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The Effects of Entrepreneurial Growth Orientation on Organizational Change and Firm Growth

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Abstract

Managing growth in an enterprise as it grows beyond the startup phase is a challenge for many entrepreneurs. One key element that can help or hinder growth is the entrepreneur. Entrepreneurial growth has been linked to micro variables (motivations and psychological attributes of the entrepreneur) and macro variables. However, few studies have examined the role of the growth aspirations of the entrepreneur on the necessary elements of organization change related to growth. This paper reports a study employing a typology of entrepreneurs based on their growth aspirations using an established dichotomous scale devised by Smith to differentiate between what he called craftsmen versus opportunistic entrepreneurs. The findings support the literature that points to the growing importance of intellectual capital, technological upgrading and participative management approaches as competitive weapons of small firms.

Key words: enterprise growth, growth orientation, organizational change, SMEs, Singapore

Introduction

Beyond the start-up and survival phases of an enterprise's life lies the potential for enterprise growth. Yet not all enterprises move along the growth and expansion path. One factor explaining the presence or absence of growth is the entrepreneur. Studies have linked psychological characteristics of the entrepreneur to growth (Sexton and Bowman-Upton, 1986; Davisson, 1991; Cooper and Gascon, 1992). Others have examined the motivation of entrepreneurs towards growth but have not explained the extent to which motivational factors determine entrepreneurial growth (Liao, Welsch and Pistrui, 1999). However, little research has been done on the effects of the entrepreneur's growth Organizational change is an essential ingredient of growth. In order for growth to take place, the owner-manager needs to effect change in the areas of human resources, information technology or other relevant technology, in addition to management practices such as planning, marketing, finance etc. (Rauch et al., 2005; Thornhill, 2006). The entrepreneur needs to delegate responsibilities to others and the entrepreneurial vision needs to be transferred. There is a also a need to introduce automation, management information systems and so forth. The paper reports an exploratory study examining the growth orientation of Singaporean entrepreneurs (Tsang 2002) and the degree to which they are prepared to initiate organizational change measures. The authors evaluated the ability of growth orientation employing the typology of craftsman and opportunistic entrepreneurs (Smith, 1967) to differentiate between changes that SMEs in their sample had engaged in. Typologies are useful in classifying and comparing types of entrepreneurs, their motivation and entrepreneurial objectives (Robichaud et al., 2001; Naldi et al., 2007). They contribute to a better understanding of the behavioral patterns of entrepreneurs and how these patterns impact upon business performance. As Gartner et al. (1989:183) have stressed, "Taxonomy development is a method for identifying the most salient characteristics for differentiating among entrepreneurs as well as describing how each entrepreneurial type behaves. Every taxonomy of entrepreneurs begins with the same fundamental premise: all entrepreneurs are not the same". Besides Smith (1967), prominent typological studies include that of Filley and Aldag (1978), Braden (1977) or Kuratko et al. (1997).

Relevant Literature

Research on the entrepreneur and growth has examined personality traits, motivations, attitudes and intentions. Personal predispositions have been found to be important for venture success (McClelland, 1965). These include need for achievement (McClelland, 1965), internal locus of control (Rotter, 1966; Boone, DeBrabander and Van Witteloostujin, 1996; Nwachukwu, 1995) Similarly, venture capitalists have reported that entrepreneur characteristics are extremely important for venture success (MacMillan, Siegel and SubbaNarisimha, 1985; Mullins and Forlani, 2005). Some traits and motives of successful entrepreneurs have been identified, but these concepts have typically produced weak relationships (accounting for less than 7 percent of the variance) with venture performance (Begley and Boyd, 1987; Low and MacMillan, 1988). Furthermore, Sandberg and Hofer (1987) found that organizational and industry variables completely dominated individual-level variables as causes of venture success. There are three possible implications of these prior results: (1) traits do not matter, (2) traits do not work in isolation from other factors, and (3) the wrong traits have been tested in past entrepreneurship studies.

