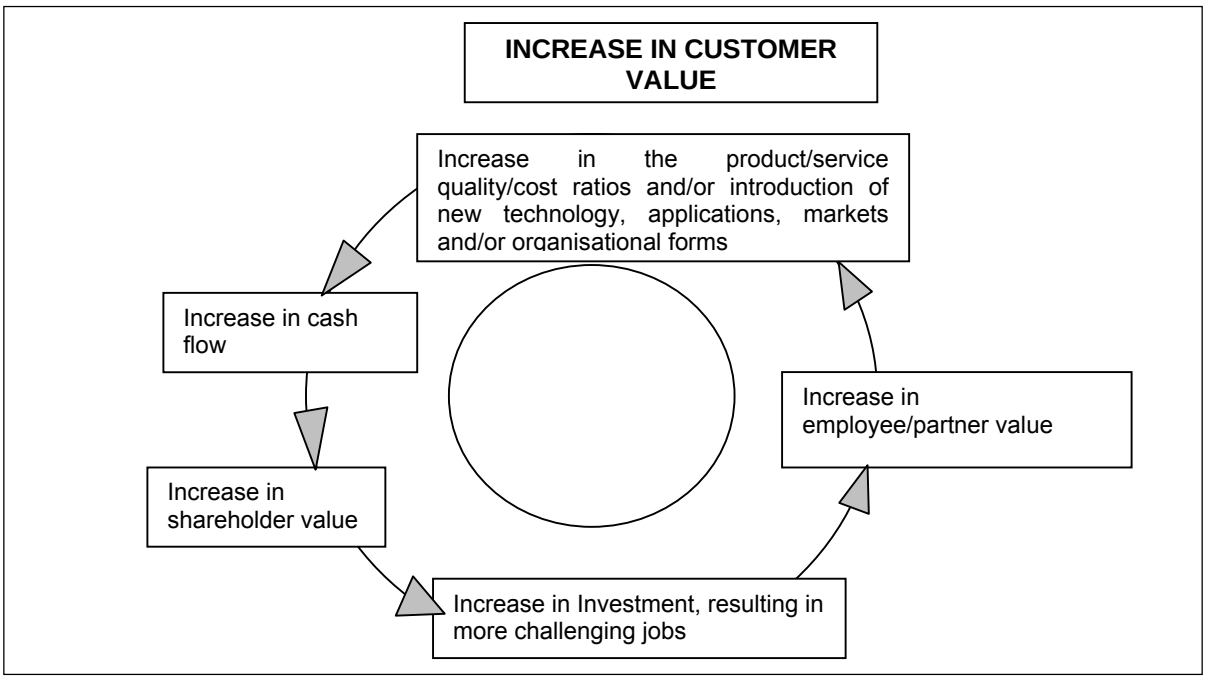

Figure 1.1: Reinforcing loop resulting in a growing firm adapted from Janszen (2000:7)

The above has led to increasing emphasis in the government and education communities on the development of programmes to aid and train entrepreneurs (Carton, Hofer & Meeks 1998:1). In South Africa SMME (small, medium and micro-enterprise) development has been identified by the South African government as a priority in creating jobs (Nieman 2001:445).

1.1 Success

Entrepreneurship is about success. Researchers of entrepreneurship have been struggling for decades to uncover the primary determinants of new business survival and success. Early researchers focused on the characteristics of successful entrepreneurs as a key to the mystery but the results of the trait approach were disappointing.

A venture is successful when the aspirations of its stakeholders are met. According to Wickham (2001:123) success can best be understood in terms of the following interacting aspects:

- The performance of the venture
- The people who have expectations from the venture
- The nature of those expectations and
- Actual outcomes relative to expectations.

Identified success factors of entrepreneurs include characteristics and skills, such as achievement motivation, internal locus of control, opportunity recognition, commitment to, and involvement in the enterprise, planning, perseverance, sound human relations, positive attitude and approach, the use of experts, market focus, client service, quality work, financial knowledge, creativity, innovation and willingness to take moderate risk (Nieuwenhuizen, Groenewald & Nieuwenhuizen 2003:1).

Wickham (2001:126) lists a common set of factors that lies behind every successful business:

- A significant opportunity is exploited
- The nature of the opportunity is well defined and well understood by the venture
- The innovation behind the venture is effective and different from the way existing businesses operate
- The entrepreneur brought the right skills to the venture
- The venture has the right people
- The organisation has a learning culture and its people a positive attitude
- There is effective use of networks
- Financial resources are available and

- The venture has clear goals and its expectations are understood.

1.1.1 The contribution of innovation and creativity to entrepreneurial success

According to Carrier, Cossette and Verstraete (1999:1) enterprises are required to demonstrate creativity and innovation if they are to survive and flourish in a competitive and increasingly demanding world. Shepherd and DeTienne (2001:1) indicate that organisations need continually to identify new opportunities beyond existing competencies if they are to survive and prosper.

In a study by Hills and Shrader (1998:5) it was found that entrepreneurs agreed that creativity was very important to identifying business opportunities. This strengthens the perception that creativity and innovation are major factors in being entrepreneurial and meeting the changing needs of society.

Brazeal and Herbert (1999:34) remarked that although the concepts “change”, “innovation” and “creativity” are integral components in the entrepreneurial process, they have been largely ignored by entrepreneurship researchers. Furthermore a unique delimitation of the underlying relationships between the concepts entrepreneurship, creativity and innovation in the entrepreneurship domain with the aim of developing curricula for training and development has not yet been done.

The question arose whether this observation was still true and if so, why? A search was done in the citations and abstracts of items in the Proquest database (2002). This electronic database was chosen due to the large number of serial titles (1832), mainly focused on business, that were abstracted and the ease with which the database could be searched. The Proquest database facilitated the use of titles, citations and abstracts as physical units of analysis enhancing the greatest possible availability of the concepts under investigation.

The words “entrepreneurship and creativity and innovation” were used in conjunction with one another as units of analysis to establish to what extent the entrepreneurship field acknowledges creativity and innovation.

Twenty-nine (29) articles were found combining all three different search terms and were subtracted from the results for "entrepreneurship and creativity" as well as from the results for "entrepreneurship and innovation". The result was as follows:

Table 1.1: Number of articles found on "entrepreneurship", "creativity" and "innovation"

Search term	Total Hits
Entrepreneurship AND creativity AND Innovation	29
Entrepreneurship AND creativity (only)	63
Entrepreneurship AND Innovation (only)	806
Other (Entrepreneurship)	3078
TOTAL: ENTREPRENEURSHIP	**3976**

The results of the search confirmed Brazeal and Herbert's (1999:34) observation, indicating that the term "creativity" especially, was not often used in articles on entrepreneurship. The linking of entrepreneurship with creativity in the domain is furthermore less established than the linking of entrepreneurship with innovation and is graphically illustrated in Figure 1.2.

Furthermore, when comparing the total number of articles on innovation in the data-base (10 000+), with those on entrepreneurship (3976), it seemed as if the concept "innovation" was much more researched/established than "entrepreneurship".

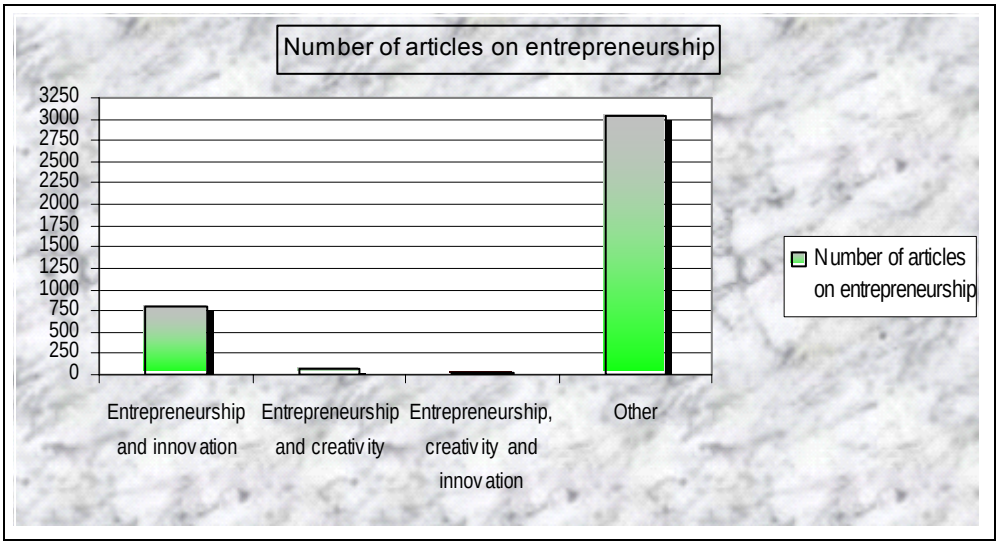

Figure 1.2: Number of articles on entrepreneurship in Proquest Database containing the keywords "creativity" and "innovation"

Since the Proquest database (2002) focuses on management literature it can be deduced that there seems an acknowledgement and acceptance in the management domain of a relationship between entrepreneurship and innovation since 21% of the articles on entrepreneurship also mentioned innovation (including the articles on entrepreneurship AND creativity AND innovation).

In investigating why the concept innovation is more often associated with entrepreneurship, the following observations are put forward:

- At the root of the problem of reaching an acceptable definition of entrepreneurial core skills and capacities are the diverse contexts within which the various definitional views are taken. Mueller-Vollmer (1985:x) summarised it as follows: "all concepts in which an entire process is semiotically concentrated (i.e., concerned with signs and symbols of the existence of something), elude definitions, only that which has no history is definable."
- Definitions are useful in the development of paradigms because they provide a set of synonyms and formulate conditions necessary for and applicable to the term defined. Carlock, (1994:17) also pointed out that paradigms with the clearest boundaries advance fastest from a scientific perspective.

Although various definitions of entrepreneurship acknowledge creativity and innovation as key ingredients of entrepreneurship, Carrier (1999:2) found that when one examines the content of existing entrepreneurship courses and programmes it becomes clear that many fail to address the questions of creativity and innovation.

1.1.1 The role of training and development in the success of entrepreneurs

Management development advisers and/or trainers are concerned with those entrepreneurial skills and capacities that are necessary and sufficient for the pursuit of effective entrepreneurial behaviour within, and outside of, organisations. Couger (1995:14) is of the opinion that entrepreneurship can be taught. Although it is not really possible to teach people how to recognise opportunities, or to have the will and tenacity to start and bring an entrepreneurial venture to its conclusion it is possible to:

- Sensitise people to the importance of opportunities
- Show them how to think differently than others
- Make them aware of the demands entrepreneurship makes and
- Sensitise them to some ways to handle these demands (Bull, Thomas & Willard 1995:164).

The past decade saw a remarkable growth in the number of entrepreneurship courses. Solomon, Duffy and Tarabishy (2002:2), report various educational opportunities available at more than 1500 colleges and universities. However, despite the general agreement that entrepreneurship can be taught there is little uniformity in course content (Gorman, Hanlon & King 1997:1). The question that comes to mind is, what should be taught and how should it be taught to improve the development of entrepreneurial capabilities?

The science of small and medium enterprise management is seen as teachable within a conventional pedagogic paradigm. However, the art is seen as more problematic, since it is experiential, founded in innovation and novelty but based on heuristic practice (Jack & Anderson 1999:111). Those in the education and training system, who wish to respond to the challenge of teaching the "art" of entrepreneurship, face a number of problems relating to the concept of entrepreneurial skills. These derive mainly from the large number of definitions on offer and the fact that the definitions of the terms 'entrepreneurship' and 'small business' are yet to be resolved in the literature (Grant & Perren 2002:186).

Van Vuuren and Nieman (1999:4) addressed the lack of theory and paradigm in entrepreneurship education by presenting the constructs, entrepreneurial performance (E/P); motivation (M); entrepreneurial skills (E/S); and business skills (B/S) in a dynamic linear model E/P= f aM (bE/S x cB/S); a,b,c being constants or existing skills. Clarity and specificity on creativity and innovation as entrepreneurial skills would contribute largely towards a more focused design of training/education programmes for entrepreneurial skills development.

The problem for educators according to Bull, Thomas and Willard (1995:165) is teaching students to be innovative entrepreneurs and not only firm-organising entrepreneurs. Bull *et al*. (1995:166) identify the fundamental difference between the two

as the innovative act, the recognition and development of the opportunity and acknowledges that this is something that cannot be taught very well.

Important factors in the implementation of innovation might be self-esteem and self-efficacy. Self-esteem refers to the perception of one's self as capable, important, successful and worthy, while self-efficacy pertains to the belief that one has the ability to perform tasks effectively in various achievement situations. People high in generalised self-efficacy predict that they are likely to succeed at task performance in a variety of achievement situations (Gardner & Pierce 1998:3). It is therefore hypothesised that small business owners with high levels of self-efficacy pertaining to creativity predict high levels of entrepreneurial performance, including innovativeness.

The understanding, nevertheless, of the role played by the self-concept within the entrepreneurship domain remains incomplete and far removed from the practice. In this context it can be argued that there are a number of areas of omission and need for clarification in the entrepreneurial skills debate.

Furthermore, few authors actually address the question of how to develop the required creative and innovative skills in future entrepreneurs. This must perhaps be seen in the context of Albert Einstein's remark, as quoted by Antonites (2000:34):

> The history of scientific and technical discovery teaches us that the human race is poor in independent and creative imagination. Even when the external and scientific requirements for the birth of an idea have long been there, it generally needs an external stimulus to make it actually happen, man has, to speak, to stumble right up against the thing before the idea comes....

1.2 Purpose of this research

If Amabile's (1996:12) conclusion is concurred with, namely that in business, creativity can almost be equalised with the improvement of business performance, the question of what does the creative entrepreneur do that results in the improvement of business performance, becomes even more crucial. A critical factor proposed to

distinguish entrepreneurs from non-entrepreneurial managers and small business owners is innovation (Jennings 1994:138).

Ivanyi and Hofer (1999:1002) are of the opinion that creativity and innovation are inseparable and that the natural environment of personal creative work and creativity is the innovation process. It could be asked whether creativity and innovation, as subject domains in their own right, are only loosely linked to entrepreneurship or whether the concepts could be established as ancillary constructs in the entrepreneurship domain. If these concepts are accepted as ancillary constructs, it can subsequently be asked what these ancillary constructs' unique meanings are in the entrepreneurship domain and whether these ancillary constructs are accepted and regarded as core skills that can be taught to aspiring entrepreneurs.

Aldrich and Martinez (2001:42) state that any research design should integrate the outcomes of entrepreneurial efforts and the processes that led to those outcomes. This study will attempt to do the following:

- Establish what is unique about the constructs of creativity and innovation in the entrepreneurship domain. Various representative definitions of creativity and innovation will be categorised, focusing on determining the unique qualities of creativity and innovation in the entrepreneurship domain.
- Establish if a link/relationship can be found between business owners' perception of their own creativity and their perception of their businesses' innovativeness.
- Test business owners' on the above by establishing their attitude towards implementation. Since self-assessed entrepreneurial self-efficacy was found to have a positive relationship with entrepreneurial intention and action (Jung *et al.* 2001:41), the empirical results indicating the perceptions and behaviours of small business owners in terms of the application of creative and innovative processes will be explored and implications for entrepreneurship education identified.

1.3 Importance of the study

The World Competitiveness Report (2003) placed South Africa in the 18th position out of the 30 developed and newly industrialised countries measured in the world. The Global Entrepreneurship Monitor (GEM) (Foxcroft, Wood, Kew, Herrington & Segal 2002:4) supports the above ranking, indicating that only 6,5% of the adult population is involved in entrepreneurial ventures. The impact of this is worsened by the fact that 2,8% of these entrepreneurs are necessity entrepreneurs.

It must therefore be asked whether South African entrepreneurs are applying creative and innovative concepts and whether any difference can be seen in the growth and/or innovativeness of businesses due to increased creativity.

A core objective of entrepreneurship education that differentiates it from typical business education first is to generate various different ideas in a short time span in order to exploit business opportunities and to project a more extensive sequence of actions entering business (Solomon *et al*. 2002:3). Keeping this objective of entrepreneurship education in mind, establishing the conceptual links of creativity and innovation with the entrepreneurship domain could contribute to the conceptualisation of “entrepreneurial skills”.

1.4 Research Plan

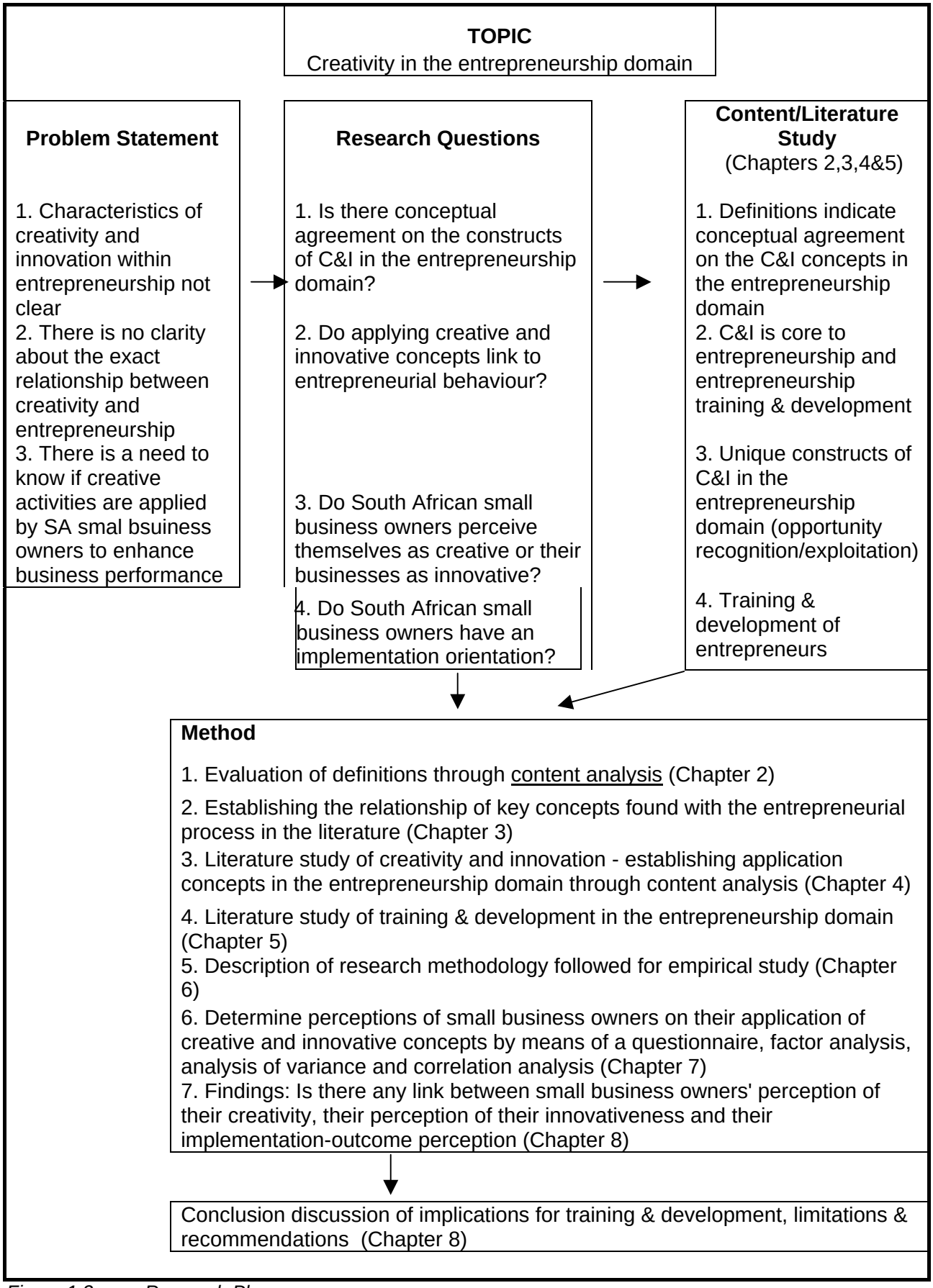

Figure 1.3: Research Plan

CHAPTER 2

2 ENTREPRENEURSHIP THEORY AND CREATIVITY

2.1 Introduction

The purpose of this chapter is to establish whether entrepreneurship theory provides guidelines, specifically through definitions of the domain, as to how the concepts "creativity" and "innovation" are linked to the domain and which subjacent constructs of the concepts "creative" and "innovative" can be identified as unique to the entrepreneurship domain. The chapter layout is explained in Figure 2.1

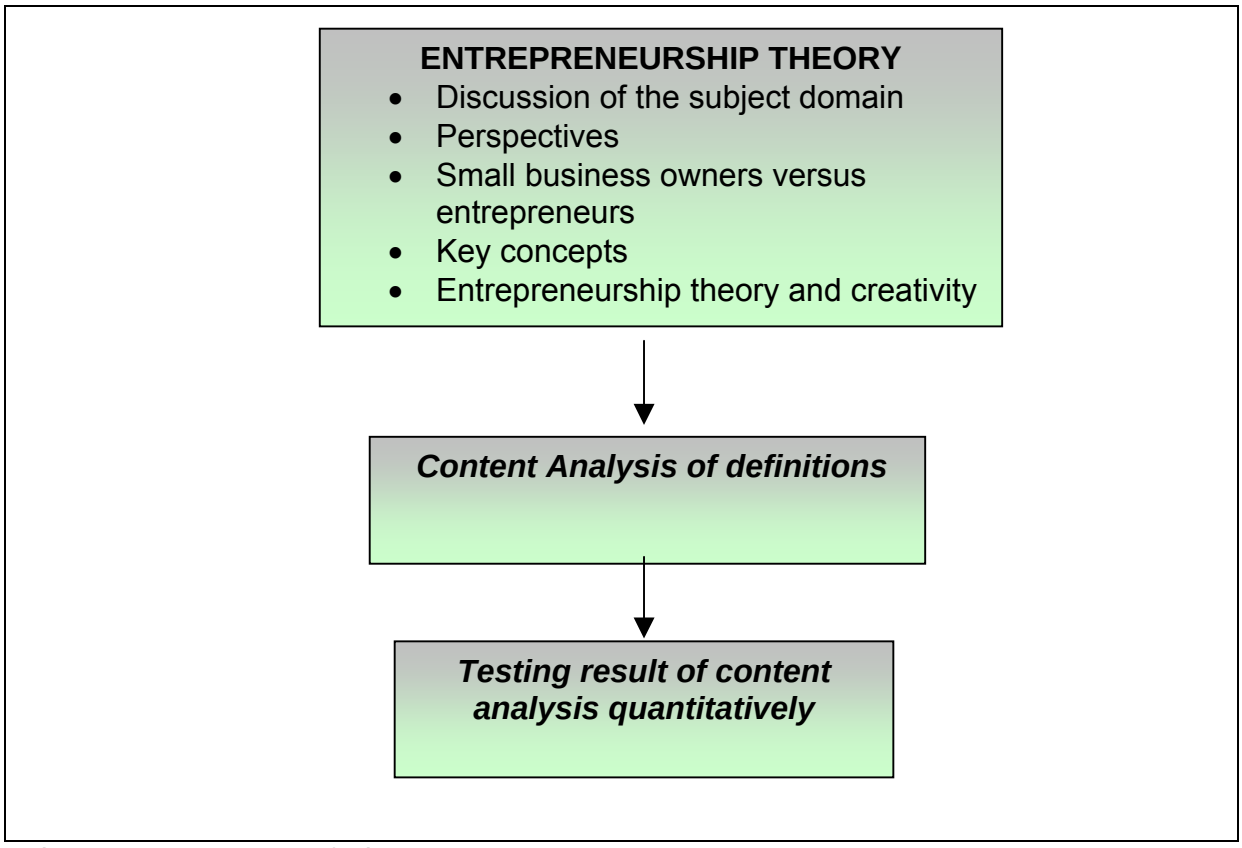

Figure 2.1: Layout of Chapter 2

In investigating the entrepreneurship domain it is helpful to establish the boundaries of the domain (Carton *et al*. 1998:4):

- Entrepreneurship begins with action, the creation of a new organisation including the antecedents to its creation, inter alia, scanning the environment for opportunity, the identification of the opportunity to be pursued, the evaluation of the feasibility of the new venture.

- The second dimension of the entrepreneurship paradigm is venture performance. According to some authors, growth seems to be a typical characteristic of entrepreneurial ventures. It is important to have a clear description of the term "growth". Quantitative growth can be characterised by the company size (turnover, added value, volume), the profitability of the company and the value of the company (shareholder value). Qualitative objectives are linked with the quantitative objectives, not as an aim in itself but as strategic means for the realisation of the growth of the enterprise. The competitive position, product quality and customer service are examples of qualitative growth objectives for companies.

In analysing various definitions of entrepreneurship, the researcher aims to find the entrepreneurship domain's delimitation of activities core to the domain. It will also be attempted by means of counting the number of references to the concepts in citations and abstracts of periodical articles in the domain to establish its acceptance of creativity and innovation as core to entrepreneurship.

2.2 The Entrepreneurship Subject Domain

Entrepreneurship is a relatively young academic field in the early stages of its developmental cycle. This creates problems in defining the field and the scope of its research. There is also the lack of a unifying framework that distinguishes entrepreneurship from strategic management (Zahra & Dess 2001:9).

Plaschka and Welsch (1990:105) argue that the development of entrepreneurship as a discipline went through four fundamental phases before it was acknowledged as an acceptable academic subject.

2.2.1 Systematic theory development

The consensus surrounding an acceptable definition with regard to the acceptance of the fact that entrepreneurs can be trained, the movement towards more sophisti-cated research methods and statistical techniques, a move towards the usage of

bigger samples, the division and attention to entrepreneurship and intrapreneurship form part of the theory development.

Although there are several theories on entrepreneurship, there are very few mathematical models, which formally analyse entrepreneurial behaviour within a closed economic system. It is often argued that entrepreneurship is by nature spontaneous and therefore entrepreneurial behaviour cannot be predicted using deterministic models (Eatwell, Milgate & Newman 1987:151).

Most management researchers agree that currently there is not a single accepted definition of "entrepreneur" that has been uniformly accepted in the literature (Carlock 1994:18) (Grant & Perren 2002:186). Selecting an appropriate basis for defining and understanding entrepreneurship creates a challenge for academic researchers and writers due to the fact that a number of schools of thought exist that view the notion of entrepreneurship from fundamentally different perspectives. The term has been used to indicate a range of activities from creation, founding, adapting to managing a venture (Cunningham & Lischeron 1991:1).

2.2.1.1 Mainstreams of entrepreneurial research and its development

One should look at the development of entrepreneurship from the classical viewpoint. Those authors and pioneers made a substantial contribution both towards the initial development and the later contemporary developments. Two basic trends can be observed in the field of entrepreneurship. The first stemmed from the work of Turgot and Say (1803) and considered the entrepreneur to be the person who creates and develops new businesses. The second takes the view of Cantillon and Schumpeter, namely that the entrepreneur is an innovator (Bruyat & Julien 2000:167).

Say recognised the managerial role of the entrepreneur. In the business the entrepreneur acts as leader and manager because he plays an important role in coordinating production and distribution. Wealth was part of the process and was created by production. Say introduced a distinction between the supply of capital function and the enterprise function (Jennings 1994:48).

Cantillon (1725) was the first to place the entrepreneurial function in the field of Economics. The principle of profit maximisation immediately became part of the definition of an entrepreneur. Cantillon argued that entrepreneurs were directly involved in the equilibrium of supply and demand (Jennings 1994:43).

Schumpeter, as referred to by Mourdoukoutas (1999:75), treated entrepreneurship as a distinct and separate function of the firm and identified five ways of revolutionising the pattern of production:

- The development of a new product i.e., a product never introduced before, or the substantial improvement of quality of an existing product.
- The discovery of a new production method. The term discovery does not necessarily mean scientific discovery but the genuine application of an existing method to an industry.
- The discovery and exploitation of a new market. The term discovery does not necessarily apply to a new geographical market or an unknown market, but rather a market that an industry has not explored before.
- The discovery and exploitation of a new source of supply of raw materials. Again the term "discovery" does not necessarily apply to a new geographical resource market or an unknown resource, but rather a resource that was never used in a certain industry.
- The discovery/development and implementation of a new way of organisation.

The Schumpeterian model of the theory of entrepreneurship makes no attempt to deduce what the innovating entrepreneur does or how he or she can do it better, neither does it make any pretence of constituting a piece of theoretical reasoning (Bull *et al*. 1995:23). Theoretical analysis only enters the discussion when Schumpeter turns to the enhancement of profits made possible by innovation, which in turn, stimulates imitation that finally brings the flow of innovator's profits to an end. This model was designed to show why innovators must search constantly for yet further novelties if the flow of profits is to be held steady and why they are forced to keep running in order to stand still. Thus the model leads us to see the innovator as a driven individual whose hand is forced by the pursuit of profits. The model focuses upon three relationships:

- The effects of innovation upon profits
- The effects of innovation upon the activities of imitators

- The effect of the behaviour of profits on the activities of the innovating entrepreneur.

Much of the academic debate on entrepreneurship over the last quarter of a century or more has concerned itself with entrepreneurial, behavioural and personal traits (McClelland (1961); McClelland & Winter (1969); Fraboni & Saltstone (1990), in Gibb1998).

After the eighties, however, the focus of entrepreneurship researchers changed to activity based research. In this context entrepreneurial orientation was found to place emphasis on opportunity and the task of acquiring resources to pursue that opportunity. It was this inclination that led to the definitions of entrepreneur by looking at "creative" and "innovative" as descriptors/concepts (Kao 1991:191).

Low (2001:24) proposed that entrepreneurship as a scholarly field should seek to understand how opportunities bring into existence future goods and services that are discovered, created and exploited, by whom and with what consequences.

The entrepreneurship division of the Academy of Management in the USA has developed the following specific domain statement to guide entrepreneurial research (Jennings 1994:12):

> The creation and management of new businesses, small businesses and family businesses and the characteristics and special problems of entrepreneurs.

Major topics include new venture ideas and strategies, ecological influences in venture capital and venture teams, self-employment, the owner-manager, and the relationship between entrepreneurship and economic development.

From a subject-area approach, the study of entrepreneurs can be conducted under one or a combination of the four mainstreams as compiled and summarised in Table 2.1(Chu 1998:9). By concentrating on mainstreams of different disciplines, the emphasis of the research subject and the line of inquiry would vary according to the interest of the disciplines.

Table 2.1: The Mainstreams of Entrepreneurial Research (Chu 1998:9)

Mainstreams	**Research Subjects**	**Line of Inquiry**
Psychological: Traits and behavioural	Entrepreneurs' characteristics and entrepreneurial process	Causes (Why)
Sociological: Social and cultural	Entrepreneurs of different social or cultural backgrounds	Causes (Why)
Economics	Relationship between economic environment and entrepreneurship	Effects (What)
Management	Entrepreneurs' skill, management and growth	Behaviour (How)

2.2.1.2 Entrepreneurship Defined

Bruyat and Julien (2000:166) are of the opinion that good science starts with good definitions and that a minimum level of consensus is needed on the definition of what the field is and what it is not.

The challenge of defining entrepreneurship is compounded by, inter alia,

- The fact that the understanding of the word "entrepreneurship" is often personal-like "creativity" or "love", all have an opinion about it
- “Entrepreneurship" is increasingly synonymous with "good"
- While "entrepreneur" has some tangibility because it refers to a person, "entrepreneurship" is more difficult to define because it is an abstraction, and
- Definition is difficult when it is assumed that entrepreneurship is something opposed to, or divorced from, management (Kao 1991:14).

The word "entrepreneur" is derived from a French root ‘entreprendre’, meaning, "to undertake". The term "entrepreneur" seems to have been introduced into economic theory by Cantillon (1755) but Say (1803) first accorded the entrepreneur prominence. It was Schumpeter however, who really launched the field of entrepreneurship by associating it clearly with innovation (Filion 1997:2).

Drucker’s definition of entrepreneurship, namely a systematic, professional discipline, brought a new level of understanding to the domain (Maurer, Shulman, Ruwe & Becherer 1995:526). Sharma and Chrisman (1999:12) identified two clusters of

thought on the meaning of entrepreneurship. One group focused on the characteristics of entrepreneurship (e.g. innovation, growth, uniqueness) while a second group focused on the outcomes of entrepreneurship (e.g. the creation of value).

Although the effort to create purposeful focused change in an enterprise's economic potential drives the practice of systematic innovation which forms the very foundation of entrepreneurship, there is more to entrepreneurship than systematic innovation, e.g. strategy (Drucker 1998:145). The Chair in Entrepreneurship, Department of Business Management, at the University of Pretoria (2002:6) defines an entrepreneurial venture as one that constantly seeks growth, innovation and has strategic objectives.

Filion (1997:1) is of the opinion that the confusion surrounding the definition of "entrepreneur" was perhaps not as great as thought because similarities in the perception of the entrepreneur emerge within each discipline, e.g. economists associated entrepreneurs with innovation, whereas behaviourists concentrated on the creative and intuitive characteristics of entrepreneurs.

Outcalt (2000:1) concludes that to varying degrees three traits have been included in the definition of entrepreneurship:

- Uncertainty and risk
- Complementary management competence, and
- Creative opportunism.

Outcalt (2000:1) is furthermore of the opinion that to ignore any of these areas is to risk repeating, rather than learning from, the history of the concept of entrepreneurship.

2.2.2 Authoritarian and professional organisations

Formal disciplines are known by the support and existence of recognised representative professional organisations. The first representative organisation was "Recontress de St.Gall" in 1947. Presently about one similar entity exists in each state of the USA (Antonites 2003:49).

2.2.3 A professional culture

The entrepreneurial hero of the 1990s replaced the image of the "Robber baron of villains" of the 19th century. The value of entrepreneurship is currently recognised through concepts like creativity, innovation and opportunity development in a dynamic environment. As a result it is also formally accepted that entrepreneurial activity, is the key to innovation, increased productivity and more effective competition in the market environment (Antonites 2003:49).

2.2.4 Entrepreneurship as a career

An acceptable pointer to the professionalism of a discipline is when its existence leads to a career or job opportunities. Mahlberg (1995:37) critically states that entrepreneurship as a discipline is one of the few subjects that pushes integration and the combination of functional knowledge and abilities to the limit.

2.3 Various perspectives of Entrepreneurship

The term "entrepreneurship" has historically referred to the efforts of an individual who takes risks in creating a successful business enterprise. More recently entrepreneurship has been conceptualised as a process that can occur in organisations of all types and sizes.

No person, act, or product is creative/entrepreneurial or non-creative/non-entrepreneurial in itself. Judgments of creativity are inherently communal, relying heavily on individuals' expertise within a domain. In business it is necessary to have an appropriate, useful and actionable idea before it can be accepted as creative. It must somehow influence the way business gets done – for instance by improving a product or by opening up a new way to approach a process (Amabile 1998:78).

Kaufmann and Dant (1998:5) in a landmark study categorised the definitions of entrepreneurship as having to do with the following perspectives:

- Traits
- Processes, or

- Activities.

Each of these is further explored in what follows:

2.3.1 Personality traits perspective of Entrepreneurship

In the trait approach, the entrepreneur is assumed to be a particular personality type. The point of much entrepreneurship research has been to enumerate a set of characteristics describing the entity known as the entrepreneur. Examples of concepts investigated, are "fundamental change", "innovative, flexible, dynamic risk taking, creative", "alertness", "need for achievement", "ambition" (Kaufmann & Dant 1998:6).

Examples of definitions from the traits perspective are the following:

- An entrepreneur is an individual who possesses qualities of risk-taking, leadership, motivation, and the ability to resolve crises
- Entrepreneurs are leaders and major contributors to the process of creative destruction
- An entrepreneur is an individual who undertakes uncertain investments and possesses an unusually low level of uncertainty aversion. (Kaufmann & Dant 1998:7)

Entrepreneurial attitudes and behaviour also include openness to new information and people, motivation, making independent and self-directed decisions, the ability to see opportunities in a rapidly changing and uncertain environment, persistence, the motivation to achieve, technical know-how, personal integrity, taking ownership and being accountable, the capacity to manage and organise as well as specific categories of cultural characteristics (Johnson 2001:137).

A common criticism of theories which place weight on personality traits is that these theories are difficult to test (Eatwell *et al.* 1987:152). Kaufmann and Dant (1998:8) support Amit, Glosten and Muller in their conclusion that it has not been proven that a set of essential entrepreneurial characteristics exist. Therefore, it may be more appropriate to accept the view (Jennings 1994:13) that there is a continuum along which several types of entrepreneurs exist.

2.3.2 Process perspective of Entrepreneurship

Two broad dimensions of the entrepreneurial process are discernable in the literature:

- Opportunity recognition and information search, and
- Resource acquisition and business strategies.

Definitions (Kaufmann & Dant 1998:9) using the process perspective, are, inter alia,

- Entrepreneurship is the creation of a new enterprise
- Entrepreneurship is the creation of new organisations
- Entrepreneurs introduce new combinations of the factors of production that, when combined with credit, break into the static equilibrium of the circular flow of economic life and raise it to a new level
- Entrepreneurship is the process of extracting profits from new, unique and valuable combinations of resources in an uncertain and ambiguous environment.

Dess, Lumpkin and McGee (1999:94) indicated that the relationship between entrepreneurial processes and performance is an important empirical question and prevents the assumption that first-movers or firms that incur the greatest business and financial risk, spending the most on innovation are always rewarded in the marketplace.

The integration of the key dimensions of the entrepreneurship process has resulted in an inter-actionist perspective, providing a framework for examining the ways in which an entrepreneur's personal attributes interact with other variables to ultimately affect the organisation's actions and performance (Kickul & Gundry 2002:87).

2.3.3 Behavioural/Activities Perspective of Entrepreneurship

Shapiro (1983:85) defined an entrepreneurial activity as an activity with the objective to change the system, by increasing the productivity of the system, decreasing the cost of part of the system, producing accrual of personal wealth and/or producing an increase of social values. He included the following assessment measures:

- The magnitude of the attempted change
- The success of the attempt

- The cost of the attempt, and
- The risk of the attempt.

Gartner (1985:699) listed the following six common behaviours of entrepreneurs:

- Locating a business opportunity
- Accumulating resources
- Marketing products and services
- Producing the product
- Building an organisation, and
- Responding to the environment (government and society).

Lucskiw (1998:6) made the following observations regarding the entrepreneur's *modus operandi*, intrinsic motivation and individual sense of meaning:

- Entrepreneurs as individuals are agents of change who break with existing ways of doing things in order to create what has not been created before
- Entrepreneurial activities take place outside organisations as well as in the external environment. Some of these activities include:
    - product and service innovation,
    - identification of new opportunities and niches,
    - innovative ways of producing or delivering new products or services (process innovation), and
    - innovative means of securing resources.
- Successful entrepreneurs are in control of their destiny. They transcend their culture and genetic determinants by becoming conscious of their uniqueness and differentiation
- Successful entrepreneurs are expert collaborators and networkers inside and outside their enterprise. It is this integration, along with their uniqueness and differentiation, which determines the success of their enterprise
- While not everyone will become an entrepreneur, everyone has the capacity to internalise entrepreneurial habits
- Most people that start an enterprise are not entrepreneurs. They are either small business owners or self-employed. The former are managers of small enterprises such as franchises or retail outlets, while the latter turn a skill into a self-employment situation (plumbers, dentists)
- Entrepreneurs are found inside large organisations
- Entrepreneurs are found in all industries
- They view exports as a major source of income
- They compete effectively in the global arena. They demonstrate a high degree of collaboration with local competitors

- Their success is determined by how effectively they exploit emerging niches, how closely they pay attention to enhancing customer value, and how effective they are in creating a systems strategy that consistently delivers value
- They deal effectively with chaos and crisis. They view this as a normal condition
- Many are family-owned enterprises. This can either be a blessing or a curse
- Their goal is to become the pre-eminent market leader
- Attitude is considered to be more important than knowledge and skills in determining the success of their enterprise.

The decision to behave entrepreneurially is influenced by:

- An entrepreneur's personal characteristics
- The individual's personal environment
- The relevant business environment
- The specific business idea, and
- The goals of the entrepreneur (Naffziger, Horsnby & Kuratko 1994:32).

In the behavioural perspective the model of Covin-Slevin (1991:16) integrates important constructs and focuses on the nature of entrepreneurial behaviour, the locus of entrepreneurship and the link between entrepreneurial posture and firm performance.

Definitions emphasising the activities perspective (Kaufmann & Dant 1998:9) are, inter alia,

- Entrepreneurship is the purposeful activity to initiate, maintain and develop a profit-oriented business
- An entrepreneur performs one or more of the following activities:
    - connects different markets
    - meets/overcomes market deficiencies
    - creates and manages time-binding implicit or explicit contractual arrangements and input-transforming organisational structures, and
    - supplies inputs/resources lacking in the marketplace
- Entrepreneurs perceive profit opportunities and initiate actions to fill currently unsatisfied needs or to do more efficiently what is already being done
- Entrepreneurs are residual claimants with operational control of the organisation.

Kaufmann and Dant (1998:9) concluded that if entrepreneurship is an exceptional and discontinuous change introducing activity in the Schumpeterian sense, the goal of prediciting, packaging and specifiying that process is an illogical exercise.

