

The role of the entrepreneur in small business success: the Entrepreneurship Scan

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Abstract

Financiers often wonder whether the person who has written the business plan is also the person who will carry it through. The business plan is relatively easy to analyse, while the entrepreneur is more difficult to see through. The Entrepreneurship Scan[®] 97 (E-Scan) was developed specifically to provide an objective measure of the characteristics necessary for successful entrepreneurship. A literature search provided some reasons why people start their own business, and also revealed some differences in personality between the successful and less successful entrepreneurs. This paper presents the E-Scan. It is a practical instrument for use on a personal computer. All the Dutch Chambers of Commerce, a few large banks, and profit- and non-profit organisations that provide guidance to small- and medium-sized enterprises employ the E-Scan. In addition, the E-Scan is providing an enormous database for our ongoing study into the role of the entrepreneurial personality in small business success.

Introduction

The success of a business is due to many factors, but the greatest determinant of a business's success is the entrepreneur him/herself. Naturally the entrepreneur's diplomas, business knowledge and craftsmanship play an important role, but in our opinion the personality of the entrepreneur is even more important. "How strongly does the businessman believe in himself and the success of his business?" "How persistent is the upcoming pioneer when setbacks follow one after the other?" "How decisive can the entrepreneur be in changing threats into business opportunities?" These are just a few of the situations that businessmen must deal with, and there is no doubt that not everyone can cope with these situations. So people who start up and run businesses need to know

their own strengths and weaknesses because “entrepreneurship involves the ability to build a ‘founding team’ with complementary skills and talents” (Timmons, 1994, p. 7). Self-knowledge through self-analysis is therefore of paramount importance. However, self-analysis demands honesty, discipline and an understanding of one’s own personality in relation to one’s behaviour.

What is a business plan without a businessman?

Writing a business plan is strongly recommended when starting a business of your own (Bamberger, 1994; Zwart, 1998). Especially banks, venture capitalists and organisations that assist (nascent) entrepreneurs need this information in order to analyse a business’s potential and profitability. A mainly technical analysis of the marketing plan and financial plan determines whether the business plan offers interesting perspectives for the future. Several instruments, some fully automated, are used for this purpose.

To date, the entrepreneur himself has hardly been analysed. Banks and venture capitalists, as well as consultants who assist entrepreneurs, stress the importance of the entrepreneur’s personality for the success of a business, especially in the start-up phase. But their judgement of the entrepreneur is based solely upon their indefinable and subjective ‘fingerspitzengefühl’ (gut feeling).

A deeper understanding of the personality of the entrepreneur is needed for a sound judgement of whether the entrepreneur will carry through the business plan successfully. The assessment of a business plan should therefore be combined with an objective judgement of the entrepreneur.

A new instrument, the E-Scan, was developed to measure the entrepreneurial personality to facilitate assessment of entrepreneurs. The purpose of our scan is not so

much to select 'successful' entrepreneurs, but more an instrument for further development of the personality of the entrepreneur. On the one hand, the entrepreneur gains self-knowledge from doing the scan, which enables him to build a 'founding team' to complement his/her skills and competencies, and helps assure his/her initial business success. On the other hand, it allows the financier to concentrate solely on the business plan in evaluating the risk of lending capital.

Such knowledge would be of much interest and value to loan organisations, such as banks, to Chambers of Commerce, to franchising organisations such as restaurant chains, to organisations for small business, and to government programmes, both national (in loans to small businesses and in such efforts such as poverty-relief programmes) and international (how to use foreign aid more effectively to strengthen the economy of underdeveloped countries).

The Entrepreneurship Scan in theory

In 1995 we started developing an assessment instrument based on scientific research, to measure objectively the entrepreneurial personality in the pre- and start-up phases. We divided the personality of the entrepreneur into two categories: personal characteristics and managerial competencies. There is a striking difference between the two categories. "Although some researchers have provided evidence indicating that traits can be learned or changed in later years (Mc Clelland and Winter 1969), traits are generally believed to be stable and not subject to cursory change" (Hood, 1993, p.120). Managerial competencies are more subject to change: "Leaders aren't born, they are made, and more by themselves than by external influences" (Bennis, 1989 in Kor, 1991, p.186). We believe the same applies to entrepreneurs.

