

THE INCIDENT METHOD – AN ALTERNATIVE WAY OF STUDYING ENTREPRENEURIAL BEHAVIOUR

Theresa Lau and K F Chan*

Introduction

With reference to the existing literature, it is always difficult, though not impossible, to make a clear distinction between entrepreneurial firms and small business ventures. Carland, Hoy, Boulton & Carland, for example, tried to use the logic of Schumpeter (1934), Glueck (1980) and Vesper (1980) to conceptually distinguish the two groups in terms of the principal characteristics: innovative behaviour and strategic management practices (Carland, et al 1984). And, based on the same definition, they examined the characteristics of 77 small business owners and found that the two groups, i.e. entrepreneurs and small business owners, as identified by a panel of experts, were statistically distinct in innovative behaviour as well as cognitive styles (Carland, et al 1988). In another study, Begley & Boyd suggested to use founders to represent entrepreneurs as distinguished from non-founders, who are the chief executive officers of the small business firms, because they found the two groups are different in their personal and firm characteristics (Begley & Boyd 1987). In fact, the way that we define the two groups of people differently are attributed to the different approaches we use in examining the characteristics of entrepreneurs. In other words, small business owner/managers might also be entrepreneurial if they display all the characteristics of a typical entrepreneur. Similarly, organizational managers might be regarded as entrepreneurial if the same set of characteristics are found. One example of such definition could be referred to Pinchot's concept of intrapreneur – "those who take hands-on responsibility for creating innovation of any kind within an organization" (Pinchot 1985). Pinchot did express explicitly that "creating innovation" is the main characteristics of entrepreneur and the only difference between intrapreneur and entrepreneur in general is whether this specific individual is within or outside the organization.

In general, all past research studies seem to suggest that in order to identify entrepreneurs from non-entrepreneurs we should examine the characteristics of an individual to see whether they are consistent with the common set of characteristics as revealed and confirmed by various research findings in the study of entrepreneurs. However, a review of literature does not provide us a clear and conclusive remarks on what those common characteristics are. At least, there are three most common theoretical and methodological approaches used in researching the characteristics of

* The authors are members of the Department of Management, Hong Kong Polytechnic.

entrepreneurs. Firstly, the trait approach, building on the earlier psychological work on entrepreneurs by McClelland and his associates, focuses on personal disposition of individuals and the personality theory underlying individual behaviour, which could then be identified as entrepreneurial or non-entrepreneurial (McClelland 1961). Secondly, the demographic approach attempts to use demographic information to arrive at the profile of a typical entrepreneur so that comparison could be made with reference to individual's personal characteristics such as birth order, role models, age, education level, work habits, etc. Examples of this approach can be found from Hisrich (1986), Brockhaus (1982). Thirdly, Robinson, et al review critically both approaches and suggest the attitude theory as an alternative to the study of entrepreneurship (Robinson, et al 1991). They argue conceptually and theoretically that attitude is a better approach to the study of entrepreneurship than either personality or demographics, because of its closeness to behaviour-specific, rather than characteristic-specific. They then develop Entrepreneurial Attitude Orientation (EAO) Scale and test the predictive value with owners of new businesses and white collar non-management personnel and confirm its reliability to be within acceptable standards. Attitude approach is of no doubt more close to represent the behaviour of entrepreneurs and therefore a better alternative to predicting entrepreneurship. However, in identifying entrepreneurship within the organization, i.e. intrapreneurship, the more desirable approach is to examine directly and analyze how the managers behave.

The major constraint of such approach is its practicability when it is implemented. As a consequence, an alternative is to use real incidents to simulate the behavioural environment so that managers could respond specifically to that environment. The results of these responses are then analyzed with reference to the entrepreneurial attributes that are found common in research findings. This paper is therefore written to present both the theoretical framework and the empirical evidence of how the incident method is developed and tested to study entrepreneurship in general and intrapreneurship in specific.