2.4 Entrepreneurs versus small business owners

Entrepreneurship, as seen by Timmons (1999:27), and Van Vuuren and Nieman (1999:3), is regarded as the starting of a business (utilising of an opportunity) and/or the growth and development of that specific business. Small business management is seen as the starting of the business, growth and development up to a certain stage, then the loss of its entrepreneurial flair.

Trevisan, Grundling and de Jager (2002:135), in an investigation of the importance of entrepreneurial qualities among small business owners and non-business owners, found that creativity is the characteristic where the difference between small business owners and those people who are not small business owners showed at its strongest.

De Clerq, Crijns and Ooghe (1997:7) point out the distinguishing characteristics of a dynamic entrepreneur, in contrast to those of the average small business owner:

Table 2.2: The characteristics of an entrepreneur versus the average small business owner (De Clerq, Crijns & Ooghe 1997:7)

Small/Medium Business Owner	Dynamic Entrepreneur
Static	Growing
Status quo	Vision, opportunistic
Local	Global
Limited	Expanding
Internal resources	External Resources
Self employed	Professional Team
Avoids competition	Seeks competition
Risk averse	Risk taking and sharing
Survival	Success

In analysing the entrepreneur's creative thinking processes along the time frame of the pre-idea phase through to the creation phase of the opportunity, the entrepreneur's predisposition towards innovation, growth objectives and strategic objectives needs to be investigated.

2.4.1 Innovation

The successful entrepreneurial venture is usually based on a significant innovation. Innovation is the sum of invention plus the commercialisation of that invention (Ireland, Hitt, Camp & Sexton 2001:56). This might be of technological, services and or managerial nature.

Small businesses on the other hand focus on the delivery of existing products and/or services. This does not mean that small businesses don't do anything new. While a small business may be new to a locality, it is not doing something new in a global sense, whereas an entrepreneurial venture is usually based on a significantly new way of doing something (Wickham 2001:73).

Jennings (1994:139) supports Schumpeter's criteria of the identification of entrepreneurial ventures, namely in the strategic behaviour of the firms resulting in the introduction of new goods, the introduction of new methods of production, the opening up of new markets, the introduction of new sources of supply or industrial re-organisation.

According to Jun and Deschoolmeester (2003:4) the entrepreneurs' innovativeness is demonstrated by their willingness and capability to create a paradigm shift in science and technology and/or market structure in an industry from a macro perspective. From a micro perspective, the innovativeness is the willingness and the capability of entrepreneurs to influence the firm's existing marketing resources, technological resources, skills, knowledge, capabilities, or strategy.

2.4.2 Potential for growth

As the field has matured and become more sophisticated, growth has become the distinguishing factor between small business and entrepreneurship. Business growth is to be understood as an open process with an unpredictable outcome in evolutionary terms, also related to adaptation and learning which occurs in the process of dealing with the business environment (Welter 2001:1).

The size of a business is a poor guide to whether it is entrepreneurial or not. Nieman and Bennett (2002:63) identify growth as an important factor of entrepreneurship and one that distinguishes the entrepreneurial venture from the small business. The entrepreneurial venture usually has a great deal more potential for growth than the small business has. This is because the entrepreneurial venture is usually based on a significant innovation. A small business operates within its market; the entrepreneurial venture is in a position to create its own market.

Growth is, inter alia, measured in financial terms such as:

- Turnover
- Profit
- Total assets
- Net assets
- Net worth, and
- Increase in number of employees (Nieman & Bennett 2002:65).

It must also be kept in mind that growth cannot be adequately explained from a single perspective, but individual, organisational and environmental research domains predict venture growth better when the web of complex indirect relationships among them is included (Baum, Locke & Smith 2001:301).

Van Vuuren and Nieman (1999:4) further developed entrepreneurial performance as a construct. According to them, entrepreneurial performance is based on the two pillars of true entrepreneurship, namely, the starting of a business/utilisation of an opportunity, and the growth of the business idea. The development of a business idea can be linked to “opportunity exploitation”, which is the construct identified through the content analysis of definitions of entrepreneurship in chapter two. It seems that when looking at “entrepreneurship” from an activity-based perspective, business growth can be seen as the output/result of successful “opportunity exploitation”. The “business growth” construct can be presented as: growth in profitability, productivity, effectiveness, net worth as well as the number of employees employed by the entrepreneur. An increase in the level of these variables over a certain period of time, with the starting point of measurement the first market related transaction with customers, is seen as an increase in his/her entrepreneurial performance (E/P).

Van Vuuren and Nieman (1999:4) proposed entrepreneurial performance (E/P) as a linear function of motivation (M) x entrepreneurial skills (E/S) x business skills (B/S).

Growth leads to managerial complexity which can be defined as an indicator of the challenge faced by entrepreneurs as a function of the number, variety, and interrelationships among tasks required to administer the operations of a firm effectively and efficiently (Sexton & Smilor 1997:97).

2.4.3 Strategic objectives

A strategy may be considered a pattern in a stream of decisions that guides an organisation's ongoing alignment with its environment and shapes internal policies and procedures (Mullins, Cardozo, Reynolds & Miller 1992:322). In general, the strategic rules of conduct are based on the ideas of trying to gain a competitive advantage within an existing industry.

Objectives are a common feature of managerial life. Most businesses have at least some objectives. Even the smallest business should have sales targets if not more detailed financial objectives. The entrepreneurial venture will usually go beyond the small business in the objectives it sets itself in that the objectives will be strategic in nature. The task is one of optimising within given constraints and is usually conducted through a deductive form of analysis employing somewhat mechanistic systems and frameworks to support a "vertical" style of thinking (Bull *et al*. 1995:36).

Strategic objectives relate to such things as the following:

- Growth targets – year on year increase in sales, profit and other financial targets
- Market development – creating and stimulating the firm's market
- Market share – the proportion of the market the business serves
- Market position – maintaining or improving the venture's position relative to its competitors.

Both entrepreneurship and strategic management have wealth creation at the core. The term "entrepreneurial orientation" has been used to refer to the strategy making processes and styles of firms that engage in entrepreneurial activities. Lumpkin and

Dess (1998:429) identified the following five dimensions of entrepreneurial orientation:

- Autonomy (independent action by an individual or team aimed at binging forth a business concept and carrying it through to completion)
- Innovativeness (a willingness to support creativity and experimentation in introducing new products/services and novelty, technological leadership and R&D in developing new processes)
- Risk taking (a tendency to take bold actions such as venturing into unknown new markets)
- Proactiveness (an opportunity-seeking, forward looking perspective introducing new products or services), and
- Competitive aggressiveness (the intensity of the firms' efforts to outperform industry rivals).

To survive and grow, businesses must adopt entrepreneurial initiatives as part of their strategy and that means implementing a dynamic process that stimulates a continuous flow of ideas and, thereby, provides the potential for an ongoing competitive advantage. The entrepreneur has to recognise that the current situation does not represent the best way of doing things and that the status quo does not exhaust all possibilities, to be motivated by an opportunity.

2.5 Key Concepts of the Entrepreneurship Domain

The early definitions of entrepreneurship emphasised risk bearing and responding to economic discontinuities. Later definitions focused on risk taking. The maximisation of opportunities is mentioned by Jennings (1994:10) as well as the fact that the entrepreneur creates and maintains a profit oriented business on purpose.

VanderWerf and Brush in Jennings (1994:12) reviewed 25 definitions for entrepreneurship and indicated that entrepreneurship has been defined as a business activity consisting of some "intersection" of the following behaviours:

- Creation – the establishment of a new business unit
- General Management – the managerial direction of, or resource allocation for, a business
- Innovation – the commercial exploitation of some new product, process, market, material, or organisation (including the "discovery" thereof)

- Risk bearing – the acceptance of uncommonly high risk from the potential losses or failure of a business unit
- Performance intention – the intent to realise high levels of growth and/or profit through a business unit.

De Klerk and Kruger (2003:3) summarised the determinants of entrepreneurship as follows:

- Alertness
- Foresight
- Risk Bearing
- Sufficient capital
- Sufficient Knowledge
- Judgement
- Creativity
- Innovations
- Ambition
- Vision
- Decisiveness
- Determination
- Dedication
- Values
- Adaptability, and
- Reward.

If the three key concepts (growth, innovation and strategic objectives) that distinguish the entrepreneur from the small business manager are investigated it is possible to conclude that the key concepts of the entrepreneurship domain are innovation and strategic objectives (with their various sub constructs) that impact on a venture's potential for growth.

2.6 Entrepreneurship theory and creativity

Researchers use theories to explain phenomena. These theories consist of concepts and constructs. Bull *et al*. (1995:5) define a theory as "a set of interrelated constructs (concepts), definitions and propositions" that presents a systematic view of phenomena by specifying relations among variables, with the purpose of explain-

ing and predicting phenomena. A construct is defined in terms of other constructs by conceptual definitions (Jennings 1994:131).

Bull *et al*. (1995:7) state that entrepreneurship theory essentially consists of a new combination causing discontinuity which will occur, under the following conditions:

- Task-related motivation i.e., some vision or sense of social value embedded in the basic task itself that motivated the initiator to act
- Expertise i.e., present know-how plus confidence to be able to obtain know-how needed in the future
- Expectation of gain for self (economic and/or psychic benefits), and
- A supportive environment.

Gnyawali and Fogel (1994:43) describe the entrepreneurial environment as a combination of factors that play a role in the development of entrepreneurship, including the overall economic, socio-cultural and political factors that influence people's willingness and ability to undertake entrepreneurial activities.

Schein (1985:28) in his work on career anchors introduced the notion of entrepreneurial creativity. The primary concern for someone with an entrepreneurial career anchor is to create something new, involving the motivation to overcome obstacles, the willingness to run risks, and the desire for personal prominence in whatever is accomplished. A strong need to build something and to feel that what was built is due to personal efforts is a primary motivation.

However, the skill or talent for identifying latent demand is very real, though rare. In those instances where it does succeed, it is based upon a strong conviction in the reality of an opportunity to create new patterns of demand (Bull *et al*. 1995:37).

2.7 A summary of the literature reported

Research linking the notion of entrepreneurship to behavioural aspects has been plagued with a number of problems, inter alia, definitions regarding entrepreneurship, theory development, measurement of psychological concepts, methodological determinism, data-analytic techniques, sample selection and sample size (Jennings 1994:130).

It was found that entrepreneurship researchers initially concentrated on a trait approach and that it is only during the eighties and later, that the research started to focus on what entrepreneurs do rather than on what their character traits are.

In the absence of consensus about the concept "entrepreneurship", Venkataraman, requested that consensus be reached rather on the distinctive domain of entrepreneurship research, namely that entrepreneurship as a scholarly field seeks to understand how opportunities for profit are discovered and exploited, by whom and with what consequences (Venkataraman, MacMillan & McGrath 1990:488).

It is no wonder that, in a field where one still seeks to understand how opportunities for profit are discovered and exploited, training and development curricula for the application of skills necessary to discover and exploit those opportunities have lacked behind. Davidsson, Low and Wright (2001:9) mention that no theory, no matter how integrated can deal with all the aspects included in the Academy of Management, Entrepreneurship Division's domain statement.

Much research has been done on the differences between entrepreneurs and non-entrepreneurs (Gartner 1985:696). The critical factor proposed to distinguish entrepreneurs from non-entrepreneurial managers and or small business owners, as deduced from the literature, is innovation. The entrepreneur is characterised by a preference for creating activity, manifested by some innovative combination of resources for profit.

From 1990 the emphasis moved towards behavioural and cognitive issues rather than personality characteristics. In recent years, definitions of entrepreneurship have increasingly focused on opportunity as existing at the core of our understanding of the phenomenon (Hills & Shrader 1998:2). Hills, Shrader and Lumpkin (1999:2) furthermore, regarded opportunity recognition as a unique application of the creative process. This rediscovery of the individual as entrepreneur combined with an expanded set of contexts creates new possibilities for research (Davidsson *et al*. 2001:10).

Morris and Jones (1999:73) indicated that the entrepreneurial process has attitudinal and behavioural components. Underlying these entrepreneurial attitudes and behaviours are three key dimensions: innovativeness, risk taking and pro-activeness. The

three key dimensions can be linked to the three key concepts identified, namely strategic objectives and innovation that impact on venture growth.

Although entrepreneurship research that examines context and process is important, it is the outcome of the exploitation of entrepreneurial opportunities that determines the contribution of entrepreneurship to wealth creation. Therefore, while the entrepreneur may borrow ideas from other people he/she first needs to implement these ideas before they can become entrepreneurial acts.

However, the science of entrepreneurship is now moving beyond characteristics towards the behavioural phase concentrating not on what personalities entrepreneurs have but on what it is that they do (Timmons 1999:221).

2.8 Content analysis of Entrepreneurship definitions

Content analysis research is the systematic gathering of information about human activity that is not directly observable, measurable, or obtainable from first hand interaction (Gallagher, Marken, Kim, Phillipson & Dodge 2000:1). Content analysis researchers learn about behaviour indirectly by analysing the manifest and latent content of all forms of communication (see also Table 2.3).

The aim of the content analysis in this chapter is to identify the meaning of the definitions of entrepreneurship as used by researchers in the entrepreneurship domain, in relation to the constructs “creativity” and “innovation”. Although there is no simple correct way to do content analysis (Krippendorf 1980:107) one commonly used procedure involves eight steps, which were used in the following analysis of entrepreneurship definitions, namely:

- Identify the questions to be asked and the constructs to be used
- Choose the texts to be examined

- Decide on the size or type of response to be counted in the analysis, the so-called "unit of analysis"
- Determine the categories into which the responses are to be divided
- Generate a coding scheme
- Conduct a sample or pilot study and revise the categories and coding scheme as needed
- Collect the data
- Assess validity and reliability, having earlier reviewed how validity can be enhanced and assessed.

2.8.1 Questions asked and constructs used

- Which activity based constructs can be identified as representative of the concept "entrepreneurial"?
- Which of these constructs are indicative of creativity and innovation?
- Can certain constructs be identified as uniquely delimited to the entrepreneurial domain, whilst simultaneously indicative of creativity and innovation?

2.8.2 Texts to be examined

An exploratory literature study of entrepreneurship was done in order to establish what it is, how it is defined and how creativity and innovation are linked to it. In this process various definitions from a variety of sources in the field of small business and entrepreneurship were used, including encyclopaedias, dictionaries, books and periodical articles.

This literature study guided the development of "units of analysis" to be used in the quantitative content analysis of the definitions of entrepreneurship.

2.8.3 Units of analysis

The key concepts identified in section 2.5 were analysed to ensure clear definition and mutual exclusiveness. In analysing these constructs it was decided to use the following for the investigation:

- *Venture* ***creation*** – the establishment of a new business unit/bringing the production factors together and managing it

- *Opportunity* ***exploitation*** – looking for possibilities in terms of the commercial exploitation of some new product, process, market, material, or organisation (including the "discovery" thereof) and the acceptance of uncommonly high risk from the potential losses or failure of the above opportunity as well as the intent to realise high levels of growth and/or profit through the opportunity, and
- ***Venture growth maximisation*** – An entrepreneurial venture is one that constantly seeks growth, innovation and has strategic objectives. If it engages in at least one of Schumpeter's four categories of behaviour, namely principal goals of profitability, growth, innovation and change (creative destruction), it is included.

Opportunity finding and exploitation was treated as one stemming from the reasoning that an opportunity that has not been found cannot be exploited. Furthermore,

an opportunity found and not utilised/exploited/implemented would result in no advantages. Opportunity finding should therefore not be regarded as apart from opportunity exploitation. Risk bearing was evaluated as being inherent to opportunity exploitation and therefore not seen as exclusive. Concepts that overlapped with the management sciences were deliberately excluded.

2.8.4 Recording

Recording is one of the methodological problems of content analysis. One cannot analyse what is not suitably recorded and one cannot expect that source material comes cast in the formal terms of a data language. The problem of defining the operational meanings of the categories of an analysis is the principal focus in recording (Krippendorf 1980:59).

A category is a classification of concepts and a system of measurement. The categories are usually derived from objectives, research questions, hypothesis, or key concepts of the study in order to analyse what the content of communication tells. For the sake of consistency and accuracy, coding categories should be mutually exclusive, and each category should be clearly defined (Gallagher *et al*. 2000:5).

2.8.5 Data Collection

Various key definitions of the concept "entrepreneurship" as found in the literature study were analysed against key concepts identified, namely "business creation", "opportunity exploitation" and "business growth maximisation".

Table 2.3: Content analysis of definitions of entrepreneurship

	Venture creation	Opportunity exploitation	Venture growth maximisation (profits)
Cantillon (1725) Person bearing the risks of profit (loss) in a fixed-price contract with government.	X	√	√
Say (1803) Say included the concept of bringing the factors of production together. Say separated profits directly linked to	√	X	√

	Venture creation	Opportunity exploitation	Venture growth maximisation (profits)
the entrepreneur from profits of capital.			
Edgeworth (1845) The entrepreneur is a coordinator and middleman that never disappears, even in general equilibrium.	X	√	X
Walker (1876) Distinguished between suppliers of funds receiving interest and those who received profit from managerial capabilities.	X	X	√
Schumpeter (1934) Entrepreneurs innovate and develop untried technology. The role of the entrepreneur in creating and responding to economic discontinuities was emphasised.	X	√	X
McClelland (1961) Entrepreneur is an energetic moderate risk taker.	X	√	X
Drucker (1964) Entrepreneurs maximise opportunities.	X	√	√
Cole (1968) Entrepreneurship is the purposeful activity to initiate, maintain and develop a profit-oriented business.	√	√	√
Shapiro (1975) Entrepreneurs take initiative, organise some social and economic mechanisms and accept risks of failure.	X	√	√
Carland (1984) An entrepreneur is an individual who establishes and manages a business for the principal purposes of profit and growth. The entrepreneur is characterised by innovative behaviour and will employ strategic management practices in the business.	√	√	√
Gartner (1985) Entrepreneurship is the creation of new organisations.	√	X	X
Hisrich (1985) Entrepreneurship is the process of creating something different with value by devoting the necessary time and effort, assuming the accompanying financial psy-	X	√	√

	Venture creation	Opportunity exploitation	Venture growth maximisation (profits)
chological and social risks and receiving the resulting rewards of monetary and personal satisfaction.			
Kao (1991) Entrepreneurship is an attempt to create value through recognition of business opportunities.	X	√	√
Dollinger (1995) Entrepreneurship is the creation of an innovative economic organisation (or network of organisations) for the purpose of gain or growth under conditions of risk and uncertainty.	√	√	√
Timmons (1999) Entrepreneurship is a way of thinking, reasoning, and acting that is opportunity obsessed, holistic in approach and leadership balanced.	X	√	X
TOTAL	**5**	**12**	**8**

The analysis of the entrepreneurship literature pointed towards three constructs as core constructs of entrepreneurship, namely business creation, opportunity exploitation and business growth. The content analysis of the fifteen (15) definitions of entrepreneurship resulted in a majority (12 out of 15) that recognised opportunity exploitation as a key ingredient of entrepreneurship. The fact that less than half of the definitions referred to venture creation could perhaps be regarded as confirmation that there is conceptual agreement amongst researchers that entrepreneurship does not end with venture creation. Furthermore it could perhaps be deduced that opportunity exploitation is seen as key (or inherent to) to venture growth maximisation.

2.9 Testing the results of the content analysis quantitatively

In conclusion the ABI/INFORM (Proquest 2002) database of periodical article titles, citations and abstracts on small business and entrepreneurship was searched to confirm the entrepreneurship domain's acceptance of the conceptual relationship between "entrepreneurship, "opportunity exploitation" and "business creation". The database houses 1832 business related titles. The current (1999-current) files as well as the back files (1986-1998) of the database were searched.

Since it was indicated in Chapter 1, the Introduction, that the conceptual relationship of entrepreneurship with innovation was more established and a search of the database indicated only 3976 articles on "entrepreneurship" versus 10 000 on "innovation" the question arose which one of the two terms was the dominant term. Could the mere number of articles indicate that "innovation" was dominant or could reasoning be followed?

The reasoning was as follows:

- The number of articles was not an indication of dominancy, or subjacency but rather the popularity of the concept for research purposes.
- Entrepreneurship is more than innovation but innovation is critical for entrepreneurship to take place, therefore there should be a measure of similarity in the linkages of entrepreneurship and innovation with opportunity finding/exploitation and business creation.

Table 2.4: Search terms linked with referential units

Search Term	Total Hits	Percentage
Entrepreneurship AND Opportunity finding	28	0.7%
Entrepreneurship AND Opportunity Exploitation	156	3.9%
Entrepreneurship AND business creation	58	1.5%
Other	3734	93.9%
TOTAL: ENTREPRENEURSHIP	**3976**	**100%**

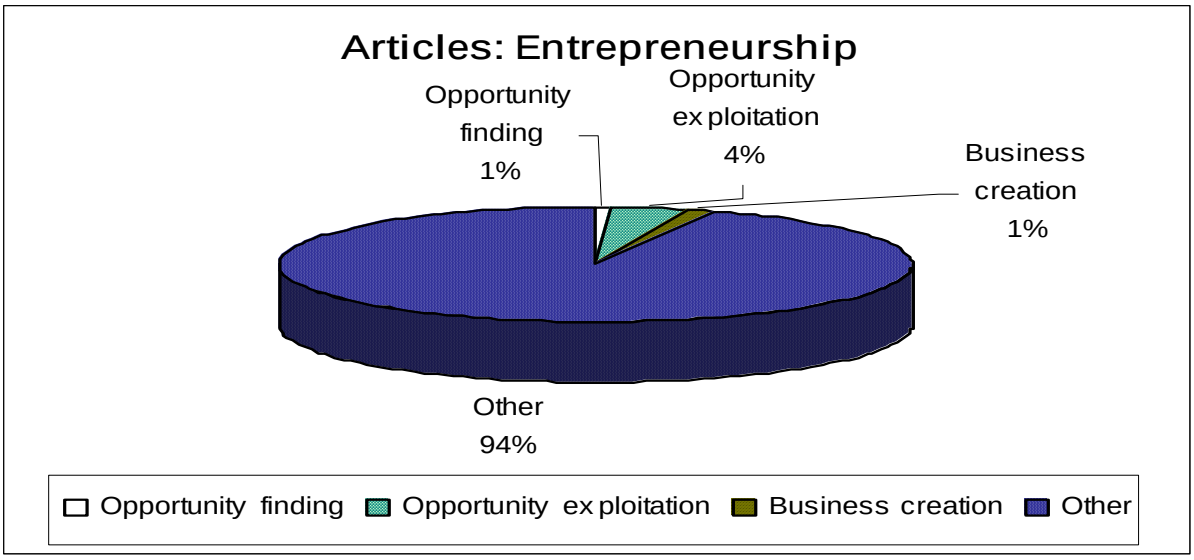

Figure 2.2: Articles in the Proquest database (2002) on Entrepreneurship containing "op-

portunity finding", "opportunity exploitation" and "business creation"

Table 2.5: "Innovation" as search term linked with referential units "opportunity finding" and "opportunity exploitation"

Search term	Total Hits	Percentage
Innovation AND opportunity finding	767	7.06%
Innovation AND Opportunity exploitation	96	0.88%
(Other) Innovation	10 000	92%
TOTAL	**10 863**	**100%**

The following pointers became evident:

- The content analysis of the definitions of entrepreneurship in subsection 2.8.5 identified opportunity exploitation as the most used ancillary concept with business creation second. The content analysis of the references in the Proquest database confirmed this order of priority,
- "Opportunity finding" is associated more with "innovation" than with "entrepreneurship", and
- "Opportunity exploitation" is associated more with "entrepreneurship" than with "innovation" (156 hits versus the 96 hits of "innovation AND opportunity exploitation").

The above indicates that "entrepreneurship" is associated with "opportunity exploitation" (3.9%) to a larger extent than "innovation" (0.88%). This could be confirmation of the supposition that entrepreneurship is more than (and inclusive of) innovation in the same way than opportunity exploitation is more than (and inclusive of) opportunity finding – see reasoning in Units of analysis, point 2.8.3.

2.10 Chapter Conclusion

Against the background of the fact that the science of entrepreneurship is now moving beyond characteristics towards the behavioural phase concentrating not on the personalities entrepreneurs have, but on the activities they engage in (Timmons 1999:221), it will be necessary to focus further on the processes underlying the "ac-

tivity-based" concepts in order to reach more clarity on creativity and innovation in the entrepreneurship domain. In this regard "business growth" was regarded as an output/result of, inter alia, "opportunity exploitation" and not a task/activity. The fact that "opportunity finding" was also identified as an ancillary concept to "innovation" led to the conclusion that the unique combination of "entrepreneurship" with creative activities should be pursued in the term "opportunity exploitation".

Morris and Jones (1999:73) indicate that the entrepreneurial process has attitudinal and behavioural components. Underlying these entrepreneurial attitudes and behaviours are three key dimensions: innovativeness, risk taking and pro-activeness. As already indicated in the introductory chapter, self-efficacy i.e., the belief that one can successfully organise and execute courses of action required to attain designated types of performance may be key to the implementation of the three key concepts, since there is some evidence that there is not only a positive relationship between self-efficacy and behaviour but that this relationship is causal in nature (Bandura 1978:43).

The conceptual relationships of "creativity", "innovation", and "entrepreneurship" with "opportunity exploitation" will be investigated further in the following two chapters on the entrepreneurial process and creativity.

CHAPTER 3

3 THE ENTREPRENEURIAL PROCESS

3.1 Introduction

According to Ulrich (1998:8) linear models of entrepreneurship decision-making are helpful in describing key stages in the entrepreneurial process and in documenting decisions after the fact. However, they are not particularly advantageous in understanding the process in real time. While linear models can describe what happened, they are less useful in explaining how it happened. Therefore, these linear models provide little guidance for managing the process. The entrepreneurship process deals with innovation and much of what is being accomplished is new and novel knowledge is required. Hence, this suggests that a significant portion of the entrepreneurship process is involved with learning.

This chapter is used to investigate the characteristics, elements and activities of the entrepreneurial process. In agreement with Venkataraman and Slover (1999:1) who propose that entrepreneurship is fundamentally concerned with understanding how, in the absence of current markets for future goods and services, these goods and services manage to come into existence, the activities that need to be executed will be identified as well as the entrepreneurial skills needed by the entrepreneur to complete these activities. Since the second chapter identified "opportunity exploitation" as a core concept in entrepreneurship, this chapter will focus on the combination of the concepts "creative" and "opportunity exploitation" in the entrepreneurial process.

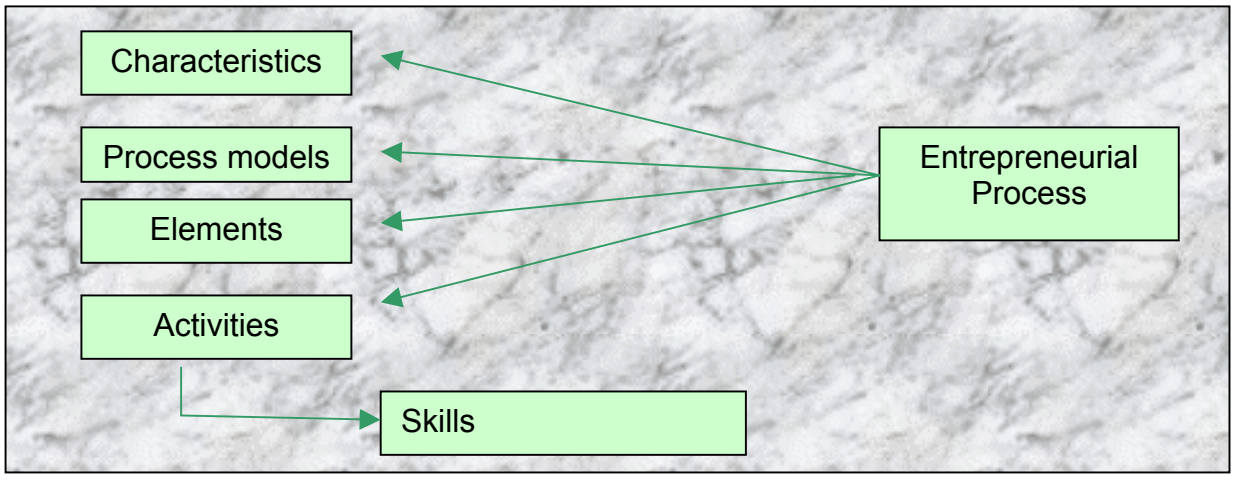

Figure 3.1: Layout of Chapter 3

3.2 Characteristics of the Entrepreneurial Process

From a theoretical point of view, Bygrave (in Kuratko *et al*. 1997:25) defined an entrepreneurial event as the creation of a new organisation to pursue an opportunity. Some of the characteristics that Bygrave used to describe the entrepreneurial event were: discontinuities, holistic, change, dynamic, unique, extremely sensitive to initial conditions, involving numerous antecedent variables, and initiated by an act of human volition (Kuratko *et al*. 1997:25).

Wickham (2001:23) proposed that the following characteristics of the entrepreneurial process which is supported by Bygrave's (1993:257) description are acknowledged:

- Initiated by a human decision
- Taking place on the level of an individual enterprise
- Discontinuous
- A holistic process
- A dynamic process
- A unique process
- Including various antecedents and variables, and
- Results which are very sensitive to initial nature of said variables.

It should also be mentioned that growth has been measured typically at the business level, yet intentions are an individual-level construct. Wiklund (2001:3) found that business managers' growth intentions are positively related to the actual growth of their businesses. It was furthermore hypothesised that the level of human capital will moderate the relationship between a manager's growth intentions and the level of growth achieved i.e., growth will increase with intention, but at a faster rate for those with (a) more education, and (b) more relevant experience. It was found however, that the relationship between intention and growth appeared to be more complex than stated. Wiklund (2001:4) was of the opinion that the dynamism of the environment in which the business operated also had an influence.

3.3 Entrepreneurial process models

Entrepreneurship is not typically characterised as being logical, systematic, or planned and the entrepreneurship process is often perceived as disorderly and un-predictable. A number of attempts have been made to construct theoretical models of the entrepreneurial process (Gartner; Greenberger & Sexton; Learned; Herron & Sapienza; Herron & Robinson; Naffziger, Hornsby, and Kuratko & Bhave as quoted by Kuratko, Hornsby & Naffziger 1997:26).

Brazeal and Herbert (1999:33) offer a model of the entrepreneurial process, integrating the fields of technology, psychology and business. The roles, played by "change", "innovation" and "creativity" are highlighted, recognising that entrepreneurship is enabled by the following:

- The current or potential existence of something new (an innovation)
- Which may have been developed by new ways of looking at old problems (creativity)
- Or the lessened capability of prior processes or solutions to respond effectively to new problem parameters brought on by new or emerging external conditions (environmental change)
- Which can supplant or be complementary to existing processes or solutions (a change), and
- When championed by one or more invested individuals (the innovator).

Entrepreneurial activity stems from an imbalance between the potentiality of something new and its realisation, that is, the creating of an exploited opportunity where none existed previously, by one or more individuals (Brazeal & Herbert 1999:34).

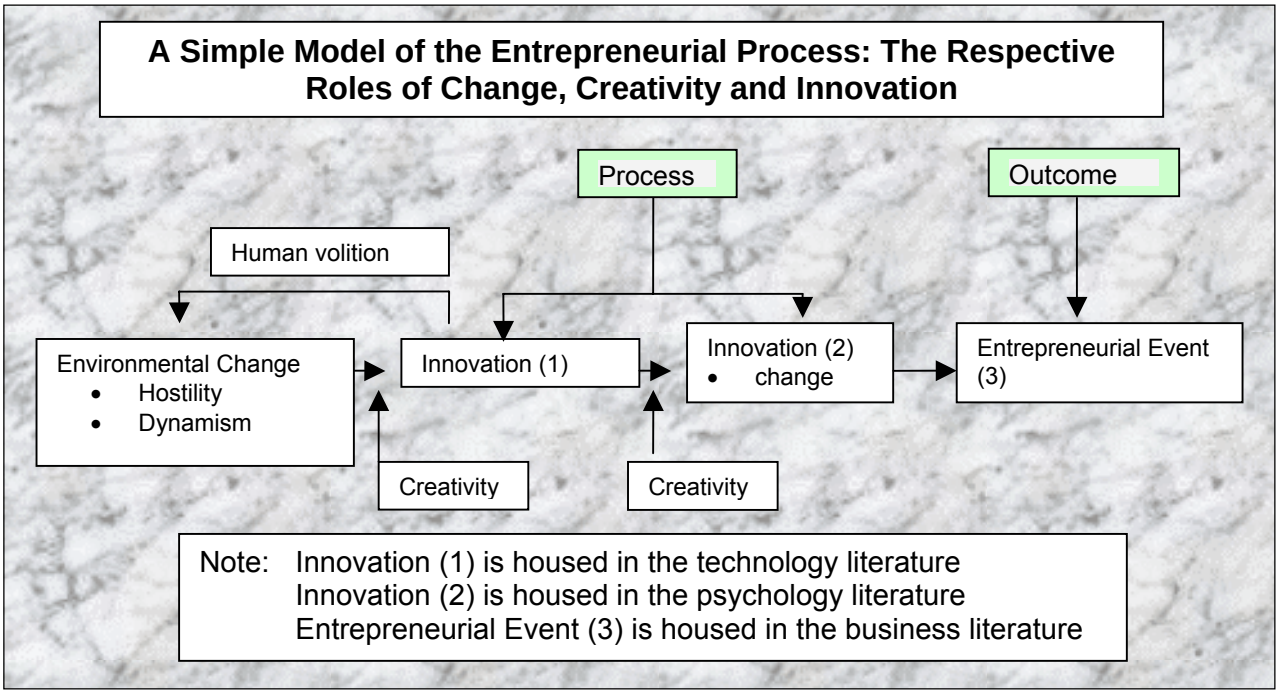

Figure 3.2: Model of the Entrepreneurial Process (Brazeal & Herbert 1999:34)

Innovation can therefore be defined as the successful implementation of creative ideas (Brazeal & Herbert 1999:36). Innovation is the phase where new ideas are developed and involves the ability to change an idea into a money generating activity. Innovation is seldom a systematic, structured process in the case of the small business enterprise. Creativity is the point of origination for innovation. Ideas are generated on an ad hoc basis and the business plan is still rough and unfinished.

The innovation process may involve the refinement or modification of existing policies, procedures, product lines and services but there are no limitations to what may be innovated or to the magnitude of the advance represented. Innovation should thus be regarded rather as a process or an outcome in which certain skills are necessary.

Creativity is the process, through which invention occurs, that is creativity is the enabling process by which something new comes into existence (Amabile in Brazeal & Herbert 1999:39). The creative process can be seen as the starting point of innovation, which sets into motion a series of events culminating in the entrepreneurial event. Not all innovations are creative, for some innovations are incremental changes or were developed by others and adapted for use locally.

Brazeal and Herbert's model, however, did not offer sufficient insight for the purposes of this study on the "how" of activities associated with the entrepreneurial process, creativity and innovation.

According to Moore and Bygrave in Carlock, (1994:27) the entrepreneurial process is built on a cycle of four activities:

- Innovation
- A triggering event
- Implementation, and
- Growth.

During the cycle, different variables interact with the environment to influence the entrepreneurial process. During the innovation phase, personal characteristics such as risk taking or experience, interact with environmental forces such as opportunities. The interaction between the environment and individual, organisational or sociological variables defines the possible path or outcome of each specific entrepreneurial event.

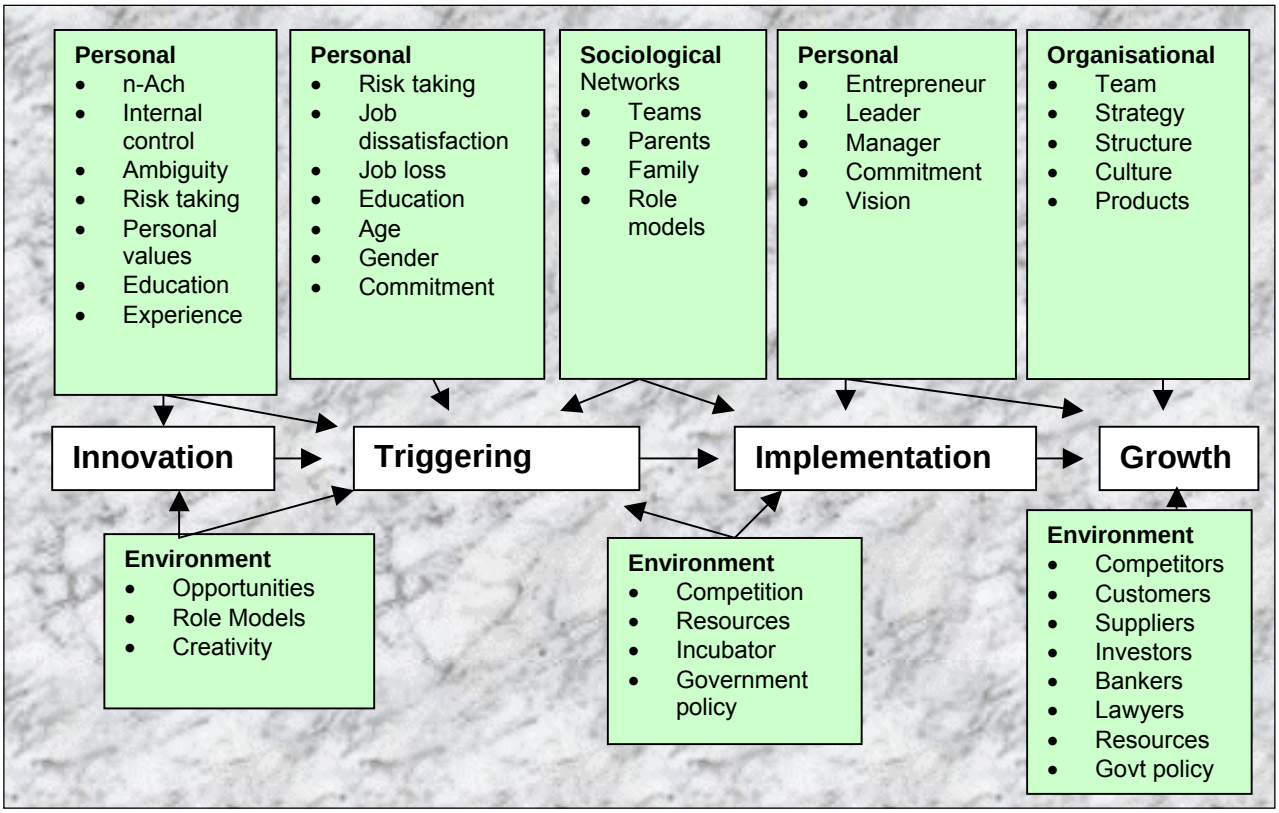

Figure 3.3: A model of the Entrepreneurial process (Bygrave in Carlock 1994:28)

This model provides a transition from the social scientific perspective on entrepreneurship to that of management. Whereas the major focus of the social scientific perspective is the entrepreneur and his or her traits or inputs into the entrepreneurial process, the management/organisational behaviour literature on entrepreneurship focuses on organisation creation and outcomes. Although this model offers a lot of insight into the entrepreneurial process, from an activities-based perspective, the "triggering event" could perhaps be replaced by "launch" or "start-up". Similarly, as indicated earlier, it is possible that "growth" be regarded more as an outcome/result of the activity "opportunity exploitation", for purposes of this research, than an activity.

De Klerk and Kruger (2003:7) came to the conclusion that the following entrepreneurial process could be derived from the definitions and key determinants:

- Innovation and creativity
- Taking risk
- Creating and growing a business
- Managing the business
- Sensitivity towards the physical environment
- Identifying an opportunity
- Gathering resources
- Distributing consistent value
- Being rewarded

Hisrich and Peters (2002:39) identified four distinct phases of activities in the entrepreneurial process, namely:

- Identification and evaluation of the opportunity
- Development of the business plan
- Determination of the required sources, and
- Management of the resulting enterprise, that concurs partially with those of Olsen in Ulrich (1998:4).

Each of the stages presents itself to the entrepreneur as a series of decisions. Developing the business means addressing those decisions.

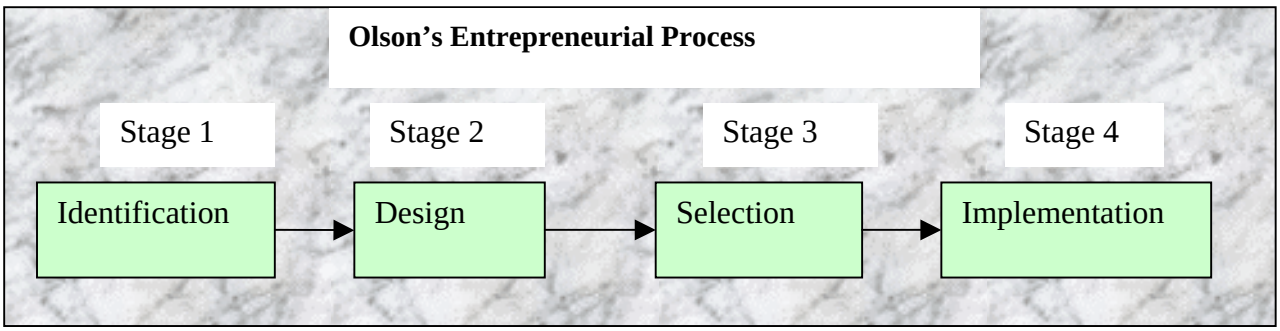

Figure 3.4: Olson's entrepreneurial process (Ulrich 1998:4)

Morris and Kuratko (2002:30) provided a more integrated picture of the entrepreneurial process, as shown in Figure 3.5.

