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Continuous High Technology Business Incubation

Cross-sectoral comparison of approaches to high technology business incubation

Abstract

This paper addresses the question of how organisations can foster high technology businesses in an incubation-type environment. We compare the approaches taken by a large private firm with a successful University entrepreneurial program to outline successful elements in creating a successful high tech business incubation environment. By outlining similarities and differences of the two cases, this paper provides practical insights how to foster high technology businesses.

Keywords: fostering high technology small businesses, incubation, creation of a supporting environment

1. Introduction

The concept of business incubation is not a new one (Joseph et. al., 2005), but its major importance has only been acknowledged more recently. In the rapidly changing global economy (Bayhan, 2006), the development of entrepreneurship as well as the creation and development of small and medium-sized enterprises (SMEs) are increasingly recognised as a driving force for economic development (Szabó, 2006), since these SMEs are flexible and therefore able to supply the need for immediate adoption of market changes (Szerb, 2003). In this context, business incubators contribute to local, regional and national growth and competitiveness, create jobs as well as wealth for the society (e.g. Bayhan, 2006, Szabó, 2006).

However, even if the business incubation concept is not new, there is no universally valid definition (Hamdani, 2006) nor a coherent approach toward its practical implementation (compare e.g. the overviews on the different national approaches in United Nations, 2001 and Szabó, 2006). Business incubation can be understood as a business supporting process designed to encourage entrepreneurs to start their own businesses and help them to survive and grow on a long-term sustainable basis (e.g. Bayhan, 2006, United Nations, 2001). By providing a supportive environment (Klok, 2001) with resources and services such as tools, information, education, contacts/networks, office space and capital (e.g. Bayhan, 2006), business incubators aim to “accelerate the growth and success of entrepreneurial companies” (American National Business Incubation Association cited through Bøllingtoft & Uihøi, 2005, p. 269) until these companies can leave the incubators financially viable and free-standing. Following this definition, the business incubation concept is closely linked (but not identical) with other concepts providing an environment that fosters entrepreneurship (e.g. Science/Technology Parks or the Corporate Entrepreneurship concept).

This paper is intended to contribute to the challenge faced by many organisations: How to foster high technology businesses in an incubation-type environment? We take an existing model towards innovation management as a starting point and compare the successful business incubation approaches of a large, worldwide professional services firm (Deloitte Australia) and of an entrepreneurial university (University Twente, Netherlands). Outlining similarities and differences of the two cases, the paper provides valuable insights how organisations can successfully approach high technology business incubations.

2. Research Framework

The research framework for this study is the ‘House of Innovation’ model developed by A.T. Kearney (2008). Since innovation performance is not only depending on one indicator, the model takes a holistic approach of innovation management covering a wide range of aspects towards innovation such as innovation strategy, innovation culture, innovation life cycle-management as well as enabling factors (A.T. Kearney, 2008).

The 'House of Innovation' model is currently being applied in a European-wide project called 'IMP³prove' aiming to enhance the innovation capabilities of SMEs. Part of the Europe INNOVA Initiative and supported by the European Commission, the project allows companies to benchmark their innovation performance and helps these organisations to improve their innovation management through personalised consulting services (IMP3rove, 2008).

Figure 1 shows the mentioned 'House of Innovation' model graphically.