Problems with Trait and Demographic Approaches

As indicated in many studies, both trait and demographic approaches attempt to identify, measure and analyze either personality characteristics or personal characteristics of individuals so as to determine the latent entrepreneurial spirit of any specific individual and to distinguish entrepreneurs from others, e.g. small business owner/managers. The pioneering work of McClelland and his associates on the study of entrepreneurs' need for achievement (nAch) and the subsequent effort of many other researchers in exploring the psychological characteristics of entrepreneurs, e.g. locus of control, risk taking, problem-solving style, innovation, etc. provide a very strong support on predicting entrepreneurship by measuring the traits as described and prescribed (See Brockhaus 1975; Brockhaus and Horwitz 1986; Collins and Moore 1970; Hornaday and

About 1971; Sexton and Bowman 1985). However, a number of fundamental problems with this approach have been identified by Robinson, et al (Robinson, et al 1991). All these problems are related to (i) conceptual deficiency when applying psychology in entrepreneurship research; (ii) inappropriate application of traditional psychology to current interactive model of human behaviour; (iii) lack of convergent validity because different instruments are used to measure the same concept.

The demographic approach to the study of entrepreneurship is based on the assumption that people with similar backgrounds possess similar underlying stable characteristics and, as a result, it is possible to predict entrepreneurship in an unknown population if some demographic characteristics are found common among them. Past research of this type have been focusing on the study of such variables as family background, previous working experience before start-up, socioeconomic status, age, education level, birth order, etc. (See Brockhaus 1982; Hisrich 1986; Hisrich 1988; Gasse 1985; Sexton & Auken 1982). The problems of using demographic variables to predict entrepreneurship are many. In the critical review of this approach, Robinson et al have pointed out three major deficiencies (Robinson, et al 1991). First, this approach is limited to its static nature. Entrepreneurs react to a specific circumstance, not a given set of demographic characteristics. Second, demographic characteristics are used as surrogates for personality characteristics when entrepreneurship is explained and analyzed. And as a result, it is subject to the same criticism of the personality approach. Third, it does not stand up to previously established criteria for the evaluation of social science research and theory. There are conflicting results in predicting entrepreneurship by means of birth order, education level, or parental heritage (Bowen & Hisrich 1986; Deivasenapathy 1986; Hisrich, 1990).

The two traditional approaches for studying entrepreneurship have come to a limit that they might not be able to explain and predict entrepreneurial behaviour satisfactorily and, to a certain extent, they could not be applicable to the dynamic nature of entrepreneurship development. In addition, we could not assume the situation with which the entrepreneurs interact frequently are held to be stable. As a consequence, a more behavioural orientation approach, which could overcome the deficiencies of the above two approaches and incorporate the idea of interaction and reaction of entrepreneur to specific situations, should be suggested as an alternative to enhance our understanding on entrepreneurship.

Behavioural Approach – Attitude theory/Incident Method

Building on the attitude theory from the discipline of social psychology Robinson, et al developed the EAO attitude scale (Entrepreneurial Attitude Orientation) as an alternative way to predict entrepreneurship (Robinson, et al, 1991). They argued conceptually and theoretically that attitude approach is more close to the measurement of entrepreneurial behaviour because attitudes are less stable than personality traits and they will change

both across time and across situations through interactive processes with the environment. Moreover, based on empirical studies by Ajzen, and Ajzen and Madden, Robinson et al argued further that attitude instruments tend to account for more of the variance in a particular set of behaviour than do personality disposition or trait-based instruments (Ajzen 1982; Ajzen & Maden 1986). The EAO attitude scales are then empirically tested in Robinson's study and its reliability is found within acceptable standards.

The attitude approach does offer a better alternative for the study of entrepreneurship. However, once we ask the basic question of who the entrepreneurs are and how they are distinguished from other individuals, we are still tempted to answer by indicating their personal qualities and profile, while attitude approach will only provide an indirect inference on the behaviour of entrepreneurs. To really understand the entrepreneurial behaviour require a more direct examination on the activities undertaken by entrepreneurs. In other words, to quote from Gartner, we "should focus on what the entrepreneur does and not who the entrepreneur is" (Gartner 1988). The pioneering work of Mintzberg's study on managerial behaviour might be one of the possible methods of studying entrepreneurship, especially entrepreneurship within the organization, i.e. intrapreneurship (Gartner 1988; Mintzberg 1973). Gartner even proposed to replace the word entrepreneur for manager, and entrepreneurial for managerial so that Mintzberg's research statement in the study of managerial work could be followed in the study of entrepreneurship (Gartner 1988). In fact, it is strongly believed that not only the conceptual framework but also the methodological approach in the study of managerial work could be valid in the study of entrepreneurship since it is the direct measurement of entrepreneurial behaviour, rather than inferring entrepreneurial behaviour from traits, demographic data and attitudes towards some hypothetical statements.