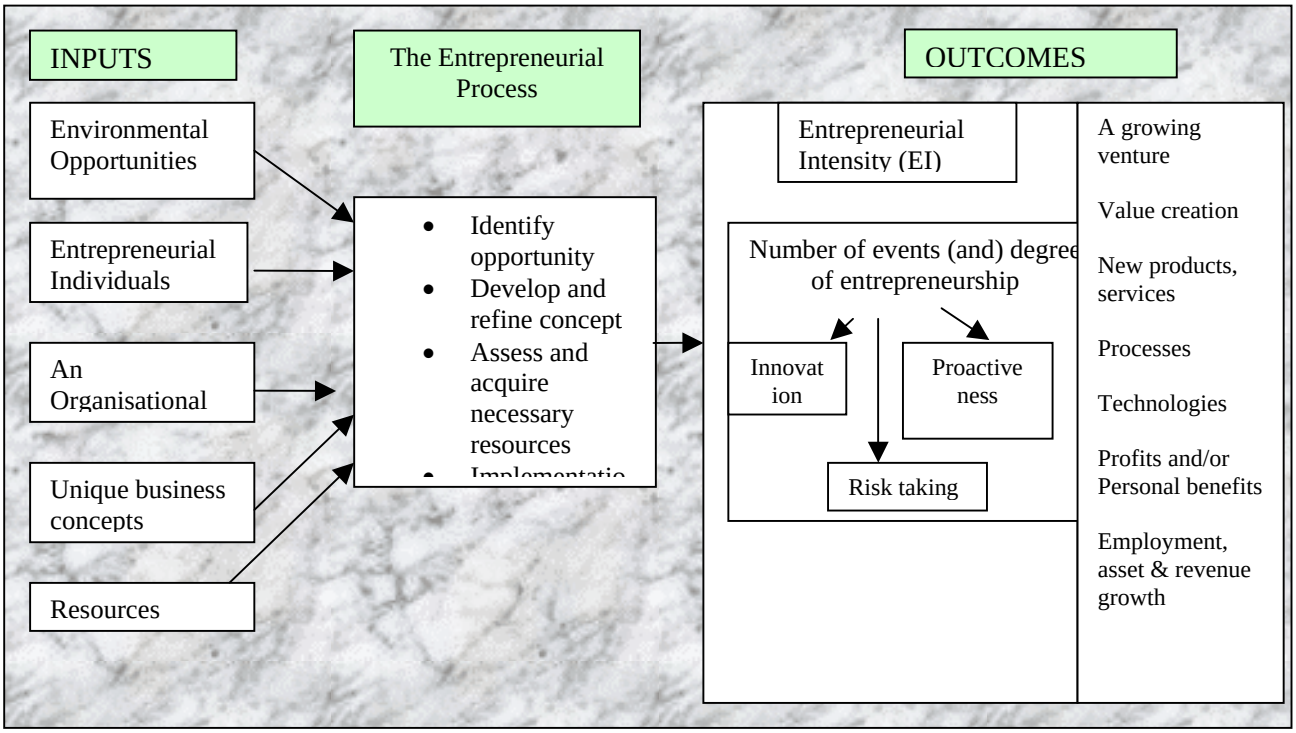

Figure 3.5: An Input-Output perspective of the Entrepreneurial Process (Morris & Kuratko 2002:30)

From this model, the following activities based model can be derived, illustrating that the entrepreneurial process is a continuous process wherein entrepreneurs need to do certain tasks creatively in order to ensure success:

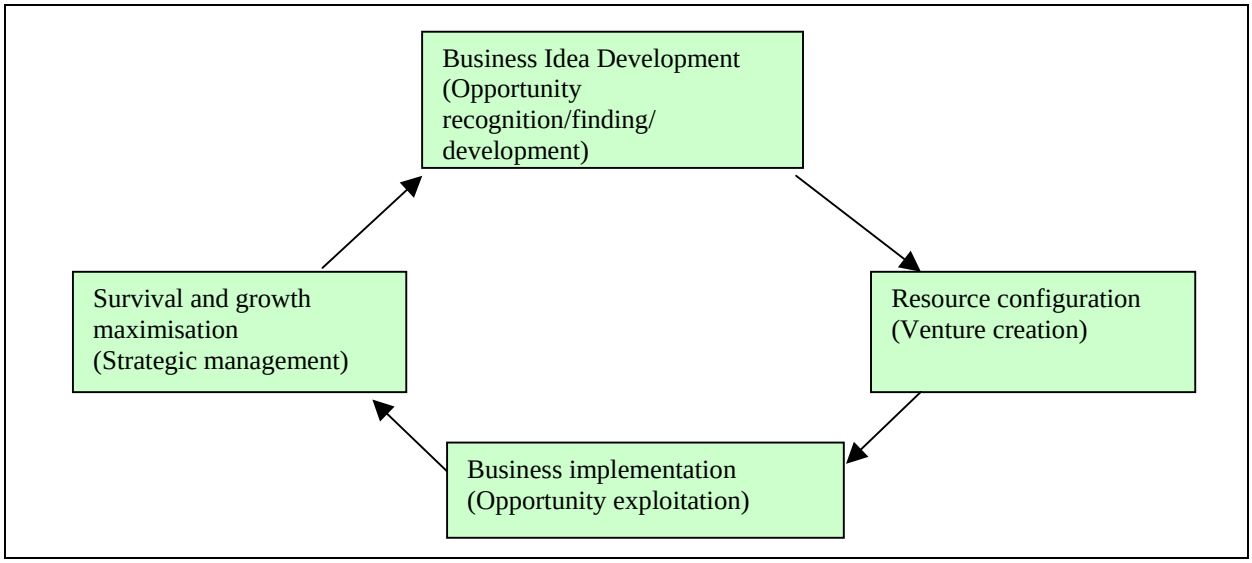

Figure 3.6: Compilation of activity-based entrepreneurial process as deduced from literature study

Although the above models indicate various activities in the entrepreneurial process, the unique intersection with creative behaviour still remains elusive.

3.4 **Elements of the entrepreneurial process**

Bull *et al*. (1995:165) identified the following components of entrepreneurship:

- Creating (recognising) and developing an opportunity
- Evaluating the opportunity's desirability:
  - its economic potential
  - the financial risks involved
  - the personal risks involved
- Marshalling the resources to exploit it:
  - Financial
  - Managerial
  - Technical
  - Physical
- Possessing the will or tenacity to "do it"
- Managing the launch including:
  - Competitive and co-operative relationships
  - Networks
- Managing the downstream opportunity capture and realisation:
  - Creation of value for the entrepreneur and society
  - Realisation of value for the entrepreneur and his/her family.

Wickham (2001:37) focused on a model of the process by which entrepreneurs create new wealth. The process consists of four elements, namely the entrepreneur,

the opportunity, resources and organisation. These will be discussed in what follows.

3.4.1 The Entrepreneur

The entrepreneur is significant because the entrepreneur is the dynamic force that disturbs the economic equilibrium through innovation (what he achieves) by creating an entrepreneurial process (what he does) (Trevisan, Grundling & De Jager 2002:128).

The entrepreneur lies at the heart of the entrepreneurial process. Zietsma (1999:3) proposed that entrepreneurs and non-entrepreneurs differ in both their cognitive structures (schema), and their cognitive processes (the use of heuristics and biases), and that entrepreneurs may invoke schemas that are more predisposed towards entrepreneurial events, allowing them to make sense out of uncertainty.

Wickham (2001:41) sees the main impetus for entrepreneurs to be their desire to create change and to make a difference. Entrepreneurs as innovators, are people who create new combinations of these factors and then present them to the market for assessment by consumers. The value added cannot always be measured in purely financial terms. The entrepreneur exists in a state of tension between actual and possible. The tension is manifested in three dimensions, i.e., the financial, the personal and the social.

The entrepreneur as key person in the process seeks suitable business opportunities and develops a framework for the commercialisation of the product or service. Dollinger (1995:50) mentions four factors that serve as impetus for entrepreneurship:

- Negative displacement (the marginalisation of individuals/groups from the core of society)
- Being between things (e.g. between student life and a career)
- Positive push (e.g. a career path that offers entrepreneurial opportunities or an education that gives the individual the appropriate knowledge and opportunity), and
- Positive pull (e.g. mentors and partners encouraging the individual).

Two forces are said to work driving the manager from the conventional labour pool to the entrepreneurial: pull factors and push factors (Wickham 2001:63). Pull factors are those, which encourage managers to become entrepreneurs by virtue of the attractiveness of the entrepreneurial option. Some important pull factors include:

- The financial rewards of entrepreneurship
- The freedom to work for oneself
- The sense of achievement to be gained from running one's own venture
- The freedom to pursue a personal innovation, and
- A desire to gain the social standing achieved by entrepreneurs.

Push factors, are those, which encourage entrepreneurship by making the conventional option less attractive. Push factors include:

- The limitations of financial rewards from conventional jobs
- Being unemployed in the established economy
- Job insecurity
- Career limitations and setbacks in a conventional job
- The inability to pursue a personal innovation in a conventional job, and
- Being a 'misfit' in an established organisation.

Inhibitors are things that prevent the potential entrepreneur from following an entrepreneurial route, no matter how attractive an option it might appear. Some important inhibitors include:

- Inability to get hold of start-up capital
- The high cost of start-up capital
- The business environment presents high risks
- Legal restrictions on business activity
- A lack of training for entrepreneurs
- A lack of self-efficacy,
- A feeling that the role of entrepreneur has a poor image
- A lack of suitable human resources, and
- Potential inertia.

Once the inclination for entrepreneurship has been activated, situational characteristics help determine if the new venture will take place, namely perceptions of desirability and perceptions of feasibility. Zietsma (1999:4) included commitment as a business start-up activity in his theoretical study of entrepreneurial processes. Un-

derlying this commitment are personal and financial risks that entrepreneurs will have to take (Nieman & Bennett 2002:58).

3.4.1.1 Entrepreneurial skills/capacity

The total capital that a person possesses, or can acquire, is made up of economic, human, social and cultural inputs. Depending on the nature of the business, the people involved, and the contextual circumstances, components of a person's total capital will have entrepreneurial value – that is they are of some worth in relation to the entrepreneurial process and enterprise (Firkin 2001:3). Taken together, these components form a person's entrepreneurial capital that can be employed in the creation, development and maintenance of that enterprise.

Increasingly there is evidence that the key to effective entrepreneurial behaviour is the development of strategic awareness and orientation (Gibb 1998:16). In this quest, the manager must define a suitable strategy for his/her enterprise and develop the capabilities to achieve that strategy (Atac 2000:2). Strategic behaviour is part of the day-to-day practice of entrepreneurship. Stripping the concept of the academic jargon it means the ability to do the following:

- Constantly ask "what if" in respect of new and exciting business development
- Be aware at all times of the position of the business and its changing strengths and weaknesses, particularly as seen through the eyes of key stakeholders
- Effectively monitor the environment and take a position on future change
- Be acutely aware of feedback from the customer, and an ability
- To bring forward the needs of customers and key stakeholders (including own staff).

The construct "entrepreneurial skills" (E/S) includes various skills that differentiate the entrepreneur from the manager. The choice of concepts included in such a construct is based on those skills that differentiate an entrepreneurial career from other careers in terms of what the person would need to be successful in such a career. According to Sexton and Kasarda (cited by Van Vuuren & Nieman 1999:3) virtually every career in business involve some combination of knowledge, technique and people skills but few involve the integration in combination of all functional knowledge and skills to the extent that entrepreneurial activity does. While the entrepre-

neur may borrow ideas from other people he/she first needs to implement these ideas before they can become entrepreneurial acts (Van Vuuren & Nieman 1999:3).

Van Vuuren and Nieman (1999:6) further propose that entrepreneurs need the following entrepreneurial skills:

- *Creativity and innovation* – Entrepreneurs are able to blend imaginative and creative thinking with systematic, logical process ability (Kuratko & Hodgetts 1989:36).
- *Risk taking* – Generally, people are either risk takers or risk avoiders. In other words, risk taking is seen as a level of the propensity on the side of the individual. It is, however, proven that this propensity to take risks can be developed especially if risk can be fully understood by the entrepreneur (Van Vuuren & Nieman 1999:4). Sexton and Kasarda in Van Vuuren and Nieman (1999:4) pointed out that while risk taking is mentioned in approximately all definitions of entrepreneurship, and although the risk taking propensity has been shown to be a distinguishing characteristic of entrepreneurs there are no causal relationships that have as yet been empirically proven. If risk taking is seen as a level of propensity on the side of an individual, it seems that risk taking is not necessarily a "skill" but rather an attitude.
- *Identification of Opportunities* – While opportunity recognition is often considered to be a critical step in the entrepreneurial process, limited empirical research has been conducted about this process (Ucbasaran, Westhead & Wright 2001:60). The prospective entrepreneur must distinguish between an idea and an opportunity. Opportunities are attractive, lasting and timely and relate to a product/service that creates, or adds value, for its buyer or/and user.
- *Ability to have a vision for growth* – A vision for growth also goes hand in hand with situation specific motivation. Baum, Locke and Smith (2001:301) found that higher levels of entrepreneurial motivation did indeed shape organisation structure, processes and even work.
- *Ability to interpret successful role models* – Most successful entrepreneurs follow a pattern of apprenticeship, preparing to become entrepreneurs by gaining the relevant experience from role models (Timmons 1999:46).

Douglas and Shepherd (1999:235) discuss differential entrepreneurial abilities and argue that people with greater levels of such abilities will tend to self-select as entrepreneurs. The term "entrepreneurial ability" indicates all the skills possessed by a person which contribute to his/her productivity on the job, and include opportunity recognition and screening, business planning, creative problem solving, strategic marketing, financial management, human resource management, and leadership and persuasive skills.

In some literature there is confusion between entrepreneurial abilities and entrepreneurial attitudes (Douglas & Shepherd 1999:235). It is important to distinguish between abilities and attitudes since abilities can be improved through skills training – attitudes can be seen as products of abilities.
Entrepreneurial skills are seen by Gibb (1998:3) as being variously synonymous with the following:

- Basic interpersonal skills, core skills or transferable skills, such as communication, planning and presentation as well as those skills associated with personal 'enterprising' behaviours which may be exhibited in a range of contexts, not purely business
- Setting up and running an independent owner-managed business
- Managing dynamic growing businesses, businesses with high risk of failure, or
- Exhibiting high rates of innovation
- Business skills development in the broad management sense of being 'qualified', for example, in marketing, financial management, production management and human resource management, and
- Attaining greater insight into the world of work.

Erikson (2002:27) used Ulrich's model of intellectual capital as a multiplicative function of competence and commitment (motivation) in the following equation: Entrepreneurial capital = Entrepreneurial competence x Entrepreneurial Commitment. Erikson then identifies the following entrepreneurial competence components:

- Perceived feasibility was found to be one of the main components determining entrepreneurial intentions which is the main determinant of behaviour

Entrepreneurial creativity where the entire mindset of an individual is focused on developing new business organisations, products or services

- Entrepreneurial competence is the ability to recognise and envision taking advantage of opportunity
- Ability to enterprise refers to the sum of technical and business capabilities to start and manage a business, including business planning, product development, marketing, personnel management, general management, accounting and finance capacities
- Perceived behavioural control includes notions of "feasibility" and "control" and measures people's sense of personal efficacy
- Entrepreneurial self-efficacy refers to belief in one's (cap)ability. It mobilises the motivation, cognitive resources and courses of action needed to meet given situational demands
- Conviction overlaps with 'self-efficacy" and "feasibility". The concept refers to the perceived ease of starting a new business and the perceived feasibility of such a choice, and
- Resource acquisition self-efficacy reflects the perceived (cap)ability to acquire requisite resources.

Lumpkin and Dess (1998:432) distinguished between entrepreneurship and entrepreneurial orientation by suggesting that the latter represents the key entrepreneurial processes that answer the question of how new ventures are undertaken. Whereas the term entrepreneurship refers to the content of entrepreneurial decisions by addressing what is undertaken. The model for entrepreneurship they developed suggests that the concept consists of five dimensions, namely autonomy, innovativeness, risk taking, proactiveness and competitive aggressiveness. They found that proactiveness as a strategy mode was positively related to performance in dynamic environments but competitive aggressiveness tended to be poorly associated with performance, whilst in hostile environments, where competition was intense and resources constrained, competitively aggressive firms had stronger performance.

3.4.1.2 Business skills

Entrepreneurial performance results from a combination of industry knowledge, general management skills, people skills and personal motivation (Wickham 2001:55). Part of succeeding is to know how to do things right and also choosing the right things to do (Atac 2000:1).

Generally, business skills are seen as the following:

- General Management skills
- Financial skills
- Marketing skills
- Legal skills
- Operational skills
- Human Resource Management skills
- Communication skills, and
- Business planning.

3.4.1.3 Possessing the will or tenacity to "do it" (Motivation)

Like Olson, Ulrich (1998:2) considers action to be the difference between creative people and entrepreneurs. The entrepreneurship process is classified into two distinct dimensions: creativity and initiative/action. Ulrich (1998:3) defines these dimensions as follows:

- Creativity is the envisioning of a new combination of resources and market realities often through the questioning of conventional wisdom, the discovery of new knowledge regarding market needs, technology, or the availability of vital resources, and/or finding new applications for pre-existing knowledge.
- Initiative/action on the other hand, is needed to carry out the vision to commit to the pursuit of the opportunity, to marshal the necessary approvals to do so, and to manage the effective implementation of the strategy. Vision without action is of little value.

Within the creativity dimension Ulrich (1998:3) mentions two stages: vision of the opportunity and strategy to exploit the opportunity.

Sanzotta in Antonites (2003:44) defines motivation per se as a threefold construct namely:

Motivation towards competitiveness

Apart from the fact that humans are socially interdependent beings, competition originates as a form of social interaction. This behavioural pattern develops as a comparative measure wherein, for instance, a situation develops where the best possible achievement is sought after. Within this framework motivation is regarded as core to the origin of competition. Motivation can further act as a comparative measure for achievement and failure on the basis of the feedback function, created as a result of this in a competitive framework.

Innate incentive

Motivation can further be described as a basic explorative incentive, derived from the inquisitive nature of man. Explorative behaviour is motivated by the search for new experience and the flexibility of man that enables him/her to adjust to these so called new circumstances. This indicates an individual who, due to his inquisitive nature, demands to go through a certain learning curve in order to gain the required knowledge to adjust to the "new". This process is driven by motivation.

Acquired behaviour

It is generally accepted that motivation influences the learning process and learning per se therefore it can be deduced that the individual doesn't learn effectively if the motivation does not exist. In addition, those individuals who do not learn effectively, possibly are not motivated because they have never learnt how to be motivated. Motivation can therefore be a positive influence on learning as well as in the learning process: "The more you learned how to be motivated in the past, the more easily you transfer that motivation either to new learning, or more importantly, to new levels of incentives". This links to the concept of self-efficacy which arises from the gradual acquisition of skills though experience (Jung, Ehrlich, de Noble & Baik 2001:42).

In the watershed work of McClelland published in 1961 entitled *The Achieving Society*, he stated the hypothesis that achievement motivation is partly responsible for economic growth. His basic hypothesis was that there is a strong correlation between economic growth and the need to achieve. The relevance of the work of McClelland in relation to recent findings is deduced from the psychological characteristics that need to be present within the entrepreneur in order to be successful.

These entrepreneurial characteristics are identified in the development of the achievement phenomenon. He specifies the following three universal characteristics deduced from the achievement motivation theory as present in the entrepreneur:

- **Problem solving** that forms an integrative part of an individual's responsibility. This includes the formulation of goals and the implementation and achievement of them through personal exertion.

- **Calculated propensity towards risk** that has to be described as an integrated function of ability and should not be calculated from a mere chance situation.
- The entrepreneur has to have the **knowledge of the results** reached as well as make an **evaluation of tasks** that were completed.

Naffziger *et al*. (1994:31) state that too little research has been done into the motivation of entrepreneurs. Owing to this fact, the authors developed an integrated model aimed at the total entrepreneurial process. They argue in favour of the model that entrepreneurship could exist within existing ventures (corporate entrepreneurship) as well as the well-known venture creator (entrepreneur). The basis of the theory, or model, is the premise that entrepreneurs are motivated to achieve certain goals. Entrepreneurs define their experience as being successful in as much as the goals were reached. The model is illustrated as follows:

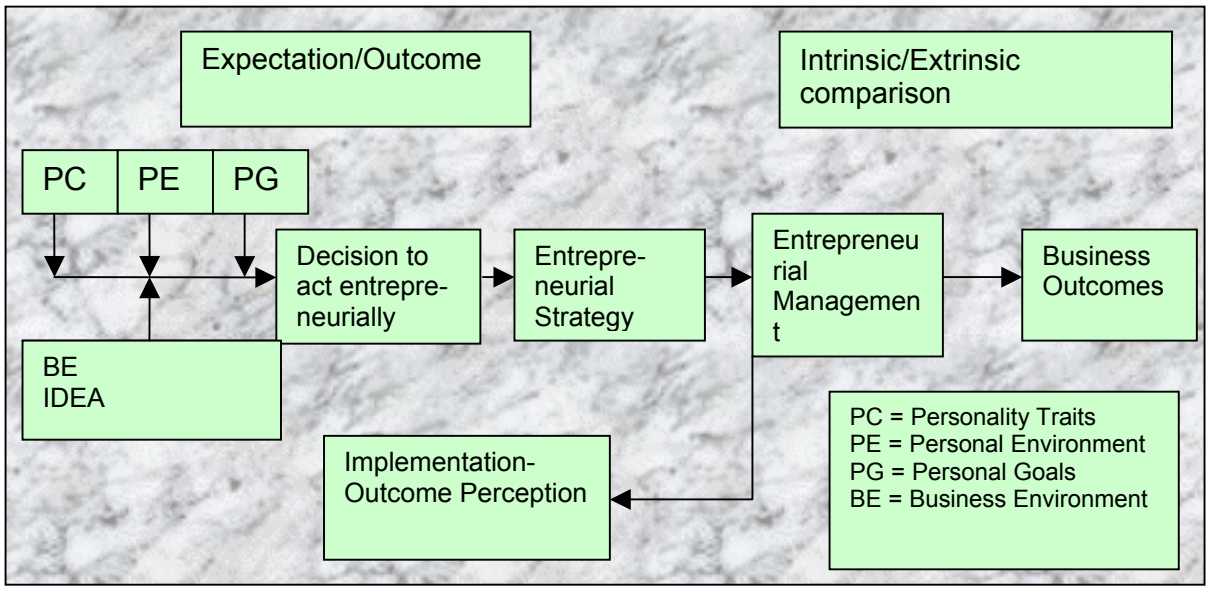

Figure 3.7: A model for entrepreneurial motivation, as adapted from Naffziger et al. (1994:33)

Newly formed ventures call for both strategic and operational management. Integrated in the process is the entrepreneur who becomes a manager and evaluates his/her set goals that are being met (for instance business growth) according to their importance. These evaluations form the motivational level of the entrepreneur and develop the need to act more entrepreneurially (for instance the implementation of an expansion strategy). According to the above-mentioned authors it has a more holistic nature than the other models that are regarded as more simplistic. The pri-

mary motivational characteristic of this framework is that the entrepreneur is motivated to act more entrepreneurially as long as it is known that this type of behaviour is instrumental in the achievement of goals.

3.4.2 The Opportunity

Entrepreneurship is the pursuit of opportunity (Shaw 1996:48). An opportunity is the gap left in the market by those who currently serve it. It presents the potential to serve customers better than they are being served at present. Timmons (1999:85) indicates that an opportunity has the qualities of being attractive, durable and timely and is anchored in a product or service which creates or adds value for its buyer or end user.

Opportunity recognition is acknowledged to be a topic that may be unique to the study of entrepreneurship and new business development (Hills & Lumpkin 1997:1). Timmons (1999:80) identifies three criteria for an idea to be an opportunity:

- Attractiveness to the market
- Timeous/timely
- Durability/sustainability

According to Wickham (2001:40) the following comprises a business opportunity:

- Needs
    - What are the customers' fundamental needs in relation to a specific product category?
    - What benefits does the product offer and what problems do customers solve with the product?
    - How does the market currently serve those needs i.e., what products are offered and what features do they have?
    - In what ways does the market fail to serve those needs i.e., why are customers left dissatisfied and how often are they left dissatisfied?
    - How customer needs could be served better, or how can the product on offer be improved?
- Organisations exist to co-ordinate tasks that allow people to specialise their activities and to collaborate in the production of a wide variety of goods. Goods have a utility because they satisfy human needs. An organisation is an arrangement of relationships in that it exists in the spaces between people. Organisations exist to address human needs. Whatever the organisational arrangement is at the moment, there is probably a better way of doing things.

Opportunity may be market inspired or product driven but the point is that entrepreneurship starts with ideas. Opportunities do not have to be "pure". It is often the case that a particular opportunity comprises a mixture of the following elements (Wickham 2001:214):

- A new product may demand an additional support service if customers are to find it attractive. Getting the product to them may demand that relationships are formed. The entrepreneur must have an open mind and a creative approach to the way in which opportunities may be exploited.
- The new product offers the customer a physical device which provides a new means to satisfy a need or to solve a problem. A new product may be based on existing technology or it might exploit new technological possibilities. It might also represent a chance to add value to an existing product by using an appropriate branding strategy.
- The new service offers the customer an act, or a series of acts, which satisfy a particular need or solve a problem. Many new offerings have both "product" and service dimensions.
- A new means of producing an existing product is not an opportunity in itself. It will offer an opportunity if it can be used to deliver additional value to the customer. This means the product must be produced at a lower cost or in a way which allows greater flexibility in the way it is delivered to the customer.
- A new way of getting the product to the customer means that the customer finds it easier, more convenient, or less time consuming to obtain the product or service.
- This is an opportunity to enhance the value of a product to the customer by offering an additional service element with it. This service often involves maintaining the product in some way but it can also be based on supporting the customer in using the product or offering them training in its use.
- Relationships are built on trust, and trust adds value by reducing cost needed to monitor contracts. Trust can provide a source of competitive advantage. It can be used to build networks which competitors find hard to enter. A new opportunity presents itself if relationships which will be mutually beneficial to the entrepreneur and the customer can be built.

Opportunity identification is the process by which an entrepreneur comes up with the opportunity for a new venture (Hisrich & Peters 2002:39). Established businesses sometimes fail to see new opportunities - opportunities do not present themselves, they have to be actively sought out (Wickham 2001:205). Organisational inertia i.e., resistance to change in response to changing circumstances, is a well-documented phenomenon (Wickham 2001:207). An established organisation can become complacent and adopt a particular perspective of "dominant logic". This, results in established businesses leaving gaps – these gaps represent windows of opportunity through which the entrepreneur can move. It is through the window that the entrepreneur can see the '"whole new world" he or she wishes to create.

The first stage of the "window of opportunity" metaphor is to picture a solid wall. This represents the competitive environment into which the entrepreneur seeks to enter. The wall is solid because of competition from established businesses. They are active in delivering products and services to customers in an effective way. The entrepreneur can do nothing new or better and so new value cannot be created.

Having spotted a "window of opportunity" the entrepreneur must measure it. The entrepreneur must be sure that the window – the opportunity – is big enough to justify the investment needed to open it.

Hills and Lumpkin (1997:4) concluded that in the entrepreneurial business, opportunity recognition is an ongoing process, consisting of, either, a) perceiving a possibility to create new businesses or, b) significantly improving the position of an existing business, in both cases resulting in new profit potential. The way in which a business scans the business environment for new opportunities is linked to the systems and processes that make up that organisation.

3.4.3 Resources

One of the key functions of the entrepreneur is to attract investment (money, knowledge, physical assets, brand names and goodwill) to the venture and to use it to build up a set of assets, which allow the venture to supply its innovation competitively and profitably. Although resources are crucial to the performance of a venture, resources alone are not sufficient to achieve a sustainable competitive advantage.

People are key players in the venture and the skills and experience they will contribute to the business will influence its success. The entrepreneur must ensure the correct mix of talents and commitment in his management team. It follows that entrepreneurs must develop skills and select competitive strategies to make better use of the resources that are accessible to them.

Based on the resource-based theory of the firm, Chandler and Hanks, as quoted by Ucbasaran *et al*. (2001:69), suggested that businesses should select their strategies to generate rents based upon resource capabilities. The argument put forward is that when there is a fit between the available resources and the venture's competitive strategies, firm performance should be enhanced.

3.4.4 Organisation

In order to supply the market, the activities of a number of different people must be co-ordinated. This is the function of the organisation the entrepreneur creates. This involves structuring the business so that it can serve the requirements of a particular market segment better than existing competitors.

The organisation can take many different forms depending on a number of factors. Positioning the venture means locating it in relation to a market gap such that it can exploit that gap in a profitable way. This involves developing an understanding of where the window of opportunity is located. It demands an understanding both of the positioning of the new offering in the marketplace relative to existing products and services and of how the venture can position itself in the marketplace relative to existing players to take best advantage of the opportunity presented.

Organisations with typical entrepreneurial characteristics engage in activities of exploration of ideas to renew strategies, work methods, processes and even products, in the renewal phase.

Current thinking is not to define the entrepreneurial organisation too strongly but rather to see it as a network of relationships between individuals. In the network view the organisation is a fluid thing defined by a nexus of relationships. The idea of

a network provides a powerful insight into how entrepreneurial ventures establish themselves.

3.4.5 Conclusion: models focusing on elements

Although the above-mentioned two models offered insight into the elements of the entrepreneurial process, information on the exact linking of creative and innovative activity with the entrepreneurial process was not addressed sufficiently.

3.5 Activities of the Entrepreneurial Process

In order to explore this further the model in figure 3.6 (on page 45), of the entrepreneurial process will be investigated in the following section by looking at the various entrepreneurial tasks.

3.5.1 Business idea development

According to Morris and Kuratko (2002:104) creativity is the soul of entrepreneurship because it is required to spot the patterns and trends that define an opportunity. An opportunity is the chance to do something in a way which is both different from, and better than the way it is done at the moment. The business idea, namely how to exploit the identified opportunity, is refined in the business plan and executed through the processes of innovation and management.

Opportunity identification occurs when the entrepreneur becomes aware of a market opportunity due to an unfulfilled need within the market place. The first task of the entrepreneur is to scan the environment and find out where the gaps, or windows, are. This involves scanning the solid wall presented by existing players to find the windows and spot the gaps in what they offer to the market. The process demands an active approach to identifying new opportunities and innovating in response to them (Wickham 2001:210).

Although every opportunity is different in details, there are some common patterns in which opportunities take shape. Hills and Lumpkin (1997:9) found that the majority

of opportunities are recognised in connection with a specific problem or need that has been identified among customers. Opportunities that are so central to the entrepreneurial process can be identified by maintaining a market orientation.

Kao (1991:18) sees that basic to the entrepreneurial role is the ability to recognise and exploit opportunities. Implicit in this definition of the entrepreneur's role as the perception and pursuit of opportunity are a number of psychological tasks:

- The ability to see opportunities where others do not, using intuition effectively
- The ability to implement and attend to details – responsiveness to objective knowledge derived from the environment.

Two frequently described entrepreneurial approaches to identify market opportunities are referred to as:

- The market-pull approach, and
- The technology-push approach.

In the former, a consumer need is identified and then the entrepreneur develops a solution to satisfy that need. The latter approach involves the entrepreneur either developing or learning of a new technology and then searching for a market need to apply this new technology (Olson in Ulrich 1998:11).

If a firm is truly entrepreneurial it must gather information and analyse it in order to develop and maintain successful innovation strategies (Kemelgor 2002:67). Considerable research indicates that successful idea creation and product development depends on an in-depth understanding of the marketplace (Koen 1998:1).

Not all opportunities are equally valuable. The key decisions in screening and selecting opportunities relate to the size of the opportunity, the investment necessary to exploit it, rewards that will be gained and the risks likely to be encountered (Wickham 2001:220). Opportunities only have meaning in relation to each other. The entrepreneur must select opportunities not in absolute terms but after comparing them with each other.

The design phase of the entrepreneurship process requires evaluating the market opportunity to determine its potential for success. This involves separating the market opportunity into its component parts, investigating the possible causes or the nature of the opportunity, and generating and examining solutions that can be used to satisfy the unfulfilled market need (Olson in Ulrich 1998:2).

According to Atac (2000:80), this business development phase has a number of tasks, inter alia,

- Conducting market potential studies
- Evaluating markets
- Undertaking basic research
- Preparing feasibility studies
- Determining capital requirements
- Forecasting sales
- Communicating through internal publications
- Appraising attitudes, and
- Developing new products and improving existing products.

The above indicates the complexity of the factors impacting on the success of a business. The entrepreneurial tasks will now be investigated to ensure an integrated understanding of creativity and innovation on the multifaceted aspects of entrepreneurship.

3.5.2 Resource configuration

The classic idea of entrepreneurship is that of a raw start up company, driven by an innovative idea that results in a high growth company. Success implies the ingenuity to find and control resources, often owned by others, to pursue the opportunity. It also means making sure the upstart venture does not run out of money when it needs it the most (Timmons 1999:28).

Not all individuals have the potential to form a business venture. Of those who do, not all will attempt a start-up. Of those who attempt it, not all will succeed in founding a business. Venture creation can be equated with planned behaviour. Various exogenous factors such as skills, experience, role models, knowledge, and personality traits affect the intention to create a venture (Chrisman 1999:45).

Organisational skills and management techniques are essential for successful venture creation. Many believe this stage of the entrepreneurial process, is the most difficult one and during it the full potential of products and services are not exploited because it is an establishing phase. Zietsma (1999:2) claims that entrepreneurial sense-making is important to venture initiation: "acting as if" the venture is unequivocal allows entrepreneurs to proceed where others might be paralysed by uncertainty.

Furthermore the entrepreneur is faced with a number of interpersonal tasks:

- The ability to marshal needed resources
- The ability to pursue creative tasks.

Tasks or activities identified during this phase are, inter alia:

- Locating and evaluating a plant site
- Performing the production tasks
- Designing the plant and
- Designing the organisation (product service departments) (Atac 2000:83).

3.5.3 Implementation through Business establishment

The implementation phase is characterised by the transformation of the idea to reality. Opening the window represents the start-up phase of the venture. Moving through the window means developing the business and delivering new value to customers. Selecting a well-defined customer segment enables the business to focus limited resources to concentrate its efforts and to defend it against competitors (Wickham 2001:210).

All the required tasks necessary to make the selected innovation a reality need to be undertaken. Entrepreneurs must learn to understand the needs of their customers, to rationalise them and to distinguish them from each other. Satisfying a need represents an end and there are a number of means by which to achieve the end. Having decided which particular needs of the customer they will satisfy, the entrepreneur must decide the means, or technology that they will adopt in order to do so (Wickham 2001:220).

Using resources that are rare, valuable, imperfectly imitable and non-substitutable in favourable industry conditions provides sustainable competitive advantage (Dollinger 1995:9). Selection involves making a choice, a decision, or a commitment to some course of action (Ulrich 1998:2). Selection further requires bringing the new technology, product, or service to a communicable state. The solution to the market opportunity needs to be analysed and refined to the point where others can understand what is envisioned (Ulrich 1998:3).

Critical for survival is recognising the impending demise of markets, products, sources of raw material, production methods and changing course in due time – also called creative destruction.

Atac (2000:8) links this to the entrepreneur's skills to decide strategically what his business must produce/what services it must provide and for whom. He proposes that the following tasks be undertaken to design strategy:

- Diversifying markets
- Developing new products and improving existing products
- Developing new and improving existing product services, and
- Diversifying products.

On the other hand, Zietsma (1999:6) concluded that it seems as if the actual recognition is not the core of entrepreneurship because some people recognise opportunities but fail to start businesses. She also found that a substantial number of entrepreneurs in her study started businesses before they identified opportunities.

Specific activities to be undertaken in this phase include, inter alia, production, marketing, building/establishing and organisation, and responding to the environment. Entrepreneurs must have knowledge and experience if they are to be successful in the industries in which they operate. Some important elements of this include knowledge of:

- The technology behind the product or service supplied
- How the product or service is produced
- Customers' needs and the buying behaviour they adopt
- Distributors and distribution channels
- The human skills utilised within the industry

- How the product or service might be promoted to the customer
- Competitors – who they are, the way they act and react.

While it is relatively easy to produce an original idea, it is substantially more difficult to develop that idea into a marketable product or service, focus on plans, budgets, estimated returns, and to carry out all of the other requirements needed for implementation. Hence, individuals who identify new ideas but do not participate in their implementation are indeed creative people, they are, however, not entrepreneurs.

3.5.4 Survival and growth

The final stage is closing the window. The window must be closed because if it is not, competitors will be able to move in after the entrepreneur and exploit the opportunity themselves. Closing the window refers to building in competitive advantage, in short ensuring that the venture's customers keep coming back, so that competitors are locked out (Wickham 2001:210).

Closing the window means creating a long-term sustainable competitive advantage for the business as a basis on which the entrepreneur can build the security and stability of the business and use it to earn long-term rewards. During this stage a continuous exploitation must take place of opportunities as they arise. The entrepreneurs must decide what type of competitive advantage they aim to pursue, e.g.:

- Offering the customer at a lower price, that is better value for money, differentiating the offering through its features or performance
- Differentiating the offering through service
- Differentiating the offering through branding
- Differentiating the offering through brand imagery i.e., building in associations that address social and self-developmental needs as well as functional needs
- Differentiating through access and distribution, that is by giving the customer easier, more convenient access to the offering (Wickham 2001:267).

The business now moves to the growth stage that is characterised by pressure. The product or service is explored in order to unfold the business to its full potential. An important concept during the growth phase is change which is critical for growth,

success and stabilisation. There are a number of growth strategies that can be followed (Nieman & Bennett 2002:66), inter alia,

- Generic growth i.e., growing the business through an increase in the market share, developing new products and/or entering new markets
- Vertical integration i.e., acquiring firms that are either above or below your own business in the supply chain in a quest for control of supply or marketing
- Horizontal integration i.e., integrating businesses on the same level, in essence competitors, and
- Lateral integration i.e., when the integrated business is neither supplier nor customer or competitor, and the business wishes to diversify to reduce risk or seasonality.

Entrepreneurs will need a distinctive set of problem and opportunity-solving competencies during the growth phase. Not only will the "know-how" need to be very broad but there will be a need to "bring forward the future" in terms of familiarity with problems and opportunities that are likely to occur (Gibb 1998:14).

Various behaviours are called for to realise continual exploitation of opportunities, inter alia, improvisation, quick, agile thinking, resourcefulness and inventiveness. Pressures that pull a business towards the entrepreneurial end include:

- Action orientation
- Short decision windows
- Risk management, and
- Limited decision constituencies.

Van Vuuren and Nieman (1999:4) stated that the abovementioned entrepreneurial skills are not the only skills that may be included in this paradigm of entrepreneurship education. However, it provides at least a basis, which can be departed from and could be augmented by those mentioned by Gibb (1998:3). The identification of opportunities should subsequently rather be regarded as an activity of the entrepreneurial process wherein the skill of creativity should be applied.

3.5.5 A summary of activities and tasks in the entrepreneurial process

The following skills (Gibb 1998:21) are associated with personal enterprise:

- Intuitive decision taking/making

- Creative problem solving
- Managing interdependency on a "know who" basis – social skills associated with building trust and friendship, with key stakeholders and contacts
- Ability to conclude deals – skill in bringing together different perspectives on a problem or deal in order to achieve a firm conclusion (social skills)
- Strategic thinking – an ability to "think" on his/her feet, about the longer term implications of activities without resort to more formal planning of "scenarios"
- Project management – ability to manage and see through specific new developments (which build the business internally and its reputation externally)
- Time management – ability to cope with flexible hours and multiple demands from internal and external stakeholders and family (project management)
- Persuasion – skill in persuading stakeholders to undertake courses of action which are judged desirable (social skills)
- Selling – skill in setting out the benefits to stakeholders of dealing with a company as a business (social skills)
- Negotiating – skill in bringing together different perspectives on a deal to reach a conclusion of advantage to the business (social skills)
- Motivating people by example – ability to lead by example (social skills).

The abovementioned skills can be linked to key tasks in the entrepreneurial process as in the table 3.1.

3.5 Chapter Conclusion

The entrepreneurial process was described from an element and activity perspective. For purposes of identifying skills, the activities perspective was found helpful. Entrepreneurs identify opportunities, create ideas and decide on their actions on the basis of a mixture of creativity, rational analysis and intuition. Creativity is a key issue and so is rational analysis. Creativity underlies innovation and leads to innovation, which then brings about change in the enterprise. Individual creativity is a precursor of the initiation of innovation in enterprises (Glynn 1996:1098).

