

A Guide to the Status of the Incubator Industry in Norway

**Written and submitted by Virginia Ryker
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Methodology

Overview

This study of Norwegian incubators was started in October 2000. The original question was whether Norwegian incubators would be disintermediated. As the initial planning got underway, it became clear that a current state of the industry (and its characteristics) must be known before one could determine the viability of the industry. Consequently this paper evolved to be A Guide to the Status of the Incubator Industry in Norway, including some comments on the disintermediation question. The project was conducted in four phases that overlapped in time.

Phase I - Background research

The first phase of this study started with the question: what is an incubator? At the outset this seemed like a fairly straight forward question, but it quickly became clear that the definitions of INCUBATOR were either too general, encompassing everything from consulting firms and venture capitalists that ever gave advice to an entrepreneur, to shopping malls¹; or they were so restrictive that they excluded many companies that considered themselves incubators.

In addition to defining incubators, focus in this stage was also on tracking down academic and public sources regarding incubators and their business practices. The bulk of this material came from studies conducted in the United States, though other sources (for example from the UK, Denmark, Norway, and from the OECD) were also reviewed. No significant discrepancies existed between the United States material and the non-United States material. However, the validity of the application of Incubator Best Practices/Critical Success Factors developed in the United States, to incubators outside of the United States is defended in the body of this paper.

Phase II - Polling and interviewing

To determine what elements were critical in defining a Norwegian incubator and the types of incubator models existing in Norway, phase two involved the identification and polling of companies in Norway which either considered themselves, or were considered by others, to be incubators. "Incubators" were identified through Internet searches, trade paper searches, as well as discussions with diverse persons in both the private and public sector in Norway.

Once an incubator was identified, direct contact was attempted before sending a questionnaire by e-mail. In cases in which live phone contact was not possible, voice mail and e-mail were used to explain the project. By directly contacting individuals at the incubator, it was hoped that both the number and the quality of responses would be higher than if such contact had not been made. Whether or not this tactic was effective was not measured.

Phase two was subsequently expanded to include a limited number of interviews and/or polling of other actors involved in the creation of new businesses - 5 Venture Capitalists (VCs)², 2 lawyers, 3 journalists, 1 politician, and a handful of Norwegian entrepreneurs both in Norway and outside of Norway. Ideally, more VC's and entrepreneurs should have been polled, but since they were not the focus of the project, per se, time and resources were necessarily allocated in favor of collecting incubators' information. The extent to which VCs provide startup assistance, and their satisfaction with incubation models could be the subjects of their own studies. Similarly, entrepreneurs' satisfaction with the startup support services they receive from various sources would make an excellent project, though such a project would be far more ripe two to three years from now.

Phase III - Analysis

Phase three was the collation and analysis of the data collected in phase two. The results- both summaries and raw data- can be found in Appendix II.

¹ For example, one of the interviewee's definitions of an incubator was: "An incubator is an organization which shares resources and thereby promotes new and growing businesses." While this definition is correct as far as it goes, a shopping mall meets this definition, but certainly is not an incubator.

² Nearly 20 VC sources were initially identified for polling, but because it was not possible to get the attention of many of these VC's, despite repeated telephone calls and/or e-mail attempts, the number actually polled was only 5, and of these only 3 responded.

Phase IV- Writing and editing

The final phase of the study was the writing and editing of this report.

Throughout all of the phases, there were ongoing discussions, feedback, and brainstorming sessions with Arve Maøy of the incubator eScienza. While the content of our dialogue is never directly quoted, it provided the foundations for new areas of exploration and greatly assisted in identifying appropriate contact persons. Maøy's contribution particularly, along with the contributions of all other parties who have shared their time and knowledge for this project, has been greatly appreciated.

This report is, of course, a reflection of the material available during time period in which it was written. If the writings of the popular press are an indication of treatises to come, it is likely that, within the next 18 months, additional sources critical of incubators will become available. It is also likely, that with in that same time frame, some of the incubators mentioned in this paper will cease to exist; equally, there is little doubt that others will spring up. This report is not meant to be completely exhaustive, but rather, as the title states, A Guide to the State of the Incubation Industry in Norway.

Consolidation and Summary of Data - Criticism of Chosen Methodology

A summary analysis of the data reported, and the following listed supporting documentation, can be found in Appendix 1:

- Compilation of raw data
- Summary and Contact details for each incubators
- Table over client survival rates and incubator opening year
- Blank copies of questionnaire used

Several problems became obvious when attempting to compile the raw data into percentage statistics, not the least of which was small sample size. Additionally, because the incubators self-reported, it is suspected that consistency errors exist due to both language interpretations and question interpretations.

While most Norwegians have a very good command of the English language, interpretations may vary because of differing skill levels. Thus questions may have been understood differently by different respondents simply because of translation variations. However, no metric was in place to control for or verify translation variations.

Distributing the questionnaire in Norwegian may have reduced translation variation, however, it would not have overcome the additional "interpretation of the question" problem which is inherent in self-reporting. Question four, for example, was understood - without further explanation- by only 4 respondents. Some respondents answered the question correctly after additional explanation, while others still did not answer it correctly. A large group simply skipped it. Consequently, question four has been eliminated from the study because of the obvious unreliability of the result.

Similarly, there was a minor problem with question two. One incubator queried whether "management for hire" would fall under "Assistance advice on: ...Critical Personnel" or "Resource Management Assistance". Consequently, whether other incubators offer "management for hire", and/or how they would have denoted it, is unknown.

Both the language and question interpretation problems could be overcome by using an interviewing technique instead of a questionnaire, or better still a combined polling method (both questionnaire and interview). However, the drawbacks of such methods potentially include interviewer bias, increased cost, and less flexibility for the respondents as to when they will respond. This last point is highlighted by the fact that more than one response was returned via e-mail well after business hours. Had an interview been required, it is doubtful that some of the respondents would have found time to devote to an interview during reasonably extended business hours.

Source Material

See Appendix VI. Not all websites, and magazines that were reviewed during the study are listed.- only those which are referred to in the body of the paper or provided critical foundation material.

Introduction

When this study was started in October of 2000, the United States technology stock market was in the midst of a crash, ending a decade of steadily skyrocketing stock prices. Daily, one could find articles in the United States press not only about dotcom companies delaying IPO's and going bankrupt, but also about the incubators who had large shares in these dotcom companies and were suffering the consequences. Below is a transcript from a CNN/FN report which appeared on CNN International on 25 October³.

Tom Bogdanovich (CNN/FN reporter):

"Experts say consolidation among incubators is bound to pick up. The recent crash has put many firms out of business and incubators under pressure.... Money thrown at web companies during the pre-crash euphoria has dried up; so experts say that those [incubators] that will survive will have to shift strategy."

Sharon Coor (Lehman Brothers):

"The window is closed and therefore there will likely be some consolidation. Exit strategy has to shift from one of taking the company to IPO to actually taking the company to trade sale potentially, or making further investments in that company over a longer period of time."

Tom Bogdanovitch:

"That means injecting more cash into start-ups from the very beginning, creating a genuine track record of performance and attracting good deals in the future..."

Through out the autumn of 2000 it was clear that consolidation was already occurring among United States incubators. CMGI, one of the largest incubator companies, had announced restructuring of its portfolio to reduce the total number of majority owned companies to a core of 17.⁴ Idealab, which had already postponed its own IPO once, withdrew its IPO and announced drastic cuts.

This crash was no surprise to industry experts. Though in January, 2000, United States incubators were being hailed as a fantastic new business model, by April, Forrester Research⁵ was already warning of problems that ultimately materialized in late summer, and continue today.

In Norway, the experience has been little different. Though Kapital's "Investorguide" reported positively on new incubators in Vol. Nr. 6/2000⁶, by Vol. Nr.14/2000, the attitude from Kapital's "Finans" was more negative: one incubator that was started in February of 2000 and had managed to raised capital, was "put on ice".⁷ Similarly, Incubator.no was also put on ice before it was properly launched in April of 2000. Nevertheless, planning for new incubators continued and many opened as planned.

Why incubators are started

In Norway, as in the United States, incubators have been and are being created by the private sector, public sector, academic institution, and/or corporations. "Highly adaptable, incubators have different goals: to diversify rural economies, to provide employment for and increase wealth of depresses (areas) and to transfer technology from universities and major corporations."⁸ In the "new economy", many

³ Dialogue from a television news report on Incubators, which appeared on the program CNN/FN on CNN Internaitonal on 25 October. Copyright Cable News Network, 2000.

⁴ Regan, Keith. 2000. *CMGI to Regorganize, Narrow Focus*. [Online] E-Commerce Times. Available at www.ecommercetimes.com/news/articles2000/000908-5.shtml , downloaded Oct.20, 2000.

⁵ Parker, Andrew. 2000. *European Incubators: Watch for the Shakeout*. The Forrester Brief, March 31, 2000. Forrester Research Inc.

⁶ Rønningen, Runar.2000.*Rugekasse for nettgründere*. Kapital nr. 6/2000:114-115.

⁷ Forest, Morten de la. 2000. *See you later incubator*. Kapital nr. 14/2000: 42-44.

⁸ NBIA's "Incubation Industry Information". [Online]. National Business Incubation Association. Available at www.nbia.org/info/history.html, as downloaded 11/03/00.

incubators have been started with a view of cashing in on the Internet wave and/or to develop technology for the next generation of media and services.

With the private investors, the hope of making money may be the only reason given. In the public sector, however, it may be dressed in words like "stimulating the local/region economy", "providing jobs", etc.. For academic institutions the key phrases are "outlet for student ideas", "commercializing research" and "prestige". Corporations with spin-offs link incubation with "survival" and "increasing share holder value for the future". Irrespective of whether the beneficiary is a direct investor, a regional community, academic institution, or corporate shareholders, the simple truth is that the primary motive for starting an incubator is to create value - financial or otherwise.

Norway is riding the third global wave of incubators

Though a few individual incubators existed prior to the 1970's, the growth of incubators globally can be seen as three waves: pre-internet period (primary development in the United States in the 1970s - early 1990s); the period around the globalization and hype of the internet business development (early 1990s to late 1990s); and the post- "internet bubble" (beginning in 1999 and continuing at present).

Commercial incubators started appearing in the United States in the late 1970's and early 1980's (though the first is reported to have been started in Batavia, New York in 1959⁹). Many of these first incubators had attachments to universities, or grew out of government or industrial research facilities.¹⁰ Some, however, began as regional rejuvenation ventures set on revitalizing communities suffering from economic blight.¹¹

During the early 80's two clear strategies emerged for the creation of incubators- the physical (real estate model) and the business development model. The first model aimed at providing new businesses with low cost physical facilities so that the business could focus on expanding operations, personnel, and markets. These incubators were generally located in renovated buildings and warehouse spaces in low rent areas. "The incubator's success was defined in terms of leased space, and in terms of the entrepreneur's ability to meet monthly expenses."¹²

"The second strategy was a more conscious attempt to build companies - that is to leverage resources to help companies grow.... Although providing space was still important, the focus was on developing firms."¹³ The second strategy was pursued by investors and universities and government agencies wishing to capitalize on and commercialize their research developments and inventions.