Motivation has been another area that has been examined. Here vision, growth goals, and self-efficacy have been examined for relationships with growth (Bird, 1989; Low and MacMillan, 1988). There has been some support for the role that goals play in promoting higher performance (Locke and Latham, 1990). Miner (1990) developed a typology of task motivation based on the concept that an effective organizational performance is based on the fit between the organization system and the motivation patterns of the key

performer (the entrepreneur). He found that the task motivations resulted in a series of pushes or pulls. He discovered significant differences in the task motivations between growth oriented entrepreneurs that led to better performance. Research has also pointed to the role of entrepreneurs' intentions (Krueger and Carsrud, 1993) willingness to grow (Kolvereid, 1991; Davidsson, 1989) and growth intention (Gundry and Welsch, 2001).

Some other research has been based on a combination of traits, motivations, intentions and goals. Smith's (1967) typology of entrepreneurs along a single dimension - craftsman at one end and opportunistic entrepreneur at the other - is one such typology that has been applied by subsequent researchers. The *craftsman entrepreneur* is characterized as being the one with limited education who is autocratic, paternalistic and socially detached from the environment. This entrepreneur is likely to run the business in a hands-on manner, to be paternalistic to the employees and to remain loyal to his or her working-class roots, financial gain and growth are not key motivations. His and her goals are independence and autonomy, being able to pick his working colleagues and satisfaction at producing a quality product backed with personal services. The "Craftsman" prefers comfortable life. He or she is often risk-averse and may lack flexibility or action in both the economic and social environment. Craftsman entrepreneurs see the running of a small business as an alternative to conventional forms of achievement in a society where success is often judged to be equated with high office in a large organization, and greatly dependent on qualifications which they lack (Stanworth and Curran, 1973). The opportunistic entrepreneur at the other end of the pole is middle class, with a broad education, who integrates well socially, engages in long term planning and delegates to managers. He or she has well-rounded education, managerial experience and is risk-oriented with growth being a major goal of the company. The opportunistic entrepreneur is an upwardly mobile person whose approach to the management of the business is one of concentrating on strategic matters. In contrast to the craftsman, he or she tends to be instrumental rather than paternalistic in employee relations. Smith found that the SMEs in his sample that were growing had an owner manager with an opportunistic orientation. Weinshall and Raveh (1983) have argued that opportunistic types are suitable for a high growth company, since they manifest certain necessary characteristics: they are imaginative and adaptive, somewhat workaholics, have charisma, are manipulative of people and resources and sometimes believe the experiences they have undergone explain their achievements. Smith's typology is, however, a static view implying mutually exclusive role performances (Stanworth and Curran, 1986). It is, nevertheless, a useful typology as it has been used to differentiate high growth entrepreneurs from others.

While prior research examined the influence of the entrepreneur on growth and performance, the middle ground of "process" (organization change) that leads to the growth is an area that deserves some examination. In order for ventures to grow, there is a need for the entrepreneur to effect change in the management systems employed. One key area that has been noted in the literature is that of human resource management (Flamholtz and Randle, 2000; Ardichvili, Harmon, Cardozo, Reynolds and Williams, 1998). Interventions are necessary on the part of the entrepreneur, a key goal which is the recruitment of others and delegation of responsibilities (Kao and Tan, 2001; Carlson et al. 2006). There is also a need for the entrepreneur to employ technology. One particular

area is in information and Internet technology to be able to capitalise on new technology such as e-communications and customer relations. In this regard, one need only peruse the various SME projects of the Asian Productivity Organization (<u>http://www.apo-tokyo.org/02upc_sked.htm</u>), to note the importance placed on information technology and technology by Asian SME policy-makers.