The skills underlying the activities of the entrepreneurial process can be divided into:

- Business/management skills

- Project management
  - Time management

Table 3.1: Tasks in the entrepreneurial process linked to creative skills adapted from Gibb 1998:22)

Entrepreneurial Activity		Key Tasks	Skills needed
Business idea Development	Opportunity identification / New Venture creation	• Scan the environment • Find an idea • Generate an idea	• Visualisation skills • Problem definition skills • Idea generation skills • Creative problem solving skills
Resource Configuration		• Clarify idea • Evaluate opportunities for possible success • Innovation • intuitive decision taking/making • Marshal resources	• Strategic thinking skills • Creative problem solving skills • Overcoming mental barriers • Creative evaluation skills
Implementation	Opportunity exploitation / strategic management	• Negotiate with stakeholders – get necessary resources • Learn from competition	• Social skills • Strategic thinking skills • Critical thinking skills • Judgment skills • Solution implementation skills
Survival & Growth Maximisation		• Meet legal and statutory requirements • Production/Selling /Create organisation/Manage • Innovation	• Project management • Social skills • Strategic thinking skills • Creative problem solving skills

    - Technical skills
    - Social skills
    - Decision-making/taking
    - Strategic thinking
- Entrepreneurial skills
    - Opportunity identification
        - Creative problem solving skills
    - Opportunity exploitation
        - Thinking skills

“The conviction that one can successfully execute the behaviour required" (Bandura, 1978:193) has been shown to have a positive effect on performance (e.g., Wood & Bandura 1989:211).

Erikson (2002:27) mentioned entrepreneurial self-efficacy as a factor in “entrepreneurial capital”. The efficacy-performance relationship however, is a positive, cyclic one (Lindsley, Brass & Thomas 1995:645). That is, performance affects self-efficacy, which in turn affects performance, and so on. Because of the reciprocal causation, these iterative loops often become "deviation-amplifying" (Henshel 1976; Masuch 1985; Weick 1979 as quoted by Lindsley *et al*. 1995:646). For example, in a deviation-amplifying loop, a deviation in one variable (decrease in self-efficacy) leads to a similar deviation in another variable (lower performance), which, in turn, continues to amplify. Thus, the cyclic nature of the self-efficacy-performance relationship can result in a downward (decreasing self-efficacy and performance) or upward (increasing self-efficacy and performance) spiral.

The nature and impact of the entrepreneurial process on economic and business success is difficult to research as there are many intervening variables to consider. However, it can be concluded that at its core the entrepreneurial process is opportunity-driven, creative, resource-efficient and driven by a lead entrepreneur or entrepreneurial team (Kodithuwaku & Rosa 2002:432).

Having identified the core entrepreneurial skills as opportunity identification and subsequent opportunity exploitation, one needs to ask how these skills are applied crea

tively versus non-creatively. The literature had very little if any empirical evidence about the activities that an entrepreneur performs, whilst identifying and exploiting opportunities or the difference between doing so creatively or non-creatively.

CHAPTER 4

4 CREATIVITY AND INNOVATION

4.1 Introduction

Multitudes of sciences examine the concept and interpretation of creativity. The most important areas include sociology, biology, science and art history, and social and economic psychology. Although all approaches are characterised by the traits of the given domain, all accept that creativity is the ability that promotes the creation of something new (Ivanyi & Hofer 1999:998).

Beattie (1999:2) summarised it by saying that there are not only one or two key factors that are essential for creativity but an ever-changing kaleidoscope of ingredients, which are necessary to meet the transient, dynamic and uncertain environment of a creative process.

Feldman, Csikszentmihalyi and Gardner (1994:8) proposed a framework for creativity research seeing creativity as an expression of several sets of processes operating at several levels that will be used to guide this phase of the research. As for the dimensions of analysis they propose:

- The field which refers to the social and cultural aspects of a profession, job or craft,
- The domain, which refers to the structure and organisation of a body of knowledge evolved to contain and express distinct forms of information, and
- The individual person, the site of the acquisition, organisation and transformation of knowledge that has the possibility of changing domains and fields. For each of the three dimensions of analysis, further differentiation into more specific topics could be achieved.

Although Kuratko and Hodgetts (1989:37) point out that it is important to recognise the role of creativity in the innovative process, where creativity is the generation of ideas that result in the improved efficiency or effectiveness of a system, Brazeal and Herbert (1999:33) remark that the relationship of entrepreneurship to creativity and

innovation has not been examined in detail with an eye towards operational definitions and managerial applications.

Lumpkin and Dess (1998:430) assert that the concept of entrepreneurial orientation (EO) is potentially important to entrepreneurship research. Entrepreneurship orientation consists of autonomy, innovativeness, risk taking, proactiveness and competitive aggressiveness. Innovativeness refers to a willingness to support creativity and experimentation in introducing new products/services and novelty, technological leadership and R&D in developing new processes.

The purpose of this chapter of the literature study is to establish the activity based dimensions of creativity through a content analysis of definitions of the concept (domain investigation). These dimensions will then be compared with the key concepts and dimensions of entrepreneurship as found in the previous chapters in order to establish measurable variables for a questionnaire (field comparison).

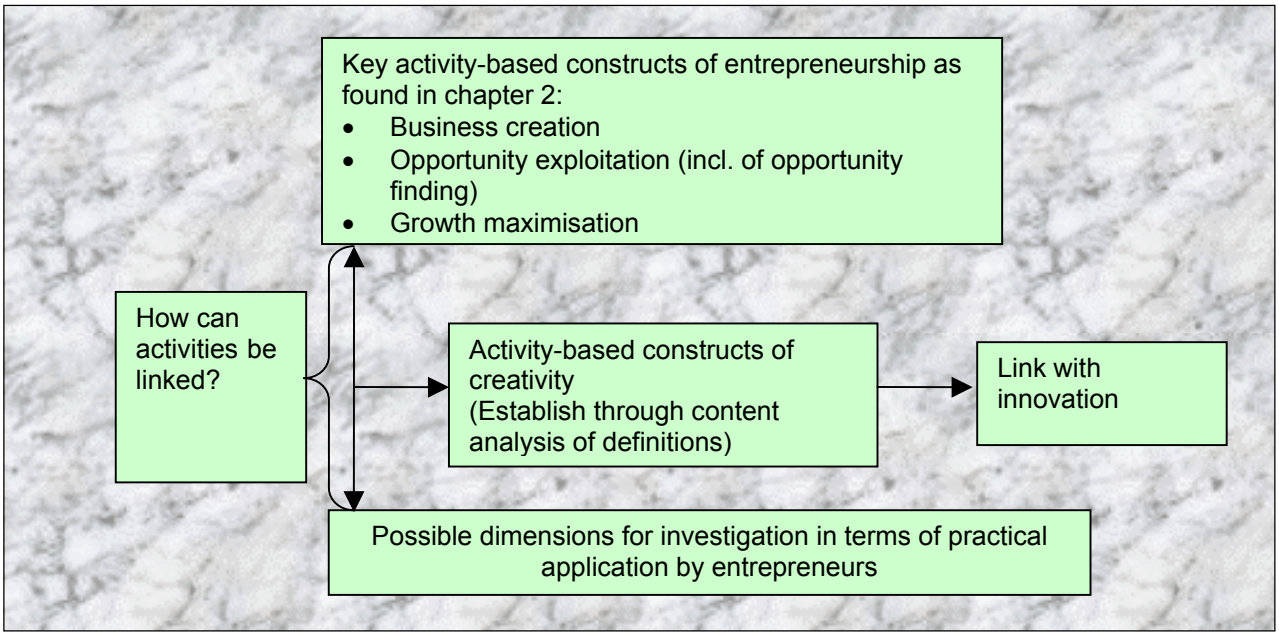

Figure 4.1: Chapter purpose/content

4.2 Various perspectives on Creativity

Various authors have attempted to define the concept “creativity”, which occurs at different levels in society. De Bono (1994:3) points out that “creating a mess” could

in a sense be seen as an example of creativity and that it is only when one starts to introduce concepts such as “unexpectedness” and “change” that one begins to get a different view of creativity.

Amabile (1983:3) indicates that it is necessary to answer two questions in order to understand creativity:

- How is creative performance different from ordinary performance?
- What conditions are most favourable to creative performance?

Creativity can be approached from several perspectives:

4.2.1 Trait Perspective

Early studies in the area of creativity focused (as in entrepreneurship) on the discovering and associating personality characteristics and cognitive abilities with creative achievement (Andriopoulos 2001:834).

Creativity tends to be domain specific however, in the sense that it is an attribution based on the current conditions of the social system – more like judgments of taste, beauty, or goodness. This implies that an individual that is judged to be highly creative in one domain, e.g. music or science will not necessarily be judged highly creative in another domain, e.g. language or business. Excellence in anyone of the areas thus does not have any greater predictive power of possible creativity in another area. Hence, one must conclude that creativity is not an attribute of individuals but of social systems making judgments about individuals. If it is reasoned that creativity only exists within a framework of attributions based on the criteria of domains, and these change within time it stands that creativity is not a natural kind of trait that can be measured objectively such as height, strength, perfect pitch, reaction time or knowledge of languages or mathematics (Feldman *et al*. 1994:56).

To say that creativity is relative to the conditions of the social system does not mean that it is any less important, or less real, than if it had an independent, objective existence. But it does mean, if we wish to understand creativity we must search for it outside the boundaries of the individual person. Amabile, in Fillis and McAuley

(2000:11), supports the above view, indicating that examining creativity from a trait perspective can be limiting insight, since social surroundings have also been shown to impact upon creative behaviour.

4.2.2 Managerial perspective

According to Amabile (1998:77), the creative idea must somehow influence the way business gets done (i.e., implemented) – for instance by improving a product or by opening up a new way to approach a process. Feldman *et al*. (1994:72) controversially points out that creativity should not be seen as accidental where ordinary individuals suddenly produce creative products. In the organisational context therefore creativity *per se* is not enough to ensure success. Creativity must be aligned with the organisational goals (Andriopoulos 2001:839).

4.2.3 Entrepreneurial perspective

An individual's ability to think creatively points to creativity and innovation is the utilisation of creative abilities in the establishment of something (Nieuwenhuizen *et al*. 2003:3).

Feldman *et al*. (1994:52) is of the opinion that it is useful, and sometimes creative, to solve problems, but such solutions are, perhaps less compelling examples of creative capacity. It is the power to find new problems and to fashion products of scope and power that especially marks the creative individual.

De Bono (1994:70) also distinguishes between solving problems and setting problems to ourselves. The second kind of problem solving, he calls "achievement thinking" – a concept broader than "problem solving". This can also be called a "creative orientation" in contrast to a "reactive orientation" that typically acts in response to events, exposing a defensive posture that aims to control the influences of external forces by denying responsibility and avoiding initiative (McManus 1999:5). This view is especially significant in the context of the entrepreneurship domain.

4.3 Dimensions of Creativity

Individuals are not creative in all areas in the same way that a person is unlikely to be intelligent across the board.

4.3.1 General dimensions of creativity

The necessary conditions for creativity are discussed by Fillis and McAuley (2000:8), namely an act that produces effective surprise. The content of the surprise can be as various as the enterprises upon which men are engaged. Couger (1995:7) summarises the requirements for creativity as follows:

- The concept has novelty value (for the thinker or culture),
- The thinking is unconventional in the sense that it rejects or modifies previously accepted thinking (paradigms),
- The thinking requires motivation and persistence over a long period of time (continuous or intermittent),
- The initial problem was vague so that part of the process was to formulate the problem itself, and
- The newness or uniqueness combines with value or utility.

Amabile (1983:37) developed an assessment technique for creativity, showing that it is possible to obtain high levels of agreement in subjective judgements of creativity even when the judges are working independently and have not been trained to agree in any way. Three cluster dimensions for judgment were developed including the following concepts:

Cluster 1 - Creativity cluster

- Creativity – a subjective judgement of the degree to which a design is creative
- Novel use of materials – the degree to which a work shows novel use of materials
- Novel idea – the degree to which a design shows a novel idea
- Effort evident – the amount of effort that is evident from the product
- Variation in shapes – the degree to which the design shows good variation of shapes

- Detail – the amount of detail in the work
- Complexity – the level of complexity in the design.

Cluster 2 - Technical cluster

- Technical goodness – the degree to which the work is good technically
- Organisation – the degree to which the design shows good organisation
- Neatness – the amount of neatness shown in the work
- Planning – the amount of planning evident
- Representational – the degree to which the design shows an effort to present recognisable real-world objects
- Symmetry – the degree to which the overall pattern is symmetrical
- Expression of meaning – the degree to which the design conveys a literal, symbolic or emotional meaning to you.

Cluster 3 - Aesthetic judgments

- Liking – a subjective reaction, the degree to which the judge likes the design
- Aesthetic appeal – in general the degree to which the design is aesthetically appealing
- Would you display it - the interest you would have in displaying this design in your home or office.

4.3.2 Dimensions of creativity in business

Creativity when undertaken in complex social settings could be considered a subset of innovation, which is in turn a subset of change (Brazeal & Herbert 1999:39). An important purpose of creativity in business is adding value, creating value and designing opportunities (De Bono 1994:71).

Boden (1994:75) also indicates that novel ideas must be valuable since “creative” indicates not only that something is new but also that it is interesting in a given domain. She distinguishes furthermore between first-time novelty and radical originality where a novel idea constitutes one that can be produced by the same set of generative rules as are other familiar ideas.

Schumpeter (1947:150) distinguished between the concepts adaptive response i.e., whenever an economy/economic sector adapts to changes according to theory and creative response i.e., whenever something is done outside the range of existing practices.

Ireland et al. (2001:49) identify six domains wherein wealth is created:

- Innovation – the sum of invention plus the commercialisation of that invention
- Networks – patterned relationships between individuals and groups
- Internationalisation – where a company sells its products in nations outside its home country
- Organisational learning – the development of new knowledge that has the potential to influence behaviour and help the firm to create wealth
- Top management teams – the person(s) with the final responsibility for selecting the firm's strategies and ensuring that they are implemented in ways that will cerate a source of competitive advantage, and
- Growth stimulates success and change and is measured by wealth creation.

The above sensitises the reader to the fact that there could be a myriad of combinations of creativity in business and that there is not necessarily one correct or best way of being creative. This poses a tremendous challenge for trainers and educators of entrepreneurs.

Furthermore, the environment, process and event of entrepreneurial activities, require a holistic analysis rather than a simplistic analysis of the individual elements of entrepreneurship (Beattie 1999:3).

4.4 The Creative Process

Creativity is a process that can be developed and improved (Kuratko & Hodgetts 1989:37). In analysing the entrepreneur's creative thinking processes along the time frame of pre-idea through to the creation of the opportunity, it is recognised that there are a number of key events, strategic windows, stages etc. that the process has to follow.

4.4.1 Elements/Components of the Creative Process

Amabile (1998:4) identifies three components within individuals that are critical for creativity that can be influenced by managers although the first two are more difficult and time consuming to influence:

- Expertise encompasses everything that a person knows and can do.
- Creative thinking skills refer to how flexibly and imaginatively people approach problems and solutions – their capacity to put existing ideas together in new combinations.
- Motivation determines what people will actually do. Amabile (1998:6) identified two types of motivation, namely intrinsic and extrinsic. Extrinsic motivation comes from outside a person, e.g. money. When people are intrinsically motivated, they engage in their work for the challenge and enjoyment of it. The work itself is motivating.

Expertise requires domain relevant skills and includes all skills relevant to a general domain, rather than skills relevant to only a specific task within a domain, assuming that within a particular domain skills used in any specific task will have a great deal of overlap with skills used in any other task. Domain relevant skills include familiarity with and factual knowledge of the domain in question, facts, principles, opinions about various issues in the domain, knowledge of paradigms, performance guides for solving problems in the domain and aesthetic criteria (Amabile 1983:69).

4.4.2 A Framework/Model of the Creative Process

Fillis and McAuley (2001:13) link the creative concept and the creative person through appropriate encouragement:

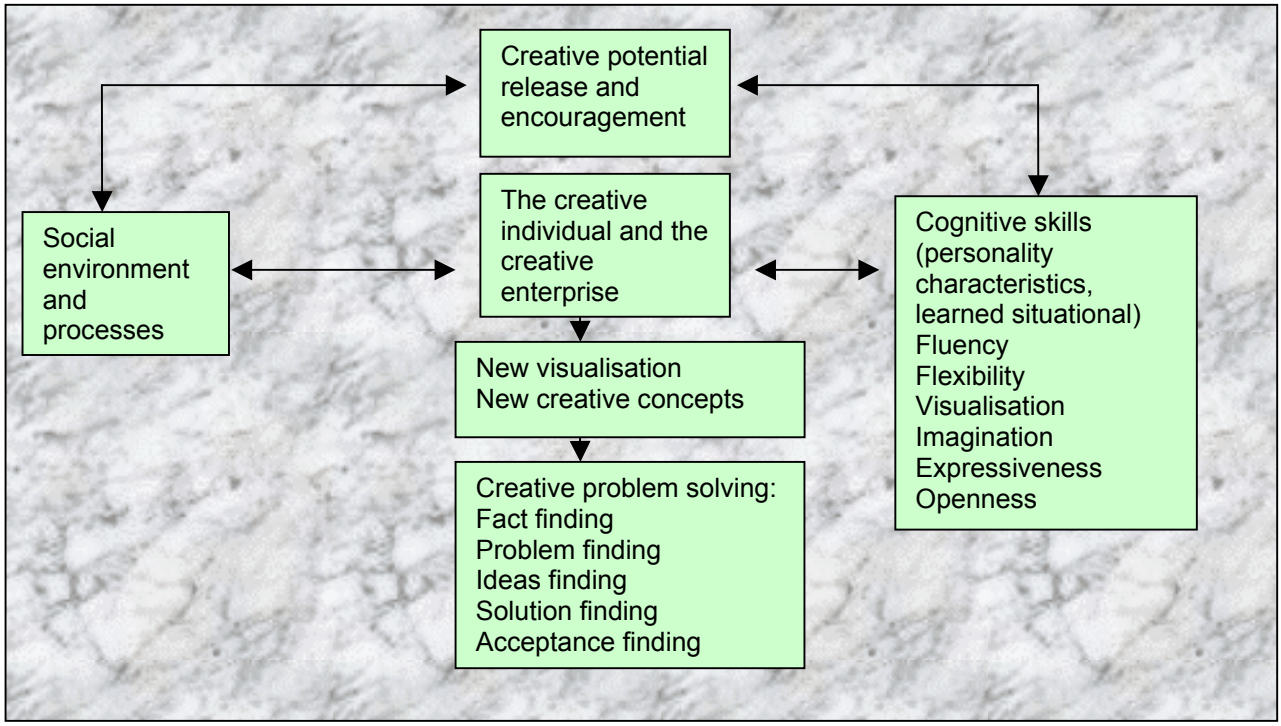

Figure 4.2: How creativity occurs at the entrepreneurship interface (Fillis & McAuley 2001:13)

The input of cognitive skills also influences the process and should result in creative problem solving as long as the environment is favourable. Brazeal and Herbert (1999:34) proposed a model of the entrepreneurial process integrating the respective roles of change, creativity and innovation.

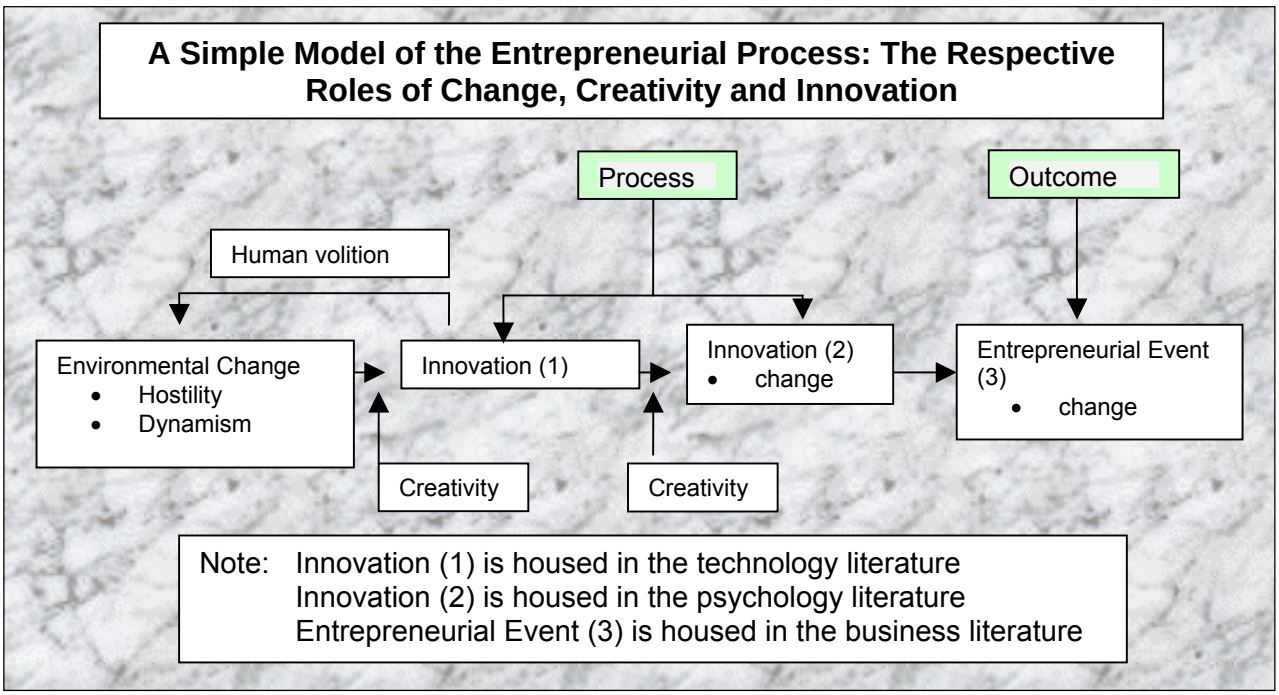

Figure 4.3: A simple model of the entrepreneurial process: the respective roles of change, creativity and Innovation (Brazeal & Herbert 1999:34)

4.4.3 Phases/stages of the Creative Process

The process of creation is in the most simplistic terms the transformation of an idea into an opportunity and the opportunity into a creation (Beattie 1999:3). While it is generally accepted that a process is involved in creativity, there are different opinions regarding the nature of that process. Fillis and McAuley (2000:10) constructed a stages approach to creative development as shown in Table 4.1:

Table 4.1: The Process approach to creativity according to Fillis and McAuley (2000:10)

Creativity Stage	Activity	Psychological Stage
Interest	Environmental scanning	Intuition/emotion
Preparation	Preparing the expedition	Details/planning
Incubation	"Mulling things over"	Intuition
Illumination	The "eureka" experience'	Intuition
Verification	Market research	Details/rationality
Exploitation	Captain of the industry	Details/rationality

Morris and Kuratko (2002:107) summarise seven approaches to stages of the creative process:

Table 4.2: Approaches to stages of the creative process as reported by Morris and Kuratko (2002:107)

Von Oech	Strickland & Carlson	Ray & Myers	Kuhn	Rickards	Kao	Miller
Preparation	Exploring what you have and	Information gathering	Problem recognition	Preparation	Interest	Be aware of your complete current
Frustration	what you need	Digestion of material	Naïve incubation/	Incubation	Preparation	situation
Incubation	Inventing	Incubation	Gestation	Insight/ Inspiration	Incubation	Be persistent in your vision
Illumination	ideas while roaming	or forget-ting the	Information search and	Validation	Illumination	Perceive all
					Verification	

Von Oech	Strickland & Carlson	Ray & Myers	Kuhn	Rickards	Kao	Miller
Elaboration	beyond the obvious Choosing the idea or combination that holds the most promise in terms of strengths and weaknesses Implementing, trying, evaluating	problem Inspiration Implementation	preparation Alternative solution formation Chosen solution implementation Feedback and evaluation		Exploitation	your alternatives Entertain your intuitive guidance Assess and select among your alternatives Be realistic in your actions Evaluate your results

These perspectives have much in common. The so-called creative stages and phases are not watertight compartments and are dependent on each other. There are also times when some of the stages are short-circuited (Beattie 1999:3). At least the following five stages need to be included in a creative process.

4.4.3.1 Problem/Question/Challenge – The Preparation phase

During the preparation phase one becomes sensitive to the issues and problems in a field of interest. It is very important to ask the correct question in order to understand the real problem.

In the context of opportunity recognition, preparation refers to the background and experience the entrepreneur brings to the opportunity recognition process. Such knowledge is derived from life experiences (Hills, Shrader & Lumpkin 1999:2).

Ucbasaran *et al.* (2001:62) highlighted three main areas of difference between individuals that may help us understand why certain individuals recognise opportunities while others do not: knowledge (and information) differences, cognitive differences, and behavioural differences. These are further described as:

- The ability to make the connection between specific knowledge and a commercial opportunity requires a set of skills, aptitudes, insights, and circumstances that are neither uniformly nor widely distributed. The extent to which individuals recognise opportunities and search for relevant information can depend on the make-up of the various dimensions of an individual's human capital. The process of search and opportunity recognition can be influenced by the cognitive behaviours of entrepreneurs. Search behaviour can be bounded by the decision maker's knowledge of how to process information as well as the ability to gather an appropriate amount of information. Experience may not strictly enhance opportunity recognition ability. Habitual entrepreneurs associated with liabilities (e.g., over-confidence, subject to blind spots, illusion of control, etc.), resulting from their prior business ownership experience, may also exhibit limited and narrow information search behaviour. Further, entrepreneurs having high levels of confidence sought less information.
- The ability of entrepreneurs to learn from previous business ownership experiences can influence the quantity and quality of information subsequently collected. Previous entrepreneurial experience may provide a framework or mental schema for processing information. In addition, it allows informed and experienced entrepreneurs to identify and take advantage of disequilibrium profit opportunities. This entrepreneurial learning goes beyond acquiring new information by connecting and making inferences from various pieces of information that have not previously been connected. These inferences build from individual history and experience and often represent "out-of-the box" thinking. Heuristics may be crucial to making these new links and interpretations.

Some people habitually activate their mental schema for processing information and can notice it in the midst of an otherwise overwhelming number of stimuli. This may explain why the pursuit of one set of ideas and opportuni-

ties invariably leads entrepreneurs to additional innovative opportunities that had not been recognised previously.

4.4.3.2 Discovery phase (Incubation phase)

It is critically important to have a prepared mind to ensure that the seeds of ideas germinate. The prepared state of mind acts as a catalyst for stimuli, which provides the beginning of the discovery phase of the creative process. As a rule, the creative solution does not simply come. Incubation involves thinking things over. Incubation refers to that part of the opportunity recognition process in which an entrepreneur is contemplating an idea or problem. Morris and Kuratko (2002:106) also term this phase the frustration phase.

4.4.3.3 Eureka stage (Insight/Illumination phase)

The storage of sensory stimuli is subjected to abstraction and modification as a function of the entrepreneur's previously structured knowledge base. The prepared mind is assisted at this stage by insight, intuition, and perception and utilises the cognitive tools of scenarios, schemata, visualisation, etc.

4.4.3.4 Crystallisation phase/Evaluation phase

Although the process is continuous, the crystallisation phase provides thinking space where decision taking can be put on hold for further information, clarification before the verification of the answer to the problem. It involves research into whether a concept is workable and it is an aspect of creativity that could be challenging since honesty is critical (Hills *et al*. 1999:3).

4.4.3.5 Implementation stage/Elaboration phase

After crystallisation as a result of understanding and insight happens the process either can be terminated or cleared to proceed. The idea is fleshed out and the business plan developed. The how, when and where the creation will materialise and gain acceptance in the marketplace is the implementation phase of the entrepreneurial creative process.

4.4.4 Creative techniques

There are various techniques that can assist people to think and act more creatively. Nieman and Bennett (2001:405) mention a number of techniques that are integral to the various stages of the creative process:

- Random input stimulates the creative thinking process
- Problem reversal
- The 5 W's/H, or questioning technique (who, what, where, when, why & how)
- Association technique
- The discontinuity principle

4.4.5 Key Concepts of Creativity

The following constructs were identified from the literature study:

4.4.5.1 Create

The Oxford dictionary (1999:34) defines "create" as to bring into existence, originate. Sometimes this term is used synonymously with the term "improvise", especially in the business context, where it is defined as to compose, provide or construct (make do).

Miner, Bassoff and Moorman (2001:304) considered improvisation in a learning context and defined it as a distinct type of real-time, short-term learning that has links with long-term organisational learning.

4.4.5.2 Thinking

Thinking is the ability to form new combinations of ideas to fulfil a need or to get "original" though appropriate results by the criteria of a specific domain. De Bono (1994:11) indicates that the purpose of the brain is to establish and use routine patterns and that cutting across patterns is thus not a natural behaviour of the brain.

Skills in this regard include focusing, information gathering, memory, organising, analysing, generating, integrating and evaluating. Carl Rogers (as quoted by McManus 2000:7) drew the attention to "extensional" orientation as the primary con-

dition of individual creative behaviour. Extensionality requires a lack of rigidity that allows boundaries to be permeated and shifted, tolerance of ambiguity and an open awareness of whatever information is currently available to experience.

4.4.5.3 Purposefulness

Purposefulness also seems to be a unique quality of human thought and human behaviour. This purposefulness or intentionality is born of an ability to reflect on experience, both internally and externally, as well as a tendency to believe in the possibility of making changes to better achieve our ends.

Reflectiveness alone, however, would not explain the tendency to modify the environment. Indeed, certain disciplines are designed to use reflection as the basis for accepting life as it is. Being aware of the fact that a habitat does not fulfil all of the desires and aspirations a person might conjure up, would not necessarily lead to a commitment to try and change it. The combination of purposefulness with reflectiveness has become indispensable to the formation and evolution of culture. At this point, the three processes can only be described independently, it is obvious however, that their interaction will provide the most revealing insights. Much the same could be said of the broadest level of the framework for studying creativity presented by the individual, the domain and the field. However, until the various components of the system are described adequately, interaction studies will not be feasible (Feldman *et al*. 1994:31).

4.4.5.4 Change

The central problem in understanding creativity is to understand change, a constant process of renewal and regeneration – how is it experienced and how is it controlled? Given that change creates higher levels of uncertainty, ambiguity and risk it can be asked how do changes occur? Can there be changes in knowledge or experience that go beyond what already exists? What is the relationship between the individual's experience of change and a decision to create changes that alter aspects of the world?

Piaget in Feldman *et al*. (1994:89) attempted to provide an explanation of change in knowledge structures through a process termed equilibration. His formulation was revolutionary in at least two respects. First, it indicated transformations not only in the individual's store of knowledge but in the very mental structures that are the sources of that knowledge. Thus not only does knowledge change but knowledge-gathering capabilities also change. Second, Piaget proposed that changes in knowledge come about not just from mental reflection but also from action, which he defined as the desire to understand the world through activity, exploration, and interpretation (Feldman *et al*. 1994:89).

However, Piaget failed to report any theoretical importance in differences between universal re-organisations of knowing systems (the famous four stages of development) and non-universal re-organisations such as considered in entrepreneurship. Non-universal re-organisations are those transformations in knowing systems that apply to a particular domain of knowledge but are not universally attained. Such changes are not guaranteed to occur in all individuals or for mastery of all bodies of knowledge, but they nonetheless are developmental in all other essential senses of the term. Because development in non-universal domains is not guaranteed, there is more of a role for individual talent or inclination, on the one hand and for specific domain-related influences, on the other (Feldman *et al*. 1994:90).

Change is generally considered in the entrepreneurship literature as an antecedent of the entrepreneurial event. Although change appears to be a prerequisite for entrepreneurship, change alone does not necessarily result in entrepreneurial behaviours (Brazeal & Herbert 1999:35). Unresolved problems create uneasiness and uncertainty, provoking ‘outsiders’ to look for a new paradigm, even though the current paradigm might be useful and doing well in solving most problems in the field (Lumsdaine & Lumsdaine 1995:21).

There are different types of change: developmental, transitional and transformational. Schumpeter (1947:150) distinguished between the adaptive response and the creative response, to change indicating that creative response changes social and economic situations for good. It can be deduced that creative response supports transformational change. Key to creative response is creative thinking that

leads to the taking of different stances that question the adequacy of existing domains of understanding and occurs when a person believes that the world can be changed through his/her efforts.

4.4.5.5 Imagination

Piaget (in Feldman *et al*. 1994:26) found that the ability to represent movement mentally (i.e., physical transformation) was one of the last to be achieved in children. This might be an indication that the rational conscious mind does not deal easily with transformation, but is nonetheless able to learn about it through experience with changed and changing reality. It is as if the conscious mind has been constructed to create a constant world, to behave as if things are not changing, but static, and to go about its business with this purpose as a central goal. Only reluctantly does the conscious mind entertain transformation.

4.4.5.6 Knowledge

It can be stated that all firms operate with some kind of technological knowledge base. Aldrich and Martinez (2001:6) name three of the most likely sources of entrepreneurial knowledge:

- Previous work experience
- Advice from experts, and
- Imitation and copying.

Shepherd and DeTienne (2001:5) found that the level of prior related knowledge has been found to increase abilities to evaluate and utilise outside knowledge by creating a “knowledge corridor” that allows individuals to discover certain opportunities. The opportunities also tended to be more innovative.

Managers and entrepreneurs differ in the way they apply and evaluate their knowledge. Instead of applying rational and scientific principles, entrepreneurs often rely on cognitive biases and heuristics. In the context of a decision-making process, biases and heuristics are cognitive mechanisms and subjective opinions that guide behaviour. The two most distinctive biases of entrepreneurs are overconfidence and representativeness. Entrepreneurs tend to overestimate their capabilities and often

generalise about a person or a phenomenon based on a few observations (Aldrich & Martinez 2001:7).

4.4.5.7 Problem Solving

Williams (1999:10) mentions that although creativity has been defined as the development, proposal and implementation of new and better solutions to problems this might be restricting the value of creativity because in a business situation, exploitation of opportunities is a vital task for managers and one in which creativity is called for.

4.4.5.8 Improvement

Improvement can be seen as the biggest "potential" use of creative thinking (De Bono 1994:68). By improvement is usually meant finding a "better" way of doing things where "better" can mean at a lower cost, in less time, with fewer errors, with less energy, with less wastage, etc. Improvements can be made on the basis of experience, new technology, new information, analysis and logic.

4.5 Content analysis of definitions

The purpose of content analysis is to, inter alia, reveal the focus of attention of individuals or groups and hidden values conveyed through text (Rafaely 2001:2). Qualitative content analysis tries to use the methodological strength of content analysis for systematic analysis of textual material. Central points of the procedures of qualitative content analysis are:

- Fitting the material into a model of communication after having determined from what part of the communication inferences will be made (i.e., to aspects of the communicator, to the situation of text production, to the socio-cultural background, to the text itself or to the effect of the message),
- Rules of analysis (the material is to be analysed step-by-step, following rules of procedure, devising material into content analytical units),

- Categories in the centre of analysis the aspects of text interpretation, following the research question, are put into categories, which were founded and revised within the process of analysis,
- Criteria of reliability and validity (the procedure has the ability to be intersubjectively comprehensive, to compare the results with other studies in the sense of triangulation and to carry out checks for reliability (Mayring 2001:2).

4.5.1 Texts to be examined

An exploratory literature study was done in order to establish what creativity is, how it is defined and how entrepreneurship is being linked to it. In this process various definitions were used, from a variety of sources in the field of small business and entrepreneurship, including encyclopaedias, dictionaries, books and periodical articles.

This literature study guided the development of "units of analysis" to be used in the quantitative content analysis of the definitions of creativity.

4.5.2 Questions asked and constructs used

To count and classify all possible context factors surrounding a text is an almost impossible task and therefore it is necessary to determine the contextual limits in the pursuit of textual analysis. For purposes of this study the following questions were asked:

- Which constructs can be identified as representative of the concept "creative"?
- Which of these constructs are indicative of entrepreneurship?
- Can certain constructs be identified as uniquely delimited to the entrepreneurial domain, whilst simultaneously indicative of creativity and innovation?

4.5.3 Units of analysis

Various definitions of the concept “creativity” as found in the literature study were analysed against key concepts identified through the literature study for the concept “entrepreneurship”. Since the focus of this research is on activities that entrepreneurs engage in and specifically the activities of the creative process in the entre-

preneurship domain it was decided to analyse the verbs used in the definitions. Nouns are embedded in an existence of being, while verbs are associated with emergence, with entrepreneurship as becoming. Accordingly we associate entrepreneurship with "organising" – of, e.g. images and resources – not with "organisation" (Hjorth & Johannisson 1997:11).

4.5.4 Categories of responses

Against the background of the literature study the following categories of responses were identified:

- Creation
  - Creative problem solving
    - Purposeful thinking
    - Idea generation
    - Evaluation/Distinguishing between ideas and opportunities
  - Insight
  - Implementation/Acceptance finding

- Synthesising
  - Creative problem solving
    - Purposeful thinking
    - Idea generation
    - Visualisation of growth
    - Imagination
    - Evaluation/Distinguishing between ideas and opportunities
  - Visualisation of growth
  - Imagination
  - Insight
  - Improve
  - Implementation/Acceptance finding

- Modification
    - Creative problem solving
    - Purposeful thinking
    - Idea generation
    - Evaluation/Distinguishing between ideas and opportunities
  - Visualisation of growth
  - Imagination Insight
  - Transformation/Change
  - Implementation/Acceptance finding

These categories were analysed and refined into a colour-coded coding scheme that corresponds with the view of linking the activities of creativity (i.e., creation, synthesising and modification) with venture creation, opportunity exploitation and venture growth maximisation.

4.5.5 Coding scheme

The coding scheme for analysis of the definitions of creativity was specifically developed with the view of tying in with entrepreneurship. The following key concepts were identified for counting:

- Creation/Creating – the construct "implementation" identified in subsection 3.5.3 was seen to be the most representative of the concept.
    - Create/Produce
    - Invent
    - Develop/Initiate/Generate/Form
    - Achieve
    - Implement
- Synthesis/Synthesising (building up separate elements into a connected whole/theory/system) – putting together an opportunity
    - Think
    - Discover
    - Visualise
    - Imagine
    - Understand
    - Know
    - Solve
    - Evaluate
    - Improve
- Modification/Modifying of ideas, etc to develop a business concept/opportunity
- Transform/Change
- Influence/Communicate/Interact

These concepts (and certain synonyms indicative of the concepts) were highlighted/identified in definitions of creativity.

4.5.6 Data Collection

Various definitions were collected during the literature study. The focus was on business resources but the sources used were diverse, including dictionaries, encyclopaedias, books, periodical articles etc. The collection of definitions used, in no way claims to be comprehensive but strives to relate creativity to small business.

4.5.7 Recording

The problem of defining the operational meanings of the categories of analysis is the principal focus in recording (Krippendorf 1980:59). The main categories as identified were used in a table format to enable counting of the concepts, striving to keep the categories mutually exclusive.

