

ENTREPRENEURSHIP RESEARCH LAB WINSPEAR INITIATIVE

Funded by the Winspear Endowment, and the Research Council of Sweden

The UVic Quasi-Experiment

The UVic Quasi-Experiment, a Winspear Initiative that is part of the international Entrepreneurship Research Lab Project, is also funded by a substantial research grant from the Research Council of Sweden. Since July 1, 2000 the Francis G. Winspear Endowment at the University of Victoria has provided the primary funding of the data-gathering phase of the quasi-experiment. It is expected that both the Winspear Endowment, and the Research Council of Sweden will provide funding for some of the analysis and dissemination portions of the project.

The principal members of the Entrepreneurial Research Lab team are Per Davidsson and Veronica Gustavsson of Jönköping University, Ron Mitchell of the University of Victoria, and Dean Shepherd of the University of Colorado. Managing data collection and organization is J. Robert Mitchell.

The UVic Quasi-Experiment concerns the development of normative specifications for the improvement of venture creation decision scripts (see Mitchell, et al, 2000; Mitchell, et al. 2002) through entrepreneurship education that is specifically targeted to improve the entrepreneurial expertise/ knowledge structure of individuals. The research design requires a quasi-experimental data gathering strategy due to the practical limitations of implementing a longitudinal fully controlled laboratory within an ongoing instructional program within a University. Accordingly, the UVic Quasi-Experiment is a multi-time-period multiple-group pretest-posttest design, which provides control over the stimulus, but not over certain extraneous factors.

The UVic Quasi-Experiment is a part of the overall Entrepreneurship Research Lab Project, which is more fully described in the paragraphs that follow.

Entrepreneurship Research lab objectives and goals (*specifika mål*)

To gain a deeper understanding of judgement/decision-making of individuals involved in the entrepreneurial process including Assessment policies, Decision policies and Behaviour, and Judgement and Learning. Contrast people who differ in entrepreneurial inclination, as well as contexts that are more and less entrepreneurship inducing.

- Assessment policies – the investigation of the criteria entrepreneurs use to make an assessment. The criteria used in the assessment, the nature of that relationship, and the relative importance of the assessment criteria. Also those of important stakeholders in the entrepreneurship process.
- Decision policies and Behaviour – the investigation of how and why an entrepreneur decides or intends to act. The criteria used, their relative importance, and the nature of the relationships. Also those of important stakeholders in the entrepreneurial process.
- Judgement, learning and expertise – investigation of what entrepreneurial knowledge is and how it is applied. It also investigates how entrepreneurs can acquire knowledge and means to accelerate that acquisition. Also those of important stakeholders in the entrepreneurial process.

**Research area overview (*områdesöversikt*)
(Theory as summarized by Mitchell, et al., 2002)**

Entrepreneurship research laboratory is a multidisciplinary project based on entrepreneurship theory and empirical research as well as cognitive psychology. Together these two research areas have amalgamated into a new field, entrepreneurial cognition.

In fact, the entrepreneurship research always held a multidisciplinary approach. Attempts to explain the relationships between the entrepreneur and new venture formation stems from several fields: economics, personality psychology and strategy. Each of these approaches has its contributions, as well as shortcomings.

One of the clearest examples would be the so-called trait approach, or characteristic based research. During the past 35 years this approach has attempted to describe the entrepreneurial personality as the key component in new venture formation, giving attention to the contributions of people themselves to the entrepreneurial process (Coulton and Udell, 1976; McClelland, 1965; McClelland, 1968). But efforts to isolate psychological or demographic characteristics that are common to all entrepreneurs, have generally failed due to weak, disconfirming or non-significant results. So far, no contributions in the entrepreneurship literature were able to report a unique set of personality traits that characterise the entrepreneur (Brockhaus and Horowitz, 1986; Sexton and Bowman-Upton, 1991; Shaver, 1995).

Yet, despite these research challenges, practitioners and venture capitalists have continued to consider the individual who forms the venture to be critical to its success (Hall and Hofer, 1993; Herron, 1990; Sandberg, 1986; Shane and Venkataraman, 2000; Stuart and Abetti, 1990). Thus actual practice within the entrepreneurship community has differed from much of the research reported to date, and therefore new approaches that explain the contribution of the entrepreneur to new venture creation are required still.