Characteristics of successful entrepreneurs

Much research has been conducted into the characteristics of successful entrepreneurs. There are three main characteristics and five secondary ones. The main characteristics are: need for Achievement (n Ach) (Mc Clelland, 1961; Ahmed, 1985; Perry, 1986; Begley, 1987; Hornaday, 1971), Internal Locus of control (ILOLOC) (Ahmed, 1985; Brockhaus, 1982; Perry, 1986; Lorrain, 1988; Hood, 1993; Begley, 1987; Gatewood, 1995; Perry, 1988; Rotter, 1966; Paulhus, 1983) and Risk Taking Propensity (RTP) (Mengel, 1972; Dart, 1971; Meyer, 1961; Liles, 1974; Broehl, 1987 in Ahmed 1985; Mc Clelland, 1961).

The five secondary characteristics are: need for Autonomy (n Aut) (Hornaday, 1970, 1971, 1982; Vesper 1990; Kets de Vries, 1986), need for Power (n Pow) (Collins, 1964 in Hornaday, 1970; Wainer and Rubin, 1969 in Brockhaus, 1982; Vesper, 1990), Tolerance of Ambiguity (ToA) (Budner, 1962 in Begley, 1987; Mac Donald 1970), need for Affiliation (n Aff) (Bellu, 1987 in Davidsson, 1989; Hornaday, 1970; Collins, 1964 in Kets de Vries, 1986) and Endurance (End) (Hornaday, 1970; Bellu, 1988; Gatewood, 1995).

In these studies, successful entrepreneurs score significantly higher on these characteristics than less successful entrepreneurs, small business managers, and non-entrepreneurs.

Success can be defined in many ways. In most studies success was defined as surviving the first two or three years that the company was in business. In Hornaday and Bunker (1970) for example, the 'successful' entrepreneur was an individual who started a business, building it up where no previous business had been functioning, and

continuing for a period of at least five years to the present profit-making structure. Other studies on the personality of entrepreneurs (Gatewood, 1995; Perry, 1988; Begley, 1987) defined success more in financial terms, linking the most common characteristics found among entrepreneurs to measures like return on investment, growth in sales, and profit every year, or to the personal income of the owner/manager of the business. A few statistically clear relationships were found and these are shown in Table 1. “Although many indices might be used as criteria of success, continuity in business is the all persuasive quality” (Hornaday, 1970, p. 50). Still, statistics about newly founded companies show that most of them do not survive the first few years.

Table 1 also presents an overview of the characteristics of entrepreneurs in relation to the definition of success used in this research. The relationship between the characteristics of entrepreneurs and success measured in terms of survival is more convincing than that with success measured in financial terms. For the development of the E-Scan we therefore chose characteristics that contribute to success in terms of surviving the first two or three years, i.e. the need for achievement, need for autonomy, need for power, lack of need for affiliation, an internal locus of control, endurance and risk-taking propensity.

Managerial competencies of successful entrepreneurs

Kets de Vries (1986, p. 108) concluded that in most studies only the traits of successful entrepreneurs were of specific interest to the researchers. Other capacities and competencies of successful entrepreneurs were mostly ignored. “Recently, some researchers were arguing the validity of the psychological trait as a predictor of the success of new businesses or entrepreneurship, and formulated the hypothesis that the

entrepreneur's behaviour should be in relation as well and predict partly the new venture success" (Lorrain, 1988, p. 152). Lorrain (1988) describes this behaviour as "management behaviour characteristics of entrepreneurs". Mayer and Goldstein (in Vesper, 1990, p. 52) came to the following conclusion: "Although adequate capital and managerial competence are indispensable for survival, they are rarely sufficient in themselves to ensure it. They must be supplemented by other factors, such as motivation, hard work, persistence and flexibility". Table 2 presents an overview of the managerial competencies of entrepreneurs in relation to the definition of success used in this research. There has been little research on management behaviour of entrepreneurs and there are methodological problems in measuring managerial competencies, so that a clear relationship with success has not yet been found.