A review of literature in the methods of studying managerial work suggest that there are two main approaches being actively pursued by researchers: (i) direct observation (Guest, Walker and Turner 1959; O'Neill and Kubany 1959; Randsky 1967; Mintzberg 1973) and (ii) diary method (Carlson 1951; Dubin and Spray 1964; Horne and Lupton 1965; Steward 1967). Direct observation requires a trained researcher to go along with entrepreneurs, or CEOs in the case of Mintzberg's study, and record all the detailed activities done in a period of time in accordance with what the researcher observes. Based on these observed records, analyses could then be conducted as to identify the real behaviour of the entrepreneurs or managers. Diary method reduces the burden of the researcher by shifting the responsibility of recording daily managerial activities to the managers and as such, its reliability would depend heavily on how honest and frank the managers are in filling the diary records and how complete and accurate it would be in writing the diary. However, diary method could generate more information from larger number of respondent (managers), as the research instrument, i.e. the diary record forms, could be standardized and it would therefore be more cost effective.

Both observation and diary methods are in fact the two major strategies in assessing the overt behaviour of individuals and therefore are the better approach than trait, demographic and attitude approaches in the study of entrepreneurial behaviour. Moreover, they could basically be categorized under the case study research method (See Kazdin 1982). In the review of case study research methods, Yin indicated that case study research method is preferred when (i) the type of research questions to be addressed is more of “how” and “why”; (ii) it does not require control over behavioural events; (iii) it focuses on contemporary events (Yin 1984). In view of the fact that studying entrepreneurial behaviour requires close examination of the actual behaviour of individual entrepreneurs, on which the researcher should not have any control and should be varied from individual to individual, the case study research method is therefore considered to be a more desirable approach with regard to those conditions. However, using observation and diary methods as the data collection means might not be cost effective if a large number of entrepreneurs, either within or outside the organizations, are required to be covered in the study. In addition, it is more difficult to maintain consistency for analysis when data relating to entrepreneurial behaviour are collected case by case through observation and diary.

We therefore propose an alternative – incident method, which combines the advantages of survey method and case study method in studying entrepreneurial behaviour. According to the classifications of the type of case methods in the area of training and learning situation, incident is close to decision case, which is defined by Simmons as the case “requires the learner to analyze a situation, exercise judgement and make suggestions as to what to do in the circumstances described” (Simmons 1975). In contrast to a case, Chimezie and Osigweh said “an incident is short, precisely written and contains a lesser number of complex issues” (Chimezie and Osigweh, 1989). Similarly, Tixier and Berridge classified this method under different name in the management training area and called it the consultancy method, “in which very realistic and topical material can be presented to students as a means of simulating ‘sharp-end’ situations and inculcating suitable attitudes and beliefs, often of a deterministic nature” (Tixier and Berridge 1985). Based on the concept of decision case and/or consultancy method used in the area of management training and development, we develop a number of incidents through actual company consultancy experience. All the incidents are written with reference to entrepreneur attributes with theoretical basis and empirically tested evidences. The behavioural responses of entrepreneurs for each incident are then analyzed to see the degree of entrepreneurship that the respondents display. The detailed description of the development of this method is presented in the following sections.

Development of Behavioural Incidents

In order to predict entrepreneurship from its behavioural pattern, we try to identify some common entrepreneur attributes with reference to past research studies. As a result, 15 attributes are listed as the bases in developing the incidents. For example, in reviewing the entrepreneurial behaviour in large organization, Reilly and DiAngelo emphasize on the attributes of adaptive-orientation, future orientation and modification of standard operating procedure as they are vital to the success in the organization's continuing development (Reilly and DiAngelo 1987). Innovation and risk taking are two significant attributes most often mentioned in research studies that are found to be common among entrepreneurs (See Schumpeter 1934; McClelland 1986). Donaldson uses case study to support that both the attributes of autonomy and innovation are important to entrepreneurs (Donaldson 1985). Smith and Miner do support the difference between entrepreneurs and managers in terms of personal innovation, and apart from that, they also find difference in terms of feedback of results, and self achievement (Smith and Miner 1984). The findings of Sexton and Bowman confirm that risk, autonomy and change are the characteristics for entrepreneurs but conformity is found to be negatively related to entrepreneurship (Sexton and Bowman 1986). In Begley and Boyd's study, business founders are differed from non-founders in N-Ach, risk and ambiguity tolerance (Begley and Boyd 1987). In other words, entrepreneurs are more flexible and would not like to conform to formality. These characteristics are also confirmed by Schere's study that in terms of complexity and novelty, entrepreneurs are found lower in score than managers (Schere 1982). It is believed that entrepreneurs tend not to prefer complexed systems and formal structure. In addition, they are more independent, and preferring support (Hornaday and Aboud 1971).