Table 4.3: Content analysis of definitions of creativity

	Creation /Creating	Synthesis /Synthesising	Modification / Modifying
Feldman et al. (1994:1) define creativity as the achievement of something remarkable and new, something which transforms and changes a field of endeavour in a significant way.	1		2
Creativity is the process through which invention occurs, that means creativity is the enabling process by which something new comes into existence Brazeal and Herbert (1999:35).	2	1	
Creativity is a process that initiates a product or process that is useful, correct, appropriate and valuable to a heuristic task (Dollinger 1995).	1	1	
Creativity in its fullest sense involves both generating an idea and manifesting - making something happens as a result. To strengthen creative ability you need to apply the idea in some form that enables both the experience itself and your own reaction and others in order to reinforce your performance. As you and other applaud your creative endeavours, you are likely to become more creative (Ned Hermann, in Lumsdaine & Lumsdaine 1995:14).	3	1	

	Creation /Creating	Synthesis /Synthesising	Modification / Modifying
Creativity is playing with imaginative possibilities, leading to new and meaningful and creative responses while interacting with ideas, people, and the environment (Lumsdaine & Lumsdaine 1995:14).	1	1	1
Creativity is the ability to consistently produce different and valuable results (Levesque 2001:5).	1		
Some degree of creativity occurs whenever people solve problems for which they had previously no learned or practiced solution. Creativity is the process of sensing problems or gaps in information, forming ideas or hypotheses, testing and modifying these hypotheses and communicating the results (Torrance 1994:7).	1	3	2
Creativity deals with the generation of alternatives and ideas that can be used in the problem solving process. Creativity is changes in perceptions and concepts (De Bono 1995:16).	1	1	1
Creativity is the ability to develop new ideas refers to imagination and the ability to think originally and can be described as applied imagination or the establishing of a new idea. It can be seen as an active, stimulating, uplifting process of growth towards an unknown unique output, achievement or creation in times of difficulty or opportunity (Kroon 1998).	3	3	
Creativity is often associated with the terms: different, unique, unusual, out of the ordinary. Creativity is also a method that offers a unique perspective about a certain thing, a novel but appropriate behaviour (Jewler 1989).	1		
Creativity is the thinking processes that result in the development and generation of new ideas while innovation is the practical application of the concept in order to reach set goals on a commercial/profit basis (Majaro 1988).	2	1	
Being creative is seeing the same thing as everybody else but thinking of something different (Fillis & McAuley 2000:8).		1	

	Creation /Creating	Synthesis /Synthesising	Modification / Modifying
Mooney (Beattie 1999) attempted to define creativity in terms of what is referred to as creative. He considered four approaches to creativity as: • the creative environment, • the creative product, • the creative process, • the creative person.	1	1	
Creativity is ability, it is a mental activity, it takes place in conditions that facilitate or inhibit creativity, its product is creative outcomes. It is a sudden insight, a leap ahead or a spark, all of which emphasise discontinuity with the past state (Amabile 1983).	1	1	1
Amabile (1998) distinguished creative behaviour as a product or response that will be judged as creative to the extent that it is a novel and appropriate, useful and correct approach to the task in hand. She furthermore believes that creativity is a function of expertise, creative thinking skills and motivation.	2	1	
Schumpeter (1947:150) identified what he termed "creative response" to economic conditions. Creative response has at least three essential characteristics, namely: It can always be understood *ex post*, but practically never *ex ante* - that is to say it cannot be predicted by applying the ordinary rules of inference from the pre-existing facts, It shapes the whole course of subsequent events and their long-run outcome, and It has something to do with the quality of the personnel available in a society, with the relative quality of personnel in a particular field and with individual decisions, actions and patterns of behaviour.	2		
Creativity is bringing together of knowledge from different areas of experience to produce new and improved ideas. Creativity is not something limited to chosen few, it's a fundamental part of being human. All of us are naturally creative and intent new approaches to problems as we go about our daily lives. Creativity involves us in the constant discovery of new and improved ways of doing things, it means challenging well tried and traditional approaches and coping with conflict and change which this inevitable causes (West 1997).	1	2	1

	Creation /Creating	Synthesis /Synthesising	Modification / Modifying
Creativity is the generation of ideas that result in the improved efficiency or effectiveness of a system (Kuratko & Hodgetts 2001:121).	1	1	
Creativity is the soul of entrepreneurship. It is required in spotting the patterns and trends that define an opportunity. It is needed to develop innovative business concepts. Most importantly, the corporate entrepreneur has to be highly creative in getting a sponsor, building and using a network, obtaining management buy-in for the concept, forming a team, coming up with resources, and overcoming the many obstacles that will be thrown into his/her path (Morris & Kuratko 2002:104).	3	2	
Among theorists and practitioners alike, there is a view that creativity is something to do with processes that produce new and valued ideas (Richards 1999:22).	1		
Creativity is taking something that perhaps you believed would never come to pass, declaring it possible, and then working to make it a reality (Hargrove 1998:3).	1	2	
Creativity is considered to consist primarily of subjective processes occurring within such people and creative persons are seen in isolation. Creativity is the circular processes occurring among people through interaction and mutual influencing of behaviour (The Psychological Association of South Africa 1992:44).			1
Creativity (adverb): Having the power or ability to create things, showing imagination and originality (Oxford paperback dictionary 1994).	2	1	
Creativity is the ability to visualise, foresee, generate, and implement new ideas (Hellriegel, Jackson & Staude 2001:180).	2	2	
Bringing something into being that is original (new, unusual, novel, unexpected) and also valuable (useful, good, adaptive, appropriate) (Ochse1990).	1		
Creativity is a generative or productive way of experiencing reality, including the perceiver's own self (Smith & Carlsson 1990:5).	2	1	

	Creation /Creating	Synthesis /Synthesising	Modification / Modifying
A creative individual solves problems, fashions products, or poses new questions within a domain in a way that is initially considered to be unusual but is eventually accepted within at least one cultural group (Feldman et al. 1994:71).	1	1	1
TOTAL	**38**	**28**	**10**

Twenty five (25) of the twenty seven (27) definitions included some reference to creation/creating whilst twenty (20) of the definitions had references to synthesis and eight (8) definitions referred to modification.

It is necessary to distinguish between analysis and interpretation when looking at the outcomes of the above content analysis. Content analysis has a fundamental assumption about the interest of the text producer and the quantitative profile of the text, namely that the text "hides" the interest of the text producer, but it can be revealed by quantitatively measuring the text (Rosengren 1981:27). The manifest text is coded as above and when relating the measured result to a general communication model, the character of different textual elements can be explained.

The abovementioned results show a focus on "create"/"creating"/"creation" which links with the concept "venture creation" which was one of the key concepts identified for the entrepreneurship domain in chapter two. However, these results need to be measured against the entrepreneurial process which will be discussed in detail in the following chapter.

4.5.8 Conclusion: Creativity

The definitions prioritised constructs indicative of the "creative" concept. This confirms the existence of a school of thought in the entrepreneurship field that entrepreneurship has mainly to do with the creation of businesses or the creation of opportunities for businesses. One has furthermore to conclude that both the constructs "modify" and "synthesise" in this sense actually supports the concept "create" and should actually not be separated from it but rather be seen as ancillary constructs.

In the previous chapter, the results of the analysis of the definitions of "entrepreneurship" established a focus on "opportunity exploitation" as the core to entrepreneurship. The analysis of definitions of creativity suggests that the unique application of creativity in the entrepreneurship field focuses on creation. It could therefore be deduced that a combination of these findings indicates that the unique application of creativity in the entrepreneurship field should focus on the creation of entrepreneurial opportunities, rather than only on venture creation and the skills needed to realise this.

If it is accepted that the process of creation is in very simplistic terms the transformation of an idea into an opportunity and the opportunity into a creation and innovation is seen as the development and introduction of a new product, a new process, or a new service to a market, innovation must be discussed in view of Amabile's (1998:77) observation that the creative idea must influence that way business gets done.

4.6 Innovation

Economists have accepted that new products and new processes are the main sources of dynamism in capitalist development. Modern growth theories suggested that innovation is a crucial determinant of growth. Schumpeter was among the first to emphasise the role of innovation in the entrepreneurial process. Schumpeter (1934) argued that the 'innovator-entrepreneur' causes rather than facilitates economic change. Subsequently, "innovativeness" became an important factor used to characterise entrepreneurship (Lumpkin & Dess 1996:2).

Carrier (1996:9) indicates that although popular mythology would seem, unfortunately, to link innovation exclusively with technology, their research was not confined to any one specific type, and continues that restricting innovation to the field of technology was the equivalent of excluding half the problem by taking only a supply-oriented view. Furthermore other authors, including Gasse and Carrier (1992), Burch (1986), and Saporta (1989) as quoted by Carrier (1996:9), have highlighted the need to broaden the definition of innovation, which could equally be commercial, organisational, institutional, procedural, or social in nature, and could include the creation of new organisational units.

A number of origins of innovation are discussed by Antonites (2000:46):

- The unexpected
- Incongruence
- Process needs
- Change in market - and industry structures
- Demographic changes
- Changes in perceptions, emotions and reasoning
- New knowledge

Roffe (1999:235) identified the following attributes of innovative people:

Table 4.4: Attributes of innovative people

CHARACTERISTIC	ATTRIBUTES OF INNOVATORS
Need orientation	Inventors tend to be achievement oriented and lacking resources find it pays to develop with customer demand, approach potential customers early and adapt designs rapidly
Ambient	A balance of extrovert and introvert, although tending toward introversion
General interests	A wide range of interests
Experts and fanatics	Initiators of companies tend to be pioneers in their technologies and fanatics at problem solving
Intelligence	Higher general intelligence, information storage, recall and analysis
Independence	A high degree of independence and self-sufficiency
Independent judgement	Autonomy of judgement and resilience to peer pressure on conformity in thinking
Vivid representation	An ability to draw attention to the unrecognised or unobserved
Achievement	A particular interest in achievement on problems where their own ability can be a deciding factor
Curiosity	Prolonged curiosity, observation and listening abilities
Intuitive and imaginative	An ability to tune into intuitive feelings and let fantasy in
Conscientiousness	Dedicated, committed and hard-working
Creative tension	Capable of holding many ideas together in creative tension without making a premature resolution of ambiguity and sometimes providing synthesis from disparate notions
Long time horizons	The time horizons for radical innovation make them tend to underestimate the length of time for success
Low early costs	Innovators tend to work with low costs and try to decrease their early risks

CHARACTERISTIC	ATTRIBUTES OF INNOVATORS
Multiple approaches	The innovator can tolerate the unpredictable interactions between the discoverer and the outside world, and cope well with unencumbered and informal development
Flexibility and quickness	The inventor-entrepreneur can design, test and recycle speedily thus yielding timing and performance advantages over slow-moving competitors
Incentives	The inventor-entrepreneur can envisage tangible benefits and personal rewards if they are successful
Availability of capital	If entrepreneurs are turned down by one source, other sources are sought sometimes in creative combinations

4.6.1 Innovation defined

Some ambiguity still surrounds the definition of "innovation" since the word is used to indicate the date of first introduction of a new product or process, as well as to describe the whole process of taking an invention or set of inventions to the point of commercial introduction.

The *Concise Oxford dictionary* (1999:557) describes to "innovate" as “to bring in novelties, make changes in." Innovation, in it broadest sense, comes from the Latin ‘innovare’ meaning ‘to make something new’. Innovation is the sum of invention plus the commercialisation of that invention (Ireland *et al*. 2001:56).

Williams (1999:1) made the following distinctions:

“invent” to create by thought, devise, originate, contrive, improvise, generate, formulate

“invention” creation, fabrication, production, origination, gadget, implement, contraption

“inventiveness” resourcefulness, originality, creativity, ingenuity, imagination
Latin: in (in) and venire (to come), i.e., to come upon, or into something for the first time.

“innovation” introduction, establishment, institution, commencement, novelty, departure from the old, introduction of new and improved methods and things, modernisation, drastic change, breaking of a precedent
Latin: innovation (renewal or renovation) based on novus (new) as in “novelty” and “nova”

Interestingly, Janszen (2000:3) defines "innovation" according to the Schumpeterian definition, namely the commercialisation of all new combinations based upon the application of the following:

- New materials and components,
- The introduction of new processes,
- The opening of new markets, and
- The introduction of new organisational forms.

Janszen (2000:3) proceeds to indicate that when only a change in technology is involved it is termed "invention" but as soon as the business world becomes involved, it becomes an "innovation".

According to this definition, innovations are the composite of two worlds – namely the technical world and the business world. Innovation in this sense can be seen as an event, the introduction of something new to the business world as well as a process.

Ivanyi and Hofer (1999:995) broadened Schumpeter's theory, which explained innovation purely as absolute novelty by adding the concept of relative novelty. In view of this, the concept can be differentiated further, from which the following groups can be defined:

- Base innovations - new breakthroughs which open up entirely new areas,
- Developmental innovation - can be realised in already discovered areas, and
- Phantom innovation - innovations which merely serve to improve marketability and do not change the essence of the product or the employed technology.

Dosi (1988:1126) defines technological innovation as the solution of problems where the problems are "ill-structured" in that available information does not provide by itself a solution to the problem. In other words, an innovative solution to a problem involves discovery and creation.

Innovation, as defined by Oerlemans, Buys and Pretorius (2001:2) is the introduction of new and/or improvement of products, services and production processes, the driving force of a nation's economic development and the improvement of competitiveness of its firms.

Kelley and Littman (2002:28) are of the opinion that innovation begins with an eye. Once you start observing carefully, all kinds of opportunities can open up. Scientists, industrialists, anthropologists, artists, and writers have understood this for centuries, and many entrepreneurs understand it intuitively.

Valery (1999:5) defines innovative ability as the use of creative attributes in being inventive. Innovations not only break the mould, they also yield far better returns than ordinary business ventures.

Ford, in Brazeal and Herbert (1999:36), is of the opinion that when defined as an outcome rather than a process, an innovation is the tangible product, service or knowledge that is adoptable or diffusible, meaning it may be utilised in diverse contexts by different individuals.

Fundamentally, innovation means a renewal of elements in production organisations (Sundbo 1998:19). Innovation is the specific function of entrepreneurship, whether in an existing business, a public service institution, or a new venture. Innovation is the act of introducing something new. Maurer *et al*. (1995:524) argued that innovation is the tool or instrument of entrepreneurship. Innovation is the means by which the entrepreneur creates new wealth-producing resources or endows existing resources with enhanced potential for creating wealth. At the heart of entrepreneurial activity is innovation: the effort to create purposeful, focused change in economic and/or social enterprises.

For purposes of this study innovation is defined as the successful implementation of creative ideas, i.e., the act of introducing something new into the marketplace.

4.6.2 Characteristics of Innovation

To be effective, an innovation has to be simple, and it has to be focused. Effective innovations start small, trying to do one specific thing. Innovation is work rather than genius, requiring knowledge, ingenuity and focus. If an innovation does not aim at leadership from the beginning, it is unlikely to be innovative enough. Innovation should be pursued systematically and not left to chance.

Innovation is a process of turning opportunities into new ideas and of putting these into widely used practice. "Innovation" is the specific tool of entrepreneurs, the means by which they exploit changes as an opportunity for a different business or service (Jun & Deschoolmeester 2003:2). The author stated furthermore that the innovativeness of entrepreneurs is their propensity to innovate their businesses, their willingness to try the ways which are different from the existing, the enthusiasm to adopt new ideas or new methods to their business, and the eagerness to implement the innovation in their business.

Therefore, the innovativeness of an entrepreneur mainly can be diagnosed through the following :(Jun & Deschoolmeester 2003:4)

- How does he do and what has he done? The commitment and the endeavours he made to fulfil the innovation strategy, e.g. the environment awareness by investigating technology trends, production opportunities, market chance etc, organisation adoption & formation, allocation of resources, technology transfer etc. In general, the effort made by an entrepreneur to build up the innovation of the enterprise is an effective indicator showing an entrepreneur's innovativeness.
- What has he got the business achieved from innovation? The innovation outputs which contribute to the enterprise's competence building up.
- What will he do? The strategic postures that he formed or agreed to in the technology innovation strategy plan.

Pheiffer (2002:78) identifies the following five areas of innovation management:

- Innovation strategy i.e., decisions about the type of innovation to be concentrated on, the approach to be taken, e.g. first-to-the-market etc.
- Creativity and idea management
- Portfolio management
- Project management, and
- Human resource management.

4.6.3 Key Concepts of Innovation

Hamel and Prahalad (Sundbo 1998:149) are of the opinion that core competencies as the basis of future innovation processes must meet three criteria to be good, namely the production of customer value, the introduction of differentiation and extendibility.

4.6.3.1 Knowledge

Roffe (1999:229) postulates the notion that knowledge is the only reliable and lasting source of competitive advantage in economic conditions in which the only certainty is uncertainty. It is argued that knowledge is central to innovation activities and constitutes a core corporate capability.

Most firms understand one or a few technologies well and they form the basis of their competitive position. This is not a unitary base, and it often consists of three areas of production-relevant knowledge, with different levels of specificity, namely:

- A general scientific knowledge base
- Knowledge bases at the level of the industry or product field, and
- Within these technological parameters, the knowledge bases of specific firms are highly localised (Oerlemans *et al*. 2001:6).

Knowledge-based innovations differ from all others in the time they take, in their casualty rates and in their predictability. They have the longest lead times of all innovations. There is a protracted span between the emergence of new knowledge and its distillation into usable technology. Then there is another long period before this new technology appears in the marketplace in products, processes or services. Overall the lead-time is something like fifty years and the figure has not shortened appreciably throughout history (Drucker 1998:154).

4.6.3.2 External Focus

Successful innovating organisations have an orientation which is essentially open to new stimuli from outside, e.g. major technological development, key customers and the rivalry from the competitors. Awareness of the customers' demand will reveal

the organisation's action to improve quality and innovation in terms of "total quality management" (Jun & Deschoolmeester 2003:9).

4.6.3.3 Change

When innovation occurs, changes occur, affecting the work methods and practices of individuals (Williams 1999:18). Change is often associated with business growth, however, innovation as a means of creating change, does not always or necessarily generate growth.

Tom Peters (1997:xvi) says that destruction is cool and the only way to survive is to kill your organisation and "repot" it – this according to him is easier than to try and change it substantially. Core to this idea is the acceptance that change is a given and that it might take more time to change than to start something totally new – which might be the only way to beat the competition.

4.6.4 The Innovation Process

The transformation of a new idea or technological invention into a marketable product or process is called the innovation process (Rothwell & Zegveld 1982:101). The innovation process continuously revolutionises the economic structure from within, incessantly destroying the old one incessantly creating a new one. This process of "creative destruction" is the essential fact about capitalism (Elliott 1980:47).
Different approaches can be taken in the innovation process. The approach that a business uses to commercialise an innovation helps determine how much money the business will make from that product in future (Andrew & Sirkin 2003:78). The approaches are neither strategies (e.g. first mover), nor ownership structures (e.g. joint ventures), but are used alongside these. The following three approaches can be identified:

- Integrators control each link in the innovation process chain
- Orchestrators focus on some parts of the commercialisation process and depend on partners to mange the rest
- Licensors sell or license a new product to another organisation that handles the rest of the commercialisation process.

4.6.4.1 Phases/Stages of the Innovation Process

The following five steps can be identified in the innovation process (Maurer *et al*. 1995:788):

- The first stage of the innovation process is idea generation, which involves the development of solutions for problems and identification of opportunities
- The second stage is called championing and entails the selling of the ideas to others in the organisation and securing resources to execute ideas
- Implementation through project leading is the third step of the process where project goals are balanced with available resources and organisational needs
- Gate keeping entails tracking influences outside the organisation, and
- Coaching consist of encouraging and assisting team members.

4.6.4.2 Idea generation

Purposeful, systematic innovation begins with the analysis of the sources of new opportunities (Drucker 1998). Depending on the context, sources will have different importance at different times. Organisations that actively search for change (the root of all innovation), then carefully evaluate the change for an economical or social return are set apart.

Seven sources of opportunity for organisations in search of innovation, four within the organisation itself or the industry and three from outside world – all seven symptoms of change are listed in order of increasing difficulty and uncertainty:

- The unexpected success/occurrences that is gratefully received, but rarely dissected to see why it occurred
- The incongruity between what actually happens and what was supposed to happen
- The inadequacy in an underlying process that is taken for granted
- The changes in industry or market structure that catch everyone by surprise
- The demographic changes caused by wars, medical improvements and even superstition
- The changes in perception, mood and fashion brought on by the ups and downs of the economy
- The changes in awareness caused by new knowledge (Drucker 1998).

4.6.4.3 Championing

The second stage of the innovation process entails selling the ideas to stakeholders and securing resources to execute ideas.

4.6.4.4 Implementation

This phase encompasses activities such as leading teams, planning and organising projects and balancing project goals with available resources and organisational needs.

4.6.4.5 Gate keeping

This phase includes the protection of the invention, the distribution of information and the tracking of influences outside the organisation (Maurer *et al*. 1995:788).

4.6.4.6 Coaching

The coaching phase entails support, mentoring and encouragement by team members as well as by management.

4.6.5 Elements of the Innovation Process

This innovation process (Rothwell & Zegveld 1982:101) can be identified by the following elements:

4.6.5.1 Understanding users' needs

Successful innovators gain precise knowledge concerning the conditions in which the innovation will be required to operate and take great pains to understand, and place priority on meeting users' requirements rather than on satisfying their own egos.

4.6.5.2 Marketing and Sales

Between 70 and 80 % of successful technological innovations arise in response to the recognition of a need of one sort or another (Rothveld & Zegveld 1982:101). The successful innovator determines that the market is sufficiently large before he proceeds with a development. He uses advertising and sales campaigns and educates users in the right uses and limitations of the innovation. The successful innovator is aware of changing market conditions and requirements and of competitive developments elsewhere.

4.6.5.3 Communications

Successful innovators establish efficient internal and external communication networks, e.g. communications between the organisation, the outside scientific and technological community and the market place. Successful innovation proceeds in the light of perceived company strategy.

4.6.5.4 Effective manufacturing

Successful innovations suffer fewer after sales problems as a result of poor production procedures. They are designed and manufactured in a manner, which is conducive to easy and speedy maintenance. Care is taken to ensure that materials used in construction are compatible with the environment in which the innovation functions.

4.6.5.5 Management

Amabile (1998:4) believes that creativity can be promoted through a supportive work environment. Looking at the typical smaller firm it seems that creativity requires a much longer time frame than many enterprises impose on their workers. This can be linked to one of the key characteristics of the smaller firm: many owner-managers rarely develop past a short-term orientation, being incessantly caught up in day-to-day and short-term operations, instead of investing resources in potentially longer-term outcomes.

Successful innovations are allotted sufficient cash and manpower resources to enable technical problems to be solved effectively, prototypes to be built where neces-

sary. Successful innovators focus resources at critical stages in the process into the innovation to facilitate its progress.

The following principles (Rothwell & Zegveld 1982:102) are critical in realising the full potential of innovation:

- Understanding the basic principles and processes that are enabled by the technology in order to adapt target groups and ways of working so that technology, products, organisations and strategies are evolving in a synchronised way
- Adapting to changing situations, building flexibility into processes and relying on hierarchical planning in stable conditions and distributed decision-making in ambiguous, turbulent situations, and
- Having insight into the dynamics of processes helps in managing the application of new, improved or adapted technology, the organisation, employees acquiring the right skills by means of training and the use of the right co-ordination methods and forming the right partnerships.

In spite of the importance of investment and innovation in the economic development of an area, Hisrich and Peters (2002:15) identify a lack of understanding of the product-evolution process. This is the process through which innovation develops and commercialises goods through entrepreneurial activity, which in turn stimulates economic growth.

The product-evolution process begins with knowledge in the base technology and ends with products or services available for purchase in the marketplace. The critical point in the product-evolution process is the intersection of knowledge and a recognised social need, which begins the product development phase. This point, called iterative synthesis often fails to evolve into a marketable innovation and is where the entrepreneur needs to concentrate his or her efforts (Hisrich & Peters 2002:15). The lack of expertise in this area – matching the technology with the appropriate market and making the needed adjustments – is an underlying problem in any technology transfer. Regardless of its level of uniqueness or technology, innovation evolves into and develops towards commercialisation through entrepreneurship.

4.6.6 Activities of the Innovation process

Håkansson's (Håkansson & Snehota 1995:35) economic network model distinguishes two main types of activities: transformation and transaction activities. Both are related to resources because they change (transform) or exchange (transact) resources through the use of other resources. There are several types of resources, physical (machines, raw components), financial, and human (labour, knowledge, relations).

4.7 The combination of the concepts "creativity" and "innovation" in the Entrepreneurship Domain.

In conclusion it can be said that innovation is different from creativity in the sense that creativity is the generation and articulation of new ideas whereas innovation applies new ideas and implements inventions. Innovation is ideas focused on products that are new, better, faster, more cost effective and possibly more esthetical.
However, new ideas alone do not make a person an entrepreneur. Entrepreneurs can also execute (Bedi 1997:51). Creativity by individuals and teams is a starting point for innovation – the first is a necessary but not sufficient condition for the second. Successful innovation depends on other factors as well and it can stem not only from creative ideas that originate within the organisation but also from ideas that originate somewhere else (as in technology transfer).

Creativity by itself, does not define entrepreneurship. Creativity without innovation does not produce results, and innovation without effective management does not produce marketable products, processes or services (Beattie 1999:2). It follows that people can be creative without being innovative i.e., they have ideas and develop inventions but never implement them. Antonites (2000:34) is of the opinion that it is the combined variables (creativity and innovation) that distinguish the entrepreneur from the general small business person.

Couger (1995:18) illustrated the difference between creativity and innovation as follows in his process:

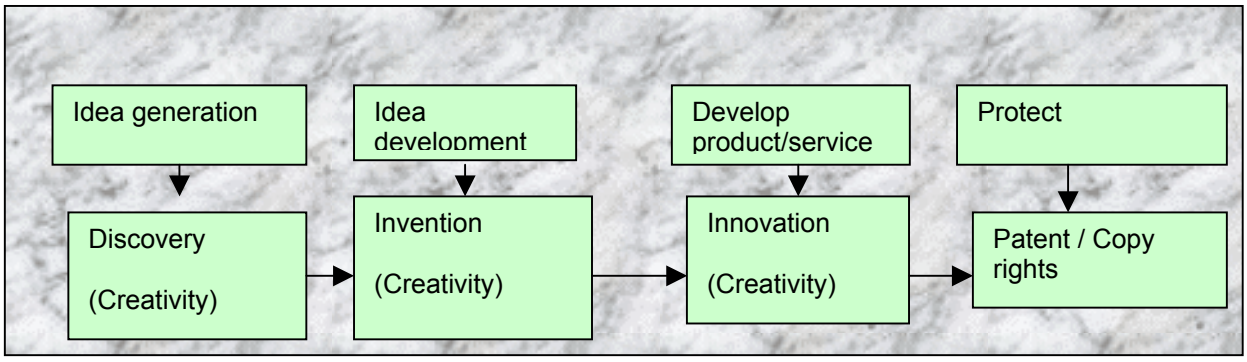

Figure 4.4: The difference between creativity and innovation adapted from Couger (1995:18)

With regard to the application of creativity in the entrepreneurship domain, the first step of the process is for the potential entrepreneur to recognise an opportunity to innovate. To recognise an opportunity to innovate, the entrepreneur must participate in a creative activity. The entrepreneur must make a conscious effort to become acutely aware of his/her environment and his/her customers needs. This requires the skills of the diverger-viewing (experiencing) the environment in different ways, seeking connections between previously unrelated subjects, recognising discrepancies and problems, and generating of ideas (Ulrich 1998:7).

After an opportunity is recognised, the entrepreneur must develop alternative courses of action to take advantage of this opportunity. At this point, ideas need to be enhanced, theories explaining the observed opportunities need to be developed, alternatives need to be compared, criteria established, problems defined, and hypotheses and plans formulated. Here the entrepreneur may want to stimulate thinking, manipulate data, etc.

Next, the various alternatives, hypotheses, and plans need be evaluated and the best one selected for implementation. This requires the skills of the converger. Deficiency at this stage is characterised by poor experimental design, no testing of theories and no focus to the work or plans.

Finally, the plans need to be implemented, necessitating the skills of the accommo-dator. The entrepreneur must advocate positions or ideas, set objectives, commit to schedules, commit resources, and implement decisions. Weakness in this area

leads to the entrepreneur not completing work on time. Techniques that can be employed under these circumstances would be PERT, critical path scheduling, and goal setting (Ulrich 1998:11).

The above has implications for training of creativity in the entrepreneurship domain. In an attempt to relate entrepreneurship training to creativity, keeping to a general definition of creativity, namely the production of responses or works that are assessed as creative by appropriate judges, three factors essential for the production of such creative works could be identified:

- Domain-relevant skills (factual knowledge, technical skills and special talents)
- Creativity-relevant skills (cognitive style, application of heuristics and working style), and
- Task motivation (motivational variables).

For the entrepreneur to develop/create entrepreneurial opportunities, he should combine all of these in a focused way.

4.8 An Evaluation of the work done

The above definitions and descriptions show some confusion with regard to the delimitation of the concepts "entrepreneurship", "innovation" and "creativity", especially with entrepreneurship and innovation defined in the same terms. This confusion combined with a limited number of references in entrepreneurship literature to creativity and innovation education in the domain, indicate that the relationship of creativity and innovation to entrepreneurship has not been rigorously examined with an eye towards operational definitions in the entrepreneurship education domain and the eventual pedagogical applications.

4.8.1 Creativity

The psychological trait theory examines creativity from an individual perspective and Guilford in Fillis and McAuley (2000:9) concluded that creative personality is a matter of patterns of traits (i.e., aptitudes, interests, attitudes and temperamental qualities) that are characteristics of creative persons. Rampley in Fillis and McAuley (2000:9) is of the opinion that the notion of creativity is problematic since it appears to be in-

herently linked to genius, imagination and subjectivity of judgement, which are conceptually problematic and difficult to measure.

De Bono emphasised the skills needed to be successfully creative i.e., to be able to primarily change concepts and perceptions are primarily thinking skills, including lateral thinking and creative thinking. De Bono as quoted by Antonites (2000:36) also emphasised the fact that creativity is a logical process and if/when individuals understand the process as logical he/she would be motivated to take further creative actions.

Furthermore, as various authors have indicated, the number of factors influencing business growth is diverse and it will thus be almost impossible to establish a causal relationship between creativity and business growth due to the large number of intervening variables.

4.8.2 Innovation

Innovation is a complicated mixture of various factors that encompass the management of a business, the stand in the innovation intention, the endeavours to innovation in the management, and the innovation inputs are the aspects that objectively indicate the innovativeness held by the entrepreneurs (Jun & Deschoolmeester 2003:2).

Empirical studies of innovations and their diffusion have provided mounting evidence that mainstream neo-classical theories of firm behaviour, competition, international trade and consumer behaviour are seriously deficient in their assumptions and conclusions. However the 'neo-Schumpeterian' tradition in economics has only begun the task of substituting a more satisfactory theoretical foundation that would take both technical innovation and institutional factors fully into account (Dosi 1988:1149).
Johnson (2001:139) contributed to the understanding of innovation by explaining various forms of innovation:

- A change in the product or service range
- A change in the application of a product or service away from its original purpose

- A change in the market to which a product or service is applied, away from the originally identified market
- A change in the way a product or service is developed and delivered away from the original operational and logistical design, and
- The development of an organisation's core business model away from its current or previous business model.

4.9 Chapter Conclusion

In analysing the definitions of the constructs "entrepreneurship" (Chapter 2) and "creativity" the aim was to find the delimitation of the entrepreneurship domain's core skills necessary to establish and manage growth oriented businesses. However, the main finding only established "opportunity exploitation" as core to the entrepreneurship domain.

Innovation is the specific function of entrepreneurship, whether in an existing business, a public service institution, or a new venture (Drucker 1998:144). Innovation is the means by which the entrepreneur creates new wealth-producing resources or endows existing resources with enhanced potential for creating wealth. At the heart of entrepreneurial activity is innovation: the effort to create purposeful focused change in an enterprise's economic or social potential.

Nystrom in Ivanyi and Hofer (1999:1001) is of the opinion that no one way definitiveness can take effect in the relationship between innovation and creativity. This means that creativity cannot directly generate innovation, nor does innovation automatically establish creativity, but the unity and degree of mutuality incorporates the possibilities for further development and a higher level of quality.

The literature study thus indicates that the unique application of creativity in the entrepreneurship domain lies in the exploitation of opportunities to innovate. In terms of the development of entrepreneurs in creativity and innovation, the question now arises: how can business owners be trained to exploit the sources of opportunity to innovate?

CHAPTER 5

5 CREATIVITY AND THE TRAINING AND DEVELOPMENT OF ENTREPRENEURS

5.1 Introduction

Reynolds, Bygrave, Autio, Cox and Hay (2002:40), suggest that education is a key element in the framework conditions that enhances economic growth through entrepreneurship.

Although the issue of teaching and learning strategies and methodology for post graduate management programmes has long attracted debate among academics, training providers and management practitioners alike, the fundamental learning process that underlies entrepreneurial activity, from the initial insight through various stages of development, is an issue still largely unexplored (Marchisio & Ravasi 2001:2).

Entrepreneurs identify opportunities, create ideas and decide on their actions on the basis of a mixture of creativity, rational analysis and intuition (Yendell 1997:8). This impact on the learning objectives of entrepreneurship education, varies from the creation of an entrepreneurial awareness among students, through the development of entrepreneurial skills, to the teaching of specific business related knowledge (De Clerq, Crijns & Ooghe 1997:13).

Hjorth and Johannisson (1997:2) are of the opinion that entrepreneurship and learning have overlapping features and therefore training for entrepreneurship cannot be separated from entrepreneurship itself. Such training in turn, has to be related to the personal strategies being used to adopt an entrepreneurial mode in everyday life. Training for entrepreneurship bridges tacit and formal knowledge.

According to Obrecht (1998:11) entrepreneurship courses of study should provide the students and trainees with appropriate materials, which would allow an enlarged approach of entrepreneurship. Entrepreneurship education has to be nurtured by disruptive ways of thinking, which in turn could give birth to new approaches of entrepreneurial values. The particular balance between conventional delivery and learning methods, and the various action learning and participant-led approaches

possible, highlight the challenge to facilitators within the field of management education (Halborg 1998:1).

Compared to management education, entrepreneurship education has to go further. Entrepreneurship education is not just problem solving, analysing solutions and finding safe or acceptable courses of action. It is not just making business plans. It is more than that: it emphasises capacity for change and thus implies open-mindedness.

The purpose of this chapter is to investigate the literature of the entrepreneurship education and development domain to ascertain what the status of creativity development in the domain is, with particular reference to the concepts "opportunity exploitation" and "growth maximization".

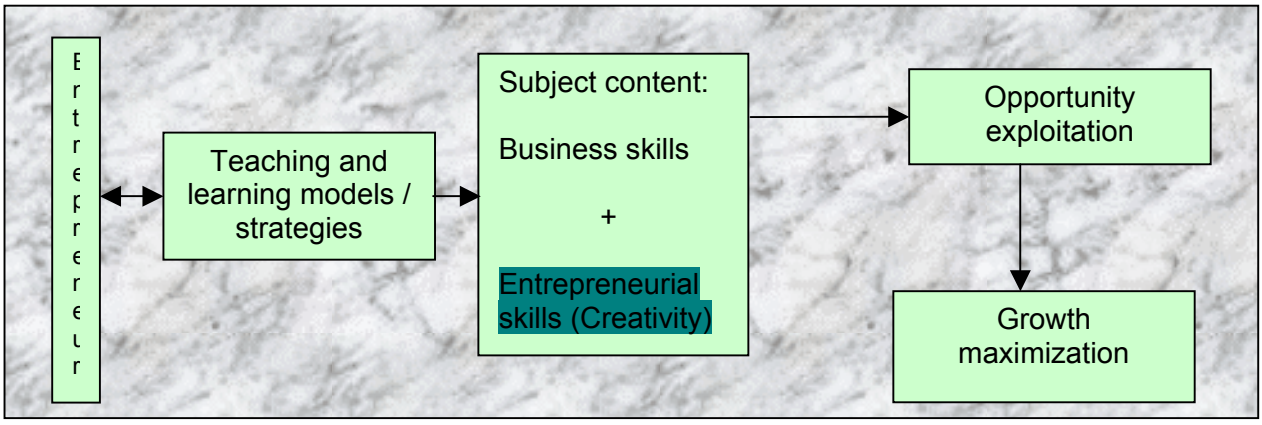

Figure 5.1: Chapter purpose

5.2 Learning, Training, Education and Development

The word "learn" comes from the Middle English "lernen", meaning to learn or teach. The words "learn" and "teach" are therefore derived from the same source (Dunkin 1987:11). The *Random House dictionary of the English language* (2001) defines "learning" as the act or process of acquiring knowledge or skill, the modification of behaviour through practice, training or experience". Miner *et al*. (2001:305) defines learning as a systematic change in behaviour or knowledge that could be brought about via own experience, learning from others, experimentation, trial-and-error, refinement, exploration, sharing of knowledge, etc.

The word “teach” also has another derivation, namely to show a person how to do something. Teaching as a success, signifies that learning is implicated in teaching (Dunkin 1987:11). Instruction is at the centre of teaching. Teachers must understand different ways of involving students in learning activities and techniques for checking their understanding (Eggen & Kauchak 2001:11).

Young and Sexton (1997:223) defined effective entrepreneurial learning as a problem-solving process centred on the acquisition, storage and use of entrepreneurial knowledge in long-term memory. It is therefore not enough for an institution to claim that it provides entrepreneurship education. The content of what is provided, analysis of potential entrepreneurs and the expertise of trainers should also play an important role (Ladzani & Van Vuuren 2002:156).

Wambui (2002:69) states that education should provide an opportunity for students to learn, explore and implement ideas, entrepreneurial education should encourage students to look for creative and innovative ideas that may provide multiple solutions to problems and develop their capacity to think independently. Avenant (1990:53) names a number of requirements that education must satisfy:

- Purposefulness – effectiveness of teaching is in direct proportion to the clarity with which the goal is understood
- Planning – the teacher must plan to achieve his goal
- Pupil-self-activity – it is incorrect to say that a teacher teaches his students – at most he can manipulate the circumstances in such a way that the students can form their own concepts easily through self-assertion, perception, comparison and selection
- Placing in context (or integration) – opportunities must be created for students to understand relationships by comparing and sorting, to integrate new subject matter into the already existing concept structures, and thus to progress from the concrete to the abstract, or from the known to the unknown
- Experience – subject matter must be presented in a concrete, visible and real manner
- Motivation – education must be tuned in to motivate students to co-operation, interest and enthusiasm.

- Socialisation – steps need to be taken to create a social climate in which learning can flourish, inter alia, group or team work
- Individualisation – individual differences should be taken into account to ensure each student develop the maximum of his/her potential
- Evaluation – to ascertain whether the goals have been attained
- Mastering – teachers are to ensure that once work has been explained, students will master it completely through coaching, repetition, and revision.

Development, the orderly, durable changes that occur over a lifetime, results from the interaction of the environment and heredity and includes three aspects (Eggen & Kauchak 2001:29):

- Personal development (an understanding of who we are)
- Social development (examines our changing abilities to relate to each other)
- Cognitive development (changes in the way we think and process information).

5.3 Entrepreneurial needs

Gibb (1998:4) argues that it is necessary to look at the capacity needed to be a successful entrepreneur. Entrepreneurs have an acute need to make things happen in order to generate income, rather than wait upon the activities and initiatives of others. This reinforces a feeling of total responsibility for the success or failure of the business, and is, in turn, underpinned by the opportunity, as well as a need, to manage a wide range of tasks and (at least in the early stages of business) to do everything personally.

The table below shows the main obstacles experienced by entrepreneurs in both the formal and informal sector in South Africa:

Table 5.1: Obstacles experienced by entrepreneurs (Source: Adapted from Foxcroft, Wood, Kew, Herrington & Segal 2002:32)

OBSTACLE	FORMAL	INFORMAL
Lack of money for running costs	39%	65%
Lack of money to buy capital items	45%	63%
Transport	41%	50%
Weather	35%	43%
Competition	41%	40%
Theft	39%	32%
Unavailability of electricity	20%	34%
Lack of business skills	27%	33%
Unavailability of water	16%	31%

Apart from having training with regard to ways and means of addressing their immediate obstacles, Watson and Boshoff (2002:102) investigated opinions of entrepreneurial practitioners of topics that should be included in curricula and found that the following were rated highly:

- Linkages between entrepreneurship, strategic and general management
- Definitions of entrepreneurship
- Entrepreneurship (the person)
- The environmental influences of school/education/training
- The personal characteristics and mental traits of the entrepreneur
- The environmental issue of competition dimension
- The environmental characteristics of information and risk
- Opportunity recognition during the growth phase, and
- Strategic alliances during the harvest phase.

5.3.1 Societal Level Needs

At the societal level there are arguably three key basic emerging entrepreneurial capacities (Gibb 1998:8):

- The first relates to building a manager's capability to cope with the overall uncertainties of an increasingly entrepreneurial "way of life".
- The second relates to the demands made upon managers by the withdrawal of the boundaries of the state in the regulation of business activity and the associated wider responsibilities to build trust in the community and the environment – the responsibilities of "entrepreneurial governance".

- The third relates to the increasing internationalisation context of the managerial job and the related need to cope flexibly with "global" aspects of greater complexity and uncertainty – global sensitivity.

5.3.2 Organisational Level Needs

At the organisational level there are arguably four key areas of capacity that could be described as entrepreneurial (Gibb 1998:8):

- The first is the capacity of managers to design organisations to make effective use of entrepreneurial behaviour by focusing them more clearly upon meeting the challenge of greater turbulence in the environment – developing the entrepreneurial organisation.
- The second capacity is related to managing decentralised and autonomous units more holistically where greater responsibility now has to be taken for guiding business development processes and shaping organisation development associated with these processes – managing business development processes.
- The third relates to the enhanced need directly and personally to manage "know who" networks of external stakeholder relationships upon which business and personal success will depend – stakeholder relationship management.
- The fourth capacity is that of strategic thinking (as opposed to more formal business planning skills), the latter being much less relevant in a turbulent international environment – flexible strategic orientation.

A strategic position is the way the business as a whole is located relative to competitors in the playing field of the market, that is, the competitive space. The entrepreneur must therefore be able to decide what stage in the value addition process he/she expects his/her venture to occupy. Selecting a well-defined customer segment enables the business to focus limited resources, to concentrate its efforts, and to defend it against competitors.

The entrepreneur must learn to understand the needs of his/her customers, to rationalise them and to distinguish them from each other. Satisfying a need represents an end and there are a number of means by which to achieve the end. Having decided which particular needs of the customer they will satisfy, the entrepreneur must

decide the means, or technology, that they will adopt in order to do so (Wickham 2001:229).

Market positioning describes the way the venture's outputs, products and services are located in the marketplace relative to those of competitors. Success will only be achieved if the new venture offers customers something which is different from and more attractive than that offered by the existing players.

5.3.3 Individual Level Needs

At the *individual* level, entrepreneurship will arguably demand the exercise of a range of personal enterprising capacities (opportunity seeking, creativity and innovation, self management, taking independent initiatives, taking decisions under greater degrees of uncertainty with 'intuition' playing a more substantial role, and seeing things through over time).

