Chapter - 4

ENTREPRENEURSHIP AND ENTREPRENEURIAL ATTITUDE.
CHAPTER - IV
ENTREPRENEURSHIP AND ENTREPRENEURIAL ATTITUDE.

4.1 INTRODUCTION
Numerous attempts have been made and will still be made to define the concepts of entrepreneur and entrepreneurship. Many definitions have been formulated and a wide field has been covered by the different definitions. This chapter will examine various views and definitions of an entrepreneur in particular. Attempts will be made to define entrepreneurship, touching briefly on the elements of entrepreneurship. The entrepreneurial process and entrepreneurial attitudes as well as views, theories and frameworks which were found in literature viewing the phenomenon of "entrepreneurship" from different angles will also be investigated. The characteristics that entrepreneurs seem to have in common will be indicated. Entrepreneurs will be categorised in terms of the sphere of society where they operate.

4.1.1 The origins of the word "entrepreneur"
The word "entrepreneur' had been used in Europe since the fifteenth century, to describe people who were enterprising, who exercised leadership and who took risks. These people were not necessarily economically active. The word "entrepreneur" was derived tram the French word "entreprendre", which means "to undertake; to embark on". French economists, however, referred to an "entrepreneur" as a person who purchased goods at a specific price, not knowing what the selling price would be (Jooste 1983:18).

Schloss (1968:229) also traced the origin of the word "enterprise" as the primary word that gave rise to the term "entrepreneur" in the fifteenth century. It was defined as "an attempt to run the risk of [something]. . ."

Initially, an entrepreneur was deemed to be a person involved in any enterprising activity, not necessarily limited to buying and selling. The term entrepreneur is currently the internationally accepted designation for persons involved in enterprising activities (Jooste 1983:4)
4.1.2 Defining an entrepreneur

Entrepreneurship researchers, entrepreneurial management, economists and everyday users of the term seem not to agree on the question of who the entrepreneur is or what he does (Herron 1994: 18). Jooste (1983:4-5) pointed out those attempts at defining an entrepreneur over the decades contained references to:

- risk-taking propensity;
- the process of production;
- being creative and contributing to economic progress; and
- profit making and managerial activities.

This is also the reference structure used by this researcher when looking at the large number of varying definitions found in the literature. However, most of the definitions cover more than one aspect of the entrepreneur's attributes, which complicates this researcher's attempts to place definitions under specific references. The reader will, therefore, probably come across definitions which might fit better under another reference. This problem underlines the fact that agreement in who the entrepreneur is has not yet been reached, even after many decades of research into this phenomenon.

4.1.3 Innovative risk-taking

Innovative risk-taking implies an individual cognitive style, which requires problems and their solutions to be approached in a new and less acceptable way, that is, innovatively. Decisions are made within an unusual and uncertain environment, and this implies carrying the risks that are involved in such a process.

Donckels and Miettinen (1990) stated that, to a varying degree, emphasis is placed on the entrepreneur as (a) the innovator, (b) the bringer together of resources, (c) the organiser of production, and (d) the risk-taker.

Beyers (1988: 11) indicated that an entrepreneur is someone who shoulders the burden of personal risk when starting a business venture. He quoted Banncock, Baxter and Rees (1972: 141) to prove his point that an entrepreneur is the name given in economic theory to the owner-manager of a firm.
The functions of the entrepreneur are to: (a) supply the" CAPITAL of the firm; (b) organize production by buying and combining INPUTS; (c) decide on the rate of OUTPUT; and (d) bear the RISK involved in these activities."

Schumpeter (in Leibenstein, 1987:193) viewed the entrepreneur as "the instrument of change, the agent who introduces various types of innovations: new products, new ways of manufacturing, new sales techniques, new types of equipment, or any novelty introduced into the system. Thus, the entrepreneur is the agent who 'upsets' the existing equilibrium."

Histich (1986:8-16) developed a working definition of an entrepreneur, stating that an entrepreneur is "an innovative person who creates something difficult with value (added) by devoting time and effort, assuming the... financial, psychological and social risks "' in an action-orientated perspective... and receiving the resulting awards (and punishments) of monetary and personal satisfaction."

According to Taylor and Leppit (in Jooste 1983:5) an entrepreneur is "an individual who perceives an opportunity, organises an economic activity, takes risks, strives for profits, constantly and tirelessly straggles to achieve progressively higher standards of excellence, innovates, is highly 'achievement motivated' and is very often a 'social deviant'."

The five definitions quoted above indicate that, although innovative risk taking is an essential component of the make-up of an entrepreneur, this is not the only activity entrepreneurs are involved in. It should be noted that the process of production was either mentioned or implied in each of these definitions.

4.1.4 Production processing
Manufacturing processes involve the production of products as well as the structuring of the manufacturing processes. The production of a product, whether or not a product will be manufactured as a complete unit in the factory in question, how much outsourcing will be done: all these activities and functions are driven by one or more
individuals. The production process is merely one link in a chain of events in the entrepreneurial process.

Donckels and Miettinen (1990) proved this point when he stated that an entrepreneur is a person who organises and manages a business and who is a factor of production.

Peterson (1981:67) linked production processing with the entrepreneur when he stated that "... individuals are entrepreneurs only when and in so far as they carry out what is in their experience a new combination of existing elements of production."

At this very early stage of this investigation, it has already become clear that the entrepreneur seems to be an individual exposed to multi-faceted activities and possessing multi-faceted attributes and skills.

Higgins (1959:203) pointed out the almost unorganised nature of the individual practicing entrepreneurship: "The key figure in the process of technological advance is the entrepreneur. He is the man who sees the opportunity for introducing the new commodity, technique, raw material, or machine, and brings together the necessary capital, management, labour, and materials to do it. He may not be, and historically has usually not been, the scientific inventor; his skills are less scientific than organisational. His skills are also different from those of the salaried manager, who takes over an enterprise after it has been launched."

Developing a mold into which prospective entrepreneurs should fit, may not be the correct thing to do when one tries to identify who the entrepreneur is. Many demands are made on the individual called the entrepreneur. He needs to be creative enough not only to see a gap in the market but also to also find ways to fill that gap (Van Aarde and Van Aarde 1997:19).

4.1.5 Creativity contributing to economic progress

Being creative within an economic set-up requires the individual to move through a particular process. He also needs to be sensitive to imbalances, problems and gaps in knowledge, and needs to search for solutions. These solutions and options are
investigated and the consequences are considered in an ongoing process. The entrepreneur is required to think and act creatively throughout the life of his business.

Cuevas (1994:81) defined the entrepreneur "not as a passive figure who adapts to the re-equilibrating process... but ... an active, creative factor within the economic process." Though the entrepreneur might act as a manager at some stage, this is not his true entrepreneurial nature.

Kanter (1983:306) focused on the entrepreneur's creativity by describing the entrepreneur as a "change master", and elaborated that: "They are literally the right people in the right place at the right time. The right people are the ones with the ideas that move beyond the organisation's established practice. The right places are the interactive environments that support innovation, encourage the building of coalitions and teams to support and implement visions. The right times are those moments in the flow of organisational history when it is possible to reconstruct reality on the basis of accumulated innovations to shape a more productive and successful future."

Ross (1987:78) stated that "a true entrepreneur is one who creates an ongoing entity out of nothing; ... conceives a new business or shapes an ongoing one." This person takes on the personal risk involved in new venture creation, braves the uncertainty and expresses degrees of creativity and innovation not learned in a classroom or from a book. In order to get things done. The entrepreneur just "slugs it out"

Collins and Moore (1970:10) distinguished "between organisation builders who create new and independent firms and those who perform entrepreneurial functions within already established organisations". Whether the process of creativity is performed by the entrepreneur or the intrapreneur within an organisation, the fact remains that the creative intervention contributes to economic progress.

Leibenstein (1968:72-75) encapsulated the essence of the creative process by defining the entrepreneur within the phenomenon of entrepreneurship as: "... an individual or group of individuals with four major characteristics:

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1. he connects different markets
2. he is capable of making up for market deficiencies (gap-filling);
3. he is an 'input-completer'; and
4. he creates or expands time-binding, input-transforming entities, namely, firms

The profile of an entrepreneur will have to include the ability to solve problems and to make decisions in a creative manner. These are skills required throughout the entrepreneur's involvement in all the stages of his business venture and contribute towards the making of profit.

4.1.6 Profit-making
In contrast to the fifteenth-century entrepreneur who was not necessarily economically active, the modern-day creator of new ventures has the making of a profit as one of his main objectives in starting his own business. This was supported by Sexton and Bowman-Upton (1991:11), when they stated that "entrepreneurs tend to be people who recognize business opportunities and marshal the necessary resources to exploit business opportunities for personal gain."

Stated in general terms, the entrepreneur is defined as the person who "starts" and is successful in a venture and/or project that leads to profit (monetary or personal) or benefits society (Winslow and Solomon 1987:203-204).

Gilad (1984:159) identified and defined the entrepreneur as the person who acted in a particular way, based on a "hunch" that this would be the correct way to reap profit. He further proclaimed that a person "might possess a special knowledge about market conditions but if the individual is 'hired' for this knowledge rather than acting upon it himself, the person doing the hiring is the entrepreneur."

The entrepreneur is also deemed to be a person who starts and manages a business for the major purposes of profit and growth. The entrepreneur is mainly characterised by innovative behaviour and will use strategic management practices in the business (Carland, Hoy, Boulton and Carland 1984:358).
Bosman (in Jooste 1983:5) viewed an entrepreneur as "an innovative person with a directed energetic drive with the objective of increasing economic wealth by being able to organise and control environmental variables, who moves in areas of uncertainty creating a risk taking environment and who is capable of coping with stress, strain and uncertainty."