⁹ Chinsomboon (for more about Chinsomboon and reference to his paper, see note 30 below) mentions two additional incubators that were started before the Batavia, New York incubator. He reports "incubators have been around since 1942, when Student Agencies Inc. ...began incubating student companies. In 1946, the first incubator outside the student community was created by American Research and Development (ARD), started by MIT President Karl Compton and several MIT alumni..." Chinsomboon's source for this is an unpublished Ph.D. dissertation by Charles Ziegler, "Looking Glass Houses: A Study of Fissioning in an Innovative Science-Based Firm", Brandeis University, 1982. Since this source was not reasonably available for confirmation, the generally accepted statement from NBIA regarding the Batavia, New York incubator is accepted here as one of the earliest examples of commercial incubation. See *NBIA History*[Online]. National Business Incubation Association. Available at www.nbia.org/info/history.html , as downloaded 11/03/00. (For more about Chinsomboon and reference to his paper, see note 30 below)

¹⁰ Old becomes new? An interesting thing to note is that in 1995, Rice and Matthews identified "5 Emerging Trends" - the second of which was "Incubators Attach to Research/Knowledge Centers". Rice, Mark P. and Matthews, Jana B..1995. *Growing New Ventures, creating new jobs: principles and practices of successful business incubation*. Center for Entrepreneurial Leadership, Inc.; Quorum Books, Westport Connecticut. p136.

¹¹ See Fulton-Carroll Center for Industry, www.industrialcouncil.com

¹² Smilor, Raymond W., and Gill, Michael D., Jr.. *The New Business Incubator: Linking Talent, Technology, Capital, and Know-How*. Lexington Massachusetts: D.C.Heath and Company. 1986. p.3 .

¹³ *Ibid.*, pp3-4.

In the United States, from the early 1980's Small Business Administration (a United States federal government agency) began supporting development of incubators. As a result the number of incubators opened annually in the United States increased by 250% between 1984 and 1987, and numbers continued to grow in the 1990's¹⁴.

The second wave of incubator development was truly a global wave. In the 1990's, as the incubator models solidified in the United States, new incubators began to spring up in other countries with a similar explosive growth pattern. For example, by "May 1996 there were at least 49 incubators operating in Australia, which represented a 40 per cent increase over the past two year period. ANZABI¹⁵ understands that as of September 1997 there were 52 incubators operating, with a further 27 funded but not yet operational and a further 46 planned but not yet funded."¹⁶

This second wave of incubator development has focused specifically on technology based start-ups. This growth paralleled the general explosion in technology, but the primary factor in the growth of new business services support has been "the type of entrepreneurs involved in [the technology explosion]. Many of the new entrepreneurs [had] negligible experience in managing and growing small enterprises...[and tended] to lack certain key pieces of knowledge and experience."¹⁷

Some of Norway's incubators were established during this second wave. For the most part these were attached to FORNY and their purpose was, and continues to be, the commercialization of research and development results from research parks and universities.¹⁸

Incubator development has now entered a third wave. Towards the end of the 1999, as the "Internet bubble" began to burst, American incubations began to suffer significant setbacks due to poor business models and over-investment in Internet companies without regard to appropriate valuation. This trend continues. But as many United States incubators had begun consolidating their portfolios¹⁹, closing offices or simply closing²⁰, Norway began experiencing both an explosion and a shake out of incubator development.

During the course of the project, several organizations whose business focus previously had been "dotcom" incubation were discovered. Their fates have varied- for example: Incubator.no, though in final planning stages, simply never formally opened - their website remains, but no activity or updates occur. Another, which was reported to have been funded, was "put on ice" (First Step)²¹, while yet another still focuses on Internet dotcoms, but admitted it was struggling with this strategy. Some Internet incubators have survived by shifted their focus to broader technology business development and/or consulting. Accenture's Dot.Com Launch Center has become Business Launch Center, and Oracle's 2becom.com has become the Oracle Venture Network.

¹⁴ While the exact number of incubators in the United States is not known, as of 1998, "there are more than 800 business incubators in North America, up from 12 in 1980". See *NBIA Factsheet* available at http://www.nbia.org/info/fact_sheet.html as downloaded 21 Jan.2001

¹⁵ ANZABI stands for Australian and New Zealand Association of Business Incubators.

¹⁶ OECD. 1999. *Business Incubation: International Case Studies*. Organization for Economic Cooperation and Development. p.29.

¹⁷ Tornatzky, Louis G.; Batts, Yoland; McCrae, Nancy E.; Lewis, Marsha S.; and Quittman, Louisa M. 1996. *The Art and Craft of Technology Business Incubation*; Athens, Ohio: Southern Technology Council and the National Business Incubation Association. P.3.

¹⁸ FORNY is a program sponsored by Research Council of Norway, SND, NHO, and KR D. The goal is to assist in the commercializing of research results from universities and research parks.

¹⁹ For example see Regan, Keith. "CMGI to Reorganize, Narrow Focus". Sept 8, 2000 at E-Commerce Times, 2000. www.ecommercetimes.com/perl/story/4235.html. Also available at www.ecommercetimes.com/news/articles2000/000908-5.shtml as viewed 05/04/2001.

²⁰ Red Herring Deal Flow, 02 April 2001. "Another incubator bites the dust: Fusion Ventures Runs Out Of Fuel". Available at www.redherring.com/index.asp?layout=story_generic&doc_id=RH50018605. Also see, Red Herring Deal Flow, 26 April 2001. "Campsix Couldn't Scale Mount Incubator". Available at www.redherring.com/index.asp?layout=story_generic&doc_id=RH1750019175.

²¹ Kapital, 14/2000; at 44.

However, during 2000 and 2001, several new incubators opened²²: eScienza, Mobile Forza, Silicon Capital, Segmentor/Innovation Backbone, Startbua at Gjøvik Knowledge Park, The Growth Factory, Comig@ng at Lillehammer Knowledge Park, and SIVA's incubator development plans²³ continued full force.

For those incubators starting up and still operating after the Internet bubble began to burst, an adjustment in market focus from dotcoms to "Internet and mobile enabling technologies" is not surprising. One would also suspect there to be a renewed respect for the value of "old economy" principles paralleling those taking place in the technology investment sector generally, and an expectation of longer incubation periods. Those incubators with financial models in place to tackle the changes should be less vulnerable to the current market downturn. However, it is too soon to say what the shake out will be. Some shake out is still expected, particularly amongst those with few clients and no other income stream in the revenue model.

What is an Incubator?

There is no single definition of "incubator" that is globally adopted. This is because there is no single meaningful definition of "incubator" which can encompass the diversity of startup assistance firms that call themselves incubators or are referred to by others as incubators.

The dominant "definitions" come from the European Business Incubation Association and the National Business Incubation Association in the United States but they are more descriptions of what incubators do than definitions.

Their origins lie in a United States Department of Commerce report published in 1986, and a book by Smilor and Gill published the same year. In a report for the U.S. Department of Commerce, 1986 David N. Allen from the Institute of Public Administration at the Pennsylvania State University, concluded that the defining characteristic of incubators was the fact that they supplied three types of facilities: "logistical or physical, shared office support, and management consulting".²⁴ Smilor and Gill picked up on the report and built the concept further.²⁵

It was during this time the United States National Business Incubation Association started and formed their definition of an incubator. The European Business Incubation Association²⁶ was started in 2000 and clearly relied on much of the work produced by the NBIA.

According to the European Business Incubator Association: "*An incubator provides finance, operational and management expertise as well as facilities to Internet startups and e-related technology business.*"²⁷ The National Business Incubation Association of America (NBIA) confirms this definition without limiting it to "*Internet startups and e-related technology business*". The NBIA also stresses that management provided is "hands-on", and that access to facilities are not free, but rather flexible and may be shared across businesses.²⁸

Extracted from this then, the primary services an organization must provide in order to be an incubator in Europe or the United States are:

1. Access to financing
2. Management and operational assistance

²² See Appendix II for actual opening dates.

²³ See Appendix IV- SIVA Mini Case for more information about SIVA's incubators.

²⁴ Smilor, 1986. p.7.

²⁵ Ibid.

²⁶ See homepage of the European Business Incubation Association (BIA) available [online] at www.biaeurope.org . As viewed 22 Jan. 2001.

²⁷ See BIA page available at www.biaeurope.org/default.asp?id=2. As viewed 22 Jan. 2001.

²⁸ "Incubators provide hands-on management assistance, access to financing and orchestrated exposure to critical business or technical support services. They also offer entrepreneurial firms shared office services, access to equipment, flexible leases and expandable space — all under one roof." See NBIA, available at www.NBIA.org . As viewed 22 Jan 2001.

3. Physical facilities

But this summary of services is unsatisfactory as a definition. It is also too specific to encompass the diverse range of incubator models that exist today in Norway, or the rest of the world for that matter. For example, though all incubators focus on developing businesses, not all of the businesses are necessarily in e-related fields. Additionally, not all incubators provide physical facilities.

By starting with a dictionary definition of incubator and applying it in a business context²⁹, O. Mac Chinsomboon³⁰ provides the following definition of an incubator:

*A controlled environment that fosters the care, growth, and protection of a new venture at an early stage before it is ready for self-sustaining operation. In today's world,...the term "controlled environment could be either physical (real estate and office facilities) or virtual...."*³¹

This definition is more satisfactory because it is broad enough to encompass the diverse range of incubator models, as well as emphasizing the main value of an incubator - the controlled environment. As long as a company is part of an incubator it is shielded from direct market forces which could otherwise mean its demise during a vulnerable startup phase.

This definition is not ideal, however, because it ignores the fact that many incubators work not only with startups, but also with reorganizations of failing companies.³² Modifying Chinsomboon's definition to encompass this, produces the following possible alternative definition:

A controlled environment that fosters the care, growth, and protection of a venture at a time when it cannot be a self-sustaining operation. In today's world,...the term "controlled environment could be either physical (ie: real estate and office facilities) or virtual.

Norwegian Incubator Survey

The OECD points out that "there is no unique business incubation model. Rather, there is considerable diversity in the types of business incubator, their modes of operation and the objectives they pursue."³³ Though the OECD only considered incubation in five countries; Australia, Germany, Italy, the United Kingdom, and the United States, their point was that incubators exist in many countries and that there is not just one model of incubator.

A survey of companies that either called themselves "incubator", or were called "incubator" by others, was conducted to determine what types of models of incubators existed in Norway. In this survey, the companies were asked to provide a brief description of the organization: who their owners were, what types of services provided, their payment regimes, what they considered to be their competitive advantage, etc.³⁴

Early research suggested that an appropriate way to sort the reporting incubators was by dividing them into two groups based on the type of owners the incubator had - public sector or private sector.

²⁹ This approach is also taken by Lalkaka, Rastam, and Bishop, Jack. 1996. *Business Incubation in Economic Development*. (joint publication) New York: United Nations Development Programme, Washington, D.C.:Organization of American States, and Vienna: United Nations Industrial Development Organization. page 20.

³⁰ O. Mac Chinsomboon is an Electrical and Computer Engineer from the University of Colorado at Boulder. He has studied incubators as part of a MBA at the Sloan School of Management at MIT in the United States. His report "Incubators in the New Economy" was released May 17, 2000; last updated June 10, 2000, and is available on his website at www.chinsomboon.com/incubator.

³¹ Ibid.,p.13.

³² The Growth Factory, in their response in the Incubator Questionnaire, specifically list "Revitalizing and restructuring dotcoms in trouble".

³³ OECD (1999), back cover.

³⁴ An example of the questionnaire is provided in Appendix I.