The degree to which personal entrepreneurial skills are demanded of the manager/ entrepreneur is a function of the contextual environment he or she faces (Gibb 1998:16). High levels of uncertainty and complexity in an environment will demand greater entrepreneurial behaviour. These 'skills' include, inter alia,

- *Intuitive decision taking/making* – the skill to take decisions based upon judgment with limited formal information,
- *Creative problem solving* – finding innovative ways of dealing with major problems and opportunities,
- *Managing interdependency on a 'know who' basis* – social skills associated with building trust and friendship, with key stakeholders and contacts,
- *Ability to conclude deals* – skill in bringing together different perspectives on a problem or deal in order to achieve a firm conclusion, and
- *Strategic thinking* – an ability to 'think' on his/her feet, about the longer term implications of activities without resort to more formal planning of "scenarios".
- *Project management* – ability to manage and 'see through' specific new developments (which build the business internally and its reputation externally)

- *Time management* – ability to cope with flexible hours and multiple demands from internal and external stakeholders and family
- *Persuasion* – skill in persuading stakeholders to undertake courses of action which are judged desirable
- *Selling* – skill in setting out the benefits to stakeholders of dealing with a company as a business
- *Negotiating* – skill in bringing together different perspectives on a deal to reach a conclusion of advantage to the business
- *Motivating people by example* – ability to lead by example

Another key capacity associated with managing in the above scenario will be that related to 'learning to learn' more effectively through action and experience. A final key component is that of the personal and entrepreneurial use of communication and information technology.

The skills/capacities that support strategic thinking will be discussed in what follows.

5.3.3.1 Problem analysis

This approach starts by identifying the needs individuals and organisations have and the problems they face. The approach begins by asking the question "what could be better?" Having identified a problem the next question to ask is "how might this be solved?" This approach demands a full understanding of customer needs and the technology that might be used to satisfy them (Wickham 2001:218).

The entrepreneur will need to use analysis heuristics i.e., cognitive strategies, in order to gain and integrate new information about the world, also referred to as "thinking shortcuts" or "rules of thumb". The heuristics entrepreneurs call upon to generate business ideas can be seen to involve two types (Wickham 2001:223).

- The first type is analysis heuristics i.e., cognitive strategies in order to gain and integrate new information about the world, to understand the patterns in this information and to spot market gaps.

- The second type is synthesis heuristics. Synthesis involves using a cognitive strategy to bring the ideas developed from analysis back together again in a new and creative way generating a new perspective on customer needs and how they might be addressed. Analysis is about spotting opportunities. Synthesis is about creating innovations that might exploit those opportunities.

These two sets of heuristics lie at the centre of a process with information as an input and new business opportunities as an output. This process is iterative.

5.3.3.2 Creative Problem solving

A problem occurs when whatever exists does not match with what is wanted or expected. The problem of falling sales usually calls for a creative solution since the causes may be unique and difficult to identify. Solving problems is a sequential process with iterative loops:

- Problem definition
- Idea generation
- Creative idea evaluation (Amabile 1996:24) is in essence the second round of brainstorming. It is more focused in order to clarify concepts and arrive at practical ideas that can be implemented to solve a problem.
- Idea judgment
- Solution implementation

This skill is a crucial individual level need and supports not only the development of business concepts, but also the implementation thereof.

5.3.3.3 Creative decision-making

Decision-making can be defined as selecting a course of action to achieve a desired purpose (Lumsdaine & Lumsdaine 1995:241). Entrepreneurs need to develop a careful balance between making decisions based on past experiences and keeping their minds open to new possibilities.

Lumsdaine and Lumsdaine (1995:245) proceed to provide a process for decision-making that is parallel to the creative problem-solving process in that it uses both left-brain and right-brain thinking processes:

- Goal – be focused (left-brain) and flexible (right-brain) about what is wanted,
- Knowledge – be wary (left-brain) and aware (right-brain) about what you know,
- Belief – be objective (left-brain) and optimistic (right-brain) abut what you believe,
- Action – be practical (left-brain) and magical (right-brain) about what you do.

In order to bridge the gap between identifying opportunities and/or solutions to problems and implementing them it is critical for entrepreneurs to obtain creative decision-making skills. Furthermore, deciding which problems and opportunities are best left alone, calls for experience, expertise and authority – in short, creative decision-making skills.

5.4 Entrepreneurship programme models

Models are used as frameworks, or paradigms, of the thinking within the subject matter. Therefore, they serve as a guideline for the compilation of entrepreneurship education programmes. Understanding the elements and their influences on the development of entrepreneurial potential is crucial to the internalisation of entrepreneurship theory and the development and implementation of policy initiatives to enhance entrepreneurship education (Pretorius, Van Vuuren & Nieman 2004:5). Mayfield and Weaver (1997:1) refer to the paradigm as the underlying philosophy that dictates the methodology used in the training of entrepreneurs because it guides the relevant thinking, content, pedagogy and ultimately, the outcomes.

Fayolle (1997:4) is of the opinion that the object of training in entrepreneurship can be defined as provoking the union of an actor- and a project- or process-element. The entrepreneur can be understood in terms of competencies, socio-demographic and psychological characteristics, and behaviours. Experiences with students taught that it was impossible to develop an enterprising spirit and entrepreneurial behaviour, unless an integrated approach was used, balancing the conceptual, instrumental and experimental dimensions. The impact is only really experienced in the long or short term if the student has become fully involved, either individually or collectively, and if phases of experimentation and application have been experienced (Fayolle1997:9)

5.4.1 Pedagogic objectives

Entrepreneurial training and education acts as a facilitator for entrepreneurial activities with the goal of stimulating entrepreneurial activity and performance (Antonites 2003:45). The most fundamental change in business education today is the reorientation from a "techniques-based curriculum" to what can be characterised as a "competencies-based curriculum" (Bentszen-Bilkvist, Gijselaaers & Milter 2002:3).

The popular perspective to design a strong curriculum is that one must first determine the desired outcomes. In this regard it is interesting to note that a study of small-scale enterprise development in the Tshwane Metropolitan Municipality indicated that small business owners prefer formal training as a method of development (Ligthelm & Morojele 2001:34).

Once the outcomes have been determined, designing the inputs is straightforward. The inputs become courses, activities, programmes, cores, assignments, etc. In short, the inputs become a curriculum (Carland & Carland 1997:3). Fayolle (1997:8) reinforces the viewpoint by stating that it is important to specify the pedagogic objectives before making explicit the approach adopted. However, like any dynamic system, curriculum design is an on-going process. The curriculum is continuously evolving, but fundamental change is extremely difficult because the curriculum paradigm itself has not changed (Carland & Carland 1997:3).

Fayolle (1997:8) mentions the following key elements of an entrepreneurship programme:

- The *development of knowledge* specific to entrepreneurship, inter alia, what a business start up implies, identifying some of the major issues.
- The *development of entrepreneurial skills* ("know how"), inter alia, analysis of complex situations; using and articulating technical knowledge acquired in other disciplines; seeking and mobilising adequate resources in their environment, in order to find solutions for problems identified; working in teams and enhancing the different competencies of each member in the service of a project and a group of entrepreneurs.

- The development of an *entrepreneurial way of being*, which consists of making each student into an individual who is:
    - adaptable, curious, capable of observing an environment, and of seizing and transforming economic opportunities
    - autonomous and able to take initiatives, and
    - responsible and liable to develop for and by himself, an economic activity.

This "entrepreneurial way of being" can be stimulated according to Gibb (1998:11) through the following:

- The development of commitment
- The development of a strong sense of responsibility
- The development of a strong sense of ownership
- The development of capacity to cope with risk, money and social status
- Learning to cope with long and flexible hours
- The development of a sense of freedom and independence. Learning to make decisions in uncertainty with limited data
- Developing the ability to manage interdependency of key stakeholders
- Developing capacity to take initiatives and be proactive
- Developing ability to cope with income fluctuations and customer dependency for rewards
- Developing the ability to manage changes in social and family relations
- Developing capacity to manage/control holistic task structure
- Developing the capability to learn to learn as entrepreneurs, and
- Developing capacity to cope with loneliness.

The importance of several objectives in entrepreneurship education was measured, based on a survey among 15 leading university entrepreneurship educators (Hills in De Clerq, Crijns & Ooghe 1997:15). The results of this survey show the major importance (on a 7 point-Likert-scale) of:

- Increasing awareness and understanding of the process involved in initiating and managing a new business enterprise (6.7)
- Increasing student awareness of the new venture/smaller company career option (5.5)
- Developing a fuller understanding of the interrelationships between the business functional areas (5.5)

- Contributing to an appreciation of the special qualities of the entrepreneur (5.1)
- Increasing the understanding of the role of new and smaller firms within the economy (3.6).

5.4.2 Emerging models for Entrepreneurship Programmes

Generally a variety of emerging models for an entrepreneurship program can be given. The context of every training programme is different, based on the philosophy, paradigms and experience of the programme developers (Pretorius & Nieman 2002:51). Programmes should not be compared with each other unless they have the same contexts.

Each programme model reflects a conceptual view of entrepreneurship education. According to De Clerq, Crijns and Ooghe, (1997:14) three main focuses are possible: the business plan, the business life cycle and the business functions. Entrepreneurial strategies can be the subject of presentations and illustrations, bringing out the key points. All the above are important and should be taught.

However, few ventures begin with a functionally differentiated structure in the start-up phase. Functional differentiation is something that is created through time. As a consequence, entrepreneurship education needs to be differentiated more by stage of venture development rather than by department of functional expertise. The knowledge available in the different domains is not irrelevant to new ventures, but should be incorporated within an appropriate developmental framework (De Clerq *et al.* 1997:15).

Van Vuuren and Nieman (1999:3) developed a model with three dimensions of entrepreneurial performance training:

Table 5.2: Model with three dimensions of entrepreneurial performance training adapted from Van Vuuren and Nieman (1999:3)

Motivation	Entrepreneurial skills	Business skills
Need for achievement	Creativity	Management/Leadership skills
Ability to inspire	Innovation	Business plans
Expectations of the high achiever	Ability to take risks	Financial skills
Obstacles or blocks	Ability to identify opportunities	Marketing skills
Help	Ability to have a vision for growth	Operational skills
Reactions to success or failure	Interpret successful entrepreneurial role models	Human Resources skills

Van Vuuren, who is regarded as the technical developer of this model, uses the Motivational and Expectation Theory of Vroom (1964) as diversion instrument. Vroom's theory proves that achievement can be seen as the multiplication function of individual motivation (M) and the ability (V) of the individual P = f (MxV). Abilities within this context are regarded as existing and acquired knowledge. Analogous to Vroom's model, Van Vuuren uses the construct "achievement" in the context of "entrepreneurial performance" as well as "business skills" that need to be present in order to achieve or maintain a level of achievement.

Based on the entrepreneurial performance (E/P) model, educational programmes are planned to cover the three key constructs of the model. Within the context of any planned programme, different quantities and qualities of skills and knowledge are included. The three elements are shortly described as follows:

- Motivation – The development of performance motivation of the entrepreneur is advised for incorporation in all programmes, proposing that it contributes towards qualities like inner control, persistence, leadership, decisiveness, determination and shear guts. The associated skills include specifically the development of achievement imagery.
- Entrepreneurial skills – Included in this category are various creativity, risk taking and opportunity identification skills.

- Business skills – This category covers skills such as financial, marketing, operational, human resource, legal, communication, management and business plan compiling skills.

Cocks and Pretorius (2002:178) describes an entrepreneurial education model where education for entrepreneurial performance (E/P) is a linear function of the facilitator's ability and skills (F) to enhance motivation (M), entrepreneurial skills (E/S) and business skills (B/S) through the creative use of different approaches (A's) and the business plan (B/P):

E for E/P	= aFxbM [cE/S x dB/S x [eA + fB/P]
E for E/P	=Education for improved entrepreneurial performance
F	=Facilitators ability, skills and experience
M	=Motivation
E/S	=Entrepreneurial skills
B/S	=Business skills and knowledge
A	=Approaches of learning used
B/P	=Business plan utilisation as an approach
A to f	=Constants

Being a mathematical model and as the constructs are multiplicative, there is an indication that the absence of any one of the elements such as motivation, entrepreneurial skills or business skills will lead to zero or extremely low levels of entrepreneurial performance as measured by the involvement and execution of start-up activities by the student.

Pretorius (2000a; 2000b) developed a model for entrepreneurial education (E/E). The E/E model considers not only the content of entrepreneurial education programmes but also the context in which such programmes are operated by the facilitators and the approaches that they use. The model identifies five constructs relevant for entrepreneurial education to increase start-ups and also indicates the relevance of the programme context. Its focus during development was specifically to increase "start-ups" as outcome requirement (Pretorius 2001:133) through education. The E/E model constructs include:

- Entrepreneurial success themes,
- Business knowledge and skills,
- Business plan utilisation,
- Learning approaches,
- The facilitator, and
- The programme context.

Pretorius (2001:230) suggests that the facilitator is the key construct and based on his skills, knowledge, experience and methodology application should govern the constructs into a mix (similar to the well known marketing mix). The facilitator as a variable is not only a construct but also governs the variable mix and changes it according to varying demands during the programme.

In comparing the above two models Pretorius, Van Vuuren and Nieman (2004:16) noted that:

- The nature of the E/P model does not require reference to approaches and the facilitator as constructs as its focus is on performance of the entrepreneur rather than the success of the training course.
- The business plan construct is implied as part of the business skills required for the E/P model while in the E/E model it is regarded as an important tool for training especially to assist in the conceptualisation of the holistic picture of the venture and its future operations.
- The business plan construct can also be regarded as part of the approaches construct as it forms part of the pedagogy used to develop insight into the holistic business. The value of the business plan itself is probably less than the value of the creation process and opinions vary widely between academics, financiers and entrepreneurs.

Although motivation to excel is mentioned as part of the entrepreneurial skills (E/S) construct according to Pretorius *et al*. (2004:17), it is considered as key to the E/P model. Both E/S and B/S are common to both models and therefore the following integrated model is proposed to educate for entrepreneurial performance:

E for E/P = f [aF x bM (cE/S x dB/S) x (eA + fB/P)]

Where

E for E/P = Education for improved entrepreneurial performance
F = Facilitators ability, skills and experience (E/E model)
M = Motivation (E/P model)
E/S = Entrepreneurial skills (both models)
B/S = Business skills and knowledge (both models)
A = Approaches of learning used (E/E model)
B/P = Business plan utilisation as an approach (both models)
a to f = Constants (0 > constant < 1)

Education for E/P therefore, is a linear function of the facilitator's ability and skills (aF) to enhance motivation (bM), entrepreneurial skills (cE/S) and business skills (dB/S) through the creative use of different approaches (eA's) and specifically the business plan (fB/P). It is important to realise that the constants will have a value ranging between zero and one. For example, a facilitator could have very low skills and abilities that he would apply but it is above absolute zero. The same would be true for the constants of the other constructs that have to do mainly with the learner.

The multiplicative nature of the new model points to minimum requirements that any programme that aims to contribute to venture start-ups should have. Any construct, that when evaluated, is completely absent will result in zero success levels while weakness in a particular construct will decrease effectiveness in overall outcome of the programme.

Antonites (2003:145) in his creativity, innovation and opportunity finding (CIO) action-learning model, emphasises thinking through reflection and action, supported by experience. The background of the model proposed in his dissertation is supported by the work of Vroom (1964) in his well-known expectancy theory of motivation. This theory eventually proved that performance can be seen as a multiplicative function of the individual's motivation times his/her abilities P=f(MxA). Abilities are seen as existing and acquired knowledge (Van Vuuren & Nieman 1997:4).

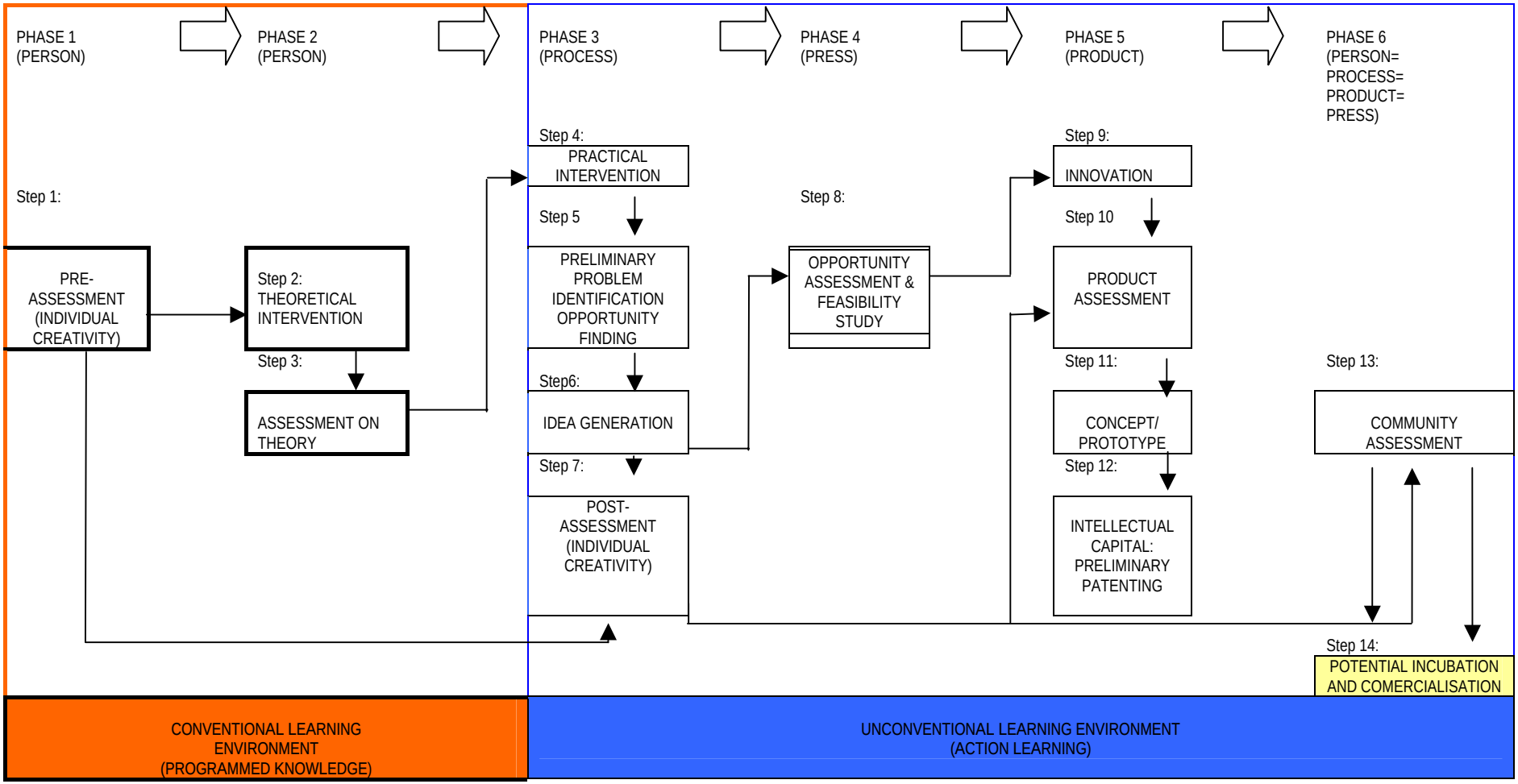

Figure 5.2: Creativity, Innovation and Opportunity finding model (Antonites 2003:204)

Antonites (2003:211) found the following:

- The model focused on training the entrepreneur and not the traditional manager.
- The intervention ensured the acquisition of skills with feasible opportunity finding as the primary point of convergence.
- The model addresses the entrepreneurial skills: creativity, innovation and opportunity finding directly, as part of an entrepreneurship training programme.
- Pertinent differentiation is established to understand the exact variance between an "idea" and an "opportunity", within an entrepreneurial and market context.
- The training model accentuated the feasibility and realism of market related opportunities.
- The training methodology applied in this study is based on experiential and action learning and therefore overcomes stifling pedagogical paradigms in teaching business and entrepreneurship.
- The model reveals more about, and, for the learner, due to its learner centred approach, than teaching methods that disclose more about the lecturer, and
- The study offers future educators a tool and approach to cultivate creativity, innovation and opportunity finding.

5.4.1 Content

Pedagogical content knowledge is an understanding of "ways of representing … the subject that make it comprehensible to others" and "an understanding of what makes the learning of specific topics easy or difficult" (Eggen & Kauchak 2001:9).

With respect to entrepreneurial syllabuses, the specific profile of students, leads here more than elsewhere to certain types of approach by the teacher, and this must be taken into account. Naturally the fact that these students should in theory be more independent-minded, self-confident and have more power of internal control should be taken into account (Duechneaut 1997:15).

De Clerq *et al.* (1997:15) made a study on the topics that are dealt with in entrepreneurship education in 25 leading business schools in the USA. It was found that the following topics were dealt with in entrepreneurship education:

Table 5.3: Topics dealt with in entrepreneurship education in the USA adapted from De Clerq, Crijns & Ooghe (1997:15)

Start-up of ventures	• creativity • financing new ventures • identification and evaluation of opportunities • implementation of new ventures • management of new ventures • new venture marketing • obtaining the required resources • planning new ventures • purchasing existing ventures • risk analysis • starting new ventures
Growth of new ventures and critical moments	• bankruptcy • financing growing ventures • joint ventures • management buy-ins • management buy-outs • management of growth • mergers and acquisitions • selling a venture • transition from start-up to growth
Marketing	• brand management • commercialisation of products • entrepreneurial marketing • marketing of new products • marketing planning • marketing strategy • product development • sales

Financial aspects	• accounting • cash flow analysis • creating value • development of budget control system • financial analysis • financial compensation • financial planning • financing growing ventures • financing new ventures • valuation of a venture • venture capital financing
Organisation and human resources management	• entrepreneurial career • entrepreneurial teams • HRM aspects • organisation culture • organisation management • organisation structure • staffing • work roles in organisations
Operational and technological management	• information management
Strategic issues	• corporate strategy • entry strategies • industry strategy
Legislation related issues	• franchise management • government contracting • intellectual property • legal aspects • licensing • taxation aspects

Innovation	• change management innovation management
Small and large companies	• differences between small and large organisations • family businesses • intrapreneurship • small business management
Personal aspects, characteristics and skills of entrepreneurs	• business ethics • development of entrepreneurial competencies • leadership • negotiations • personal values • persuasion process • skills of entrepreneurs
General issues	• business transactions • international aspects • management consulting • project management • utilisation of resources

The above confirmed Garavan and O' Cinneide's (1994:4) observation, that although entrepreneurs display three major features, namely knowledge, skills and attitudes, the first receives thorough and analytic attention in the formal education situation, the second receives sketchy attention and the third is hardly addressed at all. This lack of integration impacts on the level of entrepreneurial output in the South African situation.

5.4.4 Learning Styles

An individual's learning style describes the way in which one acquires and uses information in developing an understanding of, and in solving, problems. To be effective, the entrepreneur, like any other learner, needs to employ different learning

styles, e.g. concrete experience, reflective observation, abstract conceptualisation and active experimentation (Garavan & O'Cinneide 1994:12). For example, a deficiency in concrete experience may lead to an inability to formulate plans, and a deficiency in active experimentation may lead to an inability to implement plans.

Carland and Carland (1997:4) investigated the effects of learning styles and found that traditionally, business is taught passively by lecture and illustration of problem and solutions. The traditional view is that business programmes are rigorous and many students are not sufficiently motivated to perform well. Traditionally, the expectation is that those students who succeed are those who are achievement oriented and highly motivated, or, those students who work hard. Further, such students will succeed regardless of the approach used to teach the course. The corollary is that those students who do not do well are uninterested, not highly motivated or not achievement driven, or, not willing to devote long hours outside of class. Such students will not do well, regardless of the approach used. Modern researchers in business education are increasingly recognising that learning is different from academic performance and that the structure of the teaching paradigm needs to change in order to increase the learning rate of all students.

However, in a survey of Business Administration students (Carland & Carland 1997:6), it was found that students of management or business administration tended to display the accommodation learning style, a style at odds with the traditional approach to business instruction.

Karl Jung's theory of personality types forms the foundation for much of the field of cognitive psychology. Kolb, quoted in Carland and Carland (1997:5) building on Jung's theory of personality typology, identified four types of learning styles that people employ. These are described in what follows:

5.4.4.1 The Convergent Style

The convergent style relies on conceptualisation and active experimentation, and has as its major strength problem solving, decision-making and practical application of ideas. The converger's greatest strength is in the practical application of ideas.

Through hypothetical, deductive reasoning, the converger focuses knowledge on specific problems. Convergers tend to be good at solving problems, testing theories, and decision-making.

5.4.4.2 The Divergent Style

The divergent style emphasises concrete experience and reflective observation, and has as its major strength imaginative ability and awareness of meaning and values. The diverger has the ability to view concrete situations from many different perspectives. As a result, the diverger is good at generating ideas, recognising problems, and creativity.

5.4.4.3 The Assimilation Style

The assimilation style emphasises abstract conceptualisation and reflective observation, and has as its major strength inductive reasoning and an ability to create theoretical models. The assimilator is best at inductive reasoning and in assimilating disparate observations into an integrated explanation. The assimilator's greatest strength is in the ability to construct theoretical models. Assimilators are good at defining problems, formulating theories, and planning.

5.4.4.4 The Accommodation Style

The accommodation style emphasises concrete experience and active experimentation, and has as its major strength doing things, carrying out plans and tasks and getting involved in new experiences. The accommodator is the opposite of the assimilator. The accommodator is best in those situations where one must adapt to specific immediate circumstances. The accommodator is good at implementing plans, engaging in new experiences, and in taking goal-oriented action.

5.4.4.5 Creativity and Learning Styles

In the abstract conceptualisation/concrete experience dimension, the preference of an entrepreneur is not as clear. Kolb as referred to by Ulrich (1998:7) termed the conflict between concrete experience and abstract conceptualisation as "creative

tension". To be creative, one has to be freed from the constraints of a previous focus on abstract concepts and to experience anew. Ulrich (1998:7) describes the creative process as a synthesis of problem-finding and problem-solving. Thus a creative person is one who is able to co-ordinate activities in each of the different modes of learning. Consequently, both the abilities are important to entrepreneurs, with the balance between them varying with individual entrepreneurs depending on whether problem-finding or problem-solving is more important for innovation.

On the active experimentation/reflective observation dimension, our understanding of entrepreneurial behaviour indicates a primary preference for action. Opportunities and innovative ideas must be followed through to activate entrepreneurship. Thus, an entrepreneur would be expected to favour active experimentation rather than reflective observation (Garavan & O'Cinneide 1994:13).

Learning styles have the following implications for teachers and trainers (Eggen & Kauchak 2001:137):

- Instruction needs to be varied
- Students need to be made aware of the ways they most effectively learn
- Teachers need to be sensitive to the differences in students.

5.4.5 Teaching methods

Derived from the ancient Greek "methodus", which implies sustained, systematic and scientific research, methodology is often incorrectly typified as a recipe approach (Avenant 1990:277).

According to Duechneaut (1997:5), training can definitely develop the entrepreneurial potential of the student, by taking two complementary axes: personal development and learning by doing. Duechneaut (1997:6) summarised teaching methods in a didactic model versus an enterprising model:

Table 5.4: Didactic model versus enterprising model (Duechneaut 1997:6)

Didactic model	Enterprising model
Learning from teacher alone	Learning from each other
Passive role as listener	Learning by doing
Learning from written texts	Learning from personal exchange and debate
Learning from "expert" frameworks of teacher	Learning by discovering (under guidance)
Learning from feedback from one key person (the teacher)	Learning from reactions of many people
Learning in well organised, timetabled environment	Learning in flexible, informal environment
Learning without pressure of immediate goals	Learning under pressure to achieve goals
Copying from others discouraged	Learning by borrowing from others
Mistakes feared	Learning from mistakes
Learning by notes	Learning by problem solving

The pedagogical methods, which are best suited to an entrepreneurial learning style, are the convergent style and the accommodation style. In practice, however, in the typical educational and training situation, the future entrepreneur is most likely to encounter the assimilation style and the divergent style. This traditional teaching approach focuses on developing a participant's mastery of various abstract concepts which can be integrated into a framework for a given business discipline. Performance is evaluated by testing the participant's ability to recall various abstract concepts. The rational approach performs its intended purpose well i.e., the acquisition of knowledge on the part of the participant. Participant participation, however, is solely reflective. The traditional approach does not reach for the more complex outcomes associated with experiential learning i.e., application, analysis, synthesis and evaluation (Garavan & O'Cinneide 1994:8).

The entrepreneurial-directed alternative to the traditional teaching approach is one that requires the instructor to become a learning process facilitator. Such an approach entails extensive use of learning exercises such as role playing, management simulations, structured exercises or focused learning feedback situations in which the participant must take an active role. The traditional "listen and take notes" role of the participant is minimised. After participating in the learning exercises, participants reflect on their experience and develop generalisations through small discussion groups. The discussion groups develop hypotheses, based on their learning experiences, which are further tested with additional learning exercises. In this way

all four learning abilities are eventually used and developed, much as they would be in the typical entrepreneurial situation (Garavan & O'Cinneide 1994:9).

In support of the above, Klandt (1998:9), mentioned that the student should have the chance to develop and improve individual targets, therefore, within certain limits the targets should not be determined by the teacher. Targets could include the following:

- Active and limited information search

The learning process should be one that provides scope for the students, to discover their own information needs to identify information sources and independently be able to balance information costs and information benefits.

- Analytical and holistic problem diagnosis, system thinking

The student should be confronted with tasks, which cannot only be solved using analytical (standardised, quantitative) methods. Qualitative and highly complex problems where creativity and intuitive problem solving are practiced should also be given to the student.

- Decisions and performance under time pressure

Of practical importance is that often a fast but not optimal decision leads to better results (for example in the opinion of the competitors) than an optimal decision which is available later.

Todorov and Dimitrov (1998:16) identify the following methods that contribute to success in Bulgarian entrepreneurial training:

- Utilisation of active (interactive) educational methods

Some of the most frequently used methods are aided discussions, brain storming, role playing, preparing and solving case-studies, developing and public defence of business plans and projects. Since 1991 these methods have been tested over the years and are continuously enriched. Their utilisation and sometimes creation, re-

quired some analytical and communicational skills on the part of teachers and some preparation in advance on the part of students.

- Practical orientation of education

Undoubtedly, the very nature of entrepreneurship education imperatively requires its strong practical focus. Solving and preparing case studies, developing business plans and preparing projects on the basis of real companies from the practice form the way entrepreneurship education should be directed.

- Teamwork

Todorov and Dimitrov (1998:18) viewed teamwork as one of the biggest achievements of the Bulgarian entrepreneurship education. Bearing in mind the predominantly individualistic Bulgarian character, independent creation of teams, their work and joint project defence is one of the most substantial advancements in the learning process.

- Utilisation of non-academic assistants in education

The future development of this established tradition in education will be considered. The participation of entrepreneurs, managers, bankers and policy makers, provides unique support for the practical orientation of the educational process. Such participation also enhances the post-graduate career options of some students who receive job offers.

- Application of up to-date (licensed) software and hardware

Effective realisation of good business plans and projects is quite impossible without using the options of forecasting, summarising and graphic presentation provided by information technologies. Utilisation of databases, decisions from the past, adapted to the specific business conditions, programmes and networking, e-mail and Internet facilities, undoubtedly increase students' skills and knowledge.

- Effective "know-how" transfer from developed industrial countries

With, entrepreneurship education, as a socially cultural and psychological phenomenon, significant adaptation of foreign results is required as well as high qualifications

of teachers. Probably, international projects and participation in international conferences and seminars are the best forms of such kind of transfers.

- Establishment of entrepreneurship development centres in respective universities working in close partnership

The Entrepreneurship Development Centre experience shows great future for such structures to provide invaluable support to entrepreneurship education development and shortening the distance between universities and real business.

5.4.5.1 Problem-posing methods

Problem-posing methods are methods in which teachers inspire their students to meaningful learn by the creation of motivating problem situations through which the students discover relationships by collecting data, as well as reasoning, hypothesis stating, experimenting and the cognitive processes of comparison, contrasting and classification and consequently acquire new knowledge (Avenant 1990:279).

5.4.5.2 Classroom versus Experiential learning

For many years experiential learning has been a concept of interest to educators in a variety of disciplines. Experiential learning is defined as a sequence of events that require active involvement by the student at various points (Carland & Carland 1997:1). Its advocates and its critics are many and varied. The central tenet is always that one learns best by active involvement. Some researchers, e.g., Coleman (1976) as quoted by Carland and Carland (1997:2) believe that experiential learning has a strong advantage in that it depends upon intrinsic motivation and that learning through experiential concepts is less easily forgotten than learning through the information assimilation of the traditional classroom. Carland and Carland (1997:2) concluded that it is well established that two of the four primary learning styles exhibited by students, the divergent and accommodation learning styles, function better with concrete experience.

Carland and Carland (1997:6) describe the steps in learning under the classroom and experiential learning systems as follows:

- The Classroom Learning System
    - receiving information through a symbolic medium such as a book or lecture,
    - assimilating and organising information so that the general principle is understood,
    - being able to infer a particular application from the general principle, and,
    - moving from the cognitive and symbol-processing sphere to the sphere of action.

The case study method, within the classroom learning system, has established itself as the most suitable approach used in the education of students at all levels of entrepreneurial training. One possible reason for this is that the case study method is easy to use within the conventional classroom situation and with large classes. However, it may also be possible that the use of case studies demands less effort from the traditional lecturer (Pretorius *et al*. 2004:23).

- The Experiential Learning System
    - carrying out an action in a particular instance and seeing the effects of the action,
    - understanding the effects in a particular instance,
    - understanding the general principle under which the particular instance falls, and,
    - applying the concept through action in a new circumstance within the range of generalisation.

The advantages of the classroom method include a reduction of the time and effort required to learn something new. Its disadvantages are that it depends heavily on the symbolic medium, which is usually language, and it depends upon extrinsic motivation. Although experiential learning is time consuming, it has a strong advantage in that it depends upon intrinsic motivation. More important, learning through the experiential concepts is less easily forgotten than learning through the information assimilation of the traditional classroom.

In general it can clearly be seen that the types of pedagogy suited to the entrepreneurial context necessitate far-reaching development of the traditional role of the teacher. As Duechneaut (1997:14) points out, the twenty-first century teacher:

> will no longer be a lone individual advancing knowledge (researcher), nor a lone individual imparting it (communicator), nor even the organiser of all this (executive director), instead, no matter what the future holds, he will keep his role as a source of motivation and as a facilitator of exchange.

5.4.5.3 Role models/Mentoring

This method of teaching relies on changes in people that result from observing the actions of others. There are different forms of modelling (Eggen & Kauchak 2001:236):

- Direct modelling (attempting to imitate the model's behaviour)
- Symbolic modelling (imitating behaviours displayed by characters in books, plays, films and television)
- Synthesised modelling (developing behaviours by combining portions of observed acts).

The use of role models could, according to Kreitner and Kinicki (1995:292), be a direct guideline for the entrepreneur in terms of certain role expectations that need to be present per definition. The entrepreneur can therefore realise that his/her chosen role model applies intensive innovation, took a calculated risk and strives towards unusual opportunities. Role insecurities could be removed as the entrepreneur can obviously see what is expected of the typical entrepreneur by making use of a role model to model him/herself on. Entrepreneurs therefore place themselves on an equal footing with the role model and in certain cases lets themselves be motivated to the extent that an even better achievement than that of the role model could be the result.

Robbins (1988:42) remarked: "To model excellence you should become a detective, an investigator, someone who asks lots of questions and tracks down all the clues to what produces excellence".

5.4.5.4 Whole brain teaching

Research on the human brain has led to the development of a four quadrant whole brain model by which human thinking style preferences can be described (de Boer, Steyn & du Toit 2001:185). Herrmann (1996:126), the father of brain dominance technology, indicates that the human brain functions at its most innovative, productive best when all four quadrants engage situational and iteratively in the process.

The cerebral hemispheres (left-brain and right-brain) contain about 80 % of the brain. Primary mental processes in these hemispheres include: vision, hearing, intentional motor control, reasoning, conscious thinking and decision-making, imagination and idea synthesis. Herrmann found that for optimum learning left-brain thinkers had to be taught differently from right-brain thinkers. He furthermore established a reciprocal lack of appreciation for the different thinking mode and concluded that both types of thinkers could benefit by knowing how to use the whole brain (Lumsdaine & Lumsdaine 1995:79).

Each cerebral hemisphere has a separate structure that nestles into it, namely one half of the limbic system which regulates hunger, thirst, sleeping, emotions and plays a powerful role in learning since it is critical in transferring incoming information to memory (Lumsdaine & Lumsdaine 1995:78). In the course of his research Herrmann realised that data seemed to fall into four clusters, not only into two cerebral hemispheric divisions. This discovery led to the development of the four-quadrant whole-brain model. Each quadrant has distinct clusters of thinking abilities or ways of learning and knowing.

Quadrant A thinking is factual, analytical, quantitative, technical, rational and critical. People who prefer quadrant A thinking prefer subject areas such as arithmetic, algebra, science and technology. Quadrant B thinking is organised, sequential, controlled and persistent (Lumsdaine & Lumsdaine 1995:86). Quadrant C thinking is sensory, emotional, and interpersonal. People with this preference would take social sciences, music and participate in group activities. Quadrant D thinking is visual, holistic, imaginative and intuitive and entrepreneurs, artists and playwrights have strong preference for quadrant D thinking.

The whole-brain method acknowledges the fact that it is necessary to use all four brain quadrants for an effective learning process to take place. The idea is therefore to develop the use of the less preferred quadrants, although students have preferences.

5.4.6 Problems experienced with the development of entrepreneurs

Klofsten (2000:340) indicates that small business owners are sceptical towards organisations offering training, that they are often unaware of what is available on the market and furthermore that they often lack sufficient resources to participate in formal training programmes.

Gunther and Kirchoff (1998:3) indicate that start-up companies are different in their needs and that according to each different situation new or changed further or continuing education needs and consultation demands may come into existence. The further and continuing education demands are tendency open i.e., they vary permanently. They originate from the entrepreneur's insight in each actual upcoming deficit of his authority concerning capability of acting and deciding, they articulate themselves at that point where mistakes are imminent. Requirements and practical needs arise, concerning persons or enterprises. They neither are to be anticipated, nor to be generalised.

Skill-building approaches depend on how teachable a specific competency is. To truly develop expertise in a skill, an individual needs multiple and varied experiences – studying the basic characteristics of the skill, experimenting with it, getting coached, and then making improvements and refinements (Conger & Benjamin 1999:49).

The consequence of this is that a large proportion of young entrepreneurs are not attracted by traditional planned programs. This kind of abstract planning has nothing to do with the everyday problems and questions coming out in the process of establishing a start up company. Therefore most of the programmes fail (Gunther & Kirchoff 1998:4).

5.5 Creativity as subject content in Entrepreneurship programmes

Van Vuuren and Antonites (2001:5) analysed the importance of creativity and innovation in a model to improve entrepreneurial performance by means of training intervention and found that it received strong support. They also combined the concepts with business skills and concluded that the importance and need for innovation and creativity training is recognised but the importance of the "how to" factor was not addressed or seen as contributing to improved entrepreneurial performance.

In a generalised manner i.e., not entrepreneurship domain specific, the following creativity skills that are learnable have been identified (Glassman 1991:5):

- The ability to associate remote stimuli in the environment with elements in the mind and combine them into new and unusual ideas,
- The ability to keep an open mind and see new perspectives,
- The ability to generate many ideas,
- The ability to adopt many different problem-solving approaches,
- The ability to generate a variety of really different ideas,
- The ability to develop ideas,
- The ability to generate infrequent and uncommon ideas, and
- The ability to hang in there when going against consensus and to be persistent in the face of criticism.

Pretorius and van den Berg (2002:203) indicate that creativity, as an entrepreneurial skill should include:

1. Techniques for facilitating creativity,
2. Removing barriers to be creative,
3. Critical thinking versus creative thinking,
4. Personal attributes and actions that facilitate creativity,
5. Improving intuitive creativity,
6. Creative problem solving and opportunity finding, including opportunity delineation, and
7. The generation of ideas and evaluating and prioritising ideas.

5.6 Chapter Conclusion

The general conclusion from the literature study is that thinking has progressed from the study of entrepreneurial personality traits and demographics to examine the issue of whether "entrepreneurship can be taught?", and recently to focus on the role of the cognitive aspects of learning.

Solomon *et al.* (2002:6) indicated that effective entrepreneurial education requires students not only to experience some core functional elements of a business administration programme, but that those functions be presented from the point of a start-up and to expose students to substantial hands-on experience.

Learning to start a business requires different and creative approaches of which the utilisation business plan is the most important approach (Pretorius *et al*. 2004:22). The literature study furthermore indicated that practical knowledge i.e., business skills on business planning, business strategising, financial management, marketing management etc. are crucial in the concepts "opportunity exploitation" and "growth maximization", and that curricula on the development of creative skills' application in the above concepts and the supporting subjects are still in the developmental phase.

It is only recently that the issue of creativity and innovation as subject matter in the entrepreneurship domain started to get attention and thought. It is perceived therefore that the application of creativity and innovation in content as well as method with regard to the entrepreneurial domain could only benefit from research.

However, it must be kept in mind that success as an entrepreneur depends not only on creativity skills but also on, inter alia, motivation, interpersonal and business skills.

CHAPTER 6

6 RESEARCH METHODOLOGY

6.1 Introduction

According to the *Concise Oxford Dictionary* (1999:688), the term "methodology" refers to the body of methods used in a particular branch of activity. Methodology is concerned with how we come to know and is practically focused on the specific ways (methods) that we use to understand our world better. This chapter aims to provide an insight into the practical ways that were used in gathering information for the empirical part of this study.