Yet from the perspective of researchers seeking to understand which entrepreneurs will make the necessary changes, there is a gap in the research. Most research has concentrated on performance as an outcome and the personality, motivations and attitudes as factors. It would be relevant to researchers and consultants if one could know whether entrepreneurs would engage in the changes necessary for growth. The authors are interested in the behaviour of the growth-oriented entrepreneurs in respect of organizational change. The preceding research points to the entrepreneur's orientation to growth as being important to entrepreneurial growth. High-growth entrepreneurs demonstrate goals encompassing growth, and attitudes and motivations positive towards growth. Much of the literature has employed growth orientation as a construct to categorize high growth firms usually by using their sales or revenue figures (see e.g. Ginn and Sexton, 1990; Gundry and Welsch, 2001). Moran (1998) employed a number of measures to distinguish high growth from low growth and employed a number of other personality traits, intentions/plans with respect to future development of the business, extent of innovation, to classify high growth orientation firms. As our interest is on the differences in change behaviour, we employed Smith's typology as a measure of growth orientation. Propositions about craftsman were not included because we are arguing that

high growth opportunistic entrepreneurs would be more prepared to make changes than craftsman entrepreneurs.

The propositions being tested in this study are:

Proposition 1: Entrepreneurs who classified themselves as opportunistic entrepreneurs are more likely to have introduced human resource-related change.

Proposition 2: Entrepreneurs who classified themselves as opportunistic entrepreneurs are more likely to have introduced technology-related change.

Methodology

The study employed a questionnaire survey of a population of Singapore SMEs on the register of membership in the Singapore Chinese Chamber of Commerce and Industry across industries and business type. As Singapore SMEs are reluctant to respond to surveys, the authors employed both mail out and face-to-face interviews to secure completion of the research instrument (Menkhoff, Kay and Loh, 2002). The SMEs were randomly selected from the membership database, a team of research assistants then followed-up with phone calls to secure their cooperation. A total of one hundred and one completed questionnaires were received which represents an effective response rate of 17.41 percent.

The instrument also included Smith's measure of growth orientation based on the presentation of two business scenarios. Respondents were asked to read the following two general business descriptions labeled "A" and "B" and tick (if applicable) the one which best describes how they perceive their firm: "A" While not dominant in this field, my business is independently owned and operated. As my primary source of income, it

provides an opportunity to make a living for my self and/or my family. Although it is time consuming, I enjoy running my own business and prefer it to working for a larger firm. "B" While not dominant in its field at this time, profit targets, growth objectives, and innovative strategies in my business may lead to market dominance in the future. In fact, my business could be characterized by at least one of the following: the introduction of new goods; the introduction of new methods of production; opening new markets; or introducing industrial reorganization. The instrument also included six items to measure organization change in technology-related and people-related areas. These items used a dichotomous 'yes-no' response format. Given the nominal data of these measures, no reliability indices were computed.

Results

The typical firm surveyed was a 100% locally-owned, private limited company which has been established in the early 1990s by the respondent himself who owns a substantial proportion of the business without any involvement of external parties, such as institutional and/or equity investors. The average respondent turned out to be a middleaged (42.4 years), English-educated, male Chinese Singaporean with tertiary education and a specialization in engineering or management. He has been in his current position for 10.5 years, with an average organizational tenure and total working experience of 13.3 years and 20.8 years respectively. Most respondents perceived themselves as opportunistic entrepreneurs (46.5%) who are achievement-oriented, effective in terms of adaptation, business planning etc and willing to take risks. Craftsman entrepreneurs who are typified in the entrepreneurship literature as relatively nonadaptive and more risk adverse persons aiming for a comfortable living rather than the highest possible level of performance made up 36.6% of the sample. About 17% of the respondents could not be categorized.

The responses indicated that the Singaporean SME owners implement organizational change measures on a routine basis. Changing the firm's strategic direction and technology, IT-related changes, and changes related to people and their task behaviours were the most frequently adopted measures. (See Figure 1)