Existing methods of assessing entrepreneurs in the field of small business

In the development of the E-Scan, we also looked for any 'scans' already in use. Two organisations, the Netherlands National Investment Bank (NIB) and the Institute for Small and Medium Business (IMK), measure personality during their interviews with entrepreneurs. Before the interview starts, the consultants first rate the characteristics and competencies required for the particular business and afterwards they rate the entrepreneur against the profile needed. The more the entrepreneur meets the required profile, the better.

Most of the characteristics and managerial competencies found in the literature are also employed in these two methods. The NIB method even makes a distinction in the skills and behaviour needed at the different stages of business development. The knowledge and experience of those consultants is generally believed to be sufficient,

though their judgements remain subjective. The first two stages are of interest for our research. The start-up stage requires management skills like market-awareness, creativity and flexibility, while the growth stage requires skills like leadership, planning, controlling, motivating and stimulating people, and last but not least, accounting. All of these management skills and the seven characteristics already mentioned, except for the characteristic Risk Taking Propensity, are incorporated in the E-Scan.

Development of a standard questionnaire: the E-Scan

In order to develop an instrument to measure the entrepreneurial personality, we assembled a set of 10 items measured on a seven-point Likert scale. Items for the need for achievement are based on the EPPS (a personality scale) (Tjoa, 1973), on Hermans (1970) and on Murray (1938). Items for the need for Autonomy, Dominance, lack of need for Affiliation and Endurance are based on the EPPS (Tjoa, 1973) and on Murray (1938). Items that measure the Internal Locus of Control are based on the scale of Paulhus (1983). The Risk Taking Propensity was not incorporated in the E-Scan because we found only a few items which measure this feature. For future research we intend to develop more items for this scale. We compiled our own questionnaire for all the managerial competencies (based on Hood, 1993; Quinn, 1988; Altink et al., 1989; Flier, 1990; Baetens, 1977; Burby, 1967; Croon, 1981; Kor, 1991; Nyström, 1979, Ten Horn, 1975; Culligan, 1985; Storm, 1981; Zaleznik, 1977). Before testing this set of items on successful entrepreneurs, we first tested it on a pilot group of ten entrepreneurs, whom we also interviewed for face-to-face validation.

According to Timmons (1994, p. 7) entrepreneurship is “the ability to create and build something from practically nothing. It is initiating, doing, achieving and building an

enterprise or organisation, 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 risk, - both personal and financial - and then do everything possible to get the odds in your favour." We consider Timmons' definition is the most accurate in describing 'entrepreneurship', but it has the disadvantage that it is difficult to use in practice. Thus, we see an entrepreneur as someone who owns and runs an independent business but acts and behaves more or less in an entrepreneurial way. In order to conduct an empirical study for validation and to test reliability, we formed two major sample groups with a total of 261 and 275 people, respectively. These were people who either already own and run a business, or who would like to do so. Factor analysis and correlation tests (Cronbach's coefficient alpha) were carried out with SPSS for Windows 6.0. Table 3 presents the results of all the scales covered by the E-Scan at that time, based on 212 people from the first major sample of 261 people.

The first group was divided into smaller samples: two small groups of nascent entrepreneurs (38 and 25) were asked to do the E-Scan. They were participating in a regional unemployment project, sponsored by local government and the European Social Fund, to start a business of their own. These two groups were tested at an assessment day they had to participate in prior to selection for the project. One group (38) was tested again 2 months later, while the smaller group of 25 was re-tested 3 weeks later. All the project's participants took the test. The Pearson correlation for the period of 2 months

was 0.74, and 0.88 for the period of 3 weeks. Two professional coaches assisted the participants. To measure the predictability of the E-Scan, we determined correlations between the results from our questionnaire and the judgements of the two coaches, who had not seen the E-Scan results. The correlation between the two results on the participants' chances of starting a business had a Pearson r of 0.84 and yielded a significant t -value (2.26).

Another group consisted of 93 entrepreneurs who had already started their own businesses. Half of this group (53) had survived the first two or three years, while the other half (40) no longer had a business. We received 45 responses (48%): 24 entrepreneurs were still in business and 21 entrepreneurs had not succeeded. Significant differences between the two groups were found with respect to some characteristics: need for achievement, need for autonomy, internal locus of control, and perseverance. Table 4 compares the two groups using an independent sample T test and a Kolmogorov Smirnov 2-sample test, due to the small sample size.