Pieters (in Jooste 1983:5) saw the entrepreneur as "a person with initiative, always on the lookout for economic opportunities, willing to risk his own capital, time, energy and reputation in order to make a profit."

Profit-making is the principle aim of new venture creation. Whenever a person acts upon an opportunity in a creative and an innovative manner, he does this mainly because there is a profit to be made. The entrepreneur also applies his managerial skills to increase the growth of the business, primarily because growth implies further profit. Managing a business towards increased growth seems to be another of the essences of entrepreneurship.

4.1.7 Management or business management attributes

Management involves organising and running an organisation or a business. To create or own this organisation or business is not part of management. Managers are high-level employees and are not closely identified with the owner of the organisation. Entrepreneurs create, organise and run private businesses (Megginson, Mosley and Pietri 1991: 15): Their approach to management in general begins with recognising the business opportunity and culminates with exploiting the opportunity (Sexton and Bowman-Upton 1991:12). It is therefore also required of the entrepreneur to manage his business.

Kindleberger (1965:117) deemed the entrepreneur to be "the manager, the risk-taker, the decision-maker, the administrator, the boss."
Draheim (1972: 1) indicated that the founders of new businesses could be both the employees and the owners and that "their intention is for the business to grow and prosper beyond the self-employment stage".

Brockhaus (1980b:510) wrote that “... an entrepreneur is defined as a major owner and manager of a business venture not employed elsewhere."

Stevenson (1995:50) questioned the fact that entrepreneurs are born as such and that they are "risk takers." He states that entrepreneurs use vision to exploit opportunities, and their success is determined by their ability to make life predictable for others (i.e. predicting the environment and creating predictability for the participants). "Without confidence in our ability to predict the consequences for ourselves, we don't take action." (Stevenson 1995:51). In order to build predictability, entrepreneurs -

• build a strong culture;
• stay attuned to the needs of their customers;
• build technological expertise;
• create understandable performance guidelines; and
• create employee involvement and empowerment (Stevenson 1995:51).

There is nothing the entrepreneur can not do if he gets a yes-answer to the question: "Am I making the world more or less predictable for those with whom I deal and whom I lead?" (Stevenson 1995:51)

The entrepreneur seems to be a person who has mastered or needs to acquire a variety of essential skills. In the past, the community in general regarded entrepreneurs as "robber barons" who exploited their employees purely for their own gain. Their fellow-countrymen regarded them as "captains of industry", leading the development of their country's economy. Van Aarde and Van Aarde (1997: 4) captured this discrepancy by stating that "in real life, very few entrepreneurs fit either description. In reality, they are rather people who, through hard work and long hours, generate business success."
Gartner (1988:11-22) pointed out that defining the entrepreneur as a set of characteristics and personality traits (the trait approach) has not adequately covered the essence of who an entrepreneur is. Gartner carefully researched the literature in which the trait approach was used to identify an entrepreneur. He published an extensive table covering various researchers' definitions of the entrepreneur. This exercise proved that the trait approach does not portray the big picture, but rather that:

- defining the entrepreneur is met with a myriad of viewpoints;
- very few researchers agree on the same definitions;
- selecting samples for research that were homogeneous did not take place in a homogeneous manner, but variations within samples were even more significant; and
- the profile of an entrepreneur indicates a person "larger than life, full of contradictions ..., someone so full of traits he would have to be a sort of generic 'Everyman'." (Gartner 1988:11.)

Gartner argues that "Who is an entrepreneur?" is the wrong question. Analysing the entrepreneur, viewing the entrepreneur's traits and characteristics as the key to understanding entrepreneurship and the entrepreneur as "causing" entrepreneurship, have proved inadequate in terms of exploring entrepreneurship. Entrepreneurs create organisations or businesses. Entrepreneurship is therefore the creation of organisation. Studying a set of activities involved in creating a business implies a change towards a behavioural approach that might be more effective in addressing the phenomenon of entrepreneurship.

### 4.1.8 Elements of entrepreneurship

Smith (in Jooste 1983:5) researched historical as well as modern approaches to the entrepreneurial concept. He identified the following elements of entrepreneurship: risk-taking; the investment of capital; converting production factors into products; authority over elements of production; initiating economic progress; taking initiative, accepting uncertainty; receiving profit; innovation; creativity and managerial direction. Jooste (1983:5) pointed out that these elements are exhibited by almost all people in varying degrees. When the presence of these elements is so strong in a particular person that he or she initiates change, such as creating a new business, or
behaves innovatively, creatively and takes initiative in a managerial or leadership capacity, this person should be regarded as an entrepreneur. Being an entrepreneur seems to be determined by what one does more than by what one is.

Jooste (1983:5-6) addressed the issue of distinguishing between an entrepreneur and a manager by pointing out the fact that these two roles are complementary to each other and interdependent within the economic process. The initial one dimensional role of the entrepreneur and how this role evolved into a dynamic process of various interrelated relationships was confirmed by Brand (in Jooste 1983 :6): "The 1960s formula was for the entrepreneur to start something, build it up sell out and get out, and start the cycle again. The 19808 breed of entrepreneur tends to be part of an entrepreneurial team that sticks with the ship, and more importantly, keeps on innovating."

Pottas (1981:247) highlighted the entrepreneurial process that the entrepreneur or initiator of a new business venture gets involved in. The entrepreneurial element within this process could roughly be divided into three phases:

- A first, preceding phase where activities such as collecting information, surveying the environment, testing ideas and deciding to take the risk are prevalent.
- A second phase, where the venture is established and activities include obtaining capital, equipment and resources, and the organisation of processes and production.
- During the third phase the business has been securely established and activities revolve mainly around management.

In contrast to the manager, however, the entrepreneur sees the organisation as a living organism, an instrument with which to create new products, render new services or develop new markets (Smith, in Jooste 1983:6). One becomes aware of what the entrepreneur does - his activities and behaviour - and one is not so acutely aware of who he is. The focus seems to have moved from the entrepreneur to the process of entrepreneurship.
For the purpose of this study, an entrepreneur is seen as a person who has notable entrepreneurial elements, to the extent that they drive the creation of a new business. He dynamically initiates and participates in the entrepreneurial process throughout its various stages. The entrepreneur is a doer: who he is, has little impact on the process of entrepreneurship.

4.1.9 Defining entrepreneurship

Economic development, employment creation and entrepreneurship are mentioned simultaneously when referring to the continuing vitality of the market systems of both developing and developed countries. However, as Mahadea (1991:17) pointed out, no consensus has been reached regarding the conceptualisation of the term entrepreneurship. Kilby's (1971:1) well-known comparison of this term to the legendary heffalump more or less summarises this dilemma: A heffalump is defined as being "... a large and important animal which has been hunted by many individuals using various ingenious trapping devices, but no one so far has succeeded in capturing him. All who claim to have caught sight of him report that he is enormous, but they disagree on his particularities" and "... the search goes on".

Cantillon (1755, in Winslow and Solomon 1987:204) defined entrepreneurship as "self-employment of any sort." As long as a person is not employed and paid a salary or wage, he is deemed an entrepreneur. He went as far as to state that "the Beggars and even the Robbers were Undertakers". In the past, any person taking action towards generating an income was deemed entrepreneurial, irrespective of whether or not the action was lawful.

Views changed, however, and about one and a half centuries later an economist, Schumpeter (1934, 1947:149-159), contributed one of the earliest perceptions of entrepreneurship, namely, that "entrepreneurship refers to a process, not a person. By implication he admitted that an entrepreneurial personality exists (Schumpeter 1947: 153). Innovation, creativity and risk taking have a role in the entrepreneurial process, palmer (1971:32-39) strongly argued that "... the entrepreneurial function involves primarily risk measurement and risk taking in a business organization. Furthermore
the successful entrepreneur is that individual who can correctly interpret the risk situation and then determine policies which will minimize the risk involved,"

A very specific process has now been identified. Attributes such as innovation, creativity and risk taking are applied within the economic sphere, setting in motion the entrepreneurial process. Researchers have, however, not yet agreed about what entrepreneurship is. Cole (1946:4) illustrated the relative vagueness reflected when initial attempts were made to define entrepreneurship. Entrepreneurship, according to Cole, is defined as "the integrated sequence of actions, taken by individuals or by groups operating for individual business units in a world characterised by a large measure of uncertainty, such actions being modified in greater or less degree by contemporary economic and social forces."

He analysed this definition more carefully and attempted to "operationalise" it by stating that entrepreneurship is "...the purposeful activity (including an integrated sequence of decisions) of an individual or a group of associated individuals, undertaken to initiate, maintain, or aggrandize a profit oriented business unit for the production or distribution of economic goods or services" (Cole 1959:7)

Higgins (1959:88) highlighted the uncrystallised structure of the usual definitions of entrepreneurship by his version of the classical theory of development: "By 'entrepreneurship' is meant the function of seeing investment and production opportunities: organizing an enterprise to undertake a new production process; raising capital, hiring labour, arranging for a supply of raw materials, finding a site, and combining these factors of production into a going concern; introducing new techniques and commodities, discovering new sources of natural resources; and selecting top managers for day-to-day operations." Entrepreneurship, at this stage, is seen as a developmental process. A sequence of actions sets in motion the entrepreneurial process which, according to Higgins, develops step by step into a fully fledged and profit-making business.