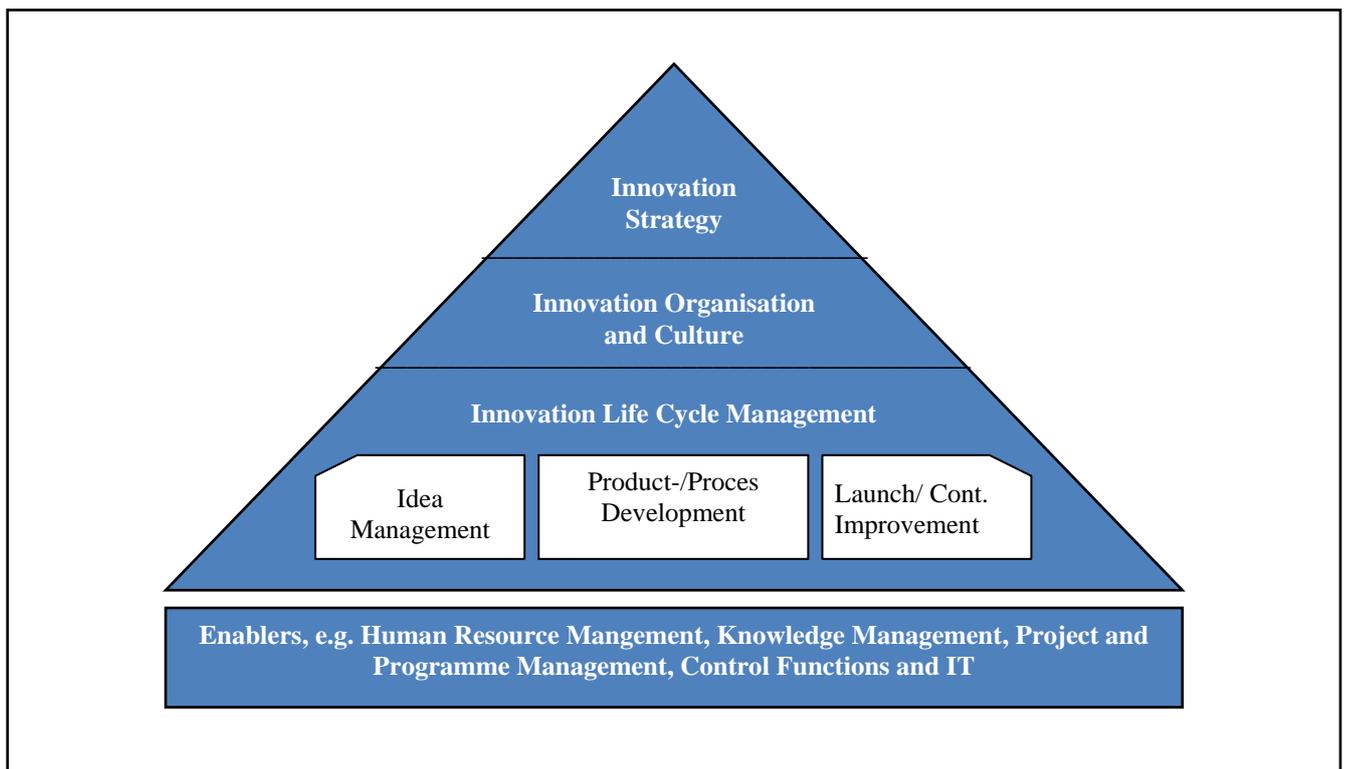


Figure 1: The 'House of Innovation' model (following IAGO, 2008)

We will now take a closer look how University Twente and Deloitte Australia have developed a entrepreneurial environment with specific mechanisms to support high technology business incubation. In the conclusion, using the four building blocks Innovation Strategy, Innovation Organisation and Culture, Innovation Life Cycle Management, and Enablers, we will then compare the two programs to understand some common success factors.

3. Fostering high technology small business at University of Twente

Founded in 1961, the University of Twente (UT) offers an environment in which the academic and personal development as well as the entrepreneurial senses of the UT-students are actively stimulated and facilitated. The University currently has some 7.700 students with almost 2.000 first-year students arriving in 2005. There are 2388 Full Time staff, of which 1400 (FTE) are scientific personnel. Not included in this number are 732 PhD students, active in various research areas.

UT has a world-wide reputation for the creation of a best-practise entrepreneurial process and a solid history of producing high technology start ups and is regularly sited in literature reviews on the topic of entrepreneurship (Clark, 1997, Clark 2003). Their well developed Entrepreneur and innovation program provides a model for European learning and research institutions, whilst ‘UT has realised the most spin-offs of all Dutch universities. The number two in the list has generated only half the spin-offs.’ (Diffuse, 2006)

Whilst the idea that Universities can play a major role in economic development by becoming entrepreneurial may not be new (Mian, 2006), the move to increase the profile of entrepreneurship activities within University Twente actually began in the early 1980’s. Knowledge valorisation and the stimulation of academic entrepreneurship are key features of UT’s policy and they have developed a holistic approach to Knowledge Exchange and Transfer using a mix of centralised and decentralised innovation management.