The second major group of entrepreneurs we studied had been in business for at least one year. Of 275 entrepreneurs initially mailed, 74 entrepreneurs (27%) returned a 30-page questionnaire. For this last group we expanded the E-Scan with some new characteristics like the risk-taking or avoiding propensity, proactive behaviour, and some additional managerial competencies concerning the phase of growth like leadership, planning and accounting. A social desirability scale was also added. Table 5 presents Cronbach's alpha for all scales.

In addition to the expanded E-Scan, the participants were also sent a personality test, the NEO FFI (Hoekstra, 1993) for validation purposes. This model, also known as the

Big Five or Five Factor Model, represents the structure of personality attributes as they have gradually appeared in the last 40 years of research (Digman, 1990 in Hoekstra, 1993). The E-Scan yielded the expected correlations with the Big Five.

In our exploration to link the E-Scan to success, we chose an objective definition of success as well as a subjective one. The objective criteria were growth in sales, profit and personal income in the first and last year of the business, while the subjective definition was the entrepreneur's opinion of how successful they have been and how satisfied they are with their entrepreneurship. The financial figures we asked for were delivered by the entrepreneurs themselves. Significant t-values appear for successful entrepreneurs according to our objective definition of success. No significant t-values were found for the subjective definition. Table 6 presents the significant t-values.

It is interesting to note that significant t-values appear for the same scales. However, this does not imply that the other scales should be left out of the scan. On the contrary, all the scales are of importance in assessing and therefore developing entrepreneurship, but further research is needed to clarify the role of the entrepreneur in small business success.

The Entrepreneurship Scan in practice

One might ask how useful is the E-Scan to the small business community, or as Moran (1998, p. 19) concluded: "Arguably, this is the most important criterion for assessing the outcomes of work in this field and therefore for the selection of instruments and methods". But the E-Scan promises to be useful to the individual business owner, those who strive to become entrepreneurs, as well as to venture capital providers.

The E-Scan for Windows can be used on a pc and is now employed by all the Chambers of Commerce, a few large banks, and organisations for small business in the Netherlands. People can buy the E-Scan on disk relatively cheaply and can easily go through the questionnaire. The user answers 97 statements in 20 minutes, after which the software produces a six-page personal report describing the entrepreneurial profile of the (nascent) entrepreneur, in text and graphics, compared to the profile needed to succeed in a particular type of business. The required or standard profile is by no means representative of all the successful entrepreneurs in a specific type of business in the Netherlands, but the importance of the attributes in small business success (Altink, 1989) is certainly based on the ratings of many consultants. An example of an entrepreneur's profile given by the E-Scan is shown in Figure 1.

Pilot studies at the organisations mentioned above have proved the value of the E-Scan in helping (nascent) entrepreneurs to understand themselves better, or at least validate their existing understanding with regard to becoming an entrepreneur. After the E-Scan, the entrepreneur is offered follow-up and feedback on the personal report. After this quick assessment of their stronger and weaker points, the entrepreneur can consult a business consultant and discuss his/her profile in relation to the business idea or plan and extrapolate it to the process of entrepreneurship. The business consultant may be an entrepreneur or a retired entrepreneur in the field of counselling or someone with experience in counselling and coaching people in general, or business owners, in particular. It is not only the upcoming business owner who can benefit from this kind of feedback but also the provider of starting capital. It will enable the business owner to make decisions on personal development and to build a strategy for the future, while the

capital provider can concentrate solely on the business plan for risk evaluation of the loan.

Tools that have been specifically constructed to measure entrepreneurial personality tend to be highly unreliable due to the transparent nature of the items they include and the possibility of socially response bias (Caird, 1993 in Moran, 1998). Special attention has been paid to the transparency of item construction. But the less transparent the item, the more liable it becomes to 'multiple interpretations' and thus less reliable. For the E-Scan we constructed unambiguous items measuring the underlying scales, one of which was social desirability, and placed them in random order. Once the user has registered, the E-Scan software presents the items one at the time. The entrepreneur filling in the E-Scan should not dwell on any one statement for more than 30 seconds. If he/she thinks for longer, a pop-up window appears with the message that the first, spontaneous reaction reflects his/her opinion the best. After answering an item they cannot return to the previous item. These precautions and the fact that the entrepreneur does the E-Scan in his own time and at home, should counteract the transparency and social desirability. If someone tries to disguise his or her weaker points, the E-Scan will report that the entrepreneur has (deliberately) tried to manipulate the test. However, an entrepreneur does the E-Scan to learn about him/herself. A lack of awareness in this field could affect their potential business more than any other factor.