More recent research (Timmons, Smollen and Dungee 1977; Gilad 1984: 151-161; Jurcova 1993:383-386) came up with a variety of viewpoints. Creativity is focused on
as an essential attribute; from the initial conception of a new venture right through until the business reaches maturity. Recent research also focuses on entrepreneurial behaviour.

Psychologists seem to have neglected the investigation of creative economic behaviour when identifying entrepreneurial characteristics and, in so doing, have missed the point that creativity and entrepreneurship are inseparable (Gilad 1984:151). In fact, Gilad saw entrepreneurship as "the essence of creativity in business."

According to Timmons et al (1977), "Entrepreneurship is the ability to create and build something from practically nothing. It is initiating, doing, achieving, and building an enterprise or organization, rather than just watching, analysing or describing one. It is the knack for sensing an opportunity where others see chaos, contradiction and confusion. It is the ability to build a 'founding team' to complement your own skills and talents. It is the know-how to find, marshal and control resources (often owned by others) and to make sure you don't run out of money when you need it most. Finally, it is the willingness to take calculated risks, both personal and financial - and then do everything possible to get the odds in your favour." The activities described here that constitute entrepreneurship are all based on skills that the individual already possesses or has acquired or may still need to master. What the individuals does determines whether or not the entrepreneurial process is set into motion. The ability to be creative continuously throughout the entrepreneurial process is essential.

In order to substantiate and illustrate the interaction between entrepreneurship and creativity, Torrance (1967) defined creativity as "the process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmonies and so on; identifying the difficulty; searching for solutions; making guesses or formulating hypotheses and possibly modifying and retesting them; and finally communicating the results." That which has been described step by step in this definition corresponds with the elements and process of entrepreneurship. Entrepreneurship only goes into
action when the entrepreneur acts upon the opportunity he has identified in the market.

Gilad (1984:155-156) claimed that all entrepreneurial acts are creative: He agreed that defining creativity is as elusive and difficult as it is to define the entrepreneur. However, these two concepts have several properties in common, namely, unusualness, appropriateness, transformation and condensation (Jackson and Messick 1967, in Gilad 1984:155.)

Jurcova (1993:383), following the line of thought of other authors, defined entrepreneurship as "a type of creative activity. An entrepreneur is a creative person establishing and setting up a new company (orientation) which fills the gaps in the market or which creates new needs in the market and predicts new opportunities and future demands for a product or service." Continuous creative behaviour is the essence of entrepreneurship. From the moment an individual recognises an opportunity to build and maintain a business; his creative ability is translated into skills, and determines progress, profit-making and success.

Stevenson (1995:50) defined entrepreneurship, from the viewpoint of Harvard University, as "the pursuit of opportunity without regard to the resources at hand. An opportunity is a desired future state that differs from the present. To pursue it, you must have a belief that achievement is possible." He believed that entrepreneurship is based on the following principles:

- Pursuit of opportunity.
- Rapid commitment and change.
- Multistage decision-making.
- Using other people's resources.
- Managing networks and relationships.
- Compensating for value created.

"Entrepreneurship in effect means finding and utilizing opportunity. It is opportunity focused and not problem-focused management that deals with problems. Entrepreneurs deal with opportunity. The entrepreneur is the systematic risk-maker
and risk-taker, and he discharges this function by looking for and finding opportunity" (Drucker 1985, in Maasdorp-92),

Van Aarde and Van Aarde (1997:5) defined entrepreneurship as "the act of initiating, creating, building and expanding an enterprise or organisation, building an entrepreneurial team and gathering other resources to exploit an opportunity in the marketplace for long-term gain." Utilizing opportunities and having the skills to follow through on the rest of the entrepreneurial process complete the cycle called entrepreneurship.

Ability, skills and behaviour are identified by researchers as being hand in hand. Beyers (1988:4) referred to entrepreneurship as a behaviour pattern more or less common to all people, but more recognizable in certain people who identify opportunities and initiate economic growth and development.

Entrepreneurship is not knowledge, but rather behaviour. Ross (1987:78) stated that "to get things done, you're just going to have to slug it out." Behaviour can be learned. In the entrepreneurial context, the skills that will determine entrepreneurial behaviour are applied for success.

The concepts entrepreneurship and entrepreneur are part and parcel of a complex: economic process known as new venture creation, where the behaviour, more than the characteristics of the creator of a new venture namely the entrepreneur is the trigger that will set the whole process into action. Researchers studying the special personal qualities of entrepreneurs face traitorous pitfalls [Van de Ven 1980:86] in order to operationalise the relevant definitions: "Researchers wedded to the conception of entrepreneurship for studying the creation of organisations can learn much from the history of research on leadership. Like the studies of entrepreneurship, this research began by investigation the traits and personality characteristics of leaders. However, no empirical evidence was found to support the expectation that there are a finite number of characteristics or traits of leaders and that these traits differentiate successful from unsuccessful leaders. More recently, research into leadership has apparently made some progress by focusing on the behaviour of leaders (that is, on
what they do instead of what they are) and by determining what situational factors or conditions moderate the effects of their behaviour and performance."

Many individuals from the general population have a convincing number of entrepreneurial qualities, but are not entrepreneurs. Studies of traits and characteristics seem to be a way of thinking that prevents the researcher from remaining aware of the question "How can we know the dance from the dancer?" (Yeats 1956, in Gartner 1988: 11)

Gartner (1988:22-21) used the example of a baseball player, pointing out a number of physical and personality traits common to baseball players. But, if one loses sight of the fact that baseball players exhibit baseball-playing behaviour (running, pitching, throwing, catching, hitting, sliding and so on), one would have great difficulty in compiling an effective, productive working definition of who a baseball player, and, for that matter, a welder, doctor, teacher, cab-driver or entrepreneur is.

Gartner (1988:23-24) warned that unless researchers viewpoints stay clear and focused, preventing behaviour and trait issues from mingling, empirical research would be inconclusive and very difficult to do. Even attempts to distinguish entrepreneurs from small business owners are interspersed with the dilemma of whether to use the trait approach, or rather focusing on the intentionality of the individual, personal goals, the degree of difference in terms of innovation, and a myriad of other issues and aspects.

Gartner (1988:26) raised the question of whether any success has been achieved in compiling a personality profile of the entrepreneur. Asking who an entrepreneur is seems to be the wrong question. Gartner suggested that the focus changes from defining the entrepreneur to viewing entrepreneurship as "the creation of new organisations ...If we are to understand the phenomenon of entrepreneurship on order to encourage its growth, then we need to focus on the process by which new organizations are created. This may seem like a simple refinement of focus (that is: Look at what the entrepreneur does, not who the entrepreneur is,) but it is actually a rather thoroughgoing change in our orientation. From this perspective other issues in
the field might be seen with new clarity." One may find that, rather than emphasizing
the states of being of the entrepreneur, small business owner, baseball player and
others, one could identify the sets of behaviour that link them to their particular
operations, be it organisation creation, baseball playing, and so forth. Gartner
(1988:26) suggested that "entrepreneurship ends when the creation stage of the
organisation ends", as the organisation passes through various stages of growth,
maturity and decline (Greiner 1972, Steinmetz 1969), and the role of the entrepreneur
who creates the venture changes at each stage - innovator, manager, small business
owner, division vice-president, etc. (Gartner 1988:26.)

Gartner (1988:26-27) suggested that research questions focus on, inter alia, “what
individuals do to enable organisations to come into existence". He illustrated this
point by referring to the research path that had been followed by Mintzberg (1973:3)
regarding management:

• "We must be able to answer a number of specific questions before we can
expect managerial training and management science to have any real impact
on practice.
• What kinds of activities does the manager perform? What kinds of information
does he process? With whom must he work? Where? How frequently?
• What are the distinguishing characteristics of managerial work? What is of
interest about the media the manager uses? The activities he prefers to engage
in, the flow of these activities during the workday, his use of time, and the
pressures of the job?
• What basic roles can be inferred from the study of the manager's activities?
What roles does the manager perform in moving information, in making
decisions, in dealing with people?
• What variations exist among managerial jobs? To what extent can basic
differences be attributed to the situation, the incumbent, the job, the
organization, and the environment?
• To what extent is managements a science? To what extent is the manager's
work programmed (that is, repetitive, systematic and predictable)? To what
extent is it programmable? To what extent can the management scientist 're-
program' managerial work?"
Field work done by researchers should provide answers to more questions that win arise around the process of entrepreneurs creating organisations (Gartner 1988:27). Gartner (1988:28) closed his argument for viewing entrepreneurship from a behavioural perspective as follows: "The entrepreneur is not a fixed state of existence. Rather, entrepreneurship is a role that individuals undertake to create organisations."

Boshoff et al (1992:50-51) quoted numerous definitions of entrepreneurship and stated that there were many more. The concept of entrepreneurship, which is generally defined in relation to a business environment only, should be extended to other spheres of life where entrepreneurial acts may occur, even in science and scientific endeavour.

4.2 CHARACTERISTICS OF AN ENTREPRENEUR

4.2.1 Introduction
Defining who the entrepreneur is, based on characteristics or personality traits, has been an accepted practice amongst many authors and researchers active in the field of entrepreneurship. What follows in this section will show the immense effort it takes to draw up a definition of an entrepreneur on the basis of personal characteristics.