However, it soon became clear that this would not be very informative because character of the incubator and the services it provided had little correlation to the ownership form. While some incubators reported exclusively private owners, there were many hybrids - either a combined public/private ownership; or private, but receiving public sector funds either directly, or indirectly (ie: clients received additional support to cover fees owed to the incubator and other creditors³⁵). As more incubators reported in, and with further research, it became clear that a better way to classify incubators in Norway was by the type and depth of services they provided.

One thing that can be said about the wholly privately owned incubators, however, is that they responded with greater frequency and fewer reminders - all but one responded. On the opposite end of the spectrum were incubators connected to research parks and universities, which needed the most follow-up, and/or did not respond at all. Though the reason for this result has not been studied, when casually asked, one private incubator commented:

"We recognize a marketing opportunity every chance we get. Knowledge parks already have a brand. They have it easy- everyone in the EU hears about them... but we in private companies have to be smart about getting our name out there... If we fail, we lose a lot of money- personally and our investors. Knowledge parks just get more government money till something comes out of them."

While it is doubtful that the research parks have an endless flow of funds, the comment triggers many questions which could be the basis for further research: questions regarding branding, marketing, and the capitalistic nature of incubators are only the tip of the iceberg.

Incubator models

Six models of incubators can be described as existing in Norway. The first four are collectively referred to as Independent Enterprise Developers (IEDs). This is because their focus is to create independent "freestanding" enterprises. It is the IEDs that are the subject of this paper. The last two models, on the other hand, aim to create new ventures within an existing corporate framework.

The IEDs were also identified by O. Mac Chinsomboon as existing in the United States, and he provides concise descriptions of each of these models.

Venture Incubator (Full Service Incubators)

A Venture Incubator is a full-service organization that provides everything a venture could need; including office infrastructure, access to a network of contacts, technology resources, operational expertise, legal, accounting, etc.

TechCap and the SIVA³⁶ incubators are typical examples of Venture Incubators.

Venture Accelerator (Start-Up Consultancies)

Venture Accelerators are service firms that accelerate the process of starting a new venture. They provide consulting services to bolster the business plan, reposition, validate, bring to market, provide due diligence for a venture capital firm or other investor, and make available other for hire services specific to a new venture. Like any consulting firm, they hope to leverage their broad base of skills, access the "best practices" objectively, and benchmarking in the industry as a rocket booster for new ventures.

eScienza³⁷ is an example of this model of incubator.

³⁵ Several incubators report support or ownership by various Norwegian public programs or organizations including FORNY and SND. For a more complete list of the wide variety of different financial assistance programs available see : Spilling, Olav R.; Roppen, Jan Arild; Sanness, Anna Huse; Simonsen, Bernt-Olav; Steinsli, Jartrud; and Støylen, Anniken. May 2000. "Entreprenørskap som Strategi for Regional Utvikling (Entrepreneurship as a Strategy for Regional Development)" . Available from the Norwegian School of Business (BI) in Sandvika.

³⁶ See the SIVA Mini Case in the Appendix IV for more details about the SIVA incubators.

Venture Portal

Venture Portals are online websites or extranets that create a network of entrepreneurs, advisors, and investors. These sites allow the entrepreneurs to submit elevator pitches, business plans, and other criteria for evaluation by investors and/or seek assistance from advisors. These sites can help a venture contact local and global resources that may be beneficial in all aspects and stages of development. These sites may also create offline-networking events in conjunction with the online network.

The Oracle Venture Network³⁸ is an example of this model.

Venture Network

Often seen as a mix between a venture capital firm and an operating company, Venture Networks invest and sometimes operate at later-than-seed stages, similar to post-second and third financing rounds. These are often strategic investors for the new venture as well as for other ventures within the firm, with service arms that create network synergies among these investors.

Intermedia Invest³⁹, which considers itself to be a VC, is an example of this model.

In subsequent e-mail exchanges, Chinsomboon also agreed that there are potentially other models (for example, a corporate incubator model), but did not define what he considered to be distinct characteristics. Two additional models have been noted in Norway specifically, the Corporate Incubator and the Coop - Incubator. While they are briefly described below, these models are not IEDs and therefore not the subject of this paper.

Corporate Incubator

Corporate incubators are sub-organizations within larger corporations (often part of traditional Business Development), which focus on the commercialization of new business ideas and innovations developed within the corporation. Sometimes these sub-organizations are centralized into one ; other times they exist as innovative pockets within the concern. The new business ideas, though usually related to the corporate business, may or may not be in line with the current core strategy. Those that are compatible with current strategy are often developed into new divisions or subsidiaries under the corporate parent. Those that are disruptive to the current strategy are often sold, abandon, or spun-off as wholly or partially owned subsidiaries.⁴⁰

Often, corporate incubation occurs in conjunction with external incubators. Similarly, businesses that have been abandoned or the spun-off by the corporation will often utilize other external incubator models to further develop the business. Either way, the hallmark of corporate incubation is intrapreneurship.⁴¹

³⁷ See the Mini Case for eScienza in the Appendix IV for more details about eScienza.

³⁸ See the Mini Case about Oracle Venture Network in the Appendix IV for more details.

³⁹ See the section "VC's opinions about Incubators" herein for more details about Intermedia Invest.

⁴⁰ Unless the Corporations business model is prepared and willing to change, disruptive innovations must be spun-out or abandon. For more on the effects of disruptive technologies see Christensen, Clayton M. (1997) *The Innovator's Dilemma: Why New Technologies Cause Great Firms to Fail*. Boston, MA: Harvard Business School Press.

⁴¹ "When a company reaches the resource maturity stage, its need for the initial momentum of entrepreneurship is replaced by a strong need for intreprenurship. Intrapreneurship is the practice of innovating by developing new products processes or services while one is part of an organization." This is distinguished from entrepreneurship in which "innovations are carried out by creating a new organization." Bartol, Kathryn M., and Martin, David C..1994. *Management*, New York: McGraw-Hill, Inc.. page 678.

Hjemmet Mortensen, for example, incubates ideas for new magazines and media services through a traditional business development organization in addition to using external incubators. Similarly, Telenor has developed untold numbers of ideas that have blossomed into diverse wholly or partially owned subsidiaries that continue development with the assistance of external incubators and consultants.

Coop-incubators

Somewhere between corporate incubation and IEDs are "coop"- incubators. These are incubators that both own and are owned by the tenant companies through cross ownership of shares. Antares AS⁴² in Norway and Trilogy Systems Inc. in the United States are examples of this type of incubator.

As previously mentioned, neither corporate incubators nor coop -incubators are subject models of this paper.

Critical Success Factors/ Best Practices of Incubators

The primary sources for "Best Practices"/"Critical Success Factors" for incubators have tended to build on each other. While there are other sources, a brief chronological history of the most widely accepted sources is provided below⁴³. A search of Norwegian sources yielded no Norwegian treatises on the subject, though the popular press has treated the subject in a number of occasions⁴⁴. Consequently, primary sources are, for the most part, American. One can be critical about whether results from research conducted by researchers in the United States would be equally applicable in Norway, given the discrepancies in culture. This point is also discussed below.

In 1986, Smilor and Gill presented 10 critical success factors viewed from the perspective of the incubator. "Not all successful incubators incorporate all of these factors, but there does seem to be direct correlation between successful incubation development and the extent to which each of these factors is consistently implemented ...The more extensively these factors are incorporated into the incubator, the greater the chance of success for the tenant companies and the incubator of which they are a part."⁴⁵

A little under a decade later, Rice and Matthews published their book, in which they state there are three core principle that are basic to the development of successful incubators: "attached to a university to facilitate technological transfer; part of a community's economic development strategy; or housed within a company to develop shelf-technology and offer an alternative to displaced employees".⁴⁶

Rice and Matthews went on to identify "Ten Best Practices", which were subsequently modified and adapted by the NBIA, with credit to Rice and Matthews book. The NBIA's list has been further promulgated by, among others, the OECD in their report "Business Incubation: International Cases Studies"⁴⁷

In 2000, Hansen, Chesbrough, Nohria, and Sull in reporting the results of their study in Harvard Business Review, focused on the incubator's network as the primary factor likely to contribute to the

⁴² See Antares in Mini Case, Appendix IV

⁴³ For the text or brief description of each of these, see Appendix V.

⁴⁴ Recent articles from popular press in Norwegian include: Ness, Ole Asbjørn. 2001. "Inkubatorene: Ikke Døde Allikevel". *Gründer*. Kristiansand: Norsk Gründer AS. vol. 2/2001. pp.46-49); and Lindeberg, Anne.2000. "Rugekasse for gode ideer".Computer Communications AS, available at <http://www.computerworld.no/cwi.nsf/f/ED6C4E07.12.2000>. As viewed 22 April 2001.

⁴⁵ Smilor (1986). p.23. See Appendix V for more detail.

⁴⁶ Rice (1995)

⁴⁷ OECD (1999)

viability of an incubator. However, in doing so, they also incorporated many of the previous espoused concepts.⁴⁸

Whatever you want to call these points - Best Practices; Critical Success Factors, Characteristics of Networked Incubators - for discussion purposes, they can be boiled down and synthesized into three main topics:

Two general principles:

- The incubator is a business and should be run like a business;
- An incubator is only as good as its network;

and

General practices specific for incubators.

The incubator is a business and should be run like a business.

Each of the points discussed in this section could apply not only to incubators, but to most other businesses, as well. There is nothing magical in these points - just good common sense business practices. The point that the incubator is a business and should be run like a business is repeatedly stressed.

1. **Collect and Assess Key Information - Develop a relevant strategy based on the information**
An incubator is a business and, as with any other business, an incubator is dependent on available resources, and current and future market conditions. The incubator should have a focused strategy that reflects these conditions. The strategic plan should contain quantifiable objectives for the incubator. Furthermore, the incubator needs to engage in continual evaluation and improvement as the incubator itself progresses through various stages of development and as needs of client companies change over time. This evaluation should include a clear statement of the feasibility of the current incubator model.
2. **Perception of success** - This is important from a marketing perspective - the more successful the company appears to be, the more interested investors will be. Similarly, the more interested entrepreneurs will be to affiliated with that incubator - giving the incubator more choice in the ideas it chooses to develop and/or providing enough demand for the incubator to scale up to the extent its business model allows.
3. **Develop the incubator facility, resources, methods, and tools to maximize the effective delivery of business assistance to clients and that address the developmental needs of each company. Choose clients that match the incubator's model and complement other clients.** An incubator should be a role model of efficiency for its clients. An incubator with a culture of inappropriate or risky short cuts or bad business practices is more likely to "breed" companies with similar conditions. The majority of companies in the incubator are staffed by entrepreneurs often with little business experience, since an action speaks far more loudly than words, the incubator should "practice what it preaches".
Furthermore, clients should be chosen based on the incubator's ability to assist the client, as well as the client's ability to contribute to the value of the incubator facility.
4. **Build an effective board of directors committed to the incubator's mission and maximizing management's role in developing successful companies.** The purpose of the board should be to help management keep the incubator's mission and strategy in focus, and to provide additional business experience and access to a broader network for the clients. The board should also take the responsibility to determine the feasibility of the incubator as a business.
5. **Recruit and appropriately compensate management and staff who will manage the incubator like a business, and have the ability to help companies grow.** Prioritize management time to place the greatest emphasis on client assistance, including proactive advising and guidance that

⁴⁸Hansen, Morten T.; Chesbrough, Henry W.; Nohria; and Sull, Donald N.. 2000. *Networked Incubators Hothouses of the New Economy*. Harvard Business Review. September-October 2000. p.74 - 84. See Appendix V for more detail.

results in company success and wealth creation. Appropriate compensation is critical in order to retain the competency that has been developed in the management. Incubators have a particularly high risk of losing competent management - failure to compensate incubator managers appropriately will result in their exit with the clients, potentially leaving the incubator with little internal competence.