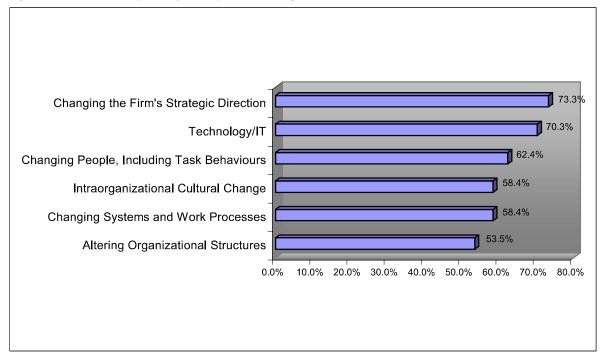


Figure 1: Most Frequently Adopted Change Measures

To test the propositions, the respondents were asked to rate on a 5-point Likert-like scale the degree to which they had implemented related aspects of technology-related and human resource management change (where 1= no change and 5=critical/revolutionary change). With the advent of the knowledge-based economy and the advances in IT, the changes that this exploratory study examined in the technology change area included the internet and on-line office procedures. On the human resource management side, the study included wage increase, participative decision-making and the recruitment of qualified staff, which are elements of organization change related to growth. Wage increases commensurate with growth targets being met are one way in which SMEs could motivate efforts towards growth on the part of their staff. The responses for the two groups (craftsman and opportunistic entrepreneurs) were collated and the differences in the means of the two groups analyzed using t-tests.

Table	1	below	shows	the	means	of	the	responses	from	the	sample	on	aspects	of
technology and human resource management changes.														

Opportunistic Entrepreneurs Mean	Entrepreneur	t-test ·s	р	
Mean	Maan		р	
	Mean			
3.58	3.57	0.022	0.491	
3.9	3.89	-1.083	0.143	
4.28	4.04	-2.293	0.015**	
3.8	4.04	2.027	0.024**	
nange				
3.2	3.07	-0.439	0.331	
3.45	3.41	-0.093	0.463	
3.35	2.89	-1.888	0.032**	
3.23	2.48	-2.502	0.007***	
	3.9 4.28 3.8 nange 3.2 3.45 3.35	3.9 3.89 4.28 4.04 3.8 4.04 3.8 4.04 3.8 3.07 3.45 3.41 3.35 2.89 3.23 2.48	3.9 3.89 -1.083 4.28 4.04 -2.293 3.8 4.04 2.027 ange 3.2 3.07 -0.439 3.45 3.41 -0.093 3.35 3.23 2.48 -2.502	

The findings show that in a number of areas there are no significant differences between the two groups: internet/ecommerce and innovations in operating methods in the technology change aspects; wage increase, and sharing profits. These findings are interesting in that the authors had expected differences. The differences in the means that proved to be significant were in the R& D breakthroughs and office automation/online procedures and the recruitment of more qualified staff. Of these differences, the difference in the means for office automation/online procedures was not in the predicted direction of the propositions.

Discussion

In the light of the findings, it would not be possible to conclude that the propositions hold. It had been anticipated that these would be marked differences between the two categories of entrepreneurs separated by the dichotomous growth orientation construct drawn from Smith. It was surprising that only four items (two technology and two related to human resource management) proved to be significantly different between the two groups with one of the items not being in the predicted direction.

The significant difference in the means for R & D breakthroughs is consistent with our expectations as one would expect high growth orientated SMEs (opportunistic entrepreneurs) to engage in R & D efforts and to invest in new innovations for growth (Dickson, Weaver and Hoy, 2006). It must be noted, however, that the "craftsman" entrepreneurs had rated R & D breakthroughs highly as areas of change that they engaged in. This finding does indicate that the SMEs in the sample may be fairly sophisticated

since those who considered themselves to be "making a living" indicated that they are making changes even in R & D.

The opportunistic entrepreneurs rated the recruitment of more qualified staff as a change they had effected in the people-related area. This finding supports the literature that points to the growing importance of intellectual capital in the employees that one recruits and retains (Thornhill, 2006). In the knowledge arena, it is not uncommon in Singapore to observe the poaching of staff from other enterprises. As technological advances are found, SMEs intending to grow will seek qualified personnel to harness these technologies for use within the firms. The difference is significant at the p = 0.01 level. Similarly, the opportunistic entrepreneurs appear to be more enlightened in engaging their staff in decision-making compared to the craftsman entrepreneurs (p = 0.032). Participative decision-making creates a better environment for commitment in the workforce.