4.2.2 Capturing characteristics and/or personality traits
An early nineteenth-century industrialist, Say (in Winslow and Solomon 1987:205) characterized an entrepreneur as an "adventurer or master manufacturer possessing a number of desirable attributes and talents." This statement embodies the approach researchers have used until recently to identify who the entrepreneur is. This approach, known as the trait approach, focuses on highlighting psychological characteristics specific to the entrepreneur. Psychological characteristics are defined as being enduring features specific to a particular person, resulting in behaviour that remains consistent, regardless of the situation in which the person might find himself. Enduring personality traits are fixed early in a person's childhood development. Attitudes, interpersonal skills and processes of social cognition can be acquired through learning, later in life (Shaver 1995:21).
Achievement motivation seemed to have been the only personality trait showing a clear correlation with entrepreneurial behaviour: Shaver (1995:20-21) found that the assessment measures used in previous research showed that locus of control, risk-taking and creativity could, for various reasons, not be considered constant for behaviour as specific as that encapsulated in entrepreneurship. She concluded that "there does not seem to be a coherent and meaningful personality structure that distinguishes entrepreneurs from the rest of us.” This finding was supported by Van Aarde and Van Aarde (1997:8-9). Although much research has been done in an attempt to identify the characteristics of a successful entrepreneur, not one study has been able to come up with the exact personality traits that will predict whether or not a person will be successful as an entrepreneur.

Goodman (1994:29), director of the University of Southern California Entrepreneur Program, stated that people who will implement good ideas are the ones with passion, imagination and self-determination. Imagination is "having the ability to recognize opportunity and to see where it might apply to your interests" (Goodman 1994:29). Imagination, therefore, implies the ability to envisage alternative scenarios, such as plan B, plan C, plan D and so forth. Crucially, successful venture creators are never victims of fate; they act out of choice. Self-determination is a factor that contributes towards them being productive; they choose to succeed, to be happy, and to view crises as a challenge. When people "know they can succeed, when they exert the effort to learn everything they need to know, when they apply that passion and knowledge with imagination", they are on their way to launching their own businesses successfully (Goodman 1994:29).

Two relatively comprehensive summaries of entrepreneurial characteristics have been done by Brockhaus and Horwits (1985:42-43) and Gartner (1988: 13-20) these are not reflected in this study.

Solomon and Winslow (1988: 164-165) researched existing literature in order to understand who the entrepreneur is, the rationale behind this being that if various characteristics could make the successful entrepreneur stand out in a crowd, so to
speak, limited national and organisational resources could be placed with relative
safety in those hands. Solomon and Winslow (1988: 165) used Table statistics from
Carland et al (1984:354-359) as a historical overview of the characteristics of
entrepreneurs. Carland et al (1984:356) recognised, too, the remarkable and
phenomenal accumulation of data that had been gathered by using the trait and
characteristic approach. Table 2.1 has been adapted to suit this researcher's intention
of giving a brief summary of various characteristics found in literature as well as
various descriptions and words used for the same or similar concepts:

Table 4.1 A brief summary of entrepreneurial characteristics.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Authors and dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk-bearing; risk-taking; risk measurement; moderate risk-taker; not a gambler; an understanding of risk, challenge-taker; views setbacks as new challenges; calculated risk-taking</td>
<td>Mill 1848; McClelland 1961; Palmer 1971; Welsh and White 1981; Stevenson 1995; Drucker 1985; Jurcova 1993; Pottas 1981; Durham University Business School 1994</td>
</tr>
<tr>
<td>Innovation initiative; innovation and creativity; imagination; creative problem-solver; analytical ability; flexible; problem-solving ability</td>
<td>Schumpeter 1934; Timmons 1978; Goodman 1994; Drucker 1985; Jurcova 1993; Pottas 1981; Donckels and Miettinen 1990; Jalan and Kleiner 1995; Van Aarde and Van Aarde 1997; Durham University Business School 1994</td>
</tr>
<tr>
<td>Desire for responsibility; responsibility-seeker</td>
<td>Sutton 1954; Davids 1963; Welsh and White 1981; Jurcova 1993; Burch 1986</td>
</tr>
<tr>
<td>Need for achievement; to improve himself; motivation; a desire to achieve; excellence-oriented</td>
<td>McClelland 1961; Liles 1974b; Langan-Fox and Roth 1995; Pottas 1981; Burch 1986; Durham University Business School 1994</td>
</tr>
<tr>
<td>Ambition drive for independence; self-confidence; independence-oriented; a belief in self; positive self-image</td>
<td>Davids 1963; Timmons 1978; Dunkelburg and Cooper 1982; Stevenson 1995; Drucker 1985; Jurcova 1993; Pottas 1981</td>
</tr>
<tr>
<td>Drive/mental; human relations; compatibility; leadership; good</td>
<td>Pickle 1964; Drucker 1985; Donckels and Miettinen 1990; Burch 1986</td>
</tr>
<tr>
<td>Characteristics</td>
<td>Authors and dates</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>communication skills; good organiser</td>
<td>Winter 1973; Welch and White 1981; Langan-Fox and Roth 1995; Pottas 1981; Durham University Business School 1994; Goodman 1994</td>
</tr>
<tr>
<td>Need for power; need to control; prefers to be autonomous; self-determination</td>
<td>Borland 1974; Pottas 1981; Durham University Business School 1994; Weber 1917; Hartman 1959</td>
</tr>
<tr>
<td>Internal locus of control; not to be beholden to external agents; source of formal authority</td>
<td>Gasse 1977; Fernald and Solomon 1986</td>
</tr>
<tr>
<td>Personal value-orientation; values of entrepreneurs</td>
<td>Timmons 1978; Stevenson 1995; Jurcova 1993; Pottas 1981</td>
</tr>
<tr>
<td>Goal-oriented; a belief in purpose; work commitment; sets realistic goals</td>
<td>Sexton 1980; Stevenson 1995; Jurcova 1993; Pottas 1981</td>
</tr>
<tr>
<td>Energetic ambitious; positive reaction to setbacks; tenacity; to work hard and enthusiastically to achieve set goals; perseverance in seeking solutions to problems; can tolerate stress; high level of energy</td>
<td>Dunkelburg and Cooper 1982 Pottas 1981; Burch 1986</td>
</tr>
<tr>
<td>Growth-oriented; concerned with the future, prepares well in advance; nurturing quality</td>
<td>Donckels and Miettinen 1990</td>
</tr>
<tr>
<td>Strong persuasive powers</td>
<td>Donckels and Miettinen 1990; Durham University Business School 1994; Burch 1986</td>
</tr>
<tr>
<td>Positive response to changes; opportunism; optimism</td>
<td>Donckels and Miettinen 1990; Burch 1986</td>
</tr>
<tr>
<td>Profit-oriented; money-oriented; reward-oriented</td>
<td>Dunkelburg and Cooper 1982; Pickle 1964; Goodman 1994; Pottas 1981</td>
</tr>
<tr>
<td>Craftsman-oriented; technical knowledge; a deep knowledge ascribes success to utilising own skills</td>
<td>Winslow and Solomon 1987</td>
</tr>
<tr>
<td>Mildly sociopathic</td>
<td>Stevenson 1995</td>
</tr>
<tr>
<td>Attention to detail</td>
<td></td>
</tr>
</tbody>
</table>
The following are personality traits that occur time and again in the literature:

- Need for achievement
- Calculated risk taking
- Internal locus of control
- Need for autonomy
- Creativity and innovation
- Vision
- Opportunism
- A tolerance for insecurity and ambiguity

In the next section a closer look will be taken at a number of the personality characteristics reflected in Table.

### Refinement of various psychological characteristics that entrepreneurs have in common

There is general agreement amongst authors that entrepreneurs have certain psychological characteristics in common. These characteristics are refined in the following section in order to get an idea of what each entails.

#### Need for achievement

The need for achievement is the desire to achieve something that is outstanding and thus something to be proud of (Burch 1986: 13-16) by setting challenging but
attainable goals (Herron 1994:21). The need for achievement also comprises the
following aspects:

• A drive to do things better
• A drive to improve things
• Setting high personal standards/personal excellence (achievable because they
believe that by their own efforts they can be successful; not victims of
circumstances)
• Goal-orientated (an element of their being)
• Action-orientated (activities relevant to their goals)
• Time conscious - future effect of their present behaviour
• Perseverance - sustain growth and development beyond initial stage of new
venture Need for affiliation
• Need for power (Pivo 1987:13-100)
• Perseverance and/or endurance - not easily discouraged, not even when faced
with failure (Jooste 1983 :9)
• Excellence-orientated (Burch 1986: 13-16)
• Performances to be evaluated frequently and timorously (needs feedback)
• Ambition - desire for distinction (Herron 1994:21)
• Originated during childhood - parents applied a less authoritarian style of
upbringing and/or parenting; set high standards; were involved with child's
activities but didn't dominate his affairs (Jooste 1985:78)
• Desire to achieve goals in relation to a set of standards - goals may be
expressed in terms of business success or personal recognition as a
consequence of business success.
• Accepting personal responsibility for good or poor performance of the
business instead of blaming environmental or chance factors (Durham
University Business School (1994-)
Moderate risk propensity/tendency

Moderate risk propensity indicates the ability to make, under unusually uncertain circumstances, decisions which might result in possible loss of reputation, health, comfort, money, security, status etc. (Pivo 1987) Other aspects of moderate risk propensity are:

- Willingness to accept the inherent risk of starting a new business (Herron 1994: 19-20).
- Possibly because of previous experience, his own strong need to achieve, and internal locus of control (that his behaviour and/or efforts will have a favourable affect on the outcome), he foresees that the venture might be successful (Pivo 1987: 13-100).
- Four types of risks are identified:

1. Financial risk, pertaining to personal funds
2. Risk to job availability: giving up of an established job and running the risk of not being employed again (career risks)
3. Risk to family: neglect of family (family and social risks)
4. Psychological or emotional risk: in case the venture fails, carrying of personal blame and blow to self-confidence (Beyers 1988:33-34; Liles 1974a:14-15)

- Risk-taking is an inherent factor of venture-creation that the entrepreneur accepts (Beyers 1988:32-33). Research has already shown that the entrepreneur is a medium risk-taker. He is not a person who takes chances, but a person who calculates the possibility of success, investigating environmental and related factors, and then decides to take the risk (Bruce 1976:76; Timmon et al 1977:80).