The Entrepreneurship Scan theory in practice

The E-Scan is part of a larger concept than simply the questionnaire disk. In a longitudinal study, we intend to clarify the role of the entrepreneur in small business success using the E-Scan. In analogy to Gartner's (1985) model (Figure 2), which

presents four essential dimensions in the research of entrepreneurship (the individuals, the process, the organisation and the environment), our conceptual model focuses on these same important dimensions in relation to small business success in the start-up phase.

In our conceptual model (Figure 3), we have embodied biographical and social demographic factors. These factors will have a certain influence on other factors as well as on small business success. However, their influence on the other factors is not yet clear and they are therefore not linked to them.

Many theorists, like Gartner (1989) and Sandberg and Hofer (1987), acknowledge that entrepreneurial style and managerial competencies underlie entrepreneurial behaviour. Thus the entrepreneur's behaviour is the link with success, but it is directly influenced by internal factors such as organisation, goals and strategies, as well as external factors such as the environment. However, the new company is believed to have no effect on its environment, while the environment itself could well have an influence on small business success. This leaves us with one important question: 'when is an entrepreneur successful and when has he failed?' Many researchers do not attempt to answer this question, and although some attempt to define success in financial terms, the way they gather data is questionable. Furthermore, many business owners cannot only produce an estimate of their financial situation. For research purposes, a third party, e.g. a banker, should deliver the financial figures. We hope to include independent financial figures in a future study. Our study is interested in two levels of success: the micro- and meso-levels. The micro-level concerns the entrepreneur's personal goals (subjective measure), while the meso-level refers to the more objective criteria of sales and profit

growth of the start-up firm against the mean for its sector. Thus the left-hand side of our conceptual model is already operational, and we are working on the other side.

Moran (1998, p. 20) argued for the limited use of in-depth studies of the subjects and continual testing of the relevance of findings with the subjects as well as with other stakeholders. In research on small businesses, the focus has only been on the owner-manager as an *object* for study, rather than on discovering how the owner-manager could benefit from the research findings. “Even where contact with the ‘subject’ is made, it is very rare that there is actual feedback of results subsequently, such that findings can be checked against the owner-manager’s viewpoint (incidentally, this is one very good but under-utilised way of validating the instrument or approach used) and moreover put to use by the owner-manager” (Moran, 1998, p.20). This is probably due to a number of reasons, including cost, time and perceived lack of expertise.

The approach advocated in our study on the role of the entrepreneur in small business success explicitly holds promise for gathering large amounts of data at low cost and time input and still keeping in(-depth) contact with the ‘subject’. The quantitative data required for validating our theory is being obtained as a side benefit from the mass distribution of the E-Scan via all the Chambers of Commerce, large banks, and other organisations for small business that sell the E-Scan to (nascent) entrepreneurs. Every entrepreneur has to register by telephone or modem *after* answering all 97 items in order to print his or her personal report, and all data (i.e. all the answers to the test, name and address) is automatically transmitted to our database. It is therefore easy to collect data from (nascent) entrepreneurs and even to add new items to the test for validation and reliability purposes without the entrepreneur being aware of this. With mass

distribution of the E-Scan to tens of thousands of entrepreneurs, significant relationships and conclusions about entrepreneurship in the Netherlands can now be drawn from our enormous database. The E-Scan thus provides for continuous product development. The qualitative data required for validating the E-Scan is obtained as a side effect of the follow-up and feedback given by all the business consultants throughout the Netherlands to (nascent) entrepreneurs. Meetings organised with these consultants means findings and practical information can be exchanged, ideas to further develop the E-Scan, and last but not least information given to entrepreneurs or those with the wishing to become one.