It would be helpful to explore possible reasons some of the expected areas of change did not reveal significant differences together with the one finding where the difference was not in the proposed direction – office automation/online procedures. While these observations point to a possible limitation in the study, in the area of sample bias, it is plausible that Singapore SMEs are more sophisticated than had been anticipated and that these findings are representative of the SMEs in Singapore characterized by Smith's typology. A little elaboration of this explanation is necessary. Singapore SMEs have been encouraged to develop and grow under Singapore's first *SME Master Plan* that operated from 1989 and has been succeeded by the second SME master plan entitled *SME 21* enunciated in 2000. The latter is a ten-year strategic plan aimed at building up the capabilities of SMEs so as to enhance their contributions to Singapore's competitiveness and economic growth taking into account the developments and trends in the knowledge-based economy. In the light of these policy initiatives that form an entrepreneurship infrastructure (Tan, Tan and Young, 2000), it is likely that the respondents, who classified themselves as "craftsman" entrepreneurs, may be effecting the changes in the area of office automation and/or online procedures at a more concerted pace than their more opportunistic entrepreneurs, who may have embarked on this at an earlier date.

The impact of the government initiatives on the SMEs may be the reason there is a lack of significant differences in the other change areas that the authors had anticipated. This reason may explain the fact that both there are no significant differences in the means for the two groups in the aspects of the internet/ecommerce and innovations in operating methods. The Singapore SMEs have been provided with incentives to introduce these measures in the form of various dedicated upgrading programmes. One example is the S\$9 million Local Enterprise Electronic Commerce Programme or LECP (EC) launched in 1998 by the then National Computer Board. The LECP (EC) aimed to jump-start the mass adoption of e-commerce among local enterprises. It achieved its goals and objectives having approved and assisted more than 500 local enterprises in their adoption of EC by October 2000, when a new set of incentives were introduced by the Productivity and Standards Board (PSB, 2001) which was renamed SPRING Singapore (Standards, Productivity and Innovation Board) in April 2002. The agency has also been helping SMEs in the area of operations improvement. It established First Stop in 1996 as the first point of contact for SMEs seeking assistance to upgrade and develop their business capabilities, and has since assisted thousands of SMEs in areas such as finance, operations improvement, land and labour, market expansion and computerization. In the area of specific assistance, to help SMEs manage costs and upgrade their operations, the PSB introduced the National Cost of Quality (NCOQ) programme in 1998 and by 2001 helped over 500 SMEs facilitating an estimated cost savings of nearly \$40 million.

The implications are clear in that further research is required and for the research instrument to account for the areas in which government incentives have addressed areas of organization change. The growth orientation construct that was applied, though well established in the entrepreneurship literature, could be evaluated vis-à-vis another measure such as firm performance over the preceding three years. The possible effect of industry type on these findings will have to be examined in a follow-up study. For example, the level of technological change within some industries may be greater than in others. Furthermore, in specific industries the pressure to initiate drastic changes to human resources might be higher than in others. Another aspect which will have to be considered in a future study is whether the subordinates perceived that there had been sustainable human resource management related changes such as an increase in participation in decision-making. In this study, we mainly utilized bi-variate analyses using t-tests to compare how the two types of entrepreneur behave. In future, we shall use multivariate techniques to allow the control of all variables at the same time and to create a model with stronger predictive ability.

Conclusion

This exploratory study attempted to examine the differences in the technology and human resource management related changes between two groups of SMEs in Singapore. The findings have indicated that the two groups differ a few with regard to the following areas: R & D breakthroughs, office automation/online procedures and recruitment of qualified staff. The SMEs who did not classify themselves as being in the high growth category appear to have introduced the other changes similar to their high growth counterparts. The study arguably also points to the success of the Singapore government's SME policies and initiatives on SMEs as a whole, as it must be remembered that few SME owners would shy from implementing change where up to seventy percent of the costs of change is reimbursed by the government (Begley et al. 2005). A recent outcome of Singapore's continuous SME upgrading measures is the 2007 Facility Sharing Programme as part of the Get-Up (Growing Enterprises with Technology Upgrade) initiative jointly administered by A*Star, the Economic Development Board, IE Singapore and SPRING Singapore aimed at helping SMEs with R & D by providing them with instant access to various research institutes. The effects of these measures on the performance of Singapore's SME sector will have to be ascertained by future studies.