Framework

The structure for their program is as follows:

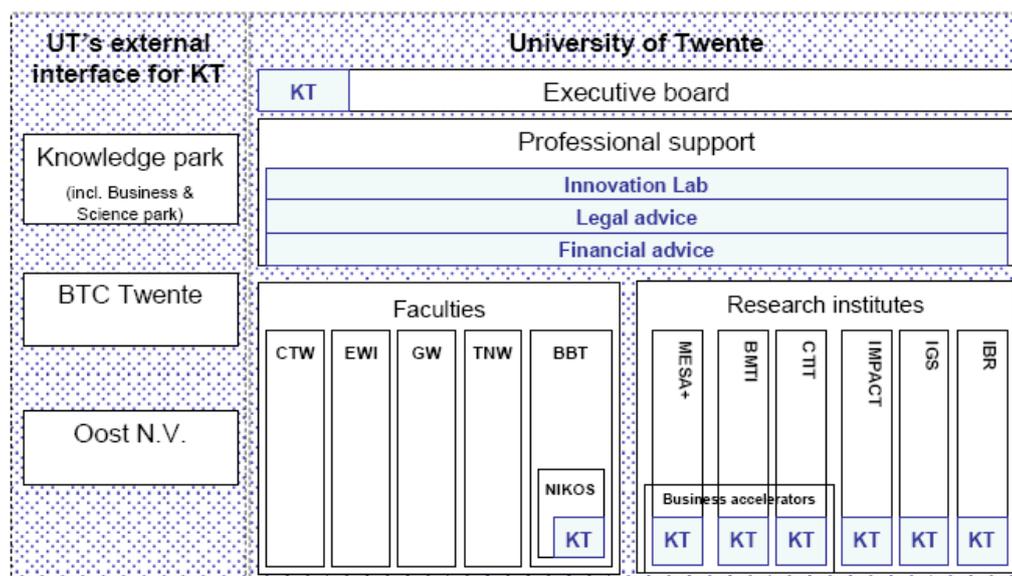


Figure 2: University Twente’s Innovation Program Structure

The structure for University Twente’s Entrepreneurship program primarily consists of the following:

1. *Executive board member* committed to valorisation of Knowledge transfer
2. A dedicated professional support group called the *Innovation Lab* that support entrepreneurial and innovative activities within the University
3. *Nikos* - An expert centre on entrepreneurship research, consultancy, projects and teaching, that works closely with the Innovation Lab and the research institutions
4. Each research institute has its own *Knowledge Transfer body* that interfaces with the market

5. Three research institutes have their own *Business Accelerators* to reduce the time to market for selected projects
6. Access to three dedicated *external Knowledge Transfer agencies* (BTC Twente, Knowledge Park, Oost. N.V)

Strategic Approach to the Entrepreneur Program at University Twente

Strategic Intention - The University has a designated Executive board member committed to the advancement of entrepreneurship within the university being assigned the Knowledge Valorisation portfolio.

Commitment to developing an 'entrepreneurial culture'

At all opportunities, UT brands and promotes itself as an 'entrepreneurial' university. University Twente has developed many different mechanisms to support this. These include:

- Stimulating entrepreneurship among researchers
- Regular meeting in the Faculty Club: entrepreneurs and research meet on a once per month basis to discuss mutually interesting topics
- Researchers and research institutes are also members of entrepreneur's associations
- TOP programme (managed by Nikos) matches every entrepreneur with a mentor from science
- Live-in entrepreneurs - over the years every research group has had at least one entrepreneur to mentor and "live" in the research group
- NIRIA Students Twente and the Student Union host the Twente Technology Week annually
- NIKOS, organizes the 16th annual High-Technology Small Firms Conference (HTSF) in Enschede
- BTC-Twente is a business incubator situated at the Business & Science Park Enschede. It is an incubator center with a target group of knowledge-intensive enterprises and enterprises that specialize in high-tech or high-quality business services

UT'S philosophy is that sustainable firms require four types of functions to develop their business in terms of types of capital (strategic, cultural, economic and social) up to a certain minimum; they must then be balanced.