- Calculated risks are what an entrepreneur deals with. Bruce (1976:76) described the entrepreneur’s risk-taking activities or tendencies as that "... the alert entrepreneur understands himself and his social environment and does not take unnecessary chances. The individual who goes to the trouble of obtaining additional information is able to assess the probability of
success more accurately than the one who does not. The entrepreneur will take a more calculated sort of risk. "

**Internal locus of control**

Internal locus of control means that -

- the individual assigns the occurrence of failure or satisfaction to himself and not to outside sources (Pivo 1987:13-100);
- the individual's destiny is controlled from within himself and not from external sources; and the individual has control over events that might affect his success (Herron 1994:21-22).

**Desire for independence/autonomy**

Desire for independence and autonomy indicates a definite preference for independence, to be economically self-reliant, and autonomous. These individuals

- do not like relying on others;
- see running their own business as a solution;
- need to do and say things their own way, occasionally against the culturally or socially accepted norm; and
- need to be in charge of their own lives, and to own and manage their own businesses as a mechanism for them to satisfy this need.

**Innovation and creativity**

Innovation and creativity refer to an individual's resourcefulness, that is, his tendency to create, experiment, and investigate new ideas (Jooste 1983:9). The two characteristics also encapsulate the following:

- An indication of the individual's cognitive style:
  - Adaptive approach to a problem (adaptor): according to the tested manner. Proceeds within the established practices theories and policies. Attempts to improve and do better.
  - Innovative approach (innovator): a new and questionable approach and solutions to a task. Reconstructs the problem away from established viewpoints. Doing things differently in a less acceptable way (Pivo 1987:13).
• Thinking and acting creatively and being able to conceptualize and put into action innovative solutions to problems.

• Innovation - finding new and better ways of doing things that are commercialized; improvements in both technology and methodology, which may be evident in product changes, process changes, new approaches to marketing, new forms of distribution and new concepts of scope (Van Aarde and Van Aarde 1997:19).

• Creativity - being sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmonies, and so on; identifying the difficulties; searching for solutions. Making guesses or formulating hypotheses about the deficiencies; testing and retesting them; and finally communicating the results (Jalan and Kleiner 1995:20).

**Vision**

Vision implies that an individual -

• Creates a point of reference against which options can be considered and decisions can be made on both a day-to-day and a strategic basis.

**Opportunism and optimism**

Opportunism and optimism refer to the ability to take advantage of opportunities by acting on them. It also includes the following:

• Able to identify and act on opportunities in order to plan for the growth of the business (Herron 1994:26).

• Optimistic - because of their drive to succeed, entrepreneurs live by the doctrine that the present time is the best time and that anything is possible if you want it hard enough (Burch 1986:13-16)

• The ability to see opportunities.

**Tolerance for ambiguity**

Tolerance for ambiguity indicates the ability to deal with the uncertainty that surrounds the creation of a new business (Herron 1994:22). Also-

• the power to deal with uncertainty requires the following:

• a high degree of self-confidence;
• the power to judge one's own personal qualities as compared to those of other individuals (competitors; suppliers, buyers and employees); and
• a disposition to act on one's own opinion, venturesomeness and foresight (Knight, 1921;1964: 269)

Other characteristics
• Sense of responsibility -
  • willing to take responsibility for their actions;
  • taking initiative and leading (Pivo 1987:13-100); and
  • accepting responsibility - perceives the new venture as an extension of themselves and thus accept fun responsibility for their venture. They feel morally, legally, financially and mentally accountable for the ventures
• Positive self-image -
  • aware of weak and strong points (Pivo 1987:20);
  • self-confident; and
  • able to do without continuous approval and recognition (Herron 1994:18-29).
• Individualism -
  • more task-orientated than people-orientated; and
  • low need for affiliation - tend towards individualism (high need for achievement -found to run successful businesses; lower need for achievement, higher need for affiliation - equally successful) (Herron 1994:18-29)
• Extraordinary capacity for work or hard-working-
  • high energy; diligence (Jooste 1983:5-6): and
  • workaholic - driven to achieve goals (Burch 1986:13-16).

One realises that many of the above characteristics are interconnected. A need for power forms part of the foundation of a need for achievement, and creative innovation forms part of what is at the basis of calculated risk-taking. This may imply that a certain group of character traits will function together and can be developed together through skills training in order to prepare an individual for entrepreneurship.
Therefore, focusing on the trait approach only may be a limited way of attempting to identify the entrepreneur.

4.3 DEFINING ENTREPRENEURIAL PROCESS, ENTREPRENEURIAL ATTITUDE AND ENTREPRENEURIAL BEHAVIOUR

4.3.1 Introduction
Having travelled the road of personality traits and characteristics, no acceptable or clear framework has emerged that can be used effectively to identify prospective entrepreneurs who can be trained towards new venture creation and sustainable small-business growth. It has been noted increasingly in recent literature that the focus seems to be shifting towards a model of business development, a process more than a person only that leads to new venture creation. Cromie (1994:62) followed this line of thought when he stated that one needs to understand the nature of the entrepreneurial process and the ways by which individuals manage it in order to understand the ways in which new firms emerge. It seems as if one needs to bring about a mind shift away from using personality traits only, as a framework to identify entrepreneurs. One should look at an interplay or interaction between the individual, the organisation or new venture, and the business context. Before one attempts to discuss the entrepreneurial process, entrepreneurial behaviour and entrepreneurial attitude, one should explore the reasons why individuals might choose a career so filled with uncertainty, and yet so unique, as entrepreneurship.

4.3.2 Occupational choice and entrepreneurial choice
In the general process occupational choice, selection agents, such as counseling psychologists and vocational guidance personnel, decide whether job candidates are suitable for a particular occupational role or whether they should be turned down (Vroom 1964, in Cromie 1994:65). In this general model of occupational choice, the activities of these selectors go hand in hand with the factors that spur individuals on to make particular occupational choices.

The factors that influence the kind of occupational choices that individuals make range from coincidental happenings where being in the right place at the right time
could secure one a job (Cromie 1994:63), to the argument that a person with strong beliefs and values of the religious kind, for example, might well strive to become a clergyman, (Duff and Cotgrove 1981:97-107). A third factor used as a general rule amongst selectors is the trait approach. Attitude, trait and personal qualities are matched up with the required aptitudes of a particular occupation. Cromie (1994:63) highlighted the one weakness of this approach, namely, that individuals with different aptitudes could perform successfully at several jobs. Fulfillment of important needs and self-concept theory are also factors that might influence the occupational choices of individuals. The reality of the actual job situation often leads to job dissatisfaction, because the job seeker had unrealistic expectations. This is of particular importance in entrepreneurial choice. The uniqueness of entrepreneurship as an occupation is often misunderstood. Entrepreneurship is characterized by risk-taking, fluid work roles, untried organisational structures and a great number of skills required in this occupation (Cromie 1994:64).

When it comes to entrepreneurship choices, however, business reality factors take the place of selection agency practices applied with other occupations. These reality factors include validating the business idea, determining the need for goods or services, and acquiring suitable resources. Although it may happen that the wrong persons could become entrepreneurs, these business reality factors will take up the role of selectors and separate suitable entrepreneurial candidates from unsuitable ones (Cromie 1994:65). The business reality factors mentioned above are part of that which constitutes the entrepreneurial process.

4.3.3 The entrepreneurial process
Gibb and Richie (1982:26) believed that there are four variables that capture the essence of the entrepreneurial process. Individuals engaging in the process of entrepreneurial choice need to -

- assess personal motives;
- assess managerial and technical skills;
- have to go through the creative process of developing a viable business idea; and
- explore the availability of resources.
Beyers (1988:7) identified the initiative of an entrepreneur as the breeding ground within which new products, services and techniques develop, therefore, within which the entrepreneurial process takes place. Cuevas (1994:81) viewed the entrepreneur as an essential element of the productive process.

Schumpeter (1934:82) remarked on a particular aspect regarding the entrepreneurial process: "It is just as rare for anyone always to remain an entrepreneur throughout the decades of his active life as it is for a businessman never to have a moment in which he is an entrepreneur to however modest a degree." The entrepreneurial process requires of a business owner to change his roles from entrepreneurial to managerial and back, at various stages during the growth of the business. This is an aspect that demands regular adjustment of attitude and the resultant behaviour of the individual.

The way people think, the meaning they attribute to entrepreneurial issues, namely, attitudes toward independent business, interpersonal skills of self-presentation and negotiation, and ways of thinking about the social world (none of these being personality traits, only personality variables) have a direct impact on their behaviour (Shaver 1995:21). Therefore, a person's beliefs about entrepreneurial potential can change his behaviour in the sense that he would become willing to assume risk, be creative and be persistent because his expectations have changed.

4.3.4 Entrepreneurial attitude and behaviour

"Entrepreneurial" often describes the behaviour, and not the characteristics, of a person or even a business and sometimes even the behaviour of the economy as a whole (Donckels and Miettinen 1990:33-73).