Appropriate compensation varies from person to person. In addition to salary and other financial benefits (for example, profit sharing, equity shares and options⁴⁹), creative and dynamic reward models should be considered. Factors other than money can be rewarding; particularly relevant is sharing in the success of clients and the incubator; opportunity for personal development; and interesting colleagues who contribute to a team spirit.⁵⁰

- 6. Structure the incubator model to be financially self-sustainable by developing and implementing a realistic business plan of efficient business operation. Recruit and select client companies that provide revenue required in the financial model and have the potential to grow and create jobs.** Irrespective of whether an incubator is run by private investors, the public sector or a combination of the two, it needs to be run as a business. Cash flow must be considered. If it does not have a realistic business model, it will not have the resources the client's need when they need them. It cannot help clients if it is not a viable business in its own right. The incubator should be a self-sufficient model because if it is not, there will be no pressure on the incubator to be efficient. A self-sufficient model should mean that the funds of the investors will be used more efficiently on new businesses rather than wasted on bureaucracy within the incubator itself. Secondly, no investor is willing to perpetually invest without return on investment. If the incubator is perpetually producing losses, investors will go elsewhere to the detriment of not only the incubator, but also the clients.

An incubator is only as good as its network.

- 7. Aspire to have a positive impact on its community's economic health by maximizing the success of emerging companies. Seek to integrate the incubator program and activities into the fabric of the community and its broader economic development goals and strategies. Keep graduates involved in the incubator.** The concept behind this point is multifaceted. First, involvement in the community is synonymous with community network, which can provide sources of competence, as well as markets. In addition to the commercial benefits, there may be political benefits from being viewed as a positive contributor to a community. Concessions and waivers are more likely to be granted to organizations that bring economic prosperity and jobs to a community. Additionally, by integrating into the fabric of the community, the incubator can contribute to the building or expansion of a business cluster, and thereby receive the synergistic value of the cluster as well. The relationship between the incubator and the companies should not end with "graduation". Graduates should be involved as mentors, members of the companies' boards, and advisors. Incubators which take a significant equity interest in client companies often have more influence in keeping graduates involved.
- 8. Tie to a university or research environment -** Tying to a university or other research facility provides several advantages. First, universities/research facilities are filled with creative energy and are a hub of ideas - many of which can be developed and commercialized; Second, universities and research facilities are usually on the leading edge of technology and new concepts which are subject to rigorous analysis and debate within the university/research community; Third, the

⁴⁹ According to several sources during the study, most option packages in Norway are not attractive for either the company or the employees, because of the way the tax rules work. In one example, it was demonstrated that a stock option in a public company cost 75% of its own value in the combined corporate and personal taxes. While this has not been verified by the tax authorities, to the extent it is true, options become a good way to transfer wealth - to the state.

⁵⁰ For a thorough discussion of employee rewards and incentives, see Fisher, Cynthia D.; Schoenfeldt, Lyle F.; Shaw, James B., 1996. *Human Resources Management, 3rd Edition*, Boston: Houghton Mifflin Company.

symbiotic relationship that can develop between a university and an incubator or research facility can provide prestige for both parts. Fourth, university students are among the brightest in the generation but lack experience. Consequently, students are often willing to share ideas and create value for incubators at lower cost, as a means to apply what they have learned and gain marketable experience.

9. **Develop and engage stakeholder support, including a resource network, to help the incubator client companies and support the incubators operations.** The value of involving stakeholders is simple; individuals and companies with something to gain (or lose) will more likely be dedicated to the success of the incubator. These stakeholders' interests should be more than immediate financial gain.
10. **Access to financing and capitalization** - There are more ideas looking for funding than funds to go around, consequently, those with the money to invest are often overloaded and cannot consider all of the projects submitted to them. While an incubator does not have to provide funding itself, it should provide preferred access to venture capitalists and other funding facilities. Preferred access is not the same as preferred treatment. To the contrary, it simply means that the incubator actively courts investors on behalf of the clients so that the clients can get the attention of the people with the purse strings. Of course, if the incubator provides the funding, that attention/preferred access is already given when the client enters the incubation facility.

Specific to incubators

11. **In-Kind Financial support** - The incubators should not drain the liquid financial assets of the client.⁵¹ Incubators should provide in-kind financial support and accept payment in-kind. This means that incubators should have revenue models that allow cash poor clients to pay for at least a portion of their rent and services by providing services back to the incubator. Similarly, clients should be expected to accept services from other clients in a barter type system. This, of course, is dependent on an incubator population that can provide complementary services.
12. **Provide entrepreneurial education as needed** - The management of a new company needs to be strong when it leaves the incubator. While the network created during the incubation period is critical, no matter how good the idea, the new company will not survive for long on its own with a management that does not understand business. The goal of the incubation's management should not be to place itself in the management roles of the clients, but to assist the clients in developing their own competent management teams.

Criticism of Application of these Principles Outside of the United States

Once critical comment, however, is that these principles and critical success factors were synthesized from studies conducted by researchers in the United States. Consider briefly a comment quoted from Global Outpost, a Danish project which has sought to "create an on-line bridge between Danish and American organizations focused on innovation."

Looking at innovation becomes a study in culture, history and values as the underlying forces that create or block innovation on various areas. America is highly innovative in business and information technology, which might be linked to the long history of settlers and pioneers in America. Scandinavia is on the forefront on environmental issues and interior design. Norway Sweden, Denmark, Finland and Iceland are small countries and populations in the north. This has created the ground for very collective populations fond of surrounding themselves with

⁵¹ On this point, consultant firms that operate incubators have come under fire. "For one thing, their desire to extract consulting revenues from their proteges puts them "philosophically and economically in opposition to the culture of a startup which is all about preserving precious capital - minimizing cash flow expenditures to maximize equity returns." Popper, Margaret. February 2, 2000. "The Confusing Agenda of Consultant VCs", [Businessweek Online](http://www.businessweek.com/smallbiz/0002/vc000203.htm?scriptFramed), available at www.businessweek.com/smallbiz/0002/vc000203.htm?scriptFramed as viewed 22 Nov. 2000.

*good looking design and lighting in the dark winters. Therefore creating the grounds for innovation it is important to be aware, that what works in one place does not in another.....*⁵²

Whether or not the first part of this statement is factually correct is irrelevant to the discussion at hand. What is relevant is the final point it raises: Can the principles supported by American researchers be applied with the same effects in a Norwegian incubator or must the American guidelines be viewed with skepticism in light of Norwegian culture and research?

Logical Business Principles

The Norwegian organizations already using these principles do not doubt the validity or applicability of the American models in a Norwegian context. SIVA⁵³, for example, has based their incubator building strategy on the principles of Smilor and Gill, and the NBIA best practices without considering whether they were relevant or not. This is most likely due to the fact that when one considers the contents of these principles, they appear to be nothing more the application of well thought out and generally accepted business practices. There is no explicit or implicit pre-requisite of type or size of business or market. The only pre-requisite is commitment to efficient business practices and networking. While Reve and Jacobsen⁵⁴, might argue that Norway needs more of this type of commitment, they should agree that this type of commitment is not something that is unique to the United States business culture.⁵⁵

Network Effect

In their book, *Et Verdiskapende Norge* (A Value Creating Norway), Reve and Jacobsen identify case after case in which Norwegian businesses and industries have been pressed by competition to be more efficient, while identifying factors which have strengthened and hindered innovation in Norway.⁵⁶

A primary focus of Reve and Jacobsen is the value created by business clusters -implicit in this is the value added by the strong localized affiliation of similar businesses. They argue that business clusters have both a cause and effect upon themselves⁵⁷. In brief, business clusters provide:

- a pressure to innovate because of demanding customers within the cluster itself
- a synergistic effect between like or unlike actors whose roles complement each other, making infrastructure projects rewarding
- the spread of knowledge; knowledge accumulates and spreads quickly as it follows highly mobile employees, leaders, and consultants; and because the cluster has rich and diverse communication arenas⁵⁸

⁵²(Bold emphasis added.) From "Hot Forum Dialogue", as reported from "Bridge Innovation", by Global Outpost. This report can be downloaded on: www.global-outpost.com/bridge99/product4u/InnoReport.doc. This report was generated as part of a project to "create an on-line bridge between Danish and American organizations focused on innovation." (Global Outpost, Denmark, September 1999) p.7.

⁵³ For a case discussion of SIVA and its plans to develop 25-30 incubators over the next 5 years, see Appendix IV.

⁵⁴ Reve, Torger and Jacobsen, Erik W.. 2001. *Et Verdiskapende Norge*. Norway: Universitetsforlaget, Norway.

⁵⁵ Additionally, as previously mentioned in the discussion of incubator models, it should be recalled that the same incubator models that exist in the United States also exist in Norway (and other parts of the world.

⁵⁶ Though they also rely on many theories, practices and models developed in the United States, these theories are already accepted and taught by academia in Norway. Additionally, they support their premises with research conducted in Norway on Norwegian businesses.

⁵⁷ Reve and Jacobsen use Porter's model, to explain this phenomenon. Because Porter's model is so widely studied and Reve and Jacobsen provide a lengthy general discussion of Porter's model (in Norwegian) as related to their thesis, further discussion of this topic will be left to others with a focus on innovation and business drivers.

⁵⁸ Reve (2001). Chapter 2.

Consequently international businesses and new businesses in the same or similar industries are likely to locate in the area to take advantage of the benefits the cluster provides.

Though Reve and Jacobsen dismiss incubators as useful only in the initial start-up phases of a new company⁵⁹ (rightly or wrongly), their concept of business clusters is not so different from the greater networking concept espoused by Hansen, et al. The point is that incubators that are well networked, like business clusters, provide the same benefits including "preferred access". As previously mentioned, preferred access is not preferred treatment - a risky venture will still be viewed and treated as a risky venture, but in the busy world where venture capitalists have too many people approaching them looking for funding. "Preferred access means being able to call a meeting and receive the full attention of busy people."⁶⁰ However, being "networked" also means being able to leverage the knowledge, technical resources, and markets created by local businesses, as well as other clients and graduates, to the benefit of clients. Indeed, based on Hansen's concepts, the more characteristics an incubator shares with a Norwegian business cluster, the more likely it is to succeed.

International Data

It should be further pointed out, that though the NBIA is an American organization, its statistics and best practices are compiled from both United States and non-United States members. In line with the NBIA best practices, are the "Determinants of Success", as reported by Lalkaka, et al.. They use the example of Tianjin, China Incubator. Despite being in a radically different socioeconomic and political culture from that in the United States,

The Tianjin China Incubator, posting an enviable record of financial sustainability, attributes its success (56 tenants, 12 graduates, no losses, and increasing profitability) to six factors:

- **Government support:** *policy guidance and financial support from national TORCH programme through municipal government and the Tianjin Science and Technology Committee*
- **Location:** *the technology-industry zone provided a knowledge intensive environment adjacent to famous universities that offer necessary technological infrastructure*
- **Service:** *the ability to provide a range of services for new enterprises*
- **Management:** *keen-witted and capable management, with high efficiency in providing whole hearted service to tenant enterprises - not solely profit driven*
- **Networking:** *extensive communication with all walks of life; support from departments of industry and commerce, and from tax, banking, utility and security agencies*
- **Enterprise development :** *careful selection and optimization of tenant enterprises, studying both the firm's project and its management, while addressing problems in funding and marketing.⁶¹*

Clearly, all but the first of these points are encompassed in the two principals and general practices, described above, lending validity to the points irrespective of socioeconomic and political culture. Government support on the other hand also contributed to this incubator's success - such contributions are discussed below under Macro Environment.