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Table 1. Overview of characteristics and their relation with success

<i>Author</i>	<i>Definition of success</i>	<i>Trait</i>	<i>Relation</i>
Ahmed (1985)	Start of a business	n Ach	Positive
		ILOC	positive
		RTP	positive
Begley (1987)	Financial growth in:	n Ach	none
	a. sales	ILOC	low liquidity
	b. return on assets	RTP	High ROA
	c. liquidity ratio	ToA	none
		Type A	none
a. Komives (1972)	Survival in first few years	N Ach	Positive
b. Hull (1980)	Start of a business	N Ach	None
c. Brockhaus (1980a)	Survival in first few years	ILOC	Positive
d. Warner (1969)	High company performance	N Ach	Positive
(in Brockhaus (1982))		N Pow	Half positive
Gatewood (1995)	Payment of products first year	ILOC	Positive
		Endurance	Positive
Hood (1993)	100 fastest growing companies in America	N Ach	Positive
	(not specified)	ILOC	Half positive
		RTP	positive
		Endurance	half positive
Hornaday (1970)	Survival after five years	n Ach	positive
	and conducting business	n Aut	positive
	where there was none before	n Pow	half positive
		n Aff	strongly neg.
		ILOC	positive
		RTP	positive
Hornaday (1971)	Survival after five years with	n Ach	positive
	more than eight employees	n Aut	positive
		n	none
		Aggression	strongly neg.
		n Aff	
Perry (1988)	Financial growth in personal income	n Ach	half positive
	and return on investment	ILOC	none

Source: Driessen 1996

Table 2. Overview of managerial competencies and their relation with success

<i>Author</i>	<i>Definition of success</i>	<i>Managerial competence</i>	<i>Relation</i>
Hood (1993)	100 fastest growing companies in America (not specified further)	'Creative knowledge':	
		<i>business knowledge:</i>	
		Finance	strongly pos.
		Engineering	positive
		Accounting	positive
		Marketing	positive
		Sales	positive
		<i>Skills & behaviour:</i>	
		Leadership	strong positive
		Oral Communication	positive
		Human relation	positive
		Written communication	half positive
		Management skills	half positive
		<i>Mentality:</i>	
		Creativity	strong positive
		Opportunistic thinking	half positive
Vision	half positive		
Positive thinking	half positive		
Lorrain (1988)	Survival after two years	Production	positive
		Finance	positive
		Human resources	none
		R&D	none
		Marketing	none
		Planning	none
		Organisation	none
		Direction	none
Control	none		
Swayne (1973)	No definition of success	Planning	-
		Organising	-
		Staffing	-
		Directing	-
		Controlling	-

Source: Driessen 1996

Table 3. Cronbach alpha's of scales of E-Scan (n = 212)

<i>Characteristics</i>	<i>a</i>	<i>Managerial competencies</i>	<i>a</i>
Need for Achievement	.79	<i>Start-up phase:</i>	
Need for Autonomy	.72	Market awareness	.85
Need for Power	.72	Creativity	.84
Lack of need for Affiliation	.75	Flexibility	.69
Internal Locus of Control	.75		
Endurance	.80		

Source: Driessen 1997

Table 4. Comparisons between survivors and non-survivors after 2 or 3 years (n = 45)

<i>T-test</i>	<i>t-value</i>	<i>Sign.</i>	<i>K-S Test</i>	<i>K-S z value</i>	<i>Sign.</i>
Need for Achievement	4.39	.000	<i>Start-up phase:</i>		
Need for Autonomy	2.81	.007	Market-awareen.	1.335	.057
Need for Power	1.66	.105	Creativity	1.295	.070
Ln for Affiliation	-1.21	.232	Flexibility	1.195	.115
Internal Locus of Control	4.18	.000			
Endurance	3.32	.002			

Source: Driessen 1997

Table 5. Cronbach alpha's of all scales of E-Scan (n = 74)

<i>Characteristics</i>	<i>No. of items</i>	<i>a</i>	<i>Managerial competencies</i>	<i>No. of items</i>	<i>a</i>
Need for Achievement	10	.79	<i>Start-up phase:</i>		
Need for Autonomy	9	.79	Market awareness	10	.78
Need for Power	8	.69	Innovative (creativity)	11	.88
Social orientation (In Aff)	8	.74	Flexibility	7	.65
Self efficacy (IloC)	9	.74	<i>Growth phase:</i>		
Endurance	11	.70	Leadership	10	.79
Risk- avoiding propensity	6	.75	Planning/organising	7	.72
Risk- taking propensity	6	.69	Finance	6	.70
Proactive	9	.76	<i>Social desirability</i>	5	.68