References:

- Ardichvili, A., Harmon, B., Cardozo, R.N. and Williams, M. L. 1998. The new venture growth: Functional differentiation and the need for human resource development interventions. *Human Resource Development Quarterly*, 9(1): 55-70.
- Baum, J.B., Locke, E. A. and Smith, K. G. 2001. A multidimensional model of venture growth. *Academy of Management Journal*, 44(2): 292-303
- Begley, T., Tan, Wee-Liang and Schoch, H. 2005. Politico-economic factors associated with interest in starting a business: A multi-country study. *Entrepreneurship Theory and Practice* 29(1): 35–55.
- Boone, C., De Brabander, B. & Van Witteloostuijn, A. 1996. CEO locus of control and small firm performance: An integrative framework and empirical test. *Journal of Management Studies*, 33: 667-699.
- Braden, P. 1977. Technical entrepreneurship. Ann Arbor: University of Michigan.
- Carlson, D.S., Upton, N. and Seaman, S. 2006. The impact of human resource practices and compensation design on performance: An analysis of family-owned SMEs. *Journal of Small Business Management*, 44(4), 531-543.
- Davidsson, P. (1989). Entrepreneurship and after? A study of growth willingness in small firms, *Journal of Business Venturing*, 4, 211-226.
- Dickson, P.H., Weaver, K.M. and Hoy, F. 2006. Opportunism in the R&D alliances of SMEs: The roles of the institutional environment and SME size. *Journal of Business Venturing*, 21(4): 487-513.
- Filley, A.C. & Aldag, R.J. 1978. Characteristics and measurement of an entrepreneurial typology, *Academy of Management Journal*, 21(4), 578-591.
- Flamholtz, E. G. & Randle, Y. 2000. *Growing pains: How to Make the Transition from an Entrepreneurship to a Professionally Managed Firm*. Jossey-Bass: San Francisco.
- Gartner, W.B., Mitchell, T.M., & Vesper, K.H. 1989. A taxonomy of new business ventures, *Journal of Business Venturing*, 4(3), 169-186.
- Ginn, C. W. and Sexton, D. L. 1990. A comparison of the personality type dimensions of the 1987 Inc. 500 company founders/CEOs with those of slower-growth firms. *Journal of Business Venturing*, 5(2)
- Gundry, L. K., and Welsch, H. P. 2001. The ambitious entrepreneur: High growth strategies of women-owned enterprises. *Journal of Business Venturing*, 16(5): 456-470,
- Info-Communications Development Authority of Singapore ("IDA"), 2000. IDA & PSB announce S\$30 million incentive scheme to spur e-business development and growth in Singapore (Press Release).
- Kao, R. W. Y. and Tan, W.L. 2001. *Entrepreneurship and Enterprise Development in Asia*. Pearson Education: Singapore.
- Krueger, N. and Carsrud, A. 1993 Entrepreneurial intentions: Applying the theory of planned behaviour, *Entrepreneurial & Regional Development*, 3, pp. 315-330.
- Kuratko, D.F., Hornsby, J.S. & Naffziger, D.W. 1997. An examination of Owner's goals in sustaining entrepreneurship, *Journal of Small Business Management*, 35(1), 24-33.