Encouraging entrepreneurship

To support entrepreneurship education, Twente actively supports the entrepreneurial activities of students and facilitates through the Student Union and the USE taskforce (University Student Entrepreneurs). In addition students can rent office space at below market-rates, USE organises network activities and Nikos offers students various curricular and elective courses and workshops on

entrepreneurship and entrepreneurial skills, whilst all University student-facing services are managed and operated by students.

Education and training to support entrepreneurship

University Twente have created an agency, Nikos (Dutch Agency for Knowledge Intensive Entrepreneurship); dedicated to improving the understanding and education of entrepreneurship within the University. This ensures that the University continues to improve its processes, concepts and culture with the intention of staying ahead of the market.

Encouraging high technology small business

The University of Twente is heavily committed to development of high technology skills and business incubation through its many programs including Technology Week, the High Technology Small Firm Conference and the BTC incubator. The Business & Science Park is a leading location for high-tech companies and ICT service providers wishing to establish research contacts with the university or use the campus facilities.

Converting knowledge into business

- TOP program - during the one-year support the TOP entrepreneur receives office space and facilities, access to networks, a scientific and a business manager, and an interest-free loan.
- Knowledge Park – A collaboration between the province of Overijssel, the cities Enschede and Hengelo and the UT, supported by the Ontwikkelingsmaatschappij Oost NV. The structure has been created to efficiently support the content-related activities ensuing from the Technology Valley and to enable upscaling of successful practices to the national level.

Resources

University resources offered to new ventures (including high technology firms) include:

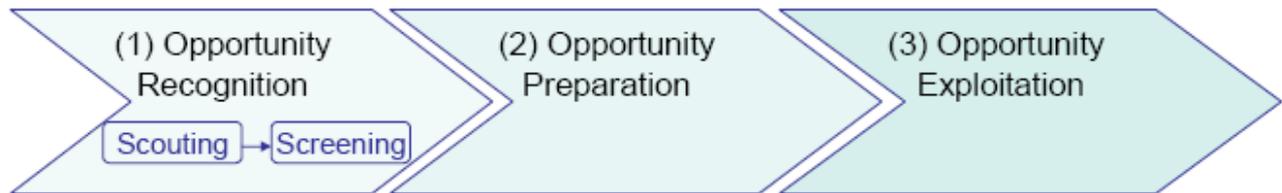
- Knowledge and networking support through Knowledge Park
- Financing and cheap office space through the TOP program
- Engagement with financiers - For the TOP-programme the UT has its own fund. TOP-companies are provided with a loan under favourable conditions (no interest and 4 year pay-back period). The UT is a shareholder in the PPM-Oost fund, which includes the former Innofund. Further, the research institutes and the Innovation Lab have industrial board with representatives financiers.
- University investments in companies - The University sometimes invests in its spin-off companies, especially those companies that are research spin-offs and close to the research capabilities of the university

- Zone of Opportunities – A database of opportunities coming from the university for use by students and SME’s

Involvement of the program with regional and governmental agencies

The University facilitates this through Knowledge Park, with the local Government being part owners of the facility. The Ontwikkelingsmaatschappij Oost NV participates in projects and programmes stimulating regional development.

Process



Decentralised scouting of opportunities at the research institutional level	Ideas with ‘high potential’ on a research institutional level are worked on by business developers	Companies ‘spun out’ using University IP
Initiatives designed to stimulate entrepreneurial attitudes in researchers – including ‘entrepreneurs in residence’, Faculty Club and other initiatives	Mentors from science and business development officers are partnered with entrepreneurs	BTC Twente incubator
Zone of opportunities - Database of opportunities for students and SME’s	TOP program supports would-be entrepreneurs	Knowledge Park supports new ventures
Teaching entrepreneurship at the undergraduate and graduate level	Knowledge Park supports new ventures	PPM-Oost fund provides funds for start-ups through the TOP program
Individuals are free to self select projects to advance and take ownership of the project	Business Plan competitions	Innovation Lab provides funds for investment in research spin-offs
Innovation lab coordinates and oversees all aspects of knowledge valorisation		
Innovation accelerators within three strategic research institutions to provide structured commercialisation with an emphasis on speed to market		
Nikos TOP Program provides resources through support services and access to finance		
Executive Board member oversees and represents the program at board level		