⁵⁹ In a discussion about how Norway can capitalize on knowledge through commercializing Reve and Jacobsen comment "...incubators are a possible solution in the early phases of innovations, but a well functioning venture capital market is decisive in the following phases." Reve (2001), at p71. The role of the VC is not in question, but the relegation of incubators simply to the early sages, ignores incubators role in rejuvenating companies.

⁶⁰ Hansen, (2000). p.79.

⁶¹ Lalkaka (1996). p.XII .

Modality for Revenue Generation

The modalities for revenue generation are the same in Norway incubators as they are in American incubators. Incubators primarily generate income in three ways:

Rent - this income is generally set at a level that is just sufficient to cover physical overhead and therefore does not usually generate any profit.

Consulting and other fees- Fees may be collected both from tenant clients and external clients who receive consulting services. For tenant clients these rates are often set at a level commensurate with the client's ability to pay; and therefore seldom generate more than enough to pay the consultants and wages of incubator staff. For external clients these rates may be higher, but often these additional fees help subsidize internal clients, so profit margins from fees are generally not great.

Equity - The majority of incubators take an equity stake in the companies they assist. The amount varies tremendously with the lowest noted in Norway at 5%. While equity stakes can produce a windfall for the incubator if their client ultimately goes public (IPO) or is sold on the gray market, as a revenue generator it is not without its risks. First, the incubator may not recoup the cost of its investment in time and resources. This turned into a terrible problem for United States incubators who had invested heavily in overvalued dotcoms. Second, it can lead to a liquidity crisis for the incubator if a client for any reason is not ready to go public when scheduled, and can lead to incubators pushing new ventures out before they are mature enough to stand alone. Thirdly, often there is a loss of entrepreneurial drive, as the original founders interest in the company is diluted. However, by taking significant equity stakes in the clients, the incubator can exert influence over the graduates to keep them involved in the incubators network -this has been the practice of many incubators in both Norway and the United States.

With business operating models and revenue generation models in common, the application of Best Practices/CSF developed in the United States does not seem unreasonable.

Size

Though there is no explicit or implicit prerequisite of size of business or market, what effect does a small population and small domestic market economy have on these principals if any? Though the size and financial commitment of the largest incubators in Norway currently is significantly less than the largest, or even average sized incubator in the United States, this factor probably does not affect the validity of the Best Practices/CSF as much as it affects the relative perspective on what constitutes success. As the world becomes more global, many are tempted to use the big success (and failure) stories from the United States as a measure of success (or failure). However, as Rafe Needleman of Red Herring (a United States Tech Investor Trade paper) points out, "Small companies don't need hundreds of big customer. Just a few; enough to pay the rent."⁶²

Different sources measure the optimal size of incubators in terms of number of clients⁶³ or in terms of square meter of physical space⁶⁴. The maximum number of clients has to do with the fact that the value of some resources and practices declines when they become too diluted or bureaucratic. For example, for vertical incubators which rely on the personal skills of their specialist to provide assistance to clients or the personal contact network of the senior management, their ability to provide quality assistance to each client is only as great as their individual personal capacity. The minimum numbers of clients, and the space minimum, have to do with an economy of scale.

⁶² "Catch of the Day" e-mail update from Red Herring, 12 April 2001. Publicly available at catch_of_the_day+328424.115661643.2@listserv.redherring.com.

⁶³ Meeder suggests that 12 is the minimum number of clients needed to break even. (Meeder, Robert A., 1993. *Forging the Incubator*. Athens, Ohio: NBIA Publications.) Other sources suggest between 10 and 35.

⁶⁴ "The economies of scale involved with the modality indicate that smaller incubators are less likely to develop financial sustainability. Incubators of less than 2,500 square meters face difficulty in raising rental and other revenues sufficient to cover their expenses." Lakaka (1996). p.XII.

Of the Norwegian incubators that reported back, only 2 could boast more than 25 clients - *in total* - past and present combined. Most of the incubators have not even had 10 clients in total. It is hard to tell what this means. Since the majority of the incubators are still relatively new, it could mean consolidation of incubators or a general shakeout is likely.

Alternatively, it could mean that Norwegian incubators are adapted for the size of the environment in which they exist. More clients may not be necessary in incubators where revenue models are not strictly dependent on rent, or not dependent on rent at all. That is not to say that a shake-out and consolidation will not occur anyway - it likely will⁶⁵ - but simply that other factors than the "magic number of 25 clients" will be more predictive of survival in Norwegian incubators.

Macro Environment

In competing for external international investment and the locating of new production facilities within a country's borders (sometimes referred to as industrial recruiting), many countries have given away more than they have received. Grants of public real estate, environmental concessions, and tax exemptions are only a few of the many tactics used by countries to attract new industry. Over the past decade, however, many countries have begun to believe that the price they were paying to attract new industries was too high. Consequently, many countries "have abandoned or decreased industrial recruiting in favor of growing their own entrepreneurial technology based economies."⁶⁶

The more hospitable the climate for entrepreneurs and innovation is, the more hospitable it is for incubators as well. Lalkaka, et al, suggest that there are five factors which are conducive to good results from incubators, the first three of which are at the macro level⁶⁷:

- Political stability and the presence of basic business infrastructure
- Supportive regulatory and legislative frameworks
- Initial state financial support

Government regulation that assists entrepreneurs and contributes to a culture of innovation will also help incubators.⁶⁸

The extent to which this innovative culture exists and can be strengthened in Norway, is the subject of Reve and Jacobsen's book, A Verdiskapende Norge, and the subject of ongoing studies. Their general conclusion is that Norway has not reached her potential for innovation (outside of oil and gas). Two political changes that could assist in creating an innovative environment in Norway, are elimination of tax provisions that steer investors away from innovation and value creation, and maintenance of an active competition policy in all product and resource markets.⁶⁹

A study conducted by Global Entrepreneurship Monitor, and reported in Dagens Næringsliv, concurs: "The climate for entrepreneurs in Norway is generally good. At the same time, it is pointed out that this has not been followed up by modernizing of the laws and regulations. ... Norway has good access to capital. This is an important explanation for the creative impulse. At the same time, many entrepreneurs often lack a network that gives them easy access to money....The tax systems doesn't give any special incentive to those who own businesses either."⁷⁰

⁶⁵ One incubator which opened in 2000 is looking for a buyer or takeover partner, not because they are losing money (on the contrary they have a profit) but because the synergistic effect is lacking with only two clients in house.

⁶⁶ Kozmetsky, G. "The Coming Economy", quoted from Tornatzky (1996). p.2. Originally appearing in Williams, F. and Gibson, D.. 1990. *Technology Transfer: A Communication Perspective*, Newbury Park, Ca.: Sage.

⁶⁷ Lalkaka (1996). p.XIV. The last two not mentioned above are: "Strong Board and Management Team" and "Willingness on the part of all parties to adapt the concept to local culture and communities."

⁶⁸ Recall the Tianjin China Incubator referred to previously.

⁶⁹ Reve (2001). p346-348.

⁷⁰ Anda, Torgeir. 2001. "Typisk norsk å være gründer". *Dagens Næringsliv*. Nr.52-Årg 112. 2 March 2001. p.18.

The focus of this paper is not a critical analysis of the socio-political decision making in Norway. However, the questions of how owners are personally taxed on employee majority owned enterprises, has lead at least three Norwegians⁷¹ to "flee" Norway upon the recognition that their ideas had real potential. Meanwhile, others still in Norway have been forced to sell off control of their new enterprise, according to one finance lawyer interviewed, making their stakehold much less and depriving the new enterprise of the personal entrepreneurial energy of the founders. The lawyer continued that this is the main reason the gray market exists in Norway (for better or worse). This sentiment was reiterated by both an incubator manager and a VC. They also concurred that the majority of the companies in the gray market are there because operationally they were not ready for IPO, but for tax (and other pressing financial reasons) the original entrepreneur simply sold out.

Suffice it to say that the more friendly the socio-political climate is for entrepreneurs and innovation, the more likely the Norwegian incubators will flourish. Specific suggestions for how Norway can become more innovation friendly are presented in the book by Reve and Jacobsen. Specifically relating to incubators, the suggestion has been made that SND be replaced by a network of incubators.⁷² While no formal statement about the extent of SND's involvement with the SIVA incubators was received during this study, there is little question that, at a minimum, a cooperative working relationship should exist between SND and all of the SIVA incubators.⁷³

Further suggestions included assistance in marketing incubators by sponsoring exhibition events similar to Grunder 2000 - but better publicized. The Greater Baltimore Regional Incubator Fair is a program similar to Grunder 2000, held every October in downtown Baltimore. At the fair, companies can present exhibits about their company and the services they provide. While the general public is invited through newspaper and radio ads, key business leaders, investors, and other influential parties in the region receive personal invitations. The fair has proven highly effective in "publiciz[ing] the incubator programs and expos[ing] the tenant companies to the business community and potential investors."⁷⁴

Success Rates of Incubators:

Statistics from all sources that reported on success rates for incubator, found that success rates for graduates were far better than the average for companies that had not participated in an incubator program. The NBIA quotes an 80% success rate among its members' incubators' clients. Lakaka⁷⁵ report similar figures.

However, one must be a bit critical of these results in light of the recent dot com market crash. These statistics have not been revised since before the crash. Anecdotal reports from the popular press in the United States have shown that a number of "successful incubator graduates" have now failed. (Idealab's Eve.com, e-toys, etc).

The results from the survey of Norwegian incubators shows that the majority of the incubators have not been in existence long enough to see if their graduates will succeed. The market is simply not ripe enough to draw any conclusions. Some foreshadowing does exist. Considering only the incubators that have existed for more than 5 years, the result still show a success rate at , in the worse case only 60%, in the best case 100%, for companies that have been part of an incubator plan. An ongoing study of incubator clients' success rates versus success rates for non-incubated startups should be conducted. Regrettably, the SSS and Brunøysund Registry do not map success rates against types of start up assistance received, as this could be an invaluable tool for assisting in the feasibility studies for incubators.

⁷¹ Two Norwegian entrepreneurs in London, and one in Boston, were interviewed on this point.

⁷² Haugnes, Gunhild M.. 2001. "Finansministers samråd: Mange store og gamle, men få unge og små" [Online] Aftenposten Interaktiv. Oslo: Aftenposten A/S available at www.aftenposten.no/nyheter/okonomi/d189819.htm as viewed 04 Feb. 2001.

⁷³ For comments on SND's role in the SIVA incubators, see the SIVA Mini Case in Appendix IV.

⁷⁴ Tornatzky (1996).

⁷⁵ Lakaka (1996).

VC's opinions of incubators

While there are dotcoms still looking for funding, the VCs have left the building.

As a former top employee in one of Norway's more resilient private for-profit incubators (who asked to remain nameless) put it "these financial incubators are no good for new businesses. They focus only on the financial returns they can achieve in the short term ... they develop businesses to sell them. If they cannot turn a quick deal they're out... Recently, they (the VCs) would sell (their equity interest in a startup) to people who don't have management experience- who think they'll make lots of money. This is the problem with Oslo's gray market - the companies are not ready enough but the VCs are selling them anyway. They (the VCs) are not in it for value creation - they just want the money." For the entrepreneur in need of true business management support, this type of approach can doom their business before it gets started.