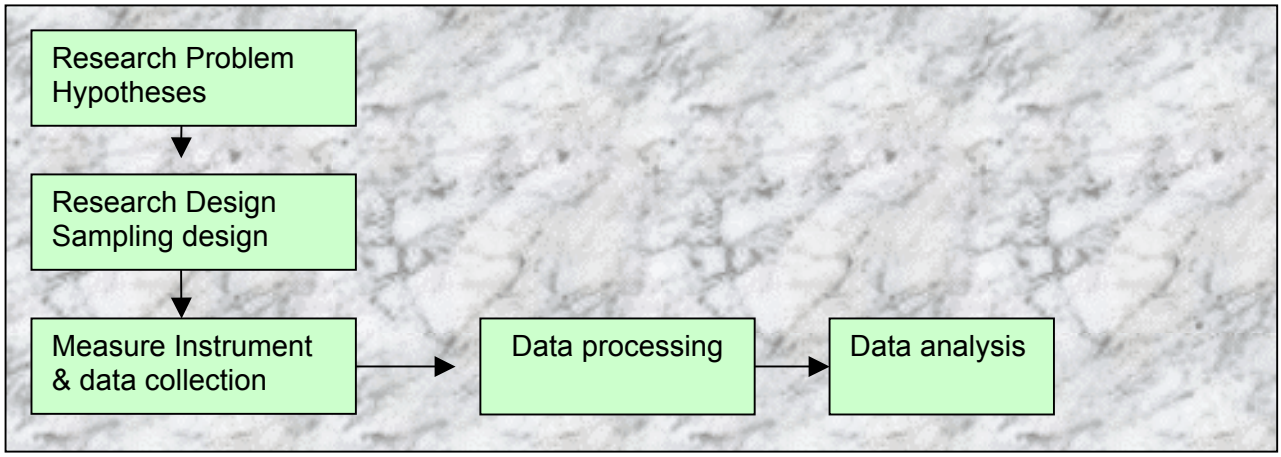

Figure 6.1: Chapter Layout

6.2 Research Problem and Hypotheses

A research objective gives a broad indication of what a researcher wishes to achieve in his/her research. The definition of the research problem is of great importance since it guides all subsequent actions. The problem of this study is the unique application of creativity in the entrepreneurship domain against the background of entrepreneurial development. The research question can be stated as follows: "What are the perceptions among South African small business owners of their own creativity and their businesses' innovativeness?"

The aims of this study were set out in the chapter 1, but in short may be summarised again as being:

- To establish how the constructs of creativity and innovation are uniquely applied in the entrepreneurship domain (already reported in the literature study)
- To measure the perceptions of small business owners on their own creativity and their implementation of innovative behaviour, and
- Identify the implications of the abovementioned for entrepreneurship education.

6.2.1 Concepts and Constructs

The literature study aimed to identify the various key concepts and constructs of the entrepreneurship domain linked to the application of creativity and innovation, through, inter alia, content analysis of definitions.

6.2.1.1 Entrepreneurship

Through an in depth perusal of the subject literature on entrepreneurship theory and a content analysis of various definitions of entrepreneurship it was deduced that the subject domain rests upon “business creation”, “opportunity finding and exploitation”, and “business growth maximisation”.

Innovation is the critical factor distinguishing entrepreneurs from non-entrepreneurial managers and or small business owners. The entrepreneur is characterised by a preference for creating activity, manifested by some innovative combination of resources for profit.

It was also established that venture performance is a function of the entrepreneur, the industry structure, business strategy, resources and organisational structure, processes and systems (Chrisman, Bauerschmidt & Hofer 1998:8).

Gbadamosi (2002:97) identified the following variables of entrepreneurial behaviour and performance:

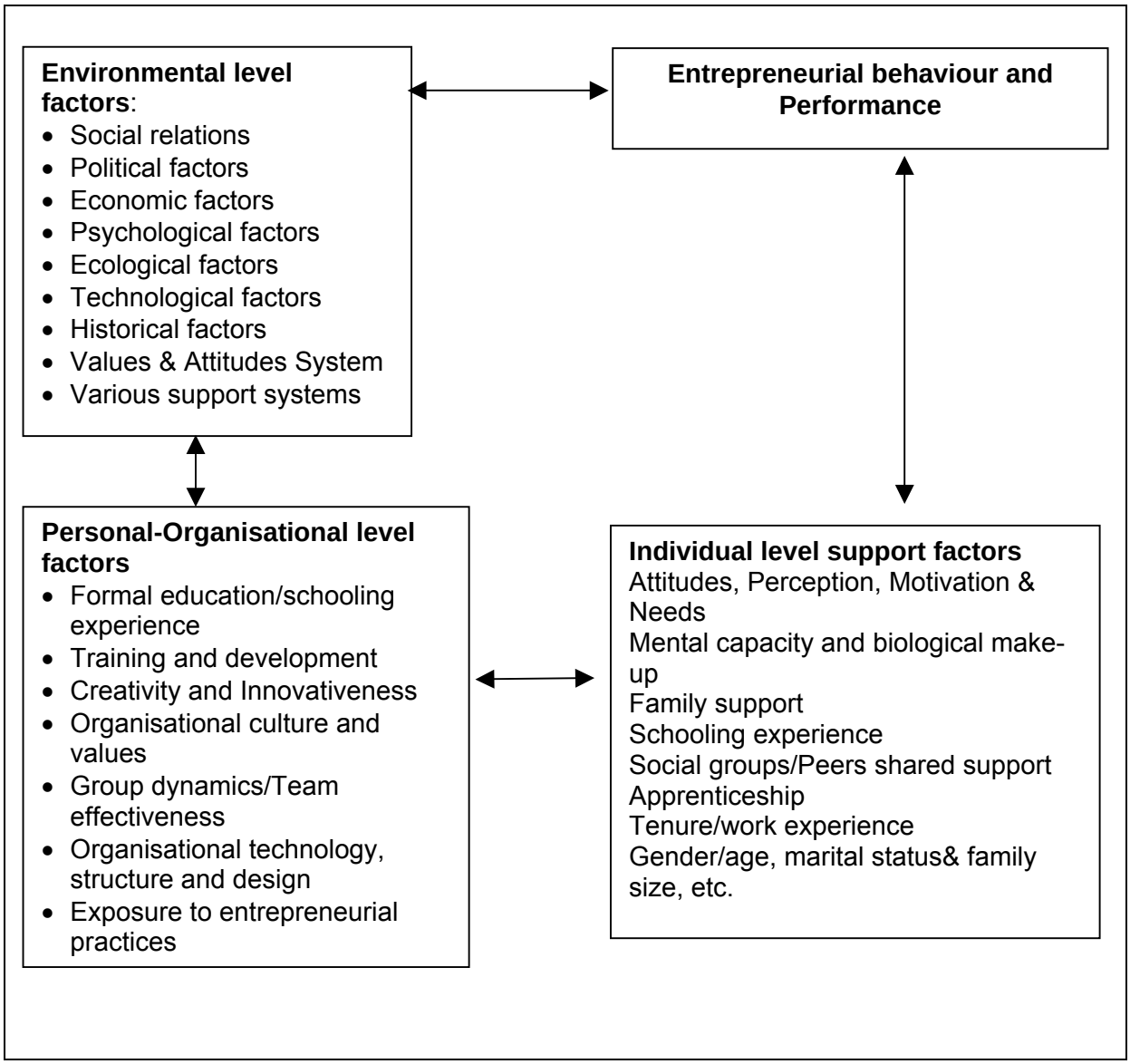

Figure 6.2: Variables of entrepreneurial behaviour and performance adapted from Gbadamosi (2002:97)

In view of this large number of variables that possibly can influence entrepreneurial performance, the questionnaire was developed to measure the relationship between business owners' perception of their own creativity and their perception of their businesses' innovative posture.

6.2.1.2 Creativity

Feldman *et al*. (1994:135), came to the conclusion that in order to understand creativity one must enlarge the conception of what the process is, taking the parameters

of the cultural symbol system (or domain) in which the creative activity takes place into account, as well as the social roles and norms (or field) that regulate the given creative activity. Entrepreneurial creativity is the process through which invention occurs, which means that creativity is the enabling process by which something new comes into existence. Entrepreneurship is enabled by the current or potential existence of something new (an innovation):

- Which may have been developed by new ways of looking at old problems (creativity)
- The lessened capability of prior processes or solutions to respond effectively to new problem parameters brought on by new or emerging external conditions (environmental change)
- Which can supplant or be complementary to existing processes or solutions (a change)
- When championed by one or more invested individuals (the innovator) (Brazeal & Herbert 1999:35).

6.2.1.3 Activities of the Creative Entrepreneurial Process

The literature study and content analysis of various definitions of creativity led to the conclusion that the locus of creativity in the entrepreneurship domain evolves around opportunity recognition, which is enhanced by the following activities:

- Creation (of opportunities)

  Creation is the act of pure invention i.e., making something out of nothing. Creation is often preceded by "creative destruction".

- Synthesising (in order to create and exploit opportunities)

  The creative act of joining together two previously unrelated things, e.g. bringing together the telephone and the computer to create the internet is called synthesis. The ability to make the connection between specific knowledge and a commercial opportunity requires a set of skills, aptitudes, insights and circumstances that are neither uniformly nor widely distributed (Ucbasaran *et al.* 2001:63).

- Modification (in order to create and exploit opportunities)

Modification occurs when a thing or process is improved or gains a new application.

6.2.1.4 Innovation

It was established that purposeful innovativeness with growth maximization in mind, is the specific function of entrepreneurship. Creativity is considered a subset of innovation, which is in turn a subset of change (Brazeal & Herbert 1999:39).

A critical question for purposes of this study is: "Which creative activities support/encourage the innovativeness of an entrepreneur?

- From a macro perspective, the entrepreneurs' innovativeness is the willingness and the capability of entrepreneurs to create a paradigm shift in the science and technology and/or market structure in an industry.
- From a micro prospective, the innovativeness is the willingness and the capability of entrepreneurs to move the firm's existing marketing resources, technological resources, skills, knowledge, capabilities, or strategy (Jun & Deschoolmeester 2003:4).

The innovation capacity can be categorised into different groups: product innovation capability, process innovation capacity, organisation innovation, and the capability to acquire, to diffuse the technology transferred from outside sources. However, though there are so many different groups of innovation capacity, it is a fact that innovation capacity will never be completely summed up and represented by one single or several capabilities. Innovation capability actually is the integration and colligation of multi-capabilities (Jun & Deschoolmeester 2003:15).

The literature study identified the following key activities of innovation:

- Imagining – having the initial insight about market opportunity for a particular technical development
- Incubating – nurturing the technology sufficiently to gauge whether it can be commercialised
- Creation capability – the capability of invention

- Demonstrating – building prototypes and getting feedback from potential investors and customers
- Promoting – persuading the market to adopt the innovation, and
- Sustaining - ensuring that the product or process has long a life as possible in the market.

6.2.2 Relationships between the concepts

Two or more variables are related, regardless of their type, if the values of those variables are distributed in a consistent manner in a sample of observations. In other words, variables are related if their values systematically correspond to each other for these observations. Gender and perception of creativity would for example, be considered to be related if most males had a positive perception and most females a negative perception, or vice versa.

If the introduction of *new* services/products and change of operational processes are seen as indicators of innovativeness in the entrepreneurship domain, then it could be hypothesised that there will be a positive relationship between each of the constructs and purposeful innovation. Creativity can involve the adjustment or refinement of existing procedures or products, the identification of opportunities and the identification of solutions to problems. Basically it involves *new* ideas. It can then be further reasoned that there will be implementation of creativity through innovation.

Some entrepreneurs realise the importance of continuous innovation, but regard the rewards linked to the effort and accompanying risk of self-initiated product innovations as insufficient, they often adapt existing products, services, methods or techniques in an innovative manner (Nieuwenhuizen *et al*. 2003:4). Thus their creativity, i.e., visualisation skills, problem definition skills, idea generation skills, creative problem solving skills, skills to overcome mental barriers, creative evaluation skills, critical thinking skills, judgment skills and solution implementation skills, finds expression on the continuum of innovation and adaptation.

These relationships will be tested by way of factor- and variance analysis of the constructs measured by the questionnaire.

6.2.3 Hypotheses

The South African Innovation Survey, which was done during 2001/2002, confirmed that South African entrepreneurs followed the route of modification to an even larger extent than their peers internationally (Oerlemans 2003:5). This observation in the context of Bandura's (1978:238) self-efficacy theory, namely that personal assessment of capability to accomplish certain outcomes, provided a formula for successful action, placed the creativity of South African small business persons in doubt. The following hypotheses were set to guide the thinking:

Hypothesis H_1 South African small business persons do not perceive themselves to act creatively.

Hypothesis $H1_a$ South African small business persons perceive themselves to act creatively.

Hypothesis H_2 South African small business persons do not perceive their businesses as innovative.

Hypothesis H_{2a} South African small business persons perceive their businesses as innovative.

Hypothesis H_3 South African small business persons do not report a high implementation orientation with regard to creativity and innovation.

Hypothesis H_{3a} South African business owners/managers report a high implementation orientation with regard to creativity and innovation.

6.3 Research design

This study is a cross-sectional formal study, using the survey method to attempt to establish a relationship between small business owners'/managers' perception of their creative behaviour and their perception of their businesses' innovativeness through the introduction of new products/services, changing of strategic goals and expansion of markets.

6.3.1 Sampling design

A population is the total collection of elements about which inferences are to be made. The basic idea of sampling is that by selecting some of the elements in a population, conclusions about the entire population can be drawn. The ultimate test of a sample design is how well it represents the characteristics of the population it purports to represent (Cooper & Schindler 2001:164).

The reasons for sampling in this case include:

- Lower cost
- Greater speed of data collection, and
- Availability of population elements.

When each sample element is drawn individually from the population at large it is an unrestricted sample. The following decisions have been made in securing the simple random sample:

6.3.1.1 The Relevant Population and Sampling frame

The concept "population" refers to all possible cases, which are of interest for a study, and specifies four elements: content, units, extent, and time. For purposes of this study the population is defined as:

Small, Medium and Micro enterprises in South Africa

It is possible to construct a so-called sampling frame, having defined the population. A sampling frame is a listing of all the elements in a population and the actual sample is then drawn from this listing. It is possible that biases could exist between the opinions of members of the sample frame and population. Therefore, the adequacy of the sampling frame is crucial in determining the quality of the sample drawn from it.

Sample frames may differ from the population in the following ways:

- The frame may contain ineligibles or elements that are not part of the population
- The frame may contain duplicate listings, and the frame may omit units of the population, which is by far the most serious problem.

Due to the fact that no complete list exists of all small, medium and micro enterprises (SMME's) in South Africa, Gaffney's Business Contacts (2002) was used to draw a sample. Gaffney's Business Contacts (2002) lists more than 15 000 businesses in South Africa. It must be acknowledged though, that Gaffney's list, as also other lists of businesses, would include more of the formalised businesses i.e., licensed businesses registered for VAT. This possible shortcoming was addressed by distributing a mail questionnaire to businesses drawn from the above list but supplementing the sample with questionnaires distributed ad hoc at the Cenbis Business centres in the Tshwane Metropolitan Municipality.

6.3.1.2 Sampling techniques

Techniques that make use of probability theory can both greatly reduce the chances of getting a non-representative sample and, permit precise estimation of the likelihood that a sample differs from the population by a given amount. One of the main characteristics of the stratified sampling technique that will be used is that it tends to reduce sampling error and decreases the required sample size. Since the aim of the study is to make probability based confidence estimates of certain parameters, a probability sampling technique, namely systematic random sampling will be utilised.

6.3.1.3 Sample Size

The following principles influenced the estimation of the sample size:

- Research Hypotheses

  One concern in establishing desired sampling size is that there are a sufficient number of cases to examine research hypotheses properly. Generally the literature considers 100 cases in a sample the bare minimum (Monette, Sullivan & DeJong 1990:146).

- The variance within the population

  The variance within the population to be sampled influences the sample size. As a rule of thumb a large sample is more essential for a heterogeneous population than for a homogeneous one. Unfortunately, most of the time researchers know little about the homogeneity of the target population. Probability theory solves this problem by assuming maximum variability in the population (i.e., 50% variability). Of course, such estimates are conservative and will result in sample sizes larger than strictly needed for a given level of precision.

  In this regard it is important to note that South Africa's historical course shows that there is a developmental gap between Previously Disadvantaged Individuals (PDI's) and the rest, which needs specific attention. The informal sector currently "employs" more than three million small business owners. This sector is also the primary location of black entrepreneurs. The entrepreneurs located here are faced with circumstances that greatly hamper growth (Antonites 2003:9).

- Sampling Technique

  The level of precision, or in other words the level of sampling error one is willing to accept in a research also influences sample size (Steyn, Smit, du Toit & Strasheim 1994:394). Suppose the average Research and Development effort of firms in a country is 5.5%. A sample is drawn and the average Research and Development effort is calculated as 5.8%. As one can see the sample statistic is close to the population statistic, but there is an error of 0.3% points (the sampling error).

  In reality, the sample statistic is known but the population statistic is unknown. So, the question is how the difference between the sample and the population value can be assessed. The answer to this question is that this assessment can be done in terms of the likelihood that a sample value differs by a certain value from the population value.

Establishing a confidence interval, i.e., a range in which it is fairly certain that the population value lies does this. Moreover, precision is directly related to sample size. Larger samples are more precise than smaller ones. Probability theory enables to calculate the sample size that would be required to achieve a given level of precision.

It was decided to accept a 5% confidence interval.

- Determining the sample size

  Taking the above factors into account it was decided to distribute 750 questionnaires. The mail survey was enhanced by telephonic communication before, and during the survey.

  In order to partially address the informal sector the various business information centres of the City of Tshwane Metropolitan Municipality (CENBIS) was utilised to distribute a 100 of the 750 questionnaires to business owners that utilised their services on a random basis.

6.4 The Measurement Instrument/Questionnaire

There is no simple answer to which of the available methods of data collection the researcher should use when collecting data. There are however, three major criteria for evaluating a measurement tool (Cooper & Schindler 2001:210):

- Validity refers to the extent to which the test measures what we actually wish to measure
- Reliability has to do with the accuracy and precision of a measurement procedure, and
- Practicality is concerned with a wide range of factors of economy, convenience and interpretability.

The survey was done via mail and a telephone survey was done as a follow-up to non-respondents. For the more informal business sector, questionnaires were handed out at business centres.

A structured questionnaire (Annexure A) with thirty questions (items) was compiled for purposes of this study to measure the application of creativity skills by business owners/managers and comparing the frequency of the applications with entrepreneurial behaviour, i.e., the introduction of new services/products, new marketing concepts and changing strategies.

Variables differ in "how well" they can be measured, i.e., in how much measurable information their measurement scale can provide. There is obviously some measurement error involved in every measurement, which determines the "amount of information" that we can obtain. Another factor that determines the amount of information that can be provided by a variable is its "type of measurement scale."

It was decided to use a five-point Likert scale taking into account the study objectives, the response form, data properties and especially the number of dimensions. The Likert scale is a frequently used variation of the summated rating scale and assists in the comparison of one person's score with a distribution of scores from a well-defined sample group. A nominal scale was used for the questions on demographics, which were in the form of multiple-choice questions with single answers.

There is always a chance that some questions can cause problems and questionnaire testing is needed to identify and eliminate these problems. The questionnaire was tested by distributing a copy of the questionnaire to a few respondents in different fields ranging from academics to entrepreneurs. Interviews were personally conducted afterwards with the respondents to determine the underlying weaknesses of the questioning and how to go about correcting them. The questionnaire was adapted afterwards and some statements that proved to be unclear were rephrased.

6.4.1 Demographic information

A variable can be defined as a symbol that stands for any one of a set of two or more mutually exclusive values and in practice is used as a synonym for "construct" or the property being studied. (Cooper & Schindler 2001:44). The following variables were selected for purposes of this study:

- Gender

- Number of years' business management experience (reasoning that previous entrepreneurial experience may provide a framework or mental schema for processing information. In addition, it allows informed and experienced entrepreneurs to identify and take advantage of disequilibrium profit opportunities. This entrepreneurial learning goes beyond acquiring new information by connecting and making inferences from various pieces of information that have not previously been connected. These inferences build from individual history and experience and often represent "out-of-the box" thinking).
- Business size (micro, very small, small, medium and large). It was hypothesised that the larger the size of the business the more resources would be available to support creativity and innovativeness.
- Life cycle phase of the business (because it is hypothesised that a business in its growth/mature phases will be more creative than those in start-up/declining stages).

6.4.2 Concepts measured

6.4.2.1 Perception of creativity

The concept of creative skills was divided into creation, synthesising and modification encompassing the following activities:

- Problem/challenge/opportunity recognition / definition
- Idea generation
- Creative idea analysis and evaluation
- Idea judgement/critical thinking
- Solution implementation

Nine questions test the perceptions of personal creativity, the development of new ideas and the application thereof when looking for solutions to problems. A number of questions focus specifically on the application of "creative skills" such as considering more than one solution and connecting (synthesising) environment and business.

6.4.2.2 Measuring "innovative behaviour"

The concept "innovative behaviour" was measured where innovativeness refers to a willingness to support creativity and experimentation when introducing new prod-

ucts/services. For purposes of this research, the concept "innovative behaviour" was divided into:

- Purposeful growth strategies
- Opportunity finding (new services, marketing concepts, ways of production)
- Opportunity exploitation, changing of strategic goals, constantly seeking different markets/market segments)
- Purposeful innovation (changed operational processes)

Jun and Deschoolmeester (2003:21) see the innovation achievements as the convincing evidence illustrating the innovation strength in the enterprise innovation capability, which can be evaluated by means of seven different indicators that reveal aspects of these capabilities, namely:

- The incidence of major product innovation, or completed improvement of an existing product
- The incidence of major process innovations
- The incidence of major improvements in production organisation
- The occurrence of substantial 'incremental' innovation
- An 'innovativeness index' which combines the information about the above four indicators, and which also takes account of the complexity and originality of the innovations
- The number of patent(s) held, if any
- An indicator measuring the firm's ISO (quality standard) accreditation status.

Taking Lundvall's (1988:352) ideas on the complexity of innovative activities as a point of departure, the items listed below were developed to operationalise the complexity of innovative activities.

- Characteristics of product/service innovation

  Firms were asked to characterise their innovative activities aimed at the realisation of product or service innovations. Questions were asked on risks taken, new products and different ways to produce products.

- Internal consequences of product/service innovations

  A question was asked on the influence of product/service innovations on operational processes.

- Internal consequences of process innovations

  Firms were asked whether they agreed or not that process innovations caused changes of other products, services and processes within the firm. Possibilities to answer range from 1 (strongly disagree) to 5 (strongly agree). This item measures another aspect of the complexity of innovative activities.

6.4.2.3 Measuring an implementation orientation

Part of establishing business owners' perceptions on their businesses' innovative orientation was building in a number of control questions on proactiveness where proactiveness is regarded as an opportunity-seeking, forward-looking perspective involving introducing new products or services ahead of the competition and acting in anticipation of future demand to change the environment.

According to the motivational model discussed by Naffziger *et al.* (1994:35) the entrepreneur must believe that the actions that he/she initiates will lead to specific outcomes achieved by the firm, such as increased sales, profit or market share. The entrepreneur will try to understand what actions lead to what outcomes as he/she attempts to guide the firm through the marketplace. When expectations are met the owner is motivated to continue to pursue entrepreneurial (creative /innovative) behaviour. This belief is termed "perceived implementation-outcome relationship". Firms were asked whether they were of the opinion that costs, a lack of information, own risk aversion and their competitors impeded on their innovativeness and creativity.

6.5 Data collection

The questionnaires were mailed to the 750 respondents during November 2003. A return envelope was included with the questionnaire. After four weeks a number of

non-respondents were phoned and after 8 weeks the final number of questionnaires, returned, was 222 (29.6%).

6.6 Data processing

The questionnaires were checked for completeness and questionnaires with incomplete data discarded. The responses were captured from the questionnaire in the BMDP statistical software programme. Some basic calculations were made to test the reliability of the data.

6.6.1 Descriptive Statistics

An important aspect of the "description" of a variable is the shape of its distribution, which tells the frequency of values from different ranges of the variable. It is of interest to establish how well the distribution can be approximated by the normal distribution, since this assumption forms key to the use of inferential statistics. Simple descriptive statistics can provide some information relevant to this issue. For example, if the skewness, which measures the deviation of the distribution from symmetry, is clearly different from 0, then that distribution is asymmetrical, while normal distributions are perfectly symmetrical. If the kurtosis (which measures "peakedness" of the distribution) is clearly different from 0, then the distribution is either flatter or more peaked than normal, the kurtosis of the normal distribution is 0.

The characteristics of location, spread, shape and shape are helpful tools for cleaning up data and discovering problems. The frequencies for all questions will be established. Together with the frequency the observations form a distribution of values. The responses will be checked for distribution, location, spread and shape.

6.6.2 Factor Analysis

Factor analysis evaluates all variables simultaneously with the objective to group variables that belong together and have overlapping measurement characteristics together. The main applications of factor analytic techniques are:

- to reduce the number of variables, and

- to detect structure in the relationships between variables, that is to classify variables.

Factor analysis was conducted to determine whether the dimensions of creativity, innovativeness and the implementation-outcome perceptions represented distinct constructs.

The Z- test was utilised to test the structure in the relationship between the variables. A Z-score is a standard score, that can be calculated once the mean and the standard deviation are available and is obtained by subtracting the mean from a value and dividing the result by the standard deviation: z = (value-mean)/standard deviation (Zady 1999:4). The calculated score describes where a value is located in the distribution.

6.6.3 Variance Analysis

The statistical method for testing the null hypothesis that the means of several populations are equal is analysis of variance (ANOVA). This data analysis technique examines the significance of the factors (= independent variables) in a multi-factor model. The one factor model can be thought of as a generalisation of the two sample t-test. That is, the two sample t-test is a test of the hypothesis that two population means are equal. The one factor ANOVA tests the hypothesis that k population means are equal. To use ANOVA certain conditions must be met:

- The samples must be randomly selected from normal populations.
  If the kurtosis is greater than 0, then the F tends to be too small and we cannot reject the null hypothesis even though it is incorrect, and
- The populations should have equal variances (Cooper & Schindler 2001:509).
  If the variances in the two groups are different from each other, then adding the two together is not appropriate, and will not yield an estimate of the common within-group variance (since no common variance exists).

In this study some of the constructs (see chapter 7) did not comply with the require-ments for the ANOVA and non parametric analyses (Kruskal-Wallis as described in 7.2.3) were consequently applied.

6.7 Validity

Research should be valid, where 'validity' refers to the problem of establishing whether the data collected presents a true picture of what is being studied. Validity in research therefore deals with accurate interpretability of the results (internal validity) and the generalisability of the results (external validity). The reliability of research concerns the replicability and consistency of the methods used, conditions prevailing and results obtained. Internal reliability refers to the extent to which the data collection, analysis and interpretation are consistent, given the same conditions. External reliability deals with the probability of replication in the same or similar settings and the obtaining of similar results (Du Plooy 1995:31).

The statistical significance of a result is the probability that the observed relationship (e.g., between variables) or a difference (e.g., between means) in a sample occurred by pure chance ("luck of the draw"), and that in the population from which the sample was drawn, no such relationship or differences exist. Using less technical terms it could be said that the statistical significance of a result tells something about the degree to which the result is "true" (in the sense of being "representative of the population"). More technically, the value of the p-value represents a decreasing index of the reliability of a result (Statsoft 2004). The higher the p-value, the less it can be believed that the observed relation between variables in the sample is a reliable indicator of the relation between the respective variables in the population. Specifically, the p-value represents the probability of error that is involved in accepting our observed result as valid, that is, as "representative of the population." For example, a p-value of .05 (i.e., 1/20) indicates that there is a 5% probability that the relation between the variables found in the sample is a "fluke."

6.7.1 Content validity

Content validity refers to the first impression the user has of the instrument and should show a reasonable, logical, clear connection between the instrument and what is measured. It concerns the degree to which an instrument assesses all relevant aspects of the conceptual or behavioural domain that the instrument is intended to measure (Grimm & Yarnold 2002:104).

6.7.2 Criterion validity

Criterion validity concerns how accurately an instrument predicts a well-accepted indicator of a given concept, or a criterion.

6.7.3 Concurrent validity

Concurrent validity is established by showing that there is a relationship with a present criterion, i.e., the measure is shown to relate statistically to an independently determined, concrete measure obtained simultaneously (Grimm & Yarnold 2002:110). According to Bandura's theory of self-efficacy, there will be positive relationship between an entrepreneur's perception of his self-efficacy and his implementation orientation. Various factors may however intensify the entrepreneur's perception of his self-efficacy at a given stage, inter alia, the number of years' management experience that he/she has, the specific life cycle phase of the business and/or the industry the business is operating in. Concurrent validity of these independent variables was tested making use of the so-called Z-stat.

6.7.4 Construct validity

The concern of construct validity is whether a questionnaire that is intended to assess participants' perception of their own creativity truly captures that, or does it provide information about another concept (Cooper & Schindler 2001:214).

6.7.5 Convergent validity

If an instrument is measuring what it is supposed to measure, it should relate positively to other measures of the same thing (i.e., they all should be "converging" on the same trait. An instrument is said to have convergent validity if, in numerous cases, it is statistically shown that there is agreement on the rating (Statsoft 2004).

6.8 Chapter Conclusion

Scientific inquiry is grounded in the inference process, which is used to develop and test propositions through the double movement of reflective thinking (Cooper & Schindler 201:53).

According to Cooper and Schindler (2001:40) the success of research hinges on how clearly we conceptualise. The findings are discussed in the next chapter.

CHAPTER 7

7 FINDINGS

7.1 Chapter purpose

Jung *et al*. (2001:41) found that individuals' assessment of their entrepreneurial skills is associated with their entrepreneurial intentions and actions from a cross-cultural perspective. The results from two of their studies furthermore supported their hypothesis that self-assessed entrepreneurial self-efficacy would have a positive relationship with entrepreneurial intention and action.

Given the above findings, this study aimed to establish business owners' perceptions of their creativity, the innovativeness of their businesses and the corresponding implementation drive. This is done against the background of the current need for economic growth in South Africa, aiming to investigate how the creative and innovative processes can be enhanced in entrepreneurship training and development in order to improve the capacities of human capital in the entrepreneurship domain.

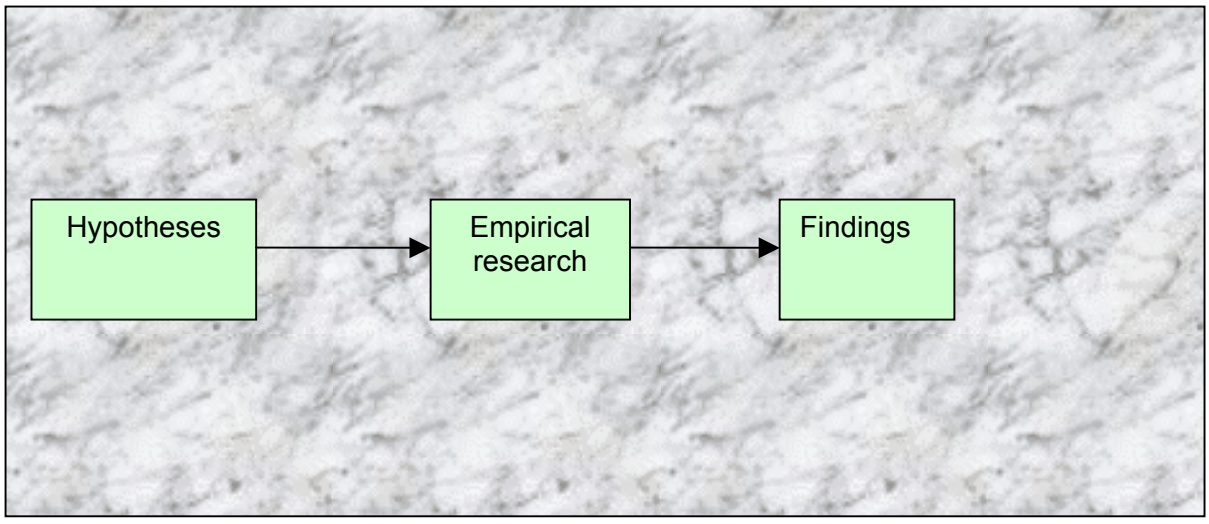

Figure 7.1: Chapter purpose/layout

7.2 Reporting the Empirical Results

7.2.1 Research methodology (Chapter 6)

The following hypotheses guided this study:

Hypothesis H_1 South African small business persons do not perceive themselves to act creatively.

Hypothesis $H1_a$ South African small business persons perceive themselves to act creatively.

Hypothesis H_2 South African small business persons do not perceive their businesses as innovative.

Hypothesis H_{2a} South African small business persons perceive their businesses as innovative.

Hypothesis H_3 South African small business persons do not report a high implementation orientation with regard to creativity and innovation.

Hypothesis H_{3a} South African business persons report a high implementation orientation with regard to creativity and innovation.

Study objectives included furthermore the exploration of relationships between:

- South African small business persons' perception of their creative skills and their perception of their business' innovativeness (Innovative entrepreneurial orientation), and
- South African small business persons' perception of their creative skills and their perceived implementation-outcome orientation.

The questionnaire was designed to measure small business owners' perceptions of their own creativity, the innovativeness of their businesses and their orientation toward implementation. A survey was done and the instrument as well as the sample was tested with various statistical techniques, including factor analysis and the Kruskal-Wallis test for analysis of variance.

7.2.1 Descriptive results

7.2.2.1 Response rate

Of the 222 returned questionnaires, 218 were complete. This resulted in a return rate of 29% that could be considered acceptable for a mailed questionnaire given the response rate for the South African Innovation Survey, which was in the region of

10% (Oerlemans *et al.* 2001:17). Sixty-two (62) of the hundred (100) (62%) questionnaires distributed to the Small Business Information Centres were returned and hundred and fifty-six (156) of the six hundred and fifty (650) (24%) distributed via mail. The response rate was sufficient to accept the sample as representative of the population.

7.2.2.2 Demographic information

The results of the study with regard to demographics are tabulated beneath:

Table 7.1: Gender

	Frequency (n)	Percent (%)
Male	165	75.7%
Female	53	24.3%
TOTAL	218	100%

Table 7.2: Social heritage/culture based on language

	Frequency (n)	Percent (%)
English	73	33.5%
Afrikaans	49	22.5%
Black South African	61	27.9%
Other (European, Latin American, Asian, Jewish, North American)	35	16.0%
TOTAL	218	100%

Table 7.3: Business role

	Number	Percent
Owner	68	31.2%
Manager	58	26.6%
Both	85	39.0%
Other (unspecified)	7	3.2%
TOTAL	218	100%

Table 7.4: Years business management experience

	Number	Percent
0-2 years	19	8.7%
3-5 years	44	20.2%
5-10 years	34	15.6%
10+ years	121	55.5%
TOTAL	218	100%

Table 7.5: Business size

	Number	Percent
Micro enterprise	70	32.11%
A Very small business	59	27.06%
A small enterprise	39	17.89%
A Medium enterprise	26	11.93%
A large enterprise	24	11.01%
TOTAL	218	100%

Table 7.6: Business life cycle phase

	Number	Percent
Start-up	19	8.72%
Growing	118	54.13%
Mature	68	31.19%
Declining	13	5.96%
TOTAL	218	100%

Reasonable distribution was obtained for all the independent variables except for gender. This conclusion is made in view of the estimate of the Statistics South Africa's (SSA) Survey of non-VAT registered businesses in South Africa (Statistics South Africa 2002:28) that in March 2001 approximately 1.4 million (60.6%) of the 2.3 million small and micro-business owners, were women.

7.2.2.3 Factor Analysis

The measuring instrument attempted to test perceptions of creativity, business innovativeness and the implementation orientation of small business owners in South Africa.

Confirmatory factor analysis allows one to test specific hypotheses about the factor structure for a set of variables, in one or several samples. Questions 13, 15, 18, 23, 27, and 30 had to be read in the opposite direction to get the correct picture.

Outliers are infrequent atypical observations that do not contribute positively on the value of the factor loadings. For purposes of this study, questions 11, 14 and 19 were removed from the dataset for this reason, resulting in twenty of the twenty-three items in the questionnaire loading successfully.

Cronbach's alpha is an instrument to test for the degree to which the instrument items are homogeneous and reflect the same underlying constructs. Cronbach's alpha measures how well a set of items (or variables) measures a single one-dimensional latent construct. The more items there are in a scale designed to measure a particular concept, the more reliable the measurement instrument will be. Cronbach's Alpha for all variables is 0.6525 in this dataset.

Assuming that the factor analysis model is correct, it should not be expected that the factors will extract all variance from the items, rather, only that proportion that is due to the common factors, and shared by several items. In the language of factor analysis, the proportion of variance of a particular item that is due to common factors (shared with other items) is called communality. The total variance is defined as the sum of the positive eigenvalues of the correlation matrix. Communalities as indicated by the squared multiple correlations (SMC) (co-variances), indicate the amount of variance in each variable that is being "explained" by the factors (Cooper & Schindler 2001:595).

Table 7.7 indicate the procedure followed to test whether the measuring instrument indeed tested the concepts spelled out in the previous chapter, namely perception of owner's creativity, perception of innovativeness and a measure of implementation:

Table 7.7: Rotated Factor loadings, Cronbach Alpha and Eigenvalues

	Cronbach Alpha	Eigen-values	Factor 1	Factor 2	Factor 3
Q20 I usually consider more than one solution to address a problem in my business	0.62260	0.99229	0.445	0.056	0.129
Q21 I enjoy trying out new ideas in my business	0.6140	0.95290	0.665	0.015	0.043
Q22 I purposefully seek problems where nobody else sees any	0.6380	0.86952	0.378	0.097	-0.205
Q24 I am willing to try a truly original approach even if there is a chance it could fail	0.6288	0.81667	0.439	0.007	0.001
Q25 I have purposefully mastered some creativity techniques, e.g. "thinking hat"	0.6330	0.75469	0.526	-0.065	-0.124
Q26 I easily make connections between things happening in my environment and commercial opportunities for my business	0.6201	0.72998	0.531	0.103	0.031
Q28 I love to modify and adapt my business' products / services	0.6042	0.65252	0.733	0.128	-0.000
Q29 I am continually envisaging business ideas to make life easier	0.6246	0.63366	0.599	-0.014	-0.070
Q31 I continuously look at old problems with a new / fresh approach	0.6293	0.59692	0.548	-0.042	-0.090
Q9 New services/products were introduced	0.6235	4.05310	0.180	0.605	0.196
Q10 New marketing concepts/ideas were implemented for the enterprise	0.6235	2.05873	0.159	0.570	0.239
Q12 Some risks were taken to grow / expand the business	0.6423	1.95960	0.101	0.319	-0.064
Q16 The long term/strategic goals of the enterprise were changed in the last 3-5 years.	0.6566	1.23746	-0.089	0.452	-0.264
Q17 New product/service innovations caused the business to change its	0.6402	1.09222	-0.057	0.691	-0.160

	Cronbach Alpha	Eigen-values	Factor 1	Factor 2	Factor 3
operational processes in the last 3-5 years					
Q13 Too high costs was a barrier towards innovation	0.6692	0.57546	-0.068	-0.002	0.498
Q15 A lack of information/ knowledge about appropriate technologies was a barrier towards innovation	0.6654	0.49695	0.035	-0.147	0.466
Q18 My competition implements new ideas before I do.	0.6595	0.44338	0.157	-0.171	0.434
Q23 I only implement a new process when I have proof that it worked somewhere else	0.6577	0.41140	-0.051	0.106	0.423
Q27 When brainstorming for business ideas I am quick to air my view that something will not be practicable	0.6697	0.357262	-0.099	0.012	0.385
Q30 Once a business plan has been developed one should stick to it	0.6706	0.31528	-0.229	0.106	0.385

The decision of when to stop extracting factors basically depends on when there is only very little "random" variability left. In deciding on the number of variables, the scree test, a graphical method first proposed by Cattell in 1966, to plot the eigen-values was used (Statsoft 2004).

Based on the scree-test three factors were identified with canonical correlations of 0.9220; 0.8345 and 0.8003. (See table 7.8) Canonical correlation is an additional procedure for assessing the relationship between variables. This analysis enables investigation into the relationship between two sets of variables. In general, the larger the weight (i.e., the absolute value of the weight), the greater is the respective variable's unique positive or negative contribution to the sum (Statsoft 2004).

The interpretation of factor loadings is largely subjective and Cooper and Schindler (2001:594) state that there is no way to calculate the meaning of factors – they are what one sees in them and therefore factor analysis is largely used for exploration. Investigation of the variables for each factor indicated that three concepts were tested with the questionnaire, namely:

- Factor 1: Perception of own creativity,
- Factor 2: Perception of business venture's innovativeness,
- Factor 3: Implementation – outcome orientation.