Figure 3: University Twente’s innovation framework

4. Fostering high technology small business at Deloitte Australia

Deloitte Australia (hereafter Deloitte) is a member of Deloitte Touche Tohmatsu, one of the world's leading professional services organisations, with revenue of over US\$20 billion and more than 135,000 people in over 140 countries. Providing services in the areas of audit, assurance and advisory, tax, corporate finance and consulting mainly to Australia's large and middle sized corporate and government organisations, Deloitte has sustained double digit growth for the past four years..

Just a few years ago, Deloitte recognized the importance of creating and sustaining innovation and environment in order to archive its ambitious growth plans. Regarding this, Deloitte's biggest challenge was to transform the vague concept of innovation into a solid activity for its partners and employees. Apart from communicating the significance of innovation regarding Deloitte's overall business and growth strategy, it was seen as crucial to create a sustainable work environment which encourages partners and employees to actively participate in and contribute to innovation.

Since 2003, Deloitte is addressing this challenge with its national Innovation Program, which transformed the work environment at the deepest level. Due to its basic premise that everyone is an innovator, Deloitte promotes partners and employees to "play in the innovation space". The Innovation Program educates and supports partners and employees who then generate and develop ideas on how to improve internal processes or service delivery to clients, as well as new products and services to bring to market. As a structured and comprehensive business process covering targets, funding, resources and accountability, the program covers the whole innovation process from helping people to generate ideas to the successful launch of disruptive and breakthrough innovations.

In 2002, Deloitte's most significant step into high technology business incubation, was in the strategic acquisition of Eclipse, at the time a small web software development company. The group has growth considerably within Deloitte as a essentially a business unit. Since that time, and through the innovation program, they have supported many high technology business ideas, with some being funded ventures that are in the process of being taken to market. The technologies range from a double authentication internet security device designed to prevent phishing and identity fraud, to a new search technology. The high technology expertise that Deloitte possesses through Eclipse, allows it to provide in-house technical support, however when required, Deloitte are willing to either recruit-in or seek advise from domain experts to assist development. The Innovation Acceleration Team looks specifically at high technology ideas and seeks to fast-track their past to market.

Deloitte's strategic approach is based on the framework presented in figure 4:



Figure 4: Deloitte's innovation framework

Innovation Strategy: The heart of Deloitte's framework is the innovation strategy. Defining the role of innovation within the organisation, the innovation strategy provides the context and guiding principles for the design, implementation and operation of the Innovation Program in alignment to the overall business or growth strategy. By determining the program's goals and objectives, its boundaries, and its measures of success, the innovation strategy enables organisations to clarify the vague and intangible concept of innovation. Most importantly, the innovation strategy is aligned to Deloitte's overall business strategy and has a strong commitment by the CEO / board.

Culture: The Innovation Program aims to create an innovative culture, and to embed and continually improve an innovation capability of an organisation. The objective is to educate employees (ability), and, most notably, to encourage and maintain their interest and engagement in the long run (willingness). Winning over the hearts and minds is seen as a key to drive the quantity as well as quality of ideas, and finally to extract value from the program. In order to do so, Deloitte uses strong communication, networking activities, a Reward & Recognition program and relates the Innovation Program to the company's business culture, which is shaped by Deloitte's award winning 7 signals campaign.

Innovation Zone: The Innovation Zone™ is a web based idea management solution providing the primary contact point for employees to interact with the innovation program and with each other. The centrepiece of the zone is the ability to collaboratively improve submitted ideas in order to extract the maximal value at the end. However, the interaction is not limited to employees; rather the Innovation Zone™ is aligned with the other building blocks of the framework and supports the whole innovation process, including idea generation, idea capture, idea review by an innovation council, idea development and launch. To align the Innovation Zone to existing and future market needs, the software also allows campaigns to be started around particular themes (e.g. a "Sustainability Week" was launched in 2007, where 500 new ideas relating to sustainability were submitted to the zone in one week).