Leibenstein recognised the fact that entrepreneurial characteristics and entrepreneurial behaviour are intertwined. He isolated motivation and perseverance as essential characteristics of an entrepreneur when he short-listed the activities or behaviour of an entrepreneur:

- The entrepreneur finds and fills opportunities between markets.
- He has to overcome obstacles and fill gaps in an imperfect market.
• He has to produce outputs for sale by handling obstacles and gaps.
• He needs to be sufficiently committed to overcome the imperfections of the market (Leibenstein 1987:198).

Schumpeter (1934) identified an entrepreneurial venture by five categories of strategic behaviour or actions initiated by an entrepreneur, namely:
1. Introduction of new goods
2. Introduction of new methods of production
3. Opening of new markets
4. Opening of new sources of supply
5. Industrial reorganisation

Stevenson and Gumpert (1985:86) agreed to give up the notion that entrepreneurship is a trait that only certain individuals or organisations possess. In their opinion entrepreneurship should be viewed as a range of behaviour. To encourage the individuals' tendency towards entrepreneurship a close relationship should exist between opportunity and the individual's needs. For an opportunity to be truly entrepreneurial, that prospect should represent a desirable future state implying growth or change. The individual should also have to believe that it is possible to reach that desirable future state, based on self-perceived power and the ability to realise goals (Stevenson and Gumpert 1985:86).

In order to demonstrate the different thought patterns that impact on the decision-making processes of entrepreneurs and set the entrepreneurial process in motion through the actions of the entrepreneur, Stevenson and Gumpert (1985:86-87) compared the sequence of questions used by typical administrators to those used by entrepreneurs:
An administrator would ask:

- What resources do I control?
- What structure determines our organisation's relationship to its market?
- How can I minimize the impact of others on my ability to perform?
- What opportunity is appropriate?

An entrepreneur would ask:

- Where is the opportunity?
- How do I capitalize on it?
- What resources do I need?
- How do I gain control over them?
- What structure is best?

For an individual developing an entrepreneurial mentality, external pressures (market orientation), rather than internal (resource) orientation, stimulate the recognition of opportunity. The cost of pursuing an opportunity. However, is the necessity to change? These rapid changes are found in the fields of technology, consumer economics, social values and political action (Stevenson and Gumpert 1985:87-88). In order to capitalise on these changes, the individual with an entrepreneurial attitude and tendencies would quickly move beyond identifying an opportunity to pursuing it. When the need for resources is addressed, entrepreneurs who are effective, innovatively, imaginatively and sparingly make use of, commit and deploy resources. They often do more with less, and risk pursuing opportunity with inappropriate resources (Stevenson and Gumpert 1985:89). An entrepreneur is sometimes required to act, for example, as a salesman for a short period in order to address the need for particular resources at a specific stage in the development of his business venture. The entrepreneur is empowered by the fact that he can risk access to small incremental resources, often allocated on the basis of progress (Stevenson and Gumpert 1985:91).

When organising businesses, the entrepreneur may not act as a typical manager would. However, he is not necessarily a bad manager. The entrepreneur may simply have fashioned different tools to, for example, coordinate resources that are not controlled, and to address the need for flexibility and the employees' desire for
independence (Stevenson and Gumpert 1985:92). Leibenstein (1987-200) visualised entrepreneurship and the entrepreneurial process as "bundles of activities (behaviour) that can be carried out by ordinary people given some training if necessary, and reasonable access to resources" Cuevas (1994:82) pointed out that the entrepreneur has different entrepreneurial capacities that should be developed through education (Schultz 1975, in Cuevas 1994:82). The entrepreneur may not be comfortable with one or more of the roles or activities he has to perform within the entrepreneurial process. These skills can be learned as was pointed out by Leibenstein and Cuevas.

4.3.5 The Cognitive Psychology of Entrepreneurship

If the "heart" of entrepreneurship is an orientation toward seeing opportunities (e.g., Stevenson and Jarillo, 1990), then from whence do perceptions of opportunity derive? Understanding entrepreneurial cognition is imperative to understanding the essence of entrepreneurship, how it emerges and evolves. This is especially true if we wish to move from descriptive research to theory-driven research. For example, if we wish to argue intelligently about whether entrepreneurial opportunities are "discovered" or if they are "enacted", theory is crucial. This chapter offers researchers an overview of the cognitive processes that drive "thinking entrepreneurially":

- What is the nature of entrepreneurial thinking?
- What cognitive phenomena are associated with seeing and acting on opportunities?

Research into entrepreneurial cognition offers a way to bring the entrepreneur back into entrepreneurship. While there still is little substance to the notion of a so-called "entrepreneurial personality" it always seemed counterintuitive to ignore all individual differences, especially psychological differences. Yes, entrepreneurs may not be too different in risk taking propensity, but (almost by definition) they see more opportunities. Cognition research offers us multiple mechanisms, both theory-driven and empirically-robust, to build a deeper, richer understanding of how we learn to see opportunities.

Cognitive phenomena are important throughout this process: Opportunities themselves are perceived, if not enacted, as are the critical antecedents of opportunity
perceptions. Entrepreneurial activity may require a tangible infra-structure of needed resources but we neglect at our peril what I have dubbed the cognitive infrastructure (see Figure 1) - what enables us to perceive (and learn to perceive) personally-credible opportunities. Understanding the cognitive infrastructure undergirding entrepreneurial activity also affords us richer perspectives on how to nurture entrepreneurship (Krueger and Brazeal, 1994; Krueger, 2000; Shepherd and Krueger, 2002).

If we are to better understand the entrepreneurial process then we need to better understand how opportunities manifest themselves as credible (Shapero, 1975, 1982). However, we must first ask, "How do we answer that question?" As with other nascent fields, entrepreneurship studies have long had a bias toward descriptive research, grounded more in practical concerns than in theory. The cry for "more strong theory in entrepreneurship research" continues to be a loud, clarion call that still has not been heeded as enthusiastically as perhaps it should. One reason for this has been the tendency to use theory to explain one's findings retrospectively, rather than identifying a useful, appropriate theoretical base from which to work prospectively.

However, this is changing. For example, when I entered the field, there was considerable research into "budding" entrepreneurs, a rather loose definition. Today researcher's talk about "entrepreneurial intentions", a more rigorous (and theory-based) focus. Similarly, most of the research on "opportunity recognition" remains highly descriptive, yet we see increasing use of theory to drive the empirical research, not just finding theory to explain the findings. The potential for continued progress lies not just in cognitive theory, but cognition research offers more than its fair share of potential for exciting, productive future research in entrepreneurship.

When we ask "Do entrepreneurs think differently?" we are thus asking, "When someone is thinking 'entrepreneurially,' what does that mean in terms of cognitive processes?" As Robert Baron would argue, we all share the same basic cognitive processes but entrepreneurs appear to face unique role demands that are accompanied by differences in the cognitive processes those role demands require.
What is unique about "entrepreneurial" thinking? We will focus here on the most critical distinction between entrepreneur and non-entrepreneur, the inten-tional pursuit of opportunity. As Howard Stevenson pointed out long ago, the "heart" of entrepreneurship is the seeking of and acting upon opportunities. To understand entrepreneurship, then, requires understanding how we learn to see opportunities and decide to pursue them.

For example, here is one current debate in the field of entrepreneurship studies. Are opportunities "discovered" or are they "enacted"? That is, does the pursuit of opportunity begin by a process of observation and recognition that a set of conditions constitutes a viable opportunity? Or, does the pursuit of opportunity begin with a process wherein a set of observed (and/or assumed) conditions can be constructed into a viable opportunity? Cognition research allows us to explore how both perspectives contribute to our understanding of opportunity emergence. If opportunities are enacted, then we need to explore the cognitive processes by which we take signals from the environment and construct a personally-credible opportunity. Even if opportunities are discov-ered, they still need to be perceived and cognition research already offers key insights into entrepreneurial perceptions.

Cognition research offers rich theory and well-developed methods. As the reader will see, it also offers considerable successes to encourage the entrepre neurship researcher. The study of human cognition has surfaced a remarkable variety of theoretical and methodological approaches to understanding how human beings apprehend data and process it. The rich variety of approaches can offer an equally rich variety of insights.

For example, entrepreneurs appear to identify opportunities based on cues or signals from the environment that they filter and process through a number of mechanisms (e.g., intentions). Cognitive psychologists would point out that entrepreneurs would likely recognize useful patterns in the myriad cues and signals we receive, patterns that suggest potential opportunities (or not). Shapero used the analogy of "antennae" - we all have our antennae tuned to certain "frequencies" (and in different directions).
Entrepreneurs are no different, except in what directions, etc. their antennae are tuned. However, researching pattern recognition is not terribly simple; it requires understanding the theories behind human pattern recognition and it requires understanding the rigorous methodologies needed to research in this arena.

However, the very breadth and richness of cognitive science also reflects a heterogeneous 'field. As such, we must focus here in this chapter on selected topic areas that seem the most promising. Rather than pursuing one such subdomain in great depth, this chapter will take advantage of the inherent eclecticism of cognition research to offer an equally eclectic overview of the most fertile ground for future entrepreneurship research.