The reason for the gray market in Norway is widely discussed, and the validity of the comment above should not automatically be accepted. However, because of similar comments regarding VCs involvement in early ventures from a variety of sources early in the project, five⁷⁶ Norwegian venture capital firms were polled regarding their views of incubators; 3 were kind enough to take the time to respond: Northzone Ventures (formerly Venture Partners), Intermedia Invest, and Four Seasons Venture Capital.

Northzone Ventures does not invest in incubators. In fact, they give incubators very little thought since Northzone provides mandatory startup assistance in the following areas for the projects they invest in: "strategy, recruiting, financing, organization, m&a, internationalization, etc." They also assist entrepreneurs in many ways including being a major sponsor of First Tuesday, a listed investor in Oracle's Venture Network, and a contributing investor for Venture Cup, along with Four Seasons and others.

Intermedia Invest does not invest in any incubators either, but "Eighteen months ago IMI had plans for launching an incubator together with a major (big 5) consulting firm. During the following few months, so many groups were presenting new incubators in Norway that IMI decided to shelf the plans... The reason why we shelved our plans was mainly that we expected a huge over-capacity."⁷⁷ Though Intermedia Invest did not actually start a physical facility that they would call an incubator, they provide services that go beyond the services of many incubators:

Intermedia Invest works actively with the portfolio companies, primarily as active members of their respective board of directors. We typically recruit other board members and participate in developing strategies, establishing alliances, recruit personnel, and handle back-office services like IT and accounting for small start-ups....(We are) active investors far beyond what is common, including back office support.

In providing all of these services, Intermedia Invest should actually be considered an incubator of the "Venture Network" variety (as described above) rather than, or in addition to, being a called VC.

Only Four Seasons Venture Capital said that they invest in an incubator. Interestingly, however, the incubator they invest in, eScienza, is not a typical full service "venture incubator", but rather a "venture accelerator". While eScienza offers a variety of support services in the vertical niche of convergence technology - it does not offer physical facilities⁷⁸.

The poll of VCs was too small to draw any conclusions about VCs general opinions of incubators in Norway, but it does confirm the need for startup support in the form of business and management assistance - services that are typically offered by incubators.

⁷⁶ Originally the number to be polled was close to 20. For brief comment on why only 5 were polled see Methodology.

⁷⁷ Trond Heier, Intermedia Invest, from response to question 6 of the VCs questionnaire. See Appendix I for copy of the questionnaire.

⁷⁸ For more detailed information about eScienza, see Mini Cases, Appendix IV.

Disintermediation and Darwinian Theory of Incubation

Now that the status of the incubators in Norway has been described, it is possible to address the original question that was the basis for the initiation of this project: "Will incubators be disintermediated?". Regrettably, this is a poorly defined question; the obvious follow up question is disintermediated from what? The role of an incubator is to be a service provider and network facilitator. If incubators were to be disintermediated it would mean that entrepreneurs have found more effective ways of attracting the attention of VCs, and have found alternative, more effective, sources of support for developing their businesses.

Considering the first point, it seems appropriate to mention the Darwinian Theory of Incubation. The Darwinian theory of incubation as described by Chinsomboon, suggests that the best business ideas and business plans will go straight to VCs, bypassing incubators altogether. Consequently, incubators would capture only inferior ideas and second rate business projects that trickled down, making it difficult for incubators to capture good clients. Starved of quality clients, incubators overtime would cease to exist.

A review of the clients of incubators in Norway, indicates that this does not appear to be the case in Norway. While some entrepreneurs bypass incubators in Norway (and even Norwegian VCs on occasion), plenty of good business concepts are being developed by Norwegian incubators.

Chinsomboon suggests that there are exceptions to the theory - for example when there are more good ideas than the top VC firms can handle. In Norway, however, the case may simply be, as mentioned in Dagens Næringsliv, "many entrepreneurs often lack a network that gives them easy access to money...."⁷⁹. Organizations like First Tuesday⁸⁰ try to assist entrepreneurs with this lack of network, but because of its overwhelming popularity with service providers and entrepreneurs, (and the relative shyness of VCs - lest they be overwhelmed by "hungry would-be entrepreneurs") the effectiveness of First Tuesday as a source for networking with capital must be questioned. However, First Tuesday does provide other worthy services, like providing a monthly speakers on timely topics and a forum for entrepreneurs to find service providers and network amongst themselves.

Another exception is when a business concept needs access to specialized testing facilities that VC do not have access to, but a vertical incubator has.⁸¹ Incubators attached to research parks and research universities are typically in the class of incubators whose clients make incubators their first choice for the development of their business project. Mobile Forza comments that their access to the research lab in Trondheim is among their competitive advantages.

Indeed, money is not the only thing entrepreneurs need. A survey of tenants in 130 publicly funded incubators in Maryland, in the United States, revealed that while financial assistance was important, access to universities and research facilities, as well as business basics (management and infrastructure assistance) and marketing assistance were valued incubator services. While some VCs can assist with these services, not all are willing or able. Similarly, while general advice is available online on the internet⁸², many entrepreneurs need far more practical and managerial assistance than can be offered via the web⁸³.

Finally, in Norway, geography plays a very big role in the feasibility of incubators. As Chinsomboon puts it,

Geographic regions present opportunities for incubators when there is an asymmetry of either information or access to capital in the region. Regions which lack the knowledge capital to

⁷⁹ Haugnes (2001).

⁸⁰ First Tuesday is established as the definitive New Economy forum, meeting in more than 110 cities, in 46 countries around the world, embracing a worldwide membership of more than 200,000 industry professionals.

⁸¹ For example, Mobile Forza and their test lab.

⁸² Business plan services include StartGass.com, Startup.com, Oracle Venture Network, to name a few..

⁸³ Startgass.com assistance on-line is a first step, but eScienza is clear over its limited value in full business development.

teach would be entrepreneurs the how-to's of creating a startup are regions in need of assistance and are thus an opportunity for incubators. Similarly regions where there isn't ready access to venture capital and other sources of funds for startups also present a need for incubators (and venture capital for that matter).⁸⁴

Because Norway is so large, with many disparate districts and regions, it has a need for a strong network of incubators to facilitate innovation. SIVA's plan⁸⁵ for 25-30 incubators could fit the bill. Rather than being disintermediated, these incubators are poised to create a spectacular niche for themselves in Norway. The successes of the SIVA plan, however, is as much up to the national, regional and district politicians as it is to the planners and operators of the incubators. If the innovative climate continues to develop in Norway and is backed by the socio-political will, SIVA's incubators could become a model to be copied. If not, they will wither and die before they ever really get going.

Conclusion

In order to create maximum value, incubators must be run as businesses and must cultivate a network that will not only financially assist the clients, but also take an active role in the incubator. At the individual incubator level, one should not doubt that the survival of the fittest will apply. Incubators after all are businesses and if they do not meet the support needs of their clients, they will fail.

Whether or not Norwegian incubator will "succeed" is a relative question. Given the increasing political discussion about innovation and incubators in Norway⁸⁶, the socio-political climate is right for incubators, and it is likely that those that focus on networking and best business practices will succeed in paying their bills, even if they do not make headline profits or losses like the largest United States incubators- CMGI, Idealab and Divine Interventures. For incubators whose investors are solely focused on financial return, this may not be good enough; but for those focus is on value creation, the returns will likely be satisfactory.

While macro socio-political factors affect the overall climate for innovation and development, the need for support services for entrepreneurs is undeniable. To the extent that there is the social and political will to innovate and develop new businesses in Norway, properly networked incubators should be a part of the landscape.

⁸⁴ Chinsomboon (2000) . p.69.

⁸⁵ See Mini Cases in Appendix IV.

⁸⁶ The Norwegian Parliament (Storting) has considered the relevance of incubators- see St.prp.nr 1 1999/2000, s.108. The Norwegian Finance Minister has also been briefed on the value of "American style" incubators and a suggestion was put forward that incubators could in fact replace the myriad of ill coordinated public support. Haugnes (2001).

Appendix I - Questionnaires

Questionnaire On Incubator And Start Up Services
Questionnaire for Venture Capital Organizations

Questionnaire On Incubator And Start Up Services

Prepared by V.Ryker as part of a project for Masters of Management Course - *Information Technology: Innovation and Leadership*, BI, Oslo

Name of organization, founding date, and contact details:

Name

Founded: **DATE**

Address, telephone, fax, and web-address

Contact: **Contact person's name and e-mail address**

1. Parent companies, related entities, co-owner or partners, investors

2. Do you have a specific area of focus?

3. Services provided: (Please replace the "?"s with "Y" or "N" as appropriate.)

Evaluation of idea	?	Physical facilities (offices)	?	Funding (please specify approximated amounts per round)	?
Advice on business plans	?	free	?	1.round funding	?
Assistance/advice on :		reduce rent	?	2.round funding	?
First round funding	?	regular cost	?	3.round funding	?
Subsequent funding	?	inside incubators offices	?	4.round funding	?
Critical personnel	?	shared convertible	?	additional round(s)	?
Legal assistance	?	warehousing	?		
Resource management assistance	?	external commercial space	?		
Management meetings with tenants	?	Restaurant/catering facilities	?		
Marketing	?	Child care facilities	?		
Technical/engineering	?	Other physical facilities (please comment below)	?		
Other (please specify in the box at the lower right)					
Networking with	?	Shared infrastructure/resources	?	Other services (please describe)	
Other/former tenants	?	personnel department	?		
other companies in field	?	accounting	?		
local companies	?	security	?		
government authorities	?	warehousing/storage	?		
other industry companies	?	Other (please comment below)	?		
venture capitalists	?				
Mandatory networking meetings	?				
Optional networking meetings	?				
Ad hoc networking	?				

IT facilities (please comment)

Additional comments:

4. How do start-ups pay for the services they receive from you? What percentage would you attribute to these payment methods?
 - Equity (What percent does the incubator take?)
 - Cash/short term credit (<=90 days)
 - Long term credit (>90 days)
 - Government subsidy
 - Support from academic institution (please specify)
 - Other (Please describe)

5. If you offer capital investment, what stage and what criteria are most important to your investors?

6. How many start-up companies have you provided services to?

Questionnaire for Venture Capital Organizations

Prepared by V.Ryker as part of a project for Masters of Management Course - *Information Technology: Innovation and Leadership*, BI, Oslo

Name of organization, founding date, and contact details:

NAME ADDRESS PHONE FAX WEB-ADDRESS	Founded: DATE Contact: CONTACT NAME CONTACT E-MAIL
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1. Parent companies, related entities, co-owner or partners

2. Do you have a specific area of focus for your investments?

3. In addition to capital, do you provide **other services**? If so, which services?

4. When you invest capital, at what stage are the businesses you invest in and approximately how much would you invest at each stage?
 - Start-up/First round funding
 - Second round funding
 - Third (or more) round funding

5. What criteria are most important to your investors?

6. Noting that there are many different types of incubators, how would you define an Incubator and what is your opinion of incubators in Norway?

7. Do you invest in any incubators?
 - A. If so which ones?

 - B. Why these specifically?

8. How would you summarize your organization?

Please return the completed questionnaire to vryker@

Thank you for your time and assistance. If you would like a copy of the completed paper sent to you in early summer, please advise and your name will be added to the mailing list.