Another major attribute that distinguishes entrepreneurs from other individuals is the behaviour of detecting opportunities. Stevenson and Jarillo make the proposition very clear that "firms which make a conscious effort to lessen negative consequences of failure when opportunity is pursued will exhibit a higher degree of entrepreneurial behaviour" (Stevenson and Jarillo 1990). Behaviour that leads to the emergence of informal internal and external networks and that allow the allocation and sharing of resources so as to facilitate the development and exploitation of organization opportunities are also conceptually assumed to be the entrepreneurial behaviour. There are also a number of research studies in support of the importance of 'networks' for entrepreneurs (Birley 1986 and 1989; Jarillo and Ricart 1987). When comparing the 'locus of control' of entrepreneurs with non-entrepreneurs, Pandrey and Tewary find that entrepreneurs have more internal locus of control. In summary, we identify 15 attributes from the past studies and they are listed as follows:

- Innovation vs stabilization (1)
- Informal structure vs formal structure (2)

- Reliance on informal methods (or self) vs formal system (3)
- preferring changes vs status quo (4)
- Using loose budgetary control vs tight budgetary control (5)
- Exploiting opportunities vs reacting to problems (6)
- Reliance on network vs depending on given resources (7)
- Preferring no hierarchy vs hierarchy (8)
- Working alone (independent working style) vs with others (9)
- More risk taking vs risk aversion (10)
- More concerned on immediate result vs long term result (11)
- More integration vs more specialization (12)
- More informal control vs formal control (13)
- More loose control vs more tight control (14)
- preferring flexibility in management vs formal management technique (15)

Based on the attributes, we collect company incidents which fall into the category of possible entrepreneurial behaviour within the organization through our consultancy experience. All behavioural responses are real possible responses during discussion with companies staff when engaged in consultancy activities. As a general rule in assessing behaviour, a response definition should be designed to meet three criteria: objectivity, clarity, and completeness (Hawkins and Dobes, 1977). Objectivity refers to observable characteristics of behaviour or environmental events; clarity means the definition should be so unambiguous that it could be read, repeated, and paraphrased by observers; completeness means that the boundary conditions of the definition must be delineated so that the responses are enumerated. All 30 incidents are developed and generated in such a way that the three criteria are met.

In order to make the analysis consistent, there are five possible behavioural responses to be chosen by respondents for each incident. The responses are arranged in random order and are used to measure the entrepreneurial attributes as described. After the respondents complete the incident form, the choices are placed in the continuum scale of 15 attributes so that a five point scale score could be calculated. For example, if the respondent chooses (A) as the behavioural response to an incident which is used to measure the attribute of "innovation", in which (A) choice is placed in the middle point of five point scale, he will be scored 3 in this attribute. All the other behavioural responses for each incident are calculated in the same way. As a consequence, a total score of 150 would be given to an individual if his behavioural responses to 30 incidents are perfectly entrepreneurial. The degree of entrepreneurship would then be ranged from the value of 30 to 150. In the following sections, this method is tested with regard to its validity and reliability, using the sample of some executive MBA students and some middle to senior managers who are either in the process of setting up or planning to set up their businesses.

Validation of Behavioural Incidents

Testing the Validity of Behavioural Responses

Although the behavioural incidents were written with actual consultancy experience and developed on the basis of entrepreneurial attributes as reviewed in the previous section, and, in addition, all possible choice actions in response to the decision situations were also fully discussed with managers, an attempt is made to test its validity on how those choices are arranged in the five point attribute scale. To achieve this objective, 12 middle to senior managers who are planning to start up their business and in the process of setting up their business were identified to be our pilot test sample. Those people were chosen as representative of entrepreneurs group and were asked to express their opinion on the choice responses to each incident. The criteria of selecting this group is based on (i) they are widely recognized by their colleagues and associates to be entrepreneurial with regard to their managerial style, daily contacts, and innovative activities undertaken in the companies; (ii) they are about to set up their business and have definite plan to form the company of their own and according to the review of existing literatures and those studies relating to organization life cycle, the small business founders tend to be more entrepreneurial than company managers and small business managers, especially at the company creation and formation stage (See Vesper 1982; Gartner 1988; Begley and Boyd 1987; Flamholtz 1986; Churchill 1983; Chell and Haworth 1988).