Source: Rozenga 1998

Table 6. Significant t-values for successful entrepreneurs by the objective definition (n = 74)

<i>T-test</i>	<i>Sales in first year</i>	<i>Sales in last year</i>	<i>Profit in first year</i>	<i>Profit in last year</i>	<i>Income in last year**</i>
Need for Achievement	3.17*	2.23*	2.04*	2.27*	2.29*
Innovativeness	2.02*	3.07*	-	2.92*	2.67*
Market awareness	2.63*	1.94*	-	2.58*	2.18*
Proactive	2.38*	1.98*	-	-	-
Internal Locus of Control	-	-	-	-	2.27*
Risk-taking propensity	-	-	-	2.08*	2.61*
Risk-avoiding propensity	-	-	- 2.17*	- 2.18*	-
Endurance	2.37*	-	-	-	-

*P<.05

**Personal income in the first year of business yielded no significant t-value.

Source: Rozenga 1998

Figure 1. An entrepreneur's profile

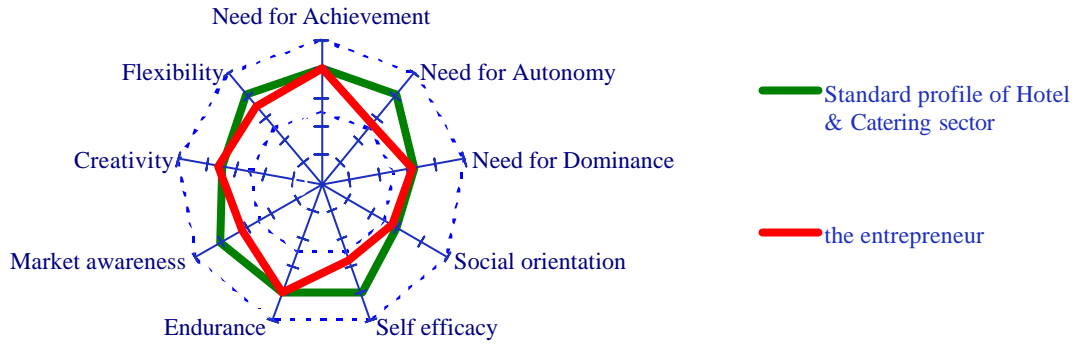


Figure 2. Gartner's (1985) model

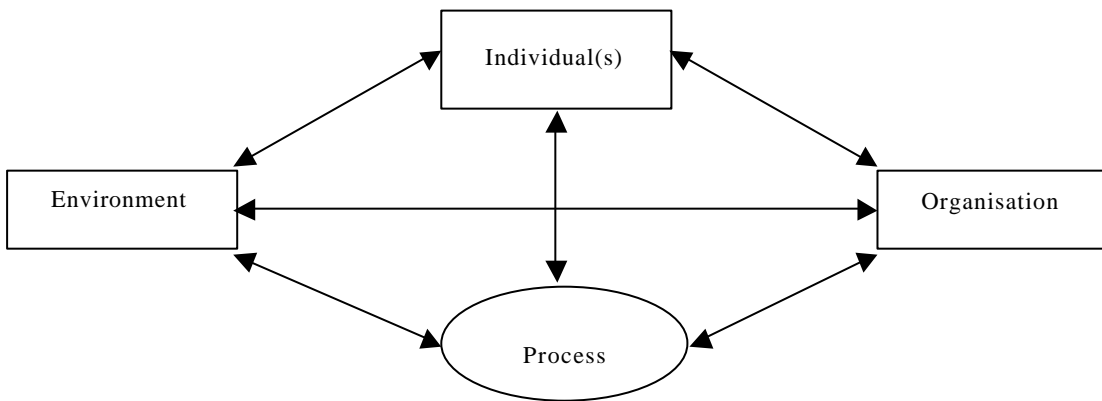


Figure 3. Conceptual model