The cognitive perspective provides such a link between the entrepreneur and the new venture creation through focussing NOT on the personality traits, but on an individual's behaviour. It introduces a theoretically rigorous and empirically testable approach that systematically explains the role of the individual as well as the context in the entrepreneurial process, and it provides an effective tool for probing and explaining the previously unexplained phenomena within the entrepreneurship research domain (Mitchell, Busenitz, Lant, McDougall, Morse and Smith, 2002).

An example of such contribution may be investigation of the role of entrepreneurial environments, characterised by information overload, high uncertainty or novelty, strong emotions, time pressure and fatigue. Through the lens of entrepreneurial cognition approach it is possible to distinguish both positive and negative aspects of entrepreneurial cognitions and behaviour. The negative aspects would include counterfactual thinking, affect illusion, self-serving bias, planning fallacy, and self justification (Baron, 1998); overconfidence or representativeness errors (Busenitz and Barney, 1997); and overconfidence, illusion of control, and misguided belief in the law of small numbers (Simon, Houghton and Aquino, 2000). Some of the positive aspects include the making of the venture creation decision using cognitive mechanisms such as expert scripts (Mitchell, Smith, Seawright and Morse, 2000).

Entrepreneurial cognition field has relatively short history. The term was first used by Bird (1992), as entrepreneurs' cognition, and as entrepreneurial cognition by Busenitz and Lau (1996). Some of the first works in entrepreneurial cognition was done in the areas of cognitive biases and heuristics in strategic decision-making (Busenitz, 1992), and in feasibility and desirability perception, planned behaviour and self-efficacy (Krueger, 1993; Krueger and Carsrud, 1993; Krueger and Dickson, 1994). Almost at the same time entrepreneurial cognition-based concepts were first used to distinguish entrepreneurs

from non-entrepreneurs (Mitchell, 1994). Then Palich and Bagby (1995) used cognitive theory to explain entrepreneurial risk-taking, and Mitchell and Chesteen (1995) demonstrated how a cognition-based entrepreneurial instruction pedagogy was superior to the traditional "business plan only" approach to teaching entrepreneurial expertise.

The next wave of entrepreneurial cognition research was led by Baron (1998), who argued that consideration of several cognitive mechanisms such as counterfactual thinking, attributional style, the planning fallacy and self-justification, might have significant usefulness in explaining why entrepreneurs do the things that they do. Then McGrath (1999), and Simon, Houghton and Aquino (2000) provided analyses of how cognitive errors, such as overconfidence, illusion of control, and misguided belief in the law of small numbers, etc. shape such phenomena as the creation of real options for entrepreneurs, to give an example. Busenitz and colleagues (e.g. Wright et al., 2000; Alvarez and Busenitz, 2001) have now utilised cognitive models to explain how the heuristic-based logic that appears to be stronger in entrepreneurs, helps to explain how entrepreneurs think and make strategic decisions; and Mitchell et al. (2000) have utilised entrepreneurial cognition constructs to explain the venture creation decision in the cross cultural setting. Most recently, the use of cognitive constructs has been further extended to explain cognitive complexity in aboriginal economic development and in family business (Mitchell and Morse, 2002; Mitchell, Morse, and Sharma, forthcoming).

As a conclusion, it is possible to say that entrepreneurial cognition approach offers help to understand how entrepreneurs think and behave; "why" they do some of the things they do. This approach also provides a theoretically rigorous and testable argument for such distinctiveness. As such, when one is interested in entrepreneurship-related phenomena, it now appears essential for researchers to credibly account for the role of the individual entrepreneur. The cognitive approach provides the necessary research "tool-kit" to do so. Thus entrepreneurial research with a cognitive foundation is on the rise today because there is a gap waiting to be filled in, and which the cognitive approach is able to fill (Mitchell, Busenitz, Lant, McDougall, Morse and Smith, 2002).

Project description (*projektbeskrivning*)

- o Theory:

Entrepreneurial Cognitions – knowledge structures that people use to make assessments, judgments or decisions involving opportunity evaluation or venture creation and growth (Mitchell, Busenitz, Lant, McDougall, Morse and Smith, 2002).

Venture Creation Model – superimposes the tasks involved into creating a venture onto a continuum of entrepreneurial cognitions (Davidsson and Gustavsson in Gustavsson, forthcoming).