All the selected managers and would-be business owners were given an opportunity to study carefully the incidents and they were then asked to rank the five behavioural choices on an open-ended attributes scale in accordance with their knowledge and experience on how those incidents should be handled and how entrepreneurial the behaviour would be classified with reference to the attributes scale if they are handled in the choices as given. The relation of their mean rankings and our prescribed rankings were then analyzed. The results from the Spearman's rank-order correlation test for each incident indicate an overall high consistency, i.e. our prescribed rankings on each behavioural response along the five point continuum attribute scale are highly related to the mean ranking by managers and would-be business owners. The detailed breakdown of Roh (Rank correlation coefficient) for each incident are summarized in Table 1. It is apparent from the statistics that our ranking for 17 incidents on the behavioural responses from more entrepreneurial to less entrepreneurial are pretty close to what the managers and would-be business owners perceive. The ranking of behavioural responses of 8 incidents are of medium significance. Only 5 incidents might require further modifications and certainly improvement could be made if there are follow up discussions with participating managers.

Table 1: Summary of Roh for 30 Incidents

Number of Incidents	Roh	Significance
17	0.9 – 1.0	High
8	0.7 – 0.875	Medium
5	< 0.7	Low

Testing the Validity of Incidents

In order to test how valid the incidents are used to reveal entrepreneurial behaviour within the organization, firstly, we asked the executive MBA students, who hold the managerial positions in organizations of both public and private sector with at least five years experience, to complete the behavioural responses of 30 incidents in a controlled classroom environment so that their responses could be immediate as to reflect their possible behavioural pattern. Since there is a very careful selection process when the students are admitted to the programme, it can be comfortably assumed that they have homogeneous background in terms of age, education, years of experience, relevance of managerial experience, etc. As a result, the variable of personal background could have less impact on the behavioural responses. The score of each participating student was then calculated according to the five point attribute scale and the total score could be arrived at by adding up the sub-score of 15 attributes, representing the entrepreneurial score of the student. Secondly, they were also asked to complete a self-assessment form in terms of the 15 five point attributes scale to see how they perceive themselves. The total self assessed score could also be calculated and used to compare with the score derived from the incident responses. The t-test (with the t value at 1.185) shows that there is no significant difference at 0.1 confidence level between the scores of students generated from incident method and from self-assessed method. When the breakdown of each attribute is analyzed, we find no difference between the two methods of behavioural assessment in 9 attributes while the t values of other 6 attributes measurement show that there is difference in using the two methods. Table 2 shows the t values of each attributes.

Table 2: The t-Test of Attribute Scores

Attributes	t-Value	Probability	Significance*
Formal Control	1.350	0.1857	no difference
Hierarchy	1.479	0.1481	no difference
Networking	1.435	0.1602	no difference
Management skills	2.751	0.0093	difference
Risk taking	2.975	0.0053	difference
Working style	-3.140	0.0034	difference
Integration	-3.008	0.0048	difference
Result-orientation	-0.724	0.4740	no difference
Degree of control	0.849	0.4016	no difference
Opportunistic	-0.311	0.7576	no difference
Formal Structure	2.739	0.0096	difference
Budget control	4.572	0.0001	difference
System conformity	0.000	–	no difference
Innovation	0.976	0.3360	no difference
Status Quo/Change	-2.182	0.0359	difference
Entrepreneurial Score (overall)	1.185	0.2440	no difference

(* Level of significance is 0.1)

With reference to the overall score of entrepreneurial behaviour, the test of incidents by means of comparing its validity against the respondents' self assessment method did confirm that they are within acceptable standards. Since there is no reason to believe that students in the executive MBA class would conceal the answer to self-assessment method, nor to the behavioural responses to the incident method, we could comfortably assume that the incident method is a true measure of what it is supposed to be measured, i.e. validated by the self-assessment method. The score derived from the behavioural responses to the incidents could be a good indicator of the degree of entrepreneurship for those managers within the organizations. On the other hand, self-assessment method is also a reliable method to be used to detect entrepreneurship of managers if the process is administered effectively. However, incident method is still preferable to self-assessment method because there is less chance to be contaminated by the respondents and their environment once it is used not in the case of students but in the case of practising managers within the companies.