Funding & Governance: Effective governance is vital to achieve the defined goals and objectives, and to manage funding in an appropriate manner. Deloitte has employed a multi-tiered governance structure, including an Innovation Executive to direct the program at the strategic level, and two Innovation Councils, which perform the more tactical role of filtering ideas. Financial and other resources have to be identified, approved and tracked to set up and manage a program respectively to develop and implement ideas. Furthermore, long-term oriented management and operating structures need to be developed as the backbone of the program.

Value: In order to reach the program's objectives, and to ensure that the program contributes to the overall business and growth strategy, specific tangible and intangible targets have to be defined. These targets, working as both goals and measures, ensure in conjunction with costs and benefits tracking, a target-oriented execution of the program.

Innovation Acceleration Team (IAT): To ensure that business as usual does not get in the way of high potential ideas with a crucial speed to market, a specialised team accelerates the development and implementation of time-critical ideas. This team, focused on maximizing and capturing value of an idea, has expertise in Intellectual Property (IP) management, rapid prototyping, business case development and go to market strategies.

Pipeline Management: The program's pipeline management component defines criteria, tools and templates to provide a structured process for moving an idea from its generation to launch. Different stage gates (raw idea, active concept, funded prototype, and market expansion) ensure to drive the quality through the program, and hence to extract the maximal value of an idea.

Today, about 80% of Deloitte's employees participate actively in the Innovation Program. The development of Deloitte's innovation and growth capabilities resulted in a number of new businesses and services, which generate close to 8% of the firm's revenue. With a return on investment of over 250%, the Innovation Program is regarded as highly profitable. Due to its internal success, Deloitte took the strategic approach of its Innovation Program to market and has successfully applied the program to a number of clients across varied industries, e.g. the third largest bank in Australia, a leading general insurer in Australia, one of the world's leading commercial real estate services and money management firms, and one of the world's largest news media companies.

5. Comparison & discussion

In order to compare the approaches taken by Deloitte Australia and the University of Twente, the 'House of Innovation' model introduced in the introduction will be used.

	Deloitte Australia	University of Twente
Major objective	<ul style="list-style-type: none"> • New revenue 	<ul style="list-style-type: none"> • Education & economic development
Innovation Strategy <ul style="list-style-type: none"> • Is the innovation strategy clearly linked to the business strategy? 	<ul style="list-style-type: none"> • Defines the role of innovation • provides the context and guiding principles for the design, implementation and operation of the Innovation Program • determining the program's goals and objectives, its boundaries, and its measures of success, • ensures the innovation strategy is aligned to Deloitte's overall business strategy • strong commitment by the CEO / board • Alignment to business culture (7 signals) 	<ul style="list-style-type: none"> • Top-level commitment • designated Executive board member committed to the advancement of entrepreneurship within the university being assigned the Knowledge Valorisation portfolio • A dedicated professional support group called the Innovation Lab that support entrepreneurial and innovative activities within the University
Innovation Organisation and Culture <ul style="list-style-type: none"> • How does the company's readiness for innovation rate? 	<ul style="list-style-type: none"> • Well developed structure for management of innovation through a concept 'pipeline' • Innovation promoted to all employees through regular promotions, competitions and performance review • 'Innovation Week' remains the focus for the program's promotion • Reward & Recognition tied to innovation 	<ul style="list-style-type: none"> • Promotes itself as an 'entrepreneurial' university • Promotes entrepreneurial activity with Professors and researchers • Well established and proven structure for development of new technology
Innovation Life Cycle Management <ul style="list-style-type: none"> • What is the average time-to-market for the most important products/services? 	Mechanism to facilitate path to market of high technology: <ul style="list-style-type: none"> • Innovation Zone • Innovation Acceleration Team (IAT) • Network activities (e.g. Breakthrough Cafes) Collaboration of projects facilitated through the innovation zone • Innovation Council reviews and assist improvement of ideas • Use of Innovation Zone to manage and funnel ideas 	Mechanism to facilitate path to market of high technology: <ul style="list-style-type: none"> • Top Program • Knowledge Park • NIKOS • TOP program mentors from science and industry assist the development of the technology and the technology business
Enablers <ul style="list-style-type: none"> • What percentage of the innovation projects have you completed within the defined time, budget and quality? 	<ul style="list-style-type: none"> • Pipeline management / stage-gate process • Focus on value creation / targets / measures 	<ul style="list-style-type: none"> • Structures innovation process • 2 channels of development of technology depending on who 'owns' the IP