- o Method:

Mostly experimental, although methodological flexibility and variety is given much consideration. A common denominator is that this research will supplement other research approaches, which focus solely on entrepreneurship as it occurs in "real life". In the controlled laboratory environment, more "purified" situations can be created, which facilitates theory testing.

Conjoint analysis and policy capturing – represent experimental, real time data collection techniques that are well suited to entrepreneurship research. Conjoint analysis (also called "stated preference technique" in psychology research) refers to any technique that requires respondents to

make a series of judgements based on specially developed profiles provided by the researcher. From this series of judgements the respondents' decisions can be "broken down" (decomposed) providing the researcher an opportunity to investigate the underlying structure of the decisions, i.e. what factors influence decisions and in what way. It collects data on the decision as the decision is being made. Another well established real time data collection technique, to give an example, is verbal (think aloud) protocol.

Traditional experiment – randomisation of treatments across a sample.

Developing simulations and scenarios – a series of related scenarios are presented to capture changing and even emergent thought. In case when the nature of a decision situation is of especial importance, and a field experiment is impossible, the situation can be simulated in the laboratory. This includes all kinds of simulations – from the most simple paper and pencil simulations to creating sophisticated computer-based microworlds.

- o Project execution.

The nature of the project is reciprocal; it aims at both theory creation, theory testing and method development. Contribution from theory and methodological rigour (both can be derived also from other disciplines) shall lead to rigorously designed multifaceted experiments, involving complex simulations, if necessary. Their results shall lead to improved understanding of the empirical phenomenon that can in its turn translate into broadening of the theory, improvement in education and development of normative advice for the practitioners.

International collaboration:

The project aims at broad international collaboration. Two well-known researchers in the field of entrepreneurship/entrepreneurial cognitions are included in this grant: Dean Shepherd and Ronald Mitchell. As the research progresses, even broader cooperation is intended, including invitations to such well-known scholars in the field as Saras Sarasvathy, Lowell Busenitz, Brock Smith, Connie Marie Gaglio, etc. JIBS has already enjoyed fruitful collaboration with most of these scholars. In addition to producing high quality research and publications in the top-tier journals the participants of the project purpose to supervise the work of Ph.D. students, their research, publications and socialisation in the field.

Preliminary results (*prelimināra resultat*) and biographical information:

Members of the project have already achieved some significant and interesting results. As far as theory is concerned, the project is based on the development from the Entrepreneurial Cognition Conference at the University of Victoria (Canada) in summer 2002. Three of the project members (Mitchell, Shepherd and Gustavsson) participated in the conference.

In connection with the Conference, Professor **Ron K. Mitchell** serves as the lead editor of Entrepreneurship Theory and Practice (volume 27(2), Winter 2002). Mitchell's pioneering research of expert scripts in entrepreneurship has become widely known in the field. He also developed new and highly effective methods of teaching entrepreneurship, which will be explored within the laboratory.

Mitchell, recipient of the Faculty of Business Board of Advisors Distinguished Educator Award, holds a joint appointment in the Business Schools of both the University of Victoria (Victoria, British Columbia, Canada) and Peking University (Beijing, Peoples Republic of China). He also holds the Francis G. Winspear Chair in Public Policy and Business at the University of Victoria, and is a member of the Business and Public Policy Department of the Guanghua School of Management at Peking University. He is a specialist in global entrepreneurship, entrepreneurial cognition, venture management, command to market system transition, and stakeholder theory; and he researches, consults, and lectures worldwide.

Dr. Mitchell earned his CPA in 1978 and received his Ph.D. from the University of Utah in 1994. He won the Academy of Management's 1995 Heizer Award for his entrepreneurship dissertation: *The composition, classification, and creation of new venture formation expertise*. His research, teaching, and service focus is on increasing economic well-being in society-both domestically and internationally-through the study of entrepreneurs, the development of transaction cognition theory, and the further development of stakeholder theory. His research has been published in the top journals of both management and entrepreneurship, and in other respected outlets