Measuring Entrepreneurship

After testing the validity of behavioural responses to the incidents and the validity of attributes used as bases for developing the incidents as well as behavioural responses in the first two stages, we try to measure whether the entrepreneurial behavioural score could be used to distinguish the more entrepreneurial managers (i.e. intrapreneurs) from less entrepreneurial managers in the third stage. The sample used is the same as it is used in the last two stages. Executive MBA students are, in general sense, less entrepreneurial as judged by the researchers, compared with the second group of managers who are about to set up their business with innovative ideas. A t-test is conducted to analyze the statistical significance between the entrepreneurial scores of two groups of people. The t-value of -1.933 is calculated with the implication that they are significantly different at 0.1 level (critical value: 1.6814). It is therefore interesting to note from the results that behavioural responses to the incidents do achieve the purpose of distinguishing more entrepreneurial managers from less entrepreneurial managers.

Conclusion and Limitations

Throughout the paper, the literature on the study of entrepreneurship is briefly reviewed and it is argued that behavioural approach is a better method to the study of entrepreneurship than traits and demographics. Under the category of behavioural approach, incidents method is developed and presented as an alternative to attitude approach. 30 incidents were created from consultancy experience. They are the records of direct observations and discussion with companies' managers and therefore represent quite well the possible behavioural pattern of managers. Moreover, all the incidents were developed on the bases of entrepreneurial attributes which were identified from past research studies. The incidents were then validated with a sample of 35 executive MBA students, who hold the managerial position at the middle to senior level, by self assessment method, and were found within reasonable statistical significance. The behavioural responses were also tested with a sample of 12 would-be business owners, who represent a group of people with a higher degree of entrepreneurship, and the results indicate a fairly high consistency because their rankings on the responses were in line with the pre-designed rankings along the five-point attribute scale. Finally, it is confirmed that the behavioural scores could be used to differentiate the more entrepreneurial group from less entrepreneurial group with acceptable standard of statistical significance.

The incident methods to the study of entrepreneurship as reported in this paper is another step further to explore the possibility of using actual behaviour to detect the degree of entrepreneurship in contrast to the traditional approach of using traits and demographics, and it is also suggested as a further extension of the attitude theory. This method, as indicated in the literature review and the preliminary tests, does rest on a solid conceptual and empirical basis. The advantages of using this approach are also obvious

because of its direct relevance to managerial behaviour, which is open to change and subject to be influenced by training and development. However, there are still improvements and modifications to be made to make the instruments more applicable to the study of entrepreneurship. First, number of incidents should be increased to enhance its representation of entrepreneurial behaviour. Second, analyses should be made to examine the possible relationship among entrepreneurial attributes as some of them might be overlapped and are measuring the same thing. At the exploratory stage, we could only identify as many attributes as possible and tried to develop incidents to match the attributes, but once more research data are generated, analysis could be conducted to examine the interrelationship of attributes and to improve their validity. Thirdly, further research could be done to test the applicability of this instrument in different industries, for managers at different levels and different functions, and in different cultures.

References

- Ajzen, I. (1982), 'On Behaving in Accordance with One's Attitudes,' in M.P. Zanna, E.T. Higgins & C.P. Herman (Eds.), *Consistency in Social Behaviour: The Ontario Symposium*, Vol. 2, pp 3–15. Hillsdale, NJ: Erlbaum.
- Ajzen, I. and Madden, T.J. (1986), 'Prediction of Goal-directed Behaviour: Attitudes, Intentions, and Perceived Behavioural Control,' *Journal of Experimental Social Psychology*, 22, pp 453–474.
- Begley, Thomas M. and Boyd, David P. (1987), 'A Comparison of Entrepreneurs and Managers of Small Business Firms,' *Journal of Management*, Vol. 13, No. 1, pp 99–108.
- Birley, Sue (1986), 'The Role of Networks in the Entrepreneurial Process,' *Journal of Business Venturing*, 1, Winter, pp 107–117.
- Birley, Sue (1989), 'Female Entrepreneurs: Are They Really Any Different?', *Journal of Small Business Management*, 27 (1), January, pp 32–37.
- Brockhaus, R.H. (1975), 'I-E Locus of Control Scores As Predictors of Entrepreneurial Intentions,' *Proceedings of the Academy of Management*, 35, pp 433–435.
- Brockhaus, R.H. (1982), 'The Psychology of the Entrepreneur,' In C.A. Kent, D.L. Sexton and K.H. Vesper (Eds.), *Encyclopedia of Entrepreneurship*, pp 39–71. Englewood Cliffs, NJ: Prentice Hall.
- Brockhaus, R. H. and Horwitz, P. S. (1986), 'The Psychology of the Entrepreneur,' In D.L. Sexton and R.W. Smilor (Eds.), *The Art and Science of Entrepreneurship*, pp 25–48, Cambridge, MA: Ballinger.
- Carland, James W., Hoy, Frank, Boulton, William R. and Carland, Jo Ann C. (1984), 'Differentiating Entrepreneurs From Small Business Owners: A Conceptualization,' *The Academy of Management Review*, 9 (2), pp 354–359.
- Carland, James W., Carland, Jo Ann C., Hoy, Frank and Boulton, William R. (1988), 'Distinctions Between Entrepreneurial and Small Business Ventures,' *International Journal of Management*, Vol. 6 No. 1 (March).
- Carlson, S. (1951), *Executive Behaviour: A Study of The Work Load And The Working Methods Of The Managing Directors*, Stockholm: Stromberg.
- Chell, E. and Haworth, J.M. (1988), 'Entrepreneurship and Entrepreneurial Management: The Need for a Paradigm,' *Graduate Management Research*, Vol. 4, Winter, pp 16–33.