Table 1: Comparison

As table 1 shows, the two approaches are similar. The primary difference between the two organisations is their interaction with ideas and the market. At one end is Deloitte whose day-to-day business puts them in constant contact with the market. This provides an outstanding opportunity to experience and assess the needs of the market in great detail. University Twente, as is the nature of Universities, are constantly exploring new ideas, concepts and ways of thinking whilst also being constantly involved in the development of new research or technologies. UT has the perfect opportunity (time, space and resources) to develop new concepts. It would seem an interlinking of the two innovation paths, that is a professional services firm with a University who has a well developed research pathway especially together with a well developed entrepreneurial educational and developmental pathway, as an ideal vehicle for the development of robust market-tested and research backed new ventures.

Specific high technology experience, capability and supporting mechanisms are crucial in developing an ‘incubation’ environment for high technology business, whilst resources and networking capabilities are also crucial. Both Deloitte Australia and UT have developed this specific capability.

A further point of difference is the facilitation of the innovation program within Deloitte using the Innovation Zone. Acting as a means for the capture and improvement of ideas, the software provides a central point of focus for the innovation program.

The key concepts from the two programs include:

1. Long term top-level buy-in
2. Building the entrepreneurial culture/spirit – workshops and promotions to encourage participation in entrepreneurial / innovation programs
3. Process - creating a process that is flexible to the technology, market and resources, but aims to make the process of turning ideas into value repeatable
4. Resources – creation of an infrastructure that provides resources (including funding, support and / or access to infrastructure) to advance new business concepts
5. Opportunity evaluation - Evaluation of opportunities designed not to stifle the development progress or time to market for the opportunity. This includes having ‘concept acceleration’
6. Development – development of the opportunity using a lab (cross-discipline environment where people come together to improve the concept) or a ‘virtual-lab’ as used by Deloitte though its Innovation Zone™ software (allows Deloitte employees from across all disciplines to improve the idea)
7. Instruments – Creation of instruments that facilitate interaction with the market
8. Empowerment – Empowering the idea owner to develop the concept
9. Coordination – A group coordinating the innovation entrepreneurship program

10. Communication – Internal and external communication to interest the right agencies and partners to work with the organisation to extract value
11. Specific support and expertise for high technology including accelerators for fast to market technologies

Tools used:

- Fast-prototyping of concepts
- Concept accelerators
- Idea capture with the mentality of ‘it doesn’t matter where it comes from but what we can do with it’
- Recognition of the idea generator
- Use of ‘horizon’ models to determine how and through which channels a concept is developed depending on either where the IP lies or on its fit with the organisations capabilities
- Use of ‘entrepreneurs in residence’ to assist and focus the development of concepts

6. Conclusion

The examples of Deloitte’s Innovation Program and the University of Twente’s Entrepreneurial Program have outlined how organisations can foster the creation of high technology business by creating a sustainable ‘incubation’ environment with specific support for high technology development. The comparison of these two approaches also showed that - even if the organisations are different in its nature - the similarities outweigh the differences. Giving practical implications for successful establishing an environment to exploit growth from currently undiscovered sources, this paper also brings up some areas for further research. Future research should be undertaken to further investigate innovation approaches of research and business organisations. Key questions to be answered include how compatible these approaches are and how to bring together the approaches in order to create a successful high technology business incubation environment.