One way to look at the domain of cognition research would be a quick survey of leading textbooks and primers on cognitive psychology that identifies a dizzying array of highly specific topics? But we can readily combine these into several overlapping subdomains of cognition research:

- Perception (including biases, attention, consciousness)
- Decision making (problem solving, creativity, intelligences, heuristics)
- Knowledge Representation (including memory, language)
- Learning and Cognitive Development

A second way to look at cognition research is Herbert Simon's three levels of cognitive phenomena (in Sarasvathy):

- Semantic (surface level)
- Symbolic (deep structures level)
- Neurological (biological level)

This chapter will address each subdomain, but it will also be readily apparent that there are topics that entrepreneurship researchers have yet to approach, such as addressing Simon's neurological level. For example, might we research whether entrepreneurs differ in memory, perhaps having (or needing) more "chunks" in short-term memory?
Researchers face an interesting paradox: We have a very important, oft asked question yet we have only rarely confronted it directly and with rigor. On one hand, understanding the nature of entrepreneurial thinking is central to understanding both entrepreneurs and entrepreneurship. Thus, we need to understand how we learn to see actionable opportunities. Terms such as "thinking", "perception", and "intent" suggest that cognitive psychology should naturally offer invaluable insights. But, on the other hand, research into this question has taken many different forms, using many different approaches, often ad hoc descriptive analyses (again, which may offer considerable grist for the research mill but also evince a glaring lack of theoretical grounding.)

As such, this chapter will emphasize existing research that was founded on well-received theory from cognitive psychology, especially social cognitive psychology. However, the reader is warned that the disparate, eclectic streams of research into entrepreneurial thinking are not as well connected as one might prefer - nor even as one might reasonably expect. Yet, this eclecticism can be also be viewed as a far-from-complete "mosaic tile" where the quality "tiles" are building toward a more comprehensive picture. Again, the key is research based on theory a priori, not simply digging up theory to explain what might be an ad hoc finding. The good news is that scholars such as Robert Baron (1998, 2000a), Ron Mitchell et al. (2000) and others (e.g., Gaglio, 1997; Gaglio and Katz, 2001; Shepherd and Douglas, 1997) are showing us that entrepreneurial cognition is incredibly fertile ground for important and interesting research.

Obviously, if the "heart" of entrepreneurship is this orientation toward seeking opportunities, developing a much deeper understanding of these cuts to the very essence of entrepreneurship. If we understand how we learn to see opportunities, we unlock much of the heretofore "black box" of entrepreneur-ship. Some of the most promising recent models of entrepreneurship focus on cognitive processes, showing the importance of an opportunity-friendly cognitive infrastructure (e.g., Busenitz and Lau, 1996; Alvarez and Busenitz, 2001; Mitchell et al., 2000).
Yet even that may not offer us the most valuable payoff. If we understand the cognitive processes associated with entrepreneurial thinking and action, then we have at least a tentative blueprint for influencing those processes. For example, if self-efficacy proves critical then our knowing how to increase individuals' self-efficacy should allow us to increase the quality and quantity of opportunities that they perceive as personally viable. As with much research in cognitive psychology, there will be as many testable implications for teaching and for practice as there are testable implications for research.

Given the admitted eclecticism of research into entrepreneurial cognition, it behooves us to identify those areas that offer the most promise. Again, we will strive to focus on areas where research has been grounded in sound theory. However, this only increases the risk that the reader will find the subsections to be (of necessity) somewhat disjointed. To compensate for this, each section raises crucial unanswered questions.

Before taking entrepreneurial action there must be a perceived opportunity (Section 2) and intentions toward pursuing that opportunity (Section 3). Intentions are driven by critical attitudes and beliefs such as self-efficacy (Sections 4 and 5). Underneath those beliefs and attitudes are deeper structures that reflect how we structure knowledge representation (Section 6). These deeper structures help inform us about how to nurture entrepreneurial thinking (Section 7). Let us preview the chapter by describing these subdomains of greatest interest.

Perception: Probably the most important contribution that cognitive science offers the entrepreneurship researcher is that we apprehend reality not directly, but through multiple perceptual lenses. That is, our brains grasp external phenomena through processes of perception. We are unlikely to pursue an opportunity that we do not perceive. What do we notice? How do we interpret what we do notice? What might bias our perceptions? Section 2 below addresses the perception of opportunities.

Intention: In cognitive psychology, intention is the cognitive state immediately prior to executing a behavior. The dominant class of formal intentions models employs two critical antecedents of intentions that can be classified (despite varying terminology)
as (a) perceived feasibility and (b) perceived desirability. That is, intentions require the belief that the behavior is feasible and the belief that the behavior is desirable. One remarkable aspect of this is that perceptions of opportunity have essentially the same antecedents, suggesting somewhat of an isomorphism between intentions and opportunity perceptions, in turn suggesting that something important cognitively is at work. Section 3 moves forward from perceptions to entrepreneurial intentions, perhaps the fastest growing area of cognition research in entrepreneurship.

Belief Structures: If intentions (and opportunity perceptions) depend on personal beliefs and attitudes, then researchers interested in entrepreneurial thinking should also explore the antecedents of intentions. In particular, we are beginning to see a groundswell of interest in one key belief that has long been associated with initiating and persisting at goal-directed behavior, Albert Bandura's notion of perceived self-efficacy. The power of self-efficacy as a predictor of human decision making would attract the researcher's attention anyway but it appears quite potent as an antecedent of both opportunity perceptions and intentions. (The domain of entrepreneurship also affords unique insights into our understanding of self-efficacy, an opportunity for entrepreneurship studies to contribute to a broader understanding of decision making.) Section 4 will examine self-efficacy research in entrepreneurship.

In other settings, cognition research has identified other beliefs and attitudes that influence human perceptions and human decision making, though usually the impact is indirect (e.g., as a moderating factor). For example, Shapero (1975) proposed that intentions required both a credible opportunity and some propensity to act. In most cognition research, the researcher assumes that the important phenomena vary across both persons and situations (PxS variables) but one cannot peremptorily dismiss personal influences (or situational, as in Busenitz and Barney). Shaver is right: There is no "entrepreneurial personality". However, numerous trait-like personal beliefs and attitudes do appear to offer additional insight to our theory and additional predictive power to our research. As such, Section 4 will briefly survey some individual difference variables that have been associated with entrepreneurial thinking.
**Deeper Structures:** Cognitive phenomena such as intentions lie relatively close to the surface-in the architecture of our thinking. Underneath surface structures are deeper cognitive structures of how we represent knowledge and how it all fits together. Cognitive science has long used methods such as causal maps, schemas and schemata and scripts to illuminate these deeper structures. While this is perhaps the newest domain of cognition research to be applied to entrepreneurship, the potential is immense. Not only do researchers get a more fundamental view of how we learn to think entrepreneurially, this more funda-mental look affords us new ways to influence the processes that lie beneath entrepreneurial thinking. That means we have new, more powerful mechanisms by which we can enhance entrepreneurial thinking. (Ron Mitchell and his team at the University of Victoria predicate their entrepreneurship training on changing students' entrepreneurial scripts from relatively novice to relatively expert.) Section 6 provides an overview of this most exciting and most fertile ground for research in entrepreneurship.

**Learning:** As the foregoing section suggests, one crucial impact of cognition focused research into entrepreneurship is that if we understand the "why" of entrepreneurial thinking, we can influence the "how". That is, we can use the fruits of this research fairly directly in our teaching and training. However, despite our strong, ongoing interest in understanding how we learn to see opportunities and despite a very extensive literature of entrepreneurship educa- tion, we have been less successful at researching how entrepreneurs learn. The descriptive work done in entrepreneurship education has, of course, proven of great benefit. The next step for researchers is, as with intentions, to be much better grounded in theory. Section 7 lays the groundwork for exploring how entrepreneurs learn. Here is more highly fertile ground for researchers to explore.

**Future Directions:** This preview has already suggested some critical questions that require answering (or perhaps better answers). As noted above, the cry for more theoretical grounding (rather than post hoc explanation) in entrepreneurship research is often deafening. Fortunately, cognition research offers well grounded, immediately applicable theory (and methodology) for the researcher. Section 8 offers a modest list
of what seems to this researcher to be the most promising research questions that are already well within our grasp.

A considerable and growing literature focuses on behaviors associated with seeking opportunities, however, one might be startled at the ad hoc nature of the conceptual frameworks (if any) employed. However, one is less startled after considering the variety of conceptual approaches; instead one should be startled by the lack of a closer focus on the role of human cognition in the pursuit of opportunity. Of course, we find this lack of focus itself presents us a golden opportunity to provide an overview of what the study of cognitive phenomena has to offer to the entrepreneurship researcher. This is particularly true in understanding the emergence and evolution of entrepreneurial thinking.

4.3.6 PERCEPTIONS

4.3.6.1 Definitional Issues
"Optimism" as Perceiving Opportunities? It seems highly reasonable that we focus our quest for understanding the nature of entrepreneurial thinking by focusing upon a widely-held definition of entrepreneurship: An orientation toward seeking (and acting on) opportunities. Without the quest for opportunities entrepreneurial activity seems unlikely. Would anyone act upon unperceived opportunities? Another question that cognition research raises is that of role identity: Do entrepreneurs perceive opportunities or do they perceive themselves as entrepreneurs - or both? Cognition research offers tools to address that question.

Epistemologically, one might argue that opportunities exist and entrepreneurs discover or recognize them or that research is best served by taking that perspective. A more dominant view is that entrepreneurs enact their opportunities, constructing them mentally from their perceptions of the world around them. Both are useful approaches; both can be explored by examining cognitive phenomena (albeit different phenomena) as potential explanators of opportunity perceptions. As such, cognition-based research offers an opportunity for researchers to explore the limits and delimits
of each approach. Either way, entrepreneurship scholars might find the theories and methods of pattern recognition research to be highly useful and interesting.