An item analysis was performed to investigate the means, standard deviations and other statistics of the identified factors:

Table 7.8: Item analysis

	Factor 1 (Perception of own creativity)	**Factor 2 (Perception of venture's innovativeness)**	**Factor 3 (Implementation-outcome orientation)**
Number of items	9	5	6
VP (i.e., the variance explained by the factor,)	2.903 16.99%	1.594 6.79%	1.414 6.52%
Mean	4.035	3.798	2.988
Variance	0.308	0.602	0.602
Std Deviation	0.555	0.776	0.776
Skewness	-0.448	-0.500	-0.285
Kurtosis	0.099	0.019	-0.486
Cronbach Alpha	0.7978	0.6485	0.6041
Eigenvalue	4.05310	2.05873	1.95960
Squared Multiple Correlation	0.830	0.736	0.659
Canonical correlation	0.9220	0.8345	0.8003

The variance and the standard deviation provide measures of how the data tend to vary around the mean. If the data is tightly clustered around the mean, both the variance and the standard deviation will be relatively small (Groebner & Shannon 1993:116).

For two of the three factors the skewness, which measures the deviation of the distribution from symmetry, is clearly different from 0, which indicates that distribution is asymmetrical, while normal distributions are perfectly symmetrical. If the kurtosis (which measures "peakedness" of the distribution) is clearly different from 0, then the distribution is either flatter or more peaked than normal, the kurtosis of the normal distribution is 0.

The scale mean for factor one (perception of own creativity) was 4.035, indicating that the majority of respondents perceived themselves to be creative. The scale mean for factor two (perception of business' innovativeness) was 3.798. This was an indication that the majority of small business owners perceived their businesses to be innovative. The reported implementation-outcome orientation however, hovered around the median on the scale, namely 2.988.

The statistical significance of the above was also tested with the Wilcoxon procedure, looking at the difference from the median on the Likert scale, i.e., 3. It was confirmed that factors one (perception of creativity) and two (perception of business' innovativeness) differ significantly from the median point (3): on the measuring scale.

Table 7.9: Statistical significant differences from median on scale.

FACTOR	Mean	Std Deviation	Wilcoxon P-value
Perception of own creativity	1.0346	0.5563	0.0000
Perception of business innovativeness	0.7982	0.7776	0.0000
Implementation-outcome orientation	-0.0122	0.7777	0.9181

The perception of innovativeness was lower than the perception of creativity which reflected what other researchers have been finding, namely that innovativeness in South Africa compared to other third world countries, is worse, and needs attention. Although creativity is not the only factor influencing innovativeness there is a gap between the perceptions of creativity and the expected resulting innovativeness.

The correlations between the "new" variables were investigated. The more correlation differs from 0, the stronger the linear relationship between the two variables (Groebner & Shannon 1993:658). Table 7.10 indicates the factor correlations for the rotated factors:

Table 7.10: Factor Correlations

	Factor 1 (Perception of own creativity)	Factor 2 (Perception of venture's innovativeness)	Factor 3 (Perception of implementation-outcome orientation)
Factor 1	1.000		
Factor 2	0.198	1.000	
Factor 3	-0.157	-0.105	1.000

The correlations indicated weak relationships between factor one and two and three, and factors two and three. It was indicated that a very high perception of creativity might even result in a negative implementation orientation.

Some covariance of the factors indicated overlapping dimensions that contribute to a single overall dimension. The statistics however confirmed three independent factors. This was not surprising given the theoretical confirmation that no one-way-definitiveness can take effect in the relationship between innovation and creativity (i.e., creativity cannot directly generate innovation, nor does innovation automatically establish creativity), although a certain unity and degree of mutuality existed (Ivanyi & Hofer 1999:1001). Against the background of Bandura's (1978:238) theory on self-efficacy however, higher correlations between creativity and innovation as well as creativity and implementation orientation was expected.

The Kolmogorov-Smirnov test for goodness of fit was done to confirm the distribution of the factors.

Table 7.11: Test for goodness of fit

Factor	Kolmogorov-Smirnov Statistic	P-value
Perception of own creativity	D 0.0618	Pr>D 0.0414
Perception of venture's innovativeness	D 0.0723	Pr>D<0.0100
Implementation-outcome orientation	D 0.0515	Pr>D>0.1500

The significance level calculated for each correlation is a primary source of information about the reliability of the correlation. Reliability is a contributor to validity but not a sufficient condition for validity (Cooper & Schindler 2001:215). Reliability is concerned with the estimated degree to which a measurement is free of random or unstable error. It is common to use a probability of 0.05 as the cut-off between a chance occurrence and a cause occurrence. If the probability is greater than 0.05 i.e., Pr>0.05, the conclusion is that no difference exists. If Pr<0.05, then it is concluded that a statistically significant difference has been observed, in short, that means there is a real difference due to some cause.

It was found that two factors identified by the factor analysis did not comply with the assumptions necessary to proceed with the variance analysis (i.e., the statistical method for testing the null hypothesis that the means of several populations are equal), namely a normal population. This on the one hand cautioned the making of generalisations, but simultaneously keeping in mind that:

- It might be possible that small business owners would not be a normal population pertaining to factors such as creativity and innovation, and
- Monte Carlo studies (Statsoft 2004) suggest that meeting those assumptions closely is not absolutely crucial if your sample size is not very small (i.e., smaller than 50) and when the departure from normality is not very large.

Since it would be useful to explore relationships between some of the independent and dependent variables, a non-parametric test, namely the Kruskal-Wallis was utilised for further analysis. The Kruskal-Wallis test is appropriate for data that are collected on an ordinal scale or for interval data that do not meet F-test assumptions. Kruskal-Wallis is a one-way analysis of variance by ranks. It assumes random selection and independence of samples and an underlying continuous distribution.

7.2.3 Kruskal-Wallis

The Kruskal-Wallis test is a generalisation of the Mann-Whitney U test. The generalisation is to k populations where k may be larger than two (2). Otherwise the null hypothesis being tested is the same that is: all groups come from identical distributions (McBean & Rovers 1998:1).

The Kruskal-Wallis test for differences in c medians (where c › 2) may be considered an extension of the Wilcoxon rank-sum test for two independent samples (Berenson & Levine 1996:546). The test is used to test whether c-independent sample groups have been drawn from populations possessing equal means. As the sample sizes in each group get large, the test statistic H may be approximated by the chi-square distribution with c-1 degrees of freedom. Thus for any selected level of significance α, the decision rule would be to reject the null hypothesis if the computed value of H

exceeds the upper tail critical of χ2 value and not to reject the null hypothesis if H is less than or equal to the critical χ2 value.

The following is assumed for the Kruskal-Wallis test:

- Independent observations and independent random samples.
- Variable of interest is continuous but does not have to be normally distributed.
- Ordinal measurement scale.

7.2.3.1 Pairs-wise comparisons of factors with independent variables

The analysis of variance was applied to identify pairs wise differences in the dependent variables for the factors identified by the factor analysis, namely perception of own creativity, perception of venture's innovativeness and implementation-outcome orientation.

The higher the p-value, the less it can be believed that the observed relation between variables in the sample is a reliable indicator of the relation between the respective variables in the population. The results indicate acceptable P-values for all the independent variables except for gender where, as already been indicated, the study was not representative. This means that there is reason to believe that the differences found in the sample also occurs in the population.

Z statistics provides hypothesis tests and confidence intervals for a population mean based on a single sample when the population variance is known. The Z test was used to establish whether the sample is random and whether it represents the population. Z-scores are calculated from the true population parameters μ (mu) and ∑ (sigma). The procedure used is a Z test using the normal approximation to the binominal. The null hypothesis (i.e., there is no difference) is rejected if the Z-stat is larger than the indicated critical value for an overall alpha of 0.05.

Table 7:12: Pairs-wise comparison of "perception of own creativity" with independent variables

		Factor 1: Perception of own Creativity						
Independent variable		**Mean**	**Std Deviation**	**DF**	**Kruskal-Wallis test**	**Z-stat (Compared with independent variable)**	**Critical value ZC for alpha of 0.05**	**P-value & (Significance Level)**
Number of years business management experience	**(a)0-2**	4.0994	0.5223	3	11.10	(b)1.19 (c) 0.99 (d) 0.89	z>2.64	0.0112 (p<0,05)
	(b)3-5	4.2904	0.4981			(c) 2.68 (d) 3.11		
	(c)5-10	3.9084	0.7013			(d) 0.33		
	(d)10+	3.9669	0.5107					
Business life cycle phase	**(a)Start-up**	4.1286	0.4243	2	6.89	(b)0.10 (c)1.52	z>2.39	0.0320 (p<0,05)
	(b)Growing	4.1073	0.5609			(c)2.52		
	(c)Mature/declining	3.9067	0.5590					
Business Size	**(a)Micro**	4.0428	0.6139	4	3.77	(b)0.64 (c)0.32 (d)1.44 (e)0.41	z>2.81	0.4376 (NS)

		Factor 1: Perception of own Creativity						
Independent variable		**Mean**	**Std Deviation**	**DF**	**Kruskal-Wallis test**	**Z-stat (Compared with independent variable)**	**Critical value ZC for alpha of 0.05**	**P-value & (Significance Level)**
	(b)Very Small	4.1130	0.5553			(e)0.85 (d)1.88 (e)0.87		
	(c)Small	4.0341	0.4416			(d)1.06 (e)0.13		
	(d)Medium	3.8803	0.5153			(e)0.82		
	(e)Large	3.9861	0.5964					
Social heritage	**(a)Afrikaans**	3.9138	0.5329	3	36.11	(b)1.06 (c)4.15 (d)1.72	z>2.64	<0.0001 (p<0,01)
	(b)English	3.8203	0.5073			(c)5.72 (d)2.80		
	(c)Black	4.3533	0.5206			(d)1.96		
	(d)Other	4.0952	0.4955					
Gender	**(a)Male**	4.0276	0.5404	1	0.11	Only two groups – no comparison	Only two groups – no comparison	0.7349 (NS)
	(b)Female	4.0566	0.6084					

The number of years' business management experience, the business' life cycle phase and social heritage had statistically significant influences on respondents' perceptions of their own creativity:

- Business persons with 3-5 years experience perceived themselves to be the most creative. The comparison analysis indicated the largest significant differences between 3-5 years and 10+ years and 3-5 years and 5-10 years experience.
- Start-up business owners' perceptions of their creativity were the highest. Statistical significant differences ($p < 0.05$) were found between the growing businesses versus the respondents in mature/declining businesses. The growing businesses' owners differed significantly from mature/declining businesses' owners perceptions of their own creativity. This difference was to be expected and came as no surprise. The fact that start-up's did not differ significantly from mature/declining businesses was however surprising and more research would be necessary to establish possible reasons for this. It could perhaps be speculated that since research results (Foxcroft *et al.* 2002) indicate that necessity entrepreneurs constitute 31% of entrepreneurs in South Africa as compared to 24% globally (a necessity entrepreneur is involved in a new business because he/she has no other choice of work), the exploration of creative avenues comes second to survival.
- Very small businesses had the highest perception of their creativity, but business size (i.e., micro, small, medium) did not make a significant difference with regard to the owners' perception of their own creativity.
- The South African black cultures were grouped together and all other groups were pooled together for analyses. The English language group's perceptions of their own creativity were the lowest of all the groups. Black South African's perceptions of their creativeness were the highest.

Table 7.13: Pairs-wise comparison of: "Perception of business' innovativeness" with independent variables

		Factor 2: Perception of business' innovativeness						
Independent variable		**Mean**	**Std Deviation**	**DF**	**Kruskal-Wallis test**	**Z-stat (Compared with independent variable)**	**Critical value ZC for alpha of 0.05**	**P-value & (Significance level)**
Number of years business management experience	**(a)0-2**	3.4316	0.5783	3	6.65	(b) 2.46 (c)1.76 (d)2.37	z.>2.64	0.0840 (NS)
	(b)3-5	3.9318	0.6540			(c)0.76 (d)0.52		
	(c)5-10	3.7941	0.7075			(d)0.42		
	(d)10+	3.8082	0.8510					
Business life cycle phase	**(a)Start-up**	3.5894	0.8013	2	10.33	(b)1.95 (c)0.22	z>2.39	0.0057 (p<0,01)
	(b)Growing	3.9678	0.6957			(c)2.95		
	(c)Mature/ declining	3.6000	0.8336					
Business Size	**(a)Micro**	3.6314	0.7732	4	6.56	(b)2.22 (c)1.96 (d)1.28 (e)0.61	z>2.81	0.1613 (NS)
	(b)Very Small	3.0984	0.7837			(c)0.01 (d)0.42 (e)1.03		

		Factor 2: Perception of business' innovativeness						
Independent variable		**Mean**	**Std Deviation**	**DF**	**Kruskal-Wallis test**	**Z-stat (Compared with independent variable)**	**Critical value ZC for alpha of 0.05**	**P-value & (Significance level)**
	(c)Small	3.9333	0.7641			(d)0.38 (e)0.95		
	(d)Medium	3.8615	0.7348			(e)0.53		
	(e)Large	3.7250	0.8082					
Social heritage	**(a)Afrikaans**	3.8040	0.7410	3	0.93	(b)0.50 (c)0.37 (d)0.17	z>2.64	0.8189 (NS)
	(b)English	3.7479	0.7378			(c)0.95 (d)0.27		
	(c)Black	3.8524	0.8389			(d)0.51		
	(d)Other	3.8000	0.8231					
Gender	**(a)Male**	3.7539	0.8150	1	1.45	Only two groups – no comparison	Only two groups – no comparison	0.2280 (NS)
	(b)Female	3.9358	0.6466					

- Business life cycle phase made a significant difference on how innovative businesses were perceived. In this regard the growing businesses had the highest perceptions of their businesses' innovativeness and the start-ups the lowest, a finding which was to be expected. Significant differences were found between the "growth" phase and the "mature/declining" phase with regard to perceived business' innovativeness. This difference was to be expected and posed no surprise.
- Respondents from small businesses had the highest perception of their creativity with a decrease toward medium and large businesses. Significant differences were found between the business' size and perceptions of innovativeness. Micro businesses' perceptions of innovativeness were lower than those of the small, medium and large businesses and very small businesses had the lowest perception of their innovativeness all over.
- For perception on business' innovativeness, no statistical significant differences were found amongst respondents with different years' management experience. However, the group with 3-5 years' experience had the highest esteem of their innovativeness and the group with 0-2 years' experience the lowest.
- The English language group's esteem of their innovativeness was the lowest of all the groups. No statistical significant differences were found between the various cultural groups for the perception of innovativeness of businesses.

Table 7.14: Pairs wise analysis of Implementation-outcome orientation with independent variables

		Factor 3: Implementation – outcome orientation						
Independent variable		**Mean**	**Std Deviation**	**DF**	**Kruskal-Wallis test**	**Z-stat (Compared with independent variable)**	**Critical value ZC for alpha of 0.05**	**P-value & (Significance level)**
Number of years business management experience	**(a)0-2**	2.5877	0.6675	3	17.43	(b)0.75 (c)1.42 (d)3.12	z>2.64	0.0006 (p<0,01)
	(b)3-5	2.6969	0.8127			(c)0.89 (d)3.21		
	(c)5-10	2.9313	0.7978			(d)1.86		
	(d)10+	3.1721	0.7235					
Business life cycle phase	**(a)Start-up**	2.4736	0.7033	2	9.37	(b)2.75 (c)3.04	z>2.39	0.0092 (p<0,01)
	(b)Growing	3.0099	0.7766			(c)0.64		
	(c)Mature/ declining	3.0761	0.7587					
Business Size	**(a)Micro**	2.7500	0.8286	4	20.11	(b)0.88 (c)1.75 (d)2.93 (e)3.85	z>2.81	0.0005 (p<0,01)
	(b)Very Small	2.8983	0.7792			(c)0.94 (d)2.20 (e)3.11		
	(c)Small	3.0683	0.6030			(d)1.28 (e)2.16		

		Factor 3: Implementation – outcome orientation						
Independent variable		**Mean**	**Std Deviation**	**DF**	**Kruskal-Wallis test**	**Z-stat (Compared with independent variable)**	**Critical value ZC for alpha of 0.05**	**P-value & (Significance level)**
	(d)Medium	3.2756	0.7362			(e)0.84		
	(e)Large	3.4583	0.6298					
Social heritage	**(a)Afrikaans**	3.1360	0.6784	3	35.43	(b)0.26 (c)4.14 (d)0.54	z>2.64	<0.0001 (p<0,01)
	(b)English	3.7894	0.6194			(c)5.15 (d)0.34		
	(c)Black	2.4617	0.7456			(d)4.55		
	(d)Other	3.2761	0.8459					
Gender	**(a)Male**	3.0475	0.7637	1	1.45	Only two groups – no comparison	Only two groups – no comparison	0.2280 (NS)
	(b)Female	2.8019	0.7986					

- Significant p-values were indicated for all independent variables except for gender. This could however be due to the fact that females were underrepresented in the sample. Although females perceived themselves to be slightly more creative than males and their businesses more innovative than those of males, their implementation-outcome orientation was lower.
- Businesses with more than 10 years experience had the highest implementation-outcome orientation. Businesses with 0-2 years experience had the lowest perception of their innovativeness as well as implementation-outcome orientation. Statistical significant differences were found between the groups of 0-2 years' experience versus those with more than 10 years experience and 3-5 years experience versus those with more than 10 years experience with regard to their implementation-outcome orientation. The implementation-outcome orientation increased with years' business management experience with the highest among owners with 10 years+ business management experience.
- The results of the experience analysis corresponded with that of the life cycle phase of the business. Significant differences were found between the start-up businesses versus the growing and mature/declining businesses with regard to their implementation-outcome orientation. Interestingly, the mature/declining businesses were found to have the highest implementation-outcome orientation, the growing businesses came in second and the start-ups lowest. It was surprising that mature/declining businesses' implementation-outcome orientation was higher than that of growing businesses. This is a worrying trend that needs urgent attention via entrepreneurial development since it could link to the number of start-ups that fail within the first two to five years.
- Social heritage made a significant difference in implementation-outcome orientation. The "other" group's implementation-outcome orientation was the highest. "Other" included respondents of European, American and Asian descent. Significant differences were found on the implementation-outcome perceptions of the various cultural groups when compared, particularly English vs. Black, Afrikaner vs. Black and Black vs. Other. The English language group's implementation-outcome orientation was higher than that of Afrikaans speaking respondents as well as Black South African respondents. Black

South Africans' perceptions of their creativeness and their businesses' innovativeness were the highest but their implementation-outcome orientation the lowest. From a social psychological perspective, social environment has a significant effect on an individual's motivation, perception and attitudes (Jung *et al.* 2001:43). The theory that individualistic cultures bring a greater sense of personal responsibility to establish innovative change and performance outcomes (Jung *et al*. 2001:43), was confirmed by the finding that Black South Africans had the lowest implementation-outcome orientation.

- Business size made a significant difference on implementation-outcome orientation where the implementation-outcome orientation correspondingly increased with business size. Large businesses had the highest implementation-outcome orientation. In this regard it can be concluded that business size could to an extent be an indication that growth has taken place and therefore that the support mechanisms towards a more positive implementation-outcome orientation was already in place.

CHAPTER 8

8 CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

The findings of the chapters on entrepreneurship theory and the entrepreneurial process, namely that opportunity exploitation is the key creative activity of the entrepreneur, were compared with the perceptions of small business managers regarding their own creativity and their corresponding exploitation of opportunities through introduction of new services and products, new marketing concepts and changes of strategy. The implications of this for entrepreneurship development were consequently identified.

8.1 Entrepreneurship theory (Chapter 2)

The literature study of the entrepreneurship theory indicated the importance of continuous venture growth for entrepreneurial performance. Innovation was found to be core to growth. Concepts related to innovation and growth in the entrepreneurship domain was opportunity exploitation. An analysis of definitions of entrepreneurship attempted to establish recognition in the domain of a relationship with creativity (or acts perceived to be creative i.e., acts that would ensure opportunity exploitation) and innovation and entrepreneurship.

The content analysis of the fifteen (15) definitions of entrepreneurship resulted in a majority (12 out of 15) that recognised opportunity exploitation as a key ingredient of entrepreneurship. However, only 3.9% of articles referred to “entrepreneurship and opportunity exploitation”, when tested quantitatively against the Proquest database. When the search was extended to combine the search concepts “innovation” and “opportunity exploitation” only 0.88% of items from a total of more than 10 000 references to “innovation” were found.

This could be indicative of a number of problems, inter alia,

- The entrepreneurial process of “opportunity exploitation” has yet to indicate its tangent points with the creative process
- There are too many factors that influence the exploiting of opportunities to scientifically connect/delimit the concept “creativity” uniquely in the entrepreneurship domain.

CONCLUSION

From the above it could be concluded that although the entrepreneurship theory acknowledges "opportunity exploitation" as the creative act of the domain, in depth research on what exactly the act entails and especially the links of "opportunity exploitation" with creativity was largely under-researched.

8.2 Entrepreneurial Process (Chapter 3)

In view of the findings of the literature study on the Entrepreneurship theory, it was decided to investigate the entrepreneurial process in relation to "opportunity exploitation", in search of what the creative act entails. The literature study indicated that entrepreneurs identify opportunities, create ideas and decide on their actions on the basis of a mixture of creativity, rational analysis and intuition. The skills underlying the activities of the entrepreneurial process can be divided into:

- Business/management skills
    - Project management
    - Time management
    - Technical skills
    - Social skills
    - Decision-making/taking
    - Strategic thinking

- Entrepreneurial skills
    - Opportunity identification
    - Creative problem solving skills
    - Opportunity exploitation
        - Thinking skills

Morris and Kuratko (2002:30) developed an input-outcomes model, depicting the following key activities in the entrepreneurial process:

- Opportunity identification
- Development and refinement of the concept
- Assessment and acquiring of the necessary resources

- Implementation/Continuous growth maximisation

Van Vuuren and Nieman (1999:3), in their development of the construct "entrepreneurial performance" (E/P) included creativity as an entrepreneurial skill. A model of the entrepreneurial process developed by Bygrave as depicted in figure 3.3 (Carlock 1994:28) was found to be indicative of the majority of factors influencing the entrepreneurial process. However creativity is only mentioned as an environmental factor influencing innovation.

CONCLUSION

The process models described in this chapter focused on the various actions that the entrepreneur undertakes. Although the literature referred to creative skills, the entrepreneurial process literature more often referred to entrepreneurial skills. This led to the conclusion that although creativity is acknowledged in the practice of entrepreneurship, the exact applications of creativity theory in the various entrepreneurial steps need more research, for example:

- How is the theory of creative problem solving applied in opportunity identification,
- How is the theory of overcoming mental barriers applied in acquiring the resources for your business, and
- How is idea generation and brainstorming applied in refining the business/marketing concept, etc.

The question arose that if another angle of investigation was taken, namely an attempt to identify the activities of the creative process and the link with each of the stages of the entrepreneurial process, more clarity with regard to what content is needed in an entrepreneurial training and development model would not be obtained.

8.3 Creativity and Innovation (Chapter 4)

Although there are various approaches to the creative process the following number of steps in the creative process were identified:

- The preparation phase
- The discovery/incubation phase

- Eureka/insight/illumination phase
- The crystallisation / evaluation phase
- The implementation / elaboration phase

For the sake of entrepreneurial development the key needed, was the link between each of the activities (creation/synthesis/modification) applied in the creative process of preparing, incubating, insight, evaluation and implementation with the entrepreneurial process of opportunity identification, concept refinement, assessment and configuration of resources and continuous growth maximization. It was decided to investigate what is already being done in entrepreneurship training to address the above.

CONCLUSION

A content analysis of definitions of the concept "creativity" indicated the following acts as key to the realisation of the concept in the entrepreneurship domain:

- Creation (usually seen in the context of a business, but could be extended to the creation of an opportunity)
- Synthesis (building up separate elements into a connected whole/system – putting together an opportunity)
- Modification (adapting/changing resources/processes etc. to develop a business concept).

8.4 Entrepreneurship training and development (Chapter 5)

To design a strong curriculum, the popular perspective is that one must first determine the desired outcomes. De Clerq, Crijns & Ooghe (1997:15) studied the topics that are dealt with in entrepreneurship education in twenty-five leading business schools in the USA. The results of this study indicated that creativity was mainly linked to the creation of a business venture and that innovation was dealt with as a separate issue where the management of change seemed to be the core issue.

Antonites (2003:211) in his creativity, innovation and opportunity finding (CIO) action learning model, emphasises thinking through reflection and action, supported by experience. It was furthermore found that the model, inter alia,

- Ensured the acquisition of skills with feasible opportunity finding as the primary point of convergence,
- Addressed the entrepreneurial skills: creativity, innovation and opportunity finding directly, as part of an entrepreneurship training programme,
- Established pertinent differentiation to understand the exact variance between an "idea" and an "opportunity", within an entrepreneurial and market context, and
- Accentuated the feasibility and realism of market related opportunities.

CONCLUSION

From the literature study on the training and development of entrepreneurs it was concluded that despite great advancements being made, the linkages between the creative process and its activities with all the activities of the entrepreneurial process has as yet not been made and that it seemed as if the value of the creative process in the phases other than opportunity identification has not been fully explored as evident in the learning contents as well as training models where the theory of creativity is taught but application is halted at the opportunity identification/finding stage.

8.5 Empirical research (Chapters 6 and 7)

The descriptive statistics confirmed that three factors were tested. These three factors were identified as:

- Perception of own creativity
- Perception of business' innovativeness
- Implementation-outcome orientation.

CONCLUSION

In view of the theory indicating that innovation is core to entrepreneurship with acceptance that creativity, although it does not cause innovation, certainly contributes to the development of new ideas, a relationship between the factors tested, was expected. The factor score covariance between factors 1 (perception of own creativity) and 2 (perception of business' innovativeness) was 0.211 and the scale intercorrelations 0.266 which indicated a low level of underlying dimensions but confirmed Nystrom's (as quoted by Ivanyi and Hofer 1999:1001) opinion that creativity cannot generate innovation, nor does innovation automatically establish creativity.

This means that the link between creativity and innovation in the entrepreneurship domain has to be developed before development of creativity would be successful.

Hypothesis H1	South African small business persons do not perceive themselves to act creatively.
Hypothesis H1a	South African small business persons perceive themselves to act creatively.

In view of Bandura's (1978:243) findings on self-efficacy, i.e., personal assessment of capability to accomplish certain outcomes provides a formula for successful action and the South African Innovation Survey (Oerlemans *et al* 2001*)* as well as the Global Entrepreneurship Monitor's (Foxcroft *et al*. 2002) findings of a lack of innovation in South African businesses compared to other third world countries, it was hypothesised that South African entrepreneurs would not perceive themselves to be creative.

CONCLUSION

The sample mean for this factor of 4.0346, and standard deviation of only 0.5563 however, led to the rejection of the null hypothesis. This finding has significant implications for the training and development of entrepreneurs, since the question may be posed whether South African small business owners would be prepared to undergo training in creativity because they might think that they do not need this kind of training.

Hypothesis H2	South African small business persons do not perceive their businesses to be innovative.
Hypothesis H2a	South African small business persons perceive their businesses to be innovative.

CONCLUSION

The mean for this factor of 3.798 indicated that the null hypothesis could not be accepted. The fact that the score on innovativeness of businesses was lower than that of perceived creativity is an indication that an implementation gap may exist and confirms the problems currently experienced with entrepreneurship in South Africa

namely that South Africa ranks lowest of all developing countries participating in the overall measurement of entrepreneurship (Foxcroft *et al.* 2002).

The above finding can be attributed to a myriad of reasons. Nieuwenhuizen, Groenewald and Nieuwenhuizen (2003:4), remark that although entrepreneurs understand the importance of innovation, they often view the risk and the high investment that the development of innovative products or services requires as out of proportion to the profit potential.

Hypothesis H_3 South African small business persons do not report a high implementation orientation with regard to creativity and innovation.

Hypothesis H_{3a} South African business persons report a high implementation orientation with regard to creativity and innovation.

CONCLUSION

The scale mean was below the median scale position of 3, namely 2.9. 41.7% of the respondents indicated that they did not agree with the statements on implementation-outcome orientation, 17.3% neither strongly agreed, not disagreed and 41.05% strongly agreed, therefore the null hypothesis, namely that South African business owners do not report a high implementation-outcome orientation was accepted. Given the high perception of creativity and innovativeness a higher than 2.9 scale mean was expected.

This is a very significant finding in the South African context and indicative of a need for serious attention in training and development programmes to be given to experiential aspects of creativity and innovation. The implementation-outcome orientation which was below the median of 3 on the Likert scale, compared to the high perception of own creativity, may support the view, that South African business owners have a low drive/motivation to implement. The causes of this low drive to implement might partially originate in the exceptionally high perception of own creativity, but needs further investigation.

In this regard Cochran's (as quoted by Antonites 2003:50) observation that a de-motivating situation could originate within the achievement motivational framework, should a constant incompatibility arise between the expectations or the potential out

come (as perceived by the entrepreneur) and the true results of the outcome, needs to be taken into account.

8.6 Implications for Training and Development of entrepreneurs

The primary concern for someone with an entrepreneurial career anchor is to create something new, involving the motivation to overcome obstacles, the willingness to run risks, and the desire for personal prominence in whatever is accomplished. The motivation of the entrepreneur is critical when placed within the entrepreneurial performance (E/P) perspective with the aim to integrate motivation as a driving force in the increase of entrepreneurial performance. Entrepreneurial performance as discussed has as a result the aim to increase for instance: the profitability, productivity, the net value and growth of the venture (Antonites 2003:45). The negative relationship between the implementation-outcome perceptions of the study may be an indication of some shortcomings in the respondents' motivation and correspondent proactiveness which may impact on their openness and readiness for training and development programmes.

High achievers realise that there are obstacles within themselves and in their environment that may block their advancement. They think of such obstacles as "personal blocks" and "environmental blocks" and try to avoid or overcome them. These blocks occur when progress of achievement-directed activity is blocked or hindered in some way. Persons who wish to improve their entrepreneurial performance must be made aware of the existence of certain obstacles they will have to overcome. The overarching high scores of the respondents in this study pertaining to their creativity and innovativeness whilst other research studies such as the Global entrepreneurship monitor (Foxcroft *et al.* 2002), the World competitiveness report (2003) and the South African innovation survey (Oerlemans 2003) indicate the opposite, indicate a need to investigate the reasons underlying a weak implementation-outcome orientation and possible training and development interventions to address this.

It will be crucial to take the major differences among the various cultures in South Africa into account in this process. Antonites (2003:91), identifies the following generic cultural barriers in South Africa:

- Individuals have to go to school, after that study at a university or college and find a job in the public/private sector (cultural mindset). Entrepreneurial endeavour is not a feature of such a cultural group.
- The unknown is unsafe and therefore risk averseness is the rule. Although calculated, entrepreneurship entails a certain level of risk-taking.
- An expectation is created in certain cultures, which prescribes that one has to be practical and think economically before your ideas can be generated.
- To ask a question, or to question an issue, is impertinent and unacceptable.

The black South African cultures scored significantly higher on their perception of own creativity and businesses' innovativeness and lower on the implementation-outcome orientation. It was found that people in low uncertainty avoidance and individualistic cultures had a higher level of internal locus of control and innovativeness than people in collectivistic and high uncertainty avoidance cultures (Jung *et al*. 2001:43). Jung's *et al*. (2001:50) recommendation that research on entrepreneurial self-efficacy use a more indigenous perspective is also supported since the South African black cultures might have a collectivistic nature but not necessarily high uncertainty avoidance. The possibility of overrated personal capabilities, combined with external locus of control might result in a retarded entrepreneurial orientation and needs to be investigated.

The high percentage of necessity entrepreneurs in South Africa is an indication that this career anchor might be lacking in a large number of small business owners. The literature study furthermore indicated that entrepreneurial skills, business skills as well as motivation need to receive attention in a curriculum for training entrepreneurs.

8.7 Limitations of the study

The search for the unique delimitation of creativity in the entrepreneurship domain has alas, only started with this study. In order to develop experiential training and development programmes knowing the "how" will become critical and unfortunately the creative "how" of the various entrepreneurial activities and tasks has not been described fully as yet.

The underlying dimensions of creativity and innovativeness should have been clarified and better distinguished. This could have contributed towards a better understanding of the various tasks of continuous opportunity exploitation and the creative elements versus the innovative elements and implementation of both these dimensions.

More care should have been taken to ensure better representation of females in the sample.

8.8 Potential further research questions

- What activities constitute the process of opportunity exploitation?
- Where are the boundaries of the creative process as opposed to the innovative process and the implementation process within the bigger opportunity exploitation process?
- Is it important to find these points?
- How do these processes influence the opportunity exploitation process i.e., which activities could be leveraged to create higher outputs/implementation?
- Which parts of each of these processes should be practically experienced in order to create self-efficacy with regard to implementation in the potential entrepreneur?
- What are the causes of the low implementation drive in South African small business owners? Is it:
    - A too high self-esteem,
    - A grounded perception that the investment would be out of proportion to the profit potential, or
    - Something else?
- Can training and development address the above ill of a low implementation drive, and if so, how?

8.9 Recommendations

A major gap between perceived creativity and implementation-outcome orientation was established through the empirical research in this study. This may indicate a po-

tential lack of self-efficacy (i.e., the belief in personal capability to perform a specific task at a specific level of performance) with regard to the entrepreneurial task of innovation. Granted that there are various factors influencing venture performance, namely personality traits and general motives, personal competencies, situational specific motivation, competitive strategies and the business environment (Baum *et al*. 2001:293), it must be acknowledged that four of these have to do with the entrepreneur. Addressing entrepreneurs' self-efficacy with regard to their implementation-outcome orientation thus becomes crucial in all training and development programmes, not only creativity and innovation (entrepreneurial skills) but also the business skills.

The literature study pertaining to the training and development of entrepreneurs established that training models and content do not fully address the application of the creative process in all the steps of the entrepreneurial process but tend to focus and conclude with the finding of opportunities and the creation of ventures. This gap impacts on the success rate of newly established businesses. It is recommended that training and development models be extended to include the experiential application of creativity in the entrepreneurial process, including commercialisation of innovations.

If continuous business growth and opportunity exploitation, not only opportunity finding, is seen as core to entrepreneurship, further study and development of models to apply the various modes of creative behaviour, i.e., creation, modification and synthesis in the creative process in the running of a business, i.e., the activities of strategic planning, resource configuration, marketing etc. (i.e., the entrepreneurial process), is critical. An example that could be mentioned here is the utilisation of exports as financing tool for imports.

It is agreed that the CIO model developed by Antonites (2003:211) could serve as a successful instrument in entrepreneurship training, with a specific notion to creativity, innovation and opportunity finding as differentiating entrepreneurial skills. However, an extension of the last step, namely potential incubation and commercialisation, is recommended. Antonites, (2003: 213) indicates that this step does not form part of the formal training model and that the potential entrepreneur can move into a formal

incubator to further the whole production process or venture out on its own. The formulation of a proper business plan (in line with investor and/or financing requirements) forms part of the following module which could take place under situations of mentoring, tutoring or formal training.

Although a study indicated that small business owners prefer formal training as a method of development (Ligthelm & Morojele 2001:34), it must be acknowledged that formal training cannot address all ills. Therefore Antonites' suggested concept of moving into incubators corresponds with the concept of an integrated development model for entrepreneurs and is supported. The following development methods can be integrated in the entrepreneurial development process:

- Formal Education and Training (schools, colleges, technikons & universities),
- Information (information centres e.g. libraries and business information centres),
- Mentoring/Role Modelling/Tutoring (also found in incubators),
- Networking (business fraternities, e.g. Business chambers) , and
- Linkages (with importers, exporters, buyers etc through trade exhibitions etc.).

It is however crucial that formal educational institutions take leadership in this regard and lead and manage this entrepreneurial development process within the National Skills Development Framework.

In conclusion, this study identified that the sample entrepreneurs see themselves as creative and their businesses as innovative. Unfortunately implementation of creativity and innovation lacks severely as seen in the lower implementation-outcome orientation. Is it possible then that the age old problem of implementation is the key to entrepreneurial success and education, rather than the cognitive development of the ideas? It seems that many answers exist, but if execution lacks, nothing happens. Implementation skills should therefore receive high priority in the training and development of entrepreneurs.

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ANNEXURE A UNIVERSITY OF PRETORIA

Q1			
1-3			

ASSESSING THE APPLICATION OF CREATIVITY SKILLS IN ENTREPRENEURIAL BEHAVIOUR

Dear Owner/Manager,

The following questionnaire is part of an extensive research study undertaken to investigate the phenomenon of how creative skills are applied in small business management.
It will be appreciated it if you would complete it as thoroughly as possible. All information will be treated as confidential and will only be used for academic purposes.

Thank you very much,

M.E. Kruger
PhD Candidate
University of Pretoria
Tel: 083 230 6784

Study Leader: Dr. Marius Pretorius

Chair of Entrepreneurship
Tel: (012) 420-3394
Cell: 082 822 6333

……

Instructions for completion:

Please answer all questions regarding your business as accurately and objectively as possible.

Make a cross (X) in the space provided which reflects your answer most accurately, with each of the questions.

Where asked for comments or to specify, please keep these as brief as possible.

Don't ponder too long on a question.

SECTION A
Demographic information

1. *Please indicate your gender?*

For Office use only

Male	1	Q2
Female	2	4

2. *How would you classify the dominant nature of your social heritage / culture?*

English		1	Sotho (Northern, Western, Southern)		9
Afrikaner		2	Jewish		10
Arabic		3	Indian		11
Malayan		4	Mediterranean		12
Latin American		5	Other African		13
Western European		6	Other Asian		14
Eastern European		7	North American		15
Nguni (Zulu, Xhosa, Swazi, Ndebele)		8	Other, please specify?		16

Q3

5-6		

3. *What is your role in the business*?

Owner		1
Manager		2
Both		3
None, specify designation ……		4

Q4

7	

4. *Indicate how many years of business management experience you have?*

0-2 years	1
3-5 years	2
5-10 years	3
More than 10 years	4

Q5

8	

5. In what sector (choose only ONE) would you classify your business?

Agriculture	1
Mining and quarrying	2
Manufacturing	3
Electricity, Gas & Water	4
Construction	5
Retail and Motor trade and repair services	6
Wholesale trade, commercial agents and allied services	7
Catering, accommodation and other trade	8
Transport, storage and communications	9
Finance and business services	10
Community, social and personal services	11
Other (specify) ……	12

Q6

9-10		

6. *Businesses are classified in their sectors according to the number of employees, turnover etc. My business is:*

A micro enterprise (fewer than 5 employees)	1
A very small business (between 6 and 20 employees)	2
A small enterprise (between 20 and 50 employees)	3
A medium enterprise (between 50 and 200 employees)	4
A large enterprise	5

Q7

11	

7. All businesses go through certain life cycle phases. According to me the life cycle phase of the business currently is:

Start-up	1
Growing	2
Mature	3
Declining	4

Q8

12	

SECTION B
ENTREPRENEURSHIP AND INNOVATION

For each statement that follows, please cross the number that corresponds to your response:

1 = Strongly disagree	4 = Moderately agree
2 = Moderately disagree	5 = Strongly agree
3 = Undecided	

8. *Do you agree with the following statements about the business over the past 3-5 years?*

	Strongly Disagree				***Strongly Agree***	**For Office use only**		
New services/products were introduced.	1	2	3	4	5	Q9	13	
New marketing concepts/ideas were implemented for the enterprise.	1	2	3	4	5	Q10	14	
Different ways to produce product(s) cheaper have been implemented.	1	2	3	4	5	Q11	15	
Some risks were taken to grow / expand the business	1	2	3	4	5	Q12	16	
Too high costs was a barrier towards innovation	1	2	3	4	5	Q13	17	
Between 1998 and 2003 more step-by-step than drastic changes were made to products / services	1	2	3	4	5	Q14	18	
A lack of information / knowledge about appropriate technologies was a barrier towards innovation	1	2	3	4	5	Q15	19	
The long term/strategic goals of the enterprise were changed in the last 3-5 years.	1	2	3	4	5	Q16	20	
New product / service innovations caused the business to change its operational processes in the last 3-5 years.	1	2	3	4	5	Q17	21	
My competition implements new ideas before I do.	1	2	3	4	5	Q18	22	
Opportunities to sell the venture's products/ services to new /different markets / market segments are constantly sought.	1	2	3	4	5	Q19	23	

SECTION C
CREATIVITY

9. *Do you agree with the following statements?*

	Strongly dis-agree				*Strongly Agree*	**For Office Use Only**		
I usually consider more than one solution to address a problem in my business	1	2	3	4	5	Q20	24	
I enjoy trying out new ideas in my business	1	2	3	4	5	Q21	25	
I purposefully seek problems where nobody else sees any	1	2	3	4	5	Q22	26	
I only implement a new process when I have proof that it worked somewhere else	1	2	3	4	5	Q23	27	
I am willing to try a truly original approach even if there is a chance it could fail	1	2	3	4	5	Q24	28	
I have purposefully mastered some creativity techniques, e.g. “thinking hat”	1	2	3	4	5	Q 25	29	
I easily make connections between things happening in my environment and commercial opportunities for my business	1	2	3	4	5	Q26	30	
When brainstorming for business ideas I am quick to air my view that something will not be practicable	1	2	3	4	5	Q27	31	
I love to modify and adapt my business’ products / services	1	2	3	4	5	Q28	32	
I am continually envisaging business ideas to make life easier	1	2	3	4	5	Q29	33	
Once a business plan has been developed one should stick to it	1	2	3	4	5	Q30	34	
I continuously look at old problems with a new / fresh approach	1	2	3	4	5	Q31	35	

THANK YOU