- Locke, E. A., & Latham, G. P. 1990. *A Theory of Goal Setting and Task Performance*. Englewood Cliffs, NJ: Prentice-Hall.
- Low, M. B., & MacMillan, 1. C. 1988. Entrepreneurship: Past research and future challenges. *Journal of Management*, 14: 139-151.
- Menkhoff, T. and Kay, L. 2000. Managing organizational change and resistance in small and medium-sized family firms. *Research and Practice in Human Resource Management*, Vol. 8, No.1, *Special Issue*: 153-172.
- Menkhoff, T., Kay, L. and Loh, B. 2002. Worlds Apart? Reflections on the relationship between small entrepreneurs and external change advocates in Singapore. Journal of Asian Business, 18(1): 37-65.
- Miner, J. 1990. Entrepreneurs, High growth entrepreneurs, and manager: Contrasting and overlapping motivational patterns. *Journal of Business Venturing*, 5(4): 221-235.
- Moran, P. 1998. Personality characteristics and growth-orientation of the small business owner-manager. *International Small Business Journal*, 16(3): 17-38.
- Mullins, J.W. and Forlani, D. 2005. Missing the boat or sinking the boat: a study of new venture decision making. *Journal of Business Venturing*, 20(1): 47-69.
- Naldi, L., Nordqvist, M., Sjöberg, K. and Wiklund, J. 2007. Entrepreneurial orientation, risk taking, and performance in family firms. *Family Business Review*, 20(1): 33-47.
- Nwachukwu, O.C. 1995. CEO locus of control, strategic planning, differentiation, and small business performance: A test of a path analytic model. *Journal of Applied Business Research*, 11: 9-14.
- Productivity and Standards Board (PSB) 2001. Statement by Mr Lee Suan Hiang, Chief Executive, Singapore Productivity and Standards Board, at the news briefing on SME March on 21 February 2001.
- Rauch, A, Frese, M. and Utsch, A. 2005. Effects of human capital and long-term human resources development and utilization on employment growth of small-scale businesses: A causal analysis. *Entrepreneurship Theory and Practice*, 29(6): 681-698.
- Robichaud, Y., McGraw, E. and Roger, A. 2001. Toward the development of a measuring instrument for entrepreneurial motivation, *Journal of Developmental Entrepreneurship* (August).
- Rotter, J. 1966. Generalized expectations for internal versus external control of reinforcement. *Psychological Monographs*, 80, 1-28.
- Sexton, D.L. and Bowman-Upton, N. B. 1986. Validation of a personality index: Comparative psychological characteristics analysis of female entrepreneurs, executives, entrepreneurship students and business students. In Ronstadt, R. (ed.) *Frontiers of Entrepreneurship Research*, 40-51, Babson: MA
- Sexton, Donald L.& Bowman-Upton, Nancy, 1990 Female and male Entrepreneurs: Psychological characteristics and their role in gender-related discrimination, *Journal of Business Venturing*. Vol. 5 (1) beginning at p. 29
- Smilor, R. W. 1997. Entrepreneurship: Reflections on a subversive activity. *Journal of Business Venturing*, 12:341-346.
- Smith, N. 1967. The Entrepeneur and his Firm: The Relationship between Type of Man and Type of Company. East Lansing, Mich.: Michigan State University.
- Smith, N. & Miner, J. 1983. Type of entrepreneur, type of firm and managerial

motivation: Implications for organizational life cycle theory. *Strategic Management Journal*, Vol. 4: 325 – 340.

- Stanworth, J. & Curran, J 1986, Growth and the Small Firm, in Curran, J., Stanworth. & Watkins, D., *The Survival of the Small Firm*, Gower, Aldershot
- Stanworth, J. and Curran, J. 1973. *Management Motivation in the Smaller Business*. London: Gower Press.
- Tan, T. M., Tan, W. L. and Young, J. E. 2000. Entrepreneurial infrastructure in Singapore: Developing a model and mapping participation. *Journal of Entrepreneurship*, 9(1): 1-25.
- Thornhill, S. 2006. Knowledge, innovation and firm performance in high- and low-technology regimes. *Journal of Business Venturing*, 21(5): 687-703.
- Tsang, E. 2002. Learning from overseas venturing experience: The case of Chinese family businesses. *Journal of Business Venturing*, 17(1): 21-40.

Weinshall, T.D. and Raveh, Y.-A. 1983. *Managing Growing Organizations: A New Approach*. Chichester: Wiley and Sons.