4.3.6.2 Defining "Opportunity"?

This, however, begs an important question: What do we mean by "opportunity"? Two issues arise in this. First, if opportunity is perceived then that perception is likely to vary significantly across individuals. And, as Professor Shaver demonstrates, perception of opportunity should also vary across situations. If the perception of opportunity varies across both persons and situations, that suggests "opportunity" to be an artifact of the processes that generated that perception. Reifying "opportunity" might prove misleading at best. We might also ask ourselves if the entrepreneur's goal is to perceive more opportunities (quantity) or better opportunities (quality).

On the other hand, we run a very real risk of circular reasoning by defining opportunity in terms of its antecedents. If opportunities are discovered and not particularly enacted, then we are guilty of Peter Kilby's "Heffalump" fallacy:

If we are researching opportunity perception, then what we study must be opportunities.

4.3.7 Key Antecedents of Perceived Opportunity

Where we begin to understand the role of perceptions can be found in a not inconsiderable amount of research that suggests two critical antecedents of perceived opportunity, both of which themselves are perceptual.

Dutton and Jackson (1987) first mapped out an elegant model of opportunity perception that utilized the cognitive phenomenon of categorization. We have significant biases toward simplifying how we represent knowledge; it is much more efficient and convenient to simplify the range of strategic issues that an individual or organization faces by categorizing as many as possible into "opportunities" and "threats." Dutton and colleagues generated a sizeable number of studies that show how strategic issue categorization plays a central role in strategic decision making (Dutton and Jackson, 1987).
The Dutton and Jackson model argues that perception of opportunity is driven by two other key perceptions. First, a situation where the likely outcomes are perceived as positive and that the situation is deemed as within one's personal control would be categorized as an "opportunity." Contrariwise, a situation where the likely outcomes are negative and the situation is seen as beyond one's control would be categorized as a "threat." This elegant model was then tested successfully (Jackson and Dutton, 1989).

4.3.8 The Key Role of Perceptions

Perhaps it may seem obvious that how we make sense of the world and how we make decisions are based not on brute realities but on our perceptions of those realities. Kirzner (1982) argues that entrepreneurs are "alert" to potential opportunities but we differ both in terms of the number of opportunities and in terms of the specific types of opportunities (perhaps depending on where Shapero's "antennae" are tuned?) We can also use cognition research to explore how we learn to perceive ourselves as entrepreneurs just as we study how we learn to perceive opportunities.

However, while many researchers still seem to take a "short cut" and ignore the perceptual filters through which we see the world, the very fact that so many more researchers employ constructs and measures that are perceptions or perception-based is encouraging. However, we urge researchers continue to consider the cognitive psychology behind these critical perceptions.

At the heart of many textbooks on cognition is an extended discussion of human perception, partly because perception is central to so many other cognitive phenomena. Perception is sometimes an extremely complicated process: What do we see? What don't we see? What do we see accurately? Is "accuracy" even a relevant question? This is something we need much more research about. A delightful study from Lowell Busenitz and Jay Barney shows how entrepreneurs are subject to the same sorts of cognitive biases that we all are prone to (1997). We ignore these very human cognitions at our peril.
Busenitz and his colleagues have explored how human cognitive biases and decision heuristics characterize entrepreneurs just as they characterize anyone else and how these biases and heuristics help or hinder the entrepreneur. For example, the illusion of control will increase the likelihood of the entrepreneur taking action on an opportunity, but it also may serve to blind the entrepreneur to genuine risks. For another example, consider the various framing effects noted by Kahneman and Tversky (e.g., in Hogarth, 1986) such as prospect theory. Prospect theory argues that we are more apt to take risks in a losing situation (or perhaps simply where we are well below our aspiration level (March and Shapira, 1987)). This might partly explain why someone might start a business under dire personal circumstances such as job loss.

4.3.9 Acting on Opportunities - Optimism as Taking Action
Human action has many roots, yet most researchers - even most philosophers - would agree that decision precedes action (Audi, 1993). While other chapters address decision making in some detail as it applies to entrepreneurial activity, cognitive phenomena dictate much of the inputs of those decision processes. One particularly illuminating approach is attribution theory.

4.3.10 Attributional Models - Optimism as Resilience to Adversity
Humans have an innate proclivity to explain important events in their lives. Even when the cause might be diffuse or simply unknowable, we seek actively to identify a plausible explanation. However, we again tend to categorize our attributions along certain dimensions: Internal/external, stable/unstable, global/ specific, etc. It is increasingly evident that no matter how one categorizes causal attributions we find that more optimistic attributions seem highly associated with entrepreneurs and with entrepreneurial activity. For example, my dissertation project with Peter Dickson (Krueger, 1989) included a test of the role of causal attributions on this process and we found tentative evidence that the more internal the attribution of causality (e.g., skill or effort) the stronger the impact of the cuing on judgments of self-efficacy.

However, there is much stronger evidence from Kelly Shaver and his colleagues (especially Elizabeth Gatewood and William Gartner) that demonstrates how causal
attributions play a major role in initiating and persisting at goal-directed behavior (Gatewood et al., 1995, 2002). It would be a poor opportunity that did not merit taking action, nor persisting in the face of adversity.

Similarly, the work of Martin Seligman also suggests that causal attributions are critical to initiating and persisting at goal-directed behavior (1990). He argues that persistence in the face of adversity requires the attribution that effort will carry the day. However, this would only be true if the goal were deemed a positive outcome and the situation controllable (sound familiar?) At minimum, Seligman's learned optimism should be strongly associated with a propensity to take action (cf. Krueger et al., 2000).

Most recently, Robert Baron and Gideon Markman (2001) tested a different measure of resilience to adversity, the Adversity Quotient (2000), finding that successful entrepreneurs score significantly higher on that measure. Three different approaches to conceptualizing and measuring attributions show that an optimistic resilience seems inherent to entrepreneurial thinking.

### 4.3.11 Perceived Tradeoffs in Decision Making

This dovetails elegantly with research on human decision making that finds we often make tradeoffs no so much between alternatives per se, but the upside and the downside of the given decision under consideration. For example, Lopes (1985) describes this tradeoff as being between "hope" and "fear": Hope for the upside balanced against the fear of the downside. In a more entrepreneurial context, Peter Dickson and Joseph Giglierano (1987) offer the twin metaphors of the "risk of missing the boat" versus the "risk of sinking the boat." All of this suggests that perception of opportunity may indeed depend upon both a strong sense of desirability ("hope") and a strong sense of feasibility (minimizing "fear").

However, given that we process positive information and negative information differently and apparently in different parts of our brains, we know from reward-cost orientation theory that rewards ("hope") and costs ("fear") are processed sequentially. Optimists process the positive information first, then negative information in an
anchor-and-adjust process (another common human cognitive heuristic like those noted by Busenitz and Barney (1997). Do entrepre-neurs prove to be optimists in this sense?

4.3.12 Role Identity
Finally, there is another perception that we have yet to address in great depth: The entrepreneur's perception that "I am an entrepreneur." In many career fields, individuals may have a limited, even distorted mental model of what that career entails in terms of role demands. For example, education students might choose whether or not to be a kindergarten teacher based on their mental model of the prototypical (or the optimal) kindergarten teacher. As that mental prototype is usually based on vague memories of one's own kindergarten teacher it is at best too narrow and at worst quite distorted. Potential entrepreneurs may be deterred or attracted to entrepreneurship from similar mental proto typing, a cognitive phenomenon related to categorization (Jelinek and Litterer, 1995; Krueger and Hamilton, 1996).

4.3.13 INTENTIONS
Optimism as Intentions? If we care about how entrepreneurs emerge, then it cannot be too surprising to see the extent of interest in critical preconditions that facilitate or inhibit this emergence (e.g., Krueger, 2000). Entrepreneurship scholars once used terms such as "budding entrepreneurs" but use of the more specific term, "intentions" had added focus (and thus more rigor) to this fascinating research area. In return, this is an arena where entrepreneurs can perhaps "give back" fruitfully to other disciplines.

If we are interested in studying new ventures, then we need to understand the processes that lead up to their initiation. From a cognition perspective, that entails a better understanding of the intent to initiate entrepreneurial activity. Psychologists have long found intentions to be highly useful in understanding behavior. Also, an increased focus on intentions pushes researchers away from more retrospective research designs toward more prospective designs. It allows a greater emphasis on predicting versus explaining.
Philosophers (Audi, 1993) argue persuasively that intentions are central to voluntary human behavior. Indeed, psychologists and philosophers alike define "intention" as a cognitive state that is temporally prior and immediately proximate to the target behavior. That is, intent is the cognitive state immediately prior to the decision to act. Empirically, intentions are consistently the single best predictor of subsequent behavior (even if the predictive power is underwhelming.) Why? Any planned behavior is intentional. Essentially, if a behavior does not result from stimulus-response, it is intentional.

Fortunately, we are blessed with theoretically-sound, empirically-robust formal models of human intentions toward a target behavior. Even more fortunately, the various models offered by marketing (e.g., Bagozzi and Warshaw, 1990), political science and other domains converge on highly similar sets of critical antecedents to intentions. The most striking evidence of this consensus about robust predictors of intent lies in the work of Per Davidsson (1993) who independently developed a model of entrepreneurial intentions de novo - finding antecedents that map rather nicely onto the known antecedents.

Dutton and Jackson's (1987) antecedents of opportunity perception fits rather nicely within this framework. This suggests that there is a considerable overlap between the two constructs (of opportunity perceptions and intentions).

![Intentions Model](image)

**Figure 4.1** Intentions Model (adapted from Shapero, 1982; Kreuger & Brazeal, 1994; Kreuger, 2000)