- Chimezie, A.B. and Osigweh, Yg (1989), 'Casing the Case Approach in Management Development,' *Journal of Management Development*, Vol. 8, No. 2, pp 41–57.
- Churchill, N.C. (1983), 'Entrepreneurs and Their Enterprises: A Stage Model,' in J.A. Hornaday, J.A. Timmons and K.H. Vesper (Eds.), *Frontiers of Entrepreneurship Research*, Wellesley, Mass.: Babson Centre for Entrepreneurial Studies, pp 1–22.
- Collins, O.F. and Moore, D.G. (1970), *The Organization Maker*, New York: Appleton-Century-Crofts.
- Deivasenapathy, P. (1986), 'Entrepreneurial Success: Influence of Certain Personal Variables,' *Indian Journal of Social Work*, 46, pp 547–555.
- Donaldson, Lex (1985), 'Entrepreneurship Applied to Middle Management: A Caution,' *Journal of General Management*, Vol. 10, No. 4 Summer.
- Dubin, R., and Spray, S.L. (1964), 'Executive Behaviour and Interaction,' *Industrial Relations*, No. 3.
- Gartner, William B. (1988), 'Who is an Entrepreneur? Is the Wrong Question,' *American Journal of Small Business*, Spring, pp 11–32.
- Gasse, Y. (1985), 'A Strategy for the Promotion and Identification of Potential Entrepreneurs at the Secondary School Level,' in J.A. Hornaday, B. Shils, J.A. Timmons, & K.H. Vesper (Eds.), *Frontiers of Entrepreneurship Research*, pp 538–559, Wellesley, MA: Babson College.
- Flamholtz, E.G. (1986), *How to Make the Transition from an Entrepreneurship to a Professionally Managed Firm*, San Francisco: Jossey-Bass.
- Glueck, W.F. (1980), *Business Policy and Strategic Management*, New York: McGraw-Hill.
- Guest, R.H., Walker, C.R. and Turner, A.N. (1959), *The Foreman on The Assembly Line*, Cambridge, Mass., Harvard University Press.
- Hawkins, R.P., and Dobes, R.W., (1977), 'Behavioural Definitions in Applied Behaviour Analysis: Explicit or Implicit,' in B.C. Etzel, J.M. LeBlanc, and D.M. Baer (Eds.), *New Developments in Behavioural Research: Theory, Methods, and Applications. In Honor of Sidney W. Bijou*, Hillsdale, N.J.: Lawrence Erlbaum.
- Hisrich, R.D. (1986), 'The Woman Entrepreneur: Characteristics, Skills, Problems and Prescriptions for Success,' In D.L. Sexton and R.W. Smilor (Eds), *The Art and Science of Entrepreneurship*, pp 61–81. Cambridge, MA: Ballinger.
- Hisrich, R.D. (1988), 'The Entrepreneur in Northern Ireland: Characteristics, Problems, and Recommendations for the Future,' *Journal of Small Business Management*, July, pp 32–39.
- Hisrich, R.D. (1990), 'Entrepreneurship/Intrapreneurship,' *American Psychologist*, 45, pp 209–222.
- Hornaday, J. A. and Aboud, J. (1971), 'Characteristics of Successful Entrepreneurs,' *Personnel Psychology*, 24, pp 141–153.
- Horne, J.H. and Lupton, T. (1965), 'The Work Activities of Middle Managers,' *Journal of Management Studies*, No. 1.
- Jarillo Mossi, J.C. and Ricart, J.E., (1987), 'Sustaining Networks,' *Interfaces*, 17, pp 82–91.
- Kazdin, Alan E. (1982), *Single-Case Research Designs: Methods For Clinical and Applied Settings*, Oxford University Press.
- McClelland, D.C. (1961), *The Achieving Society*, New York: Van Nostrand.
- McClelland, D.C. (1986), 'Characteristics of Successful Entrepreneurs,' *Journal of Creative Behaviour*, 21(3), pp 219–233.
- Mintzberg, Henry (1973), *The Nature of Managerial Work*, Prentice-Hall.
- O'Neil, H.E. and Kubany, A.J. (1959), 'Observation Methodology and Supervisory Behaviour,' *Personnel Psychology*, No. 12.