Appendix II - Compilation and Summary of Data

Appendix 1 is a compilation and summary of the data collected. Of the 32 incubators polled (including "special incubators"), 22 responded; however, not all respondents answered all questions. "Summary of services" raw data is present in the Excel sheet at the middle of this section, with a key to the abbreviations appearing on the page before the table. Following the data table on services, is a summary of reported "Competitive Advantages". Finally, at the end of this Appendix 1, is a brief table and comments regarding the opening dates of incubators and client success rates.

It should be noted that there are two organizations, Startup.com and Venture Cup, which were included in the polling that are labeled as "special" in the ownership column of the Excel table. Under the definition of an incubator provided in the paper, these two are in a grey zone, because it is unclear whether they are able to create the controlled environment described in the incubator definition. They were included however, because they represent alternative incubation assistance possibilities available to Norwegians. Briefly, Startup.com, though not Norwegian, was included in the study because as a virtual incubator, its location becomes irrelevant - its services are available to anyone with access to the internet. Venture Cup was included because, though it is a competition, its goals are the same as incubators - develop new enterprises; and because its focus -providing assistance with business idea development and networking- is similar to incubators.

Services Provided

General Services:

Number of respondents: 19

Diverse combinations of general service were reported to be provided by the various incubators. While an incubator may have reported that they provide a service, this does not attest to the quality of the service. For example, one incubator which purports to provide management assistance and business plan development is run by an individual with very little experience and training. This does not mean the advice will necessarily be poor, or that incubators with experienced managers will necessarily give good advice, but clients of incubators should be aware of what they are paying for, to avoid a situation of the "blind leading the blind", and/or transfer of experience only one way - the wrong way - from the client to the incubator. Potential clients of incubators - particularly in niche industries - should be clear over their own, as well as the incubator's, competence in the niche area. One former incubator client who was developing an e-commerce insurance product was extremely disappointed when he realized that he knew more about the product developing and marketing in the insurance industry than the consultant incubator he used.

Physical facilities:

Number of respondents: 22

Diverse physical facilities were offered by 17 of the 21. The four not providing physical facilities, Startup.com is a virtual incubator (webubator™) physically located in the US, but accessible globally; Venture Cup, the McKinsey incubation competition; Oracle Venture Network - a venture portal; and eScienza. (See MiniCases for more details about eScienza and Oracle Venture Network). Nordicgate was the fifth that report that it does not provide physical facilities.

In addition to office facilities, several incubators offered onsite "food". Notably however, only one reported on site childcare facilities - Startbua at Gjøvik Kunnskapsparke. In a study conducted by the US state of Maryland, 25 % of incubator clients who responded ranked childcare facilities as a medium priority. The fact that Startbua is the only incubator which directly markets its services to female entrepreneurs, and is the only one which offers child care facilities, may be a reflection of gender role perceptions in Norway. While this is not a topic included in this project, a study of gender role perceptions and innovation in Norway, could reveal cultural perceptions and stereo-types which hinder use of incubators (and innovation generally) by women.

Shared business services:

Number of respondents: 21

The incubators that offered physical facilities also offered some shared business services. With one exception, those that did not offer physical facilities did not offer shared business facilities.

Nordicgate was the exception - they reported offering shared accounting services.

Networking:

Number of respondents: 18

The results from the Networking section were the most surprising given the Best Practices/CSF discussed within the body of this report.

Surprisingly few incubators (only 2) reported that they provided opportunities to network with other companies in the same field as their clients. While fear of the competition may be a reason for this, the synergistic effect and experience of similar companies could provide a valuable source of knowledge for clients. Inviting other companies in the same industries to hear topical speakers at "social" breakfasts can be a convenient way to increase this type of networking.

The group that the incubators networked with the most, not surprisingly was Venture Capitalist (VC). Whether or not an incubator networked with VC's had no correlation to the amount of funding provided by the incubator, but those that offered assistance with second round funding, naturally enough, did offer more extensive networking opportunities.

Only 5 made some type of networking mandatory, of these two were current SIVA incubators, a third was a SIVA incubator in development. The fourth, Antares, because of its model (Coop-incubator), networking internally is necessary. The fifth was the longest existing incubator in Norway Leif Eiricsson Nyfotek.

Mandatory networking poses some potential disadvantages if it is over burdensome and takes key players away from their core role too frequently. However, mandatory networking is often necessary for new entrepreneurs with few contacts or networking skills.

Funding:

Number of respondents: 18

The range of reported funding was 0 to USD 3million. This range is consistent with the round in which the majority of incubators reported funding - namely Seed/first round.

Summary of Services - Table Key

General Services

EI Evaluation of Idea
BP Advice with Business Plan

Assistance or advice on:

FF First Round Funding
SF Subsequent Funding
CP Critical Personnel

LA Legal Assistance
RM Resources Management Assistance
MM Management Meetings with tenants
M Marketing
TE Technical/engineering

PF Physical Facilities

F Free
RR Reduced rent
RC Regular Cost

I Inside the Incubator
S Shared/Convertible warehousing
E External commercial space

Food Restaurant or catering facilities
Child Child care

Networking

OF Other / Former tenants
OC Other companies in field
LC Local Companies
GA Government Authorities
OI Other industry companies
VC Venture Capitalists
M Mandatory
O Optional
A Ad hoc

Funding

1 Seed/First Round
2 Second Round
3 Third Round

Table of Services

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Competitive Advantage

Number of respondents: 17

Of these:

76% of respondents that meant that the knowledge, experience, and/or professionalism of their staff was a primary competitive advantage.

41% of respondents that said their network was a competitive advantage.

12% did not list either personnel or network.

19% listed niche focus on telecom and mobile development as a competitive advantage.

More than two thirds of respondents cited their staff as a primary competitive advantage. All of the telecom-focused incubators ("telecom incubators") stated that they believed they had a competitive advantage because of their staff's vertical (niche) knowledge, experience, and industry network.

Certainly, incubators with experienced staff have an advantage over incubators with inexperienced staff. However, to the extent that the majority of incubators have knowledgeable and experienced staff, this ceases to be a competitive advantage, and becomes the minimum demand for an incubator to compete - a commercial necessity. In order for knowledge and experience of staff to be a competitive advantage, it must be differentiating and not readily available in the market. The telecom incubators provide an interesting example. As long as the demand for telecom incubators outstrips the capacity of the telecom incubators, they will maintain a competitive advantage by virtue of their focus area. However, when the demand for telecom incubation drops (which it well may in the current slow down), the telecom incubators may find that being competent and experienced in the telecom branch will not be enough of a differentiation to provide a competitive advantage necessary for survival.

Certainly a competent, experienced staff is an asset to any incubator because of the management skills and network that such staff contributes. So, though an experienced staff may not actually be a competitive advantage, it does behoove incubators to appropriately compensate their staff members in order to retain them.

Some of the other reported competitive advantages:

"We come in earlier than most incubators" - Venture Cup and Startup.com

"Access to test lab in Trondheim" - Mobile Forza

"Brand" - Antares

"Employee ownership" - Antares and eScienza

"Focus on technology which will be ripe, or at least just as relevant, in 5 years time" eScienza

"Offices in other countries" - Runway, Oracle Venture Network, and The Growth Factor

"Our services are free" - Venture Cup

"Unbureaucratic"

"Focus on execution"

"Focus on substance in all projects"

"Location"

"Attractive offices".

Incubator Opening Dates and Client Success Figures

Name	Opening Year	Total No. of Clients	Survivors
Antares	1996	5	4
Comig@ang, Incubator at Lillehammer - Kunnskap park	Aug.2000	6	all
Create US (modembad)		6	4
DaVenture	1999	Ca. 10	9
eScienza (and Startqass)	Apr.2000	Ca. 10	all
Leif Ericsson Nyfotek	1998 (with FORNY 1994)	since 1994 with FORNY 50, plus 41 licensing agreements	33 plus (results only for those in which Len has an equity interest) 39 licensing agreement still running
Made4Net	1996	Ca. 12-15	9
Mobile Forza	May 2000	3	all
Nordicgate	Oct.1999	>5	all
Rogaland Kunnskapsparken	1998*	33	31
Runway.net	Aug. 1999	3	all
Startbua: Gjrvik Kunnskapsparken	Dec.2000	3	all
StartUp.com	1998	<12	all
Steinsjer.net(IT- Byen)	It-Byen exists, incubator facility expected to open late 2001	>10	all
TechCap	March 1999	6	all
The Growth Factory	2000	4	all

Number of Responses: 16

As mentioned in the body of the report, the survival rates reported are between 60 - 100%, but the significance of this finding is diminished by the fact that the majority of incubators are less than 3 years old, and consequently the majority of clients companies are less than 2 1/2 years old. Looking at only the incubators which are more than three years old, the range and success rate begin to drop. Given the current business climate and the natural attrition rates over time, the very positive results being report now are likely to be more in line with the statistics presented by the older incubators.

Appendix III - Incubator Organizational Summary and Contact Details

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Appendix IV - Mini Cases

Antares

Antares is a privately owned organization which lies on the outer bounds of incubators. While the primary business function is renting IT competence to other companies, Antares insists that it has that it has an incubation program. The model however, is far more like a corporate incubator than those incubators which were the primary focus of this study.

Typical of incubators, Antares provides idea evaluation, business plan assistance, access to first round funding and cash flow assistance, legal assistance, resource management assistance, operational management assistance, marketing and technical assistance, in addition to shared internal infrastructure resources such as accounting, personnel, and security. What is unique about Antares, however, is that in order to receive these benefits, a startup must become part of the Antares group. In other words, all of its shares are held by the mother company, and it must in turn own shares of the mother company.

In this way, Antares delivers what it believes to be the necessary environment for startups- its competitive advantage being "easy startup, facilities, management administration and board". Through this model Antares has started 5 companies, 4 of which are surviving today.

eScienza

eScienza is another private organization on the outer bounds of incubators. "eScienza is a very specialized incubator and consulting company with focus on the convergence areas of TV-internet and mobile communication-internet." It provides many of the typical services of an incubator: idea evaluation, business plan advice, assistance with funding, critical personnel (management for hire), marketing and technical assistance. But eScienza does not provide any physical facilities for the companies they assist. Though they have a server available for incubatee projects, none have needed it. This is because the incubatees in their care are usually corporate spin-offs which have office space and infrastructure facilities from the corporation they were spun out of, and/or can operate on an internet based business model.

Though eScienza primarily focuses on spin-offs, they are not exclusive and are always on the look out for good ideas within the convergence arena. They can and do provide initial idea evaluation and business plan advice through their affiliate web site [www. Startgass.com](http://www.Startgass.com).

eScienza believes its strength lies in its ability to critically analyze future trends and adapt to the path technological development will follow; its ownership form; and its sharp vertical focus and network of customers which are also highly specialized in the focus area. Though eScienza is currently focusing on convergence technologies, it does so with the belief that this is an area that will be as relevant in 5 years as it is today. If a new technology disrupts this view, eScienza is capable and prepared to shift its focus. With a 25% ownership interest held by a consultant company which specializes in general management and IT consulting, 9% ownership interest held by a major venture capital firm, and the remainder owned by highly experienced employees, eScienza can boast a network in the convergence market as good, if not better, than any other organization in the vertical market.