References

- Antoncic, B. & Hisrich, R.D. 2001. Intrapreneurship: Construct Refinement and Cross-cultural Calibration. *Journal of Business Venturing*; 16(5). pp. 495-527.
- Bartlett, C. & Mohammed, A. 1995. 3M: Profile of an innovation company. Boston: Harvard Business School Publishing case study.
- Brazeal, D.V. & Herbert, T.T. 1999. The Genesis of Entrepreneurship. *Entrepreneurship Theory and Practice* ; 24(1). 29-45.
- Carr, N.G. 2007: The Google Enigma. *strategy+business*; 49 (Winter)
- Chell, E., Haworth, J. & Brearley, S. 1991. *Entrepreneurial Personality*. London and New York: Routledge.
- Clark, B, 1998. *Creating Entrepreneurial Universities: Organisational Pathways for Transformation*. Oxford: Pergamon.
- Gnyawali, D. & Fogel, D. 1994. Environments for Entrepreneurship Development: Key Dimensions and Research Implications. *Entrepreneurship Theory and Practice* 1994; Summer. 43-62.
- Drucker, P.F. 1985. *Innovation and Entrepreneurship: Practice and Principles*. New York: Harper & Row.
- European Commission. 2006. Report on the implementation of the Entrepreneurship Action Plan. Brussels: SEC(2006) 1132.
- Gummesson, E. 2002. Relationship Marketing in the New Economy. *Journal of Relationship Marketing*; 1(1). 37-58.
- Hisrich, R.D. & Peters, M.P. 1998. *Entrepreneurship*. Boston, Massachusetts: Irwin/McGraw-Hill.
- Howell, J.M. & Higgins, C.A. 1990. Champions of Technological Innovation. *Administrative Science Quarterly*; 35(2). 317-330.
- Hume, W.R. 2004. University Funding Models, Private Investment and Governance. German-Australian Conference on Higher Education Financing. 194-208.
- Maes, J. 2003. The Search For Corporate Entrepreneurship: A Clarification of the Concept and its Measures. Working Paper Steunpunt OOI: September 2003. Leuven.
- Mian, S. A. 2006. Can 'Entrepreneurial University' Model Help Pakistan Leapfrog Into The Knowledge Economy?
- Norway's Ministry of Trade and Industry .2003. From Idea to Value: The Government's Plan for a Comprehensive Innovation Policy.
- OECD. 2007: *Entrepreneurship as an engine for growth: evidence and policy challenges*. GEM Forum. Entrepreneurship: Setting the development agenda.
- Pinchot, G. 1985. *Intrapreneuring: Why you do not have to leave the corporation to become an entrepreneur*. New York: Harper & Row.

- Russel, R.D. 1999. Developing a Process Model of Intrapreneurial Systems: A Cognitive Mapping Approach. *Entrepreneurship Theory and Practice*; 24(1). 65-84.
- Santoro, M. & Chakrabarti, A.K. 2002. Firm Size and Technology Centrality in Industry-University Interactions. *Research Policy*; 31. 1163-1180.
- Schumpeter, J. 1934. *The Theory of Economic Development*. Cambridge.
- Sharma, P. & Chrisman, J.J. 1999. Toward a Reconciliation of the Definitional Issues in the Field of Corporate Entrepreneurship. *Entrepreneurship Theory and Practice*; 23(3). 11-27.
- Siguaw, J. A., Bakes, T. L. & Simpson, P. M. 2003. Preliminary Evidence on the Composition of Relational Exchange and its Outcomes: The Distributor Perspective. *Journal of Business Research*; 56. 311-322.
- Stopford, J.M. & Baden-Fuller, C.W.F. 1994. Creating corporate Entrepreneurship. *Strategic Management Journal*; 15(7). 521-536.
- Szerb, L. 2003. The Changing Role of Entrepreneur and Entrepreneurship in Network Organisations. In: Lengyel, K. (ed.), *Knowledge Transfer, Small and Medium-Sized Enterprises, and Regional Development in Hungary*. 81-95.
- van de Ven, A.H. 1993. The Development of an Infrastructure for Entrepreneurship. *Journal of Business Venturing*; 8(3). 211-230.
- van Rossum, W. & Cabo, P.G. 1995. The Contribution of Research Institutes in Eureka Projects. *International Journal of Technology Management*; 10(7/8). 853-866.
- Zahra, S.A. 1991. Predictors and Financial Outcomes of Corporate Entrepreneurship: An Exploratory Study. *Journal of Business Venturing*; 6(4). 259-285.
- Zahra, S.A. & Gravis, D.M. 2000. Entrepreneurship and Firm Performance: The Moderating Effects of International Environmental Hostility. *Journal of Business Venturing*; 15(5/6). 469-492.

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