- Pinchot, Gifford, III (1985), *Intrapreneuring*, Harper & Row, Publishers, New York.
- Randomsky, J. (1967), *The Problem of Choosing a Problem*, Unpublished doctoral thesis, Cambridge, Mass. M.I.T., Sloan School of Management.
- Reilly, Barnard J. and DiAngelo, Joseph A. (1987), 'Entrepreneurial Behaviour in Large Organizations,' *SAM Advanced Management Journal*, Summer pp 24–31.
- Robinson, Peter B., Stimpson, David V., Huefner, Jonathan C. and Hunt, H. Keith, (1991), 'An Attitude Approach to the Prediction of Entrepreneurship,' *Entrepreneurship Theory and Practice*, (Summer) pp 13–31.
- Schere, J.L. (1982), 'Tolerance of Ambiguity as a Discriminating Variable Between Entrepreneurs and Managers,' *Proceedings, Academy of Management*.
- Schumpeter, J.A. (1934), *The Theory of Economic Development*, Cambridge, Mass.: Harvard University Press.
- Sexton, D.L. and Auken, P.V. (1982), 'Characteristics of Successful and Unsuccessful Entrepreneurs,' *Texas Business Review*, September–October, pp 236–239.
- Sexton Donald L. and Bowman Nancy B. (1985), 'The Entrepreneur: A Capable Executive and More,' *Journal of Business Venturing*, 1, pp 129–140.
- Sexton Donald L. and Bowman Nancy B. (1986), 'Validation of a Personality Index: Comparison of Psychological Characteristics of Female Entrepreneurs, Managers, Entrepreneurial Students, and Business Students,' *Frontiers of Entrepreneurial Research*, Wellesley, MA: Babson Centre for Entrepreneurial Studies.
- Simmons, D.D. (1975), 'The Case Method in Management Training' in B. Taylor and G. Lippets (Eds.) *Management Development and Training Handbook*, McGraw-Hill, Maidenhead, England.
- Smith, N.R. and Miner, J.B. (1984), 'Motivational Considerations in The Success of Technologically Innovative Entrepreneurs: Extended Sample Findings,' *Frontiers of Entrepreneurial Research*, Wellesley, MA: Babson centre for Entrepreneurial Studies.
- Stevenson Howard H. and Jarillo J. Carlos (1990), 'A Paradigm of Entrepreneurship: Entrepreneurial Management,' *Strategic Management Journal*, Vol. 11, pp 17–27.
- Steward, R. (1967), 'The Use of Diaries to Study Managers' Jobs', *Journal of Management Studies*, Vol. 2, (2 May).
- Tixier, M. and Berridge, J. (1985), 'Cultural Transfer in Case Study Usage', in Winterburn, N.R. (Ed.), *Proceeding, 3rd International Conference on Case Method Research and Application*, Centre for Continuing Education, The City University, London, England.
- Vesper, K.H., (1980), *New Venture Strategies*, Englewood Cliffs, NJ: Prentice-Hall.
- Vesper, K.H. (1982), 'Introduction and Summary of Entrepreneurship Research,' in C.A. Kent, D.L. Sexton, K.H. Vesper (Eds.), *Encyclopedia of Entrepreneurship*, Englewood Cliffs: Prentice-Hall.
- Wortman, Max S. (1987), 'Entrepreneurship: An Integrating Typology and Evaluation of the Empirical Research in the Field,' *Journal of Management*, Vol. 13, No. 2, pp 259–257.
- Yin, Robert K. (1984), *Case Study Research: Design and Methods*, SAGE Publications, Inc.