But with such a sharp vertical focus, can eScienza really shift to the next technology when necessary? What will happen to the current incubatees? In discussion with eScienza, Arve Måøy made the point that if a new technology comes along, the vertical focus will shift for eScienza. eScienza is continuously watching development of new vertical niches. As technology changes, eScienza may replace consulting fees with an equity interest in the spin-off (up to 25%). Because there is such a large employee investment in eScienza itself, there is high motivation to see that the spin-off succeeds.

Oracle Venture Network

As its home page announces, the Oracle Venture Network (OVN) is

a Web site created to support a unique community of independent entrepreneurs. Oracle VentureNetwork offers a comprehensive range of services to put you on the road to business success.

- *Use the Business Plan Manager to write, then electronically submit your business plan to members of the Oracle VentureNetwork investor community. With nearly 200 questions, the Business Plan Manager prompts you for necessary information, then delivers the plan in a preferred format to your selected investors. Member investors have agreed to review and reply to all submitted plans.*
- *Share in Oracle VentureNetwork's on-line forum and gain the perspective and experience of others involved in developing a business idea.*
- *Draw from a vast resource of service-member companies offering to assist you with launching your emerging technology startup. You can search for legal, financial, recruitment, technology, and other services by region, specialty, or name.*

In fact, OVN is more than just a web site. It is a global corporate program created by Oracle to assist entrepreneurs in developing their ideas. By leveraging the Oracle infrastructure, OVN is a natural extension of Oracle's global network. As Mark Jarvis, Oracle's CMO, describes it OVN is "a free, global online service to help entrepreneurs connect with service providers". In addition, he points out that though it is a global program OVN is administered regionally and locally. Country champions create local networks of financial institutions, venture capitalist, consultants, full service incubators, lawyers, and other service providers, which agree to review business plans submitted through the site.

In Norway, OVN (previously called 2Becom.com) was launched very successfully in 2000. However, as the dotcom market crashed and the country champion took a leave of absence, the program became an orphaned project that no one really had the time to follow upon. Two main problems existed. First, the original country champion was very effective at starting the project, but not in sharing the ownership of the project internally in Oracle Norway. Second, successive interim champions have not had the time or interest in following the project in the same way that the original country champion did - they have had other rolls in Oracle Norway that had to come first. For example, sales looked at the project as a potential sales channel, but when it did not create the large orders hoped for, interest waned.

As Oracles 4th quarter winds down (Oracle operates on a June 1-May 31 fiscal year), the new OVN champion and others within Oracle, have expressed their intention to revitalize the project in Norway, and it appears a new momentum is beginning for OVN in Norway.

Though the network set up by the original country champion is superb - one of the best in the OVN global program - Norwegian entrepreneurs have not utilized the site as much as expected. Though the crash in the dotcom market is offered as one explanation, other possible reasons exist. For example, the initial publicity was done in the name of "2Becom.com", before the name was changed to Oracle Venture Network. Additionally, the current URL, www.venturenetwork.oracle.com/html/public/, is not a "natural URL" and "Venture Network" on the Oracle home page is not particularly easy to find.

Despite all, the tools for business plan development and access to a the broad network of service providers and venture funding makes Oracle Venture Network an interesting place for people with business ideas that they want to develop.

SIVA

"The Industrial Development Corporation of Norway - State Owned, Independently Operated."

SIVA was established in 1968. Though a state owned organization (owned by the Department of Local Authorities and Regions - KRD), SIVA operates independently with its own board of

directors. It owns and operates 40 industrial parks and co-owns ten science and knowledge parks, located in Norway and the Baltics.

Noting positive results from other European countries and seeking to have a similar effect in the Norwegian Districts, SIVA created an ambitious plan to develop 25- 30 full-service incubators over the course of the next 5 years. Toward this effort, SIVA plans to contribute 4 million NOK. Part of this fund will be used to procure 5-year leases on facilities for the incubators. The normal size for each incubator start with will be between 250-30 square meters, and the incubators will pay reduces rent to SIVA to SIVA based on their financial ability and within predefined guidelines.

Though the incubators will be open to all with good business ideas, irrespective of whether they come from research parks, industrial environments or completely private initiatives, SIVA will not provide funding to individual incubator tenants. Instead, SIVA will contribute to the over viability of the incubators' operations. To the extent that incubator clients seek funding from the state, applications will be handled through two other state organizations: The Norwegian Research Council (NFR) and The State Fund for Business and Districts Development (SND).

As a part of the development project, SIVA will expect all new incubators to:

- be physically linked to an attractive business environment;
- have competent and dedicated leaders
- invest resources in young newly created businesses
- have a local network
- have additional financing in place.

SIVA puts a lot of focus the roll of the primary leader of the incubator and development of a network to support the incubator. SIVA expects that the leaders roll will be focused on the entrepreneurial activities of the incubator clients, not internal bureaucracy. Leaders are encouraged to build a Board of Advisors - separate from the Board of Directors - which can provide advice on various business matters, as well as provide an additional source of networking. They are encourage fully develop a network including local businesses, research and education institutions, and financial organizations, though the latter are not expect to completely replace the roll of SND and KRD.

Further on the subject of networking, SIVA also has ambitious to establish a network focused on knowledge and development, between innovation environments in Norway. This project, called DUN (Districts Development Network), is to be centralized on the on the business and research/knowledge parks to help support development of district businesses.

**Appendix V - Review of Incubator Best Practices /Critical Success
Factors: Principles from Prominent Literature**

Smilor and Gill's "10 Critical Success Factors Viewed From The Perspective
Of The Incubator"⁸⁷

- On-site business expertise
- Access to financing and capitalization
- In-Kind financial support
- Community Support
- Entrepreneurial Network
- Entrepreneurial education
- Perception of Success
- Selection process for tenants
- Tie to a University
- Concise program milestones with clear policies and procedures

⁸⁷ Smilor, Raymond W., and Gill, Michael Doud, Jr..1986. *The New Business Incubator -Linking Talent Knowledge, Capital, and Know-How*. Lexington , Massachusetts: Lexington Books.

Rice and Matthew's Three Core Principles of Business Incubation⁸⁸

1. Best Practice Incubators develop a flexible approach to the provision of advice, counsel, and services
 2. They have different kinds of services and programs for their client companies
 3. They deliver assistance in different ways, depending on each company's individual needs and stage of development.
-

Rice and Matthews "Ten Best Practices"⁸⁹

Best Practice # 1:

Commit to the Core Principles of Business Incubation as the First Step To Developing a Best Practices Business Incubator

Best Practice #2:

Collect and Assess Key Information. Decide Whether the Incubator is Feasible or Not

Best Practice # 3 :

Structure the Incubator Program to be Financially Self-Sustainable

Best Practice #4:

Structure the Incubator Organization to Minimize Governance and Maximize Assistance to Incubator Companies

Best Practices #5:

Engage Stakeholders to Help Companies and to Support Incubator Operations

Best Practice #6:

Recruit Staff Who Will Manage the Incubator Like a Business and a President Who Has the Capacity to Help Companies Grow

Best Practices #7:

Choose a Building That Will Enable the Incubator to Generate Sufficient Revenue and Also Support Business Incubation

Best Practice #8:

Recruit and Select Client Companies That provide Revenue Required in the Financial Model and Have the Potential to Grow and Create Jobs

Best Practices #9:

Customize the Delivery of Assistance and Address the Development Needs of Each Company

Best Practice #10:

Engage in Continual Evaluation and Improvement as the Incubator Progresses Through the Various Stages of Development and as the Needs of Client Companies Change Over Time

⁸⁸ Rice, Mark P. and Matthews, Jana B..1995. *Growing New Ventures, creating new jobs: principles & practices of successful business incubation*; Prepared under the auspices of the Center for Entrepreneurial Leadership, Inc.. Westport Connecticut: Quorum Books. 1995

⁸⁹ Ibid

NBIA's Principles and Best Practices⁹⁰:

- I. The incubator aspires to have a positive impact on its community's economic health by maximizing the success of emerging companies.
- II. The incubator itself is a dynamic model of a sustainable, efficient business operation.

Model business incubation programs are distinguished by a commitment to incorporate industry best practices. Management and boards of incubators should strive to:

- Commit to the two core principles of business incubation.
- Obtain consensus on a mission that defines its role in the community and develop a strategic plan containing quantifiable objectives to achieve the program mission.
- Structure for financial sustainability by developing and implementing a realistic business plan.
- Recruit and appropriately compensate management capable of achieving the mission of the incubator and having the ability to help companies grow.
- Build an effective board of directors committed to the incubator's mission and to maximizing management's role in developing successful companies.
- Prioritize management time to place the greatest emphasis on client assistance, including proactive advising and guidance that results in company success and wealth creation.
- Develop an incubator facility, resources, methods and tools that contribute to the effective delivery of business assistance to client firms and that address the developmental needs of each company.
- Seek to integrate the incubator program and activities into the fabric of the community and its broader economic development goals and strategies.
- Develop stakeholder support, including a resource network, that helps the incubation program's client companies and supports the incubator's mission and operations.
- Maintain a management information system and collect statistics and other information necessary for ongoing program evaluation, thus improving a program's effectiveness and allowing it to evolve with the needs of the clients.

*Developed by NBIA, with credit to the book, *Growing New Ventures, Creating New Jobs: Principles and Practices of Successful Business Incubation*, Rice M. and Matthews J., 1995.

The NBIA's list has been further promulgated by the OECD in their report "Business Incubation: International Cases Studies"⁹¹

⁹⁰ <http://www.nbia.org/prinprac.html>

⁹¹ OECD 1999. *Business Incubation: International Cases Studies*, Organisation for Economic Co-operation and Development.

Highlights from "Networked Incubators Hothouses of the New Economy"⁹²

In reporting the results of their study in Harvard Business Review, Hansen, et al, identified the network established by an incubator, as the primary factor likely to contribute to the viability of an incubator. "Most business incubators provide office space, funding, and basic services. The better ones also offer an extensive network of powerful business connections..." While they focused on what "networking" should include, in doing so, they also incorporated many of the previous espoused concepts.

"First, well designed incubators maintain a spirit of entrepreneurship". A spirit of entrepreneurship includes a willingness to take risks and a belief that success is possible. The incubator assists by removing strategic, bureaucratic and organizational impediments.

Other examples of practices from successful incubators:

- establishment of advisory boards of external experts with real stakes in the incubator, committed to helping incubatees:

To create long-lasting networked benefits for new incubatees, networked incubators retained significant equity stakes in important portfolio companies and remain active in them by sitting on their boards or continuing as advisers (sic). In other words they built to hold and not to liquidate their investments. This principal contrasts starkly with traditional venture capitalist approach...

- partner with strong local companies in various countries allowing newly formed...operations to use those connections to forge market deals - though focused internationally, this point does not exclude the local companies where the incubator is established.
- when providing a physical facility, it should be one that is conducive to and enhances networking between clients

Hansen, et al, also recommend that incubators utilize the economy of scale to:

- have "outside experts on site...so that incubatees have quick and easy access to technological experts";
- "hire specialized deal brokers... - a person whose full-time job is to network on behalf of the incubator companies";
- leverage the portfolio of companies to create an even greater network effect by vertically integrating the companies that are incubatees and graduates so the incubator can multiply the competence and market forces

Finally, networking should be institutionalized and in place before the incubatees need to call upon them. "By institutionalizing networking, an incubator achieves scalability of networking benefits."

⁹² Hansen, Morten T.; Chesbrough, Henry W.; Nohria, Nitin, and Sull, Donald N.. 2000. *Networked Incubators Hothouses of the New Economy*. Harvard Business Review. September-October 2000.

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