In 1989 **Per Davidsson** finished his Ph.D dissertation entitled Continued Entrepreneurship and Small Firm Growth, at the Stockholm School of Economics, where he also remained as Assistant Professor until 1990. Following that, he has been Assistant Professor and Associate Professor at Umeå Business School, and from 1994 at the Jönköping International Business School (JIBS). In 1996, he was appointed Professor of Business Administration/Entrepreneurship at JIBS. He has conducted his own as well as international, collaborative research on entrepreneurship from a variety of perspectives (economic, business, psychological, geographical, sociological). He is especially known for his extensive research on start-up and growth of small firms as well as the job creation and societal well-being effects of those activities. Apart from books and research reports his research has appeared in, e.g., Strategic Management Journal, Journal of Business Venturing, Small Business Economics, Regional Studies, Entrepreneurship and Regional Development, and Journal of Economic Psychology. He has been a keynote speaker at several academic conferences. His research has also evoked interest from organizations such as the OECD Working Party on SMEs and the EU Commission. He has been a consultant to several business firms and to the Swedish Minister of Industry. He is manuscript editor of Entrepreneurship Theory and Practice and a member of the editorial boards for another three journals. He has participated in several major collaborative international research programs.

Dean Shepherd is one of the leading experts in experimental methods in entrepreneurship research, especially conjoint analysis. His achievements are reflected in the number of publications. These include the following:

"Learning from Business Failure: Propositions about the Grief Recovery Process for the Self-Employed." Academy of Management Review (forthcoming).

"Venture Capitalists' Decision Processes: Evidence Suggesting More Experience May Not Always Be Better." Journal of Business Venturing (forthcoming); with Zacharakis and Baron.

"Entrepreneurship Research in Emergence: Past Trends and Future Directions." Journal of Management (forthcoming); with Busenitz, Chandler, Nelson, West and Zacharakis.

"Entrepreneurial Teams and Social Cognition: An Intentions Biased Perspective." Special Issue on Cognition and Information Processing Entrepreneurship Theory and Practice (forthcoming); with Krueger.

"Aspiring for, and Achieving Growth: The Moderating Role of Resources and Opportunities." *Journal of Management Studies* (forthcoming); with Wiklund.

"Entrepreneurial Orientation and Small Business Performance: A Configurational Approach." *Journal of Business Venturing* (forthcoming); with Wiklund.

"A Search Strategy for Assessing a Business Opportunity." *IEEE Transactions on Engineering Management* 49, no. 2 (2002): 140-154; with Levesque.

"An Entrepreneurs Timing of Entry: An Optimal Stopping Approach." *European Journal of Operational Research* 139, no. 3 (2002); with Levesque.

His research interests include entrepreneurs' decision making, venture capital, new venture strategy, optimization

Veronica Gustavsson has devoted her dissertation project to study of entrepreneurial decision-making, entrepreneurial cognition being a part of the theoretical framework. Her dissertation (to be defended in autumn 2003) provides both description of the current best practice in decision-making among the entrepreneurs and a normative model of decision-making in the process of venture creation.

Implications (*betydelse*)

The project has important implications for advances in methodology as well as theory, education and practitioners as far as the field of entrepreneurship is concerned. It should be mentioned that experimental methods are rarely used in entrepreneurship. There is an overemphasis on retrospection and self-reporting. Thus, the project provides an opportunity to utilise well-established experimental techniques from other disciplines to open up interesting new avenues for entrepreneurship research and shed new light on "popular" topics. It expands the attention of the research community, yet it is complementary to current endeavours.

An important and at times overlooked contribution is development of normative advice for practitioners. Entrepreneurship research is sometimes regarded as descriptive only; however, it is not about trying to find out about current practice. This is a very narrow and delimiting view, which dooms entrepreneurship research to always lag behind entrepreneurship practice.

It is possible to argue that entrepreneurship research should take on a greater challenge than that: to stop being entirely descriptive and start becoming (at least, to some extent) normative. The success of entrepreneurship research lab project can ultimately provide important cues enabling researchers to predict what will happen in practice as a consequence of demographic, cultural, socio-economic, and technological changes. Making prediction of this kind is the same as pointing at entrepreneurial opportunities. To study what successful entrepreneurs have done is important, but an even more important and interesting question, which the current project aims at starting to answer is what could be done right now, before somebody else pre-empted an opportunity that is open at this very moment. Entrepreneurship scholars should be able to answer this question, and be able to translate the answer into normative recommendations for practitioners. And, finally, but not the least important, entrepreneurship educators could emphasise developing such skills among their students. In the long run one more implication of the project is providing a doer training, making students not just clever critics, but competent actors (Davidsson, 2002).