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**SCHOOL OF BUSINESS, ECONOMICS AND LAW**

Master Degree Project in Knowledge-based Entrepreneurship

## **Incubation Processes**

A multiple case study of Swedish business incubators

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## Abstract

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The existence of the business incubators is undeniably important for the economic progress. As any organization, even the incubators are affected by the changing environment which calls for actions in maintaining a certain flexibility of the incubator, insuring the adaptability to the ever changing demands. In this paper the author examines the business incubator's incubation process in a "white-box" manner, as it has been pointed out in the literature as one of the most important elements of an incubator. Considering the little amount of studies on this subject, the author decided to conduct the research in an inductive way, allowing very detailed information to flow in and emergence of themes and categories. The framework of the study was based on two models and it follows three directions: the phases of an incubation process, the activities performed, the resources needed for undertaking these activities and the goals of each phase. The aim is to answer general questions like "how does the incubation process look like?", "what is it being done within the incubation process?" and "why are the activities performed at the respective stage?". The results have led to a better insight in the incubation processes, interesting observations and even a new possible framework that can be tested for categorizing business incubators in Sweden or it can be interweaved together with another proposed framework.

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# 1. Introduction

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This introductory chapter starts by providing a brief background of this study, its focus and relevance. Additionally, the purpose, goals and research questions will be explained together with the delimitations made and further, it outlines the disposition of the thesis.

## 1.1. Background

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Some of the national economy's drivers are the innovation and technology progress and entrepreneurship is seen as a mean of fueling this. The interplay between entrepreneurship and the internet has changed the global economic landscape, flattening the world and making the new ventures operate in a complex framework influenced by economic, financial, social, political, structural and environmental factors. (Spinelli 2012, Lalkaka 2001). The new ventures are not competing locally anymore, but on an international level due to the flattening of the world. This influences even more the precare situation that some start-ups face, contributing to their high failure rate (Zacharakis et al, 1999).

New ventures are seen as the most important tool of conveying new technology and innovation to the market (Audretsch & Keilbach, 2005) and having a high role in creating new jobs (Spinelli 2012, Lalkaka 2001). Especially the industrialized world has acknowledged this and thus created policies to support this phenomena. Part of these policies, Business Incubators became a popular instrument in supporting the new ventures in their journey from idea to the market, helping in lowering the high rate of failure of the startups, as mentioned above.

## 1.2. Focus and relevance

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The growing interest in studying these organizations (the business incubators) and the alleged importance on the entrepreneurial scene calls for the possibility of defining, mapping, designing, improving, adapting the incubator. The richer the knowledge about how they

function, about their role and influence could serve not only future research and understanding but as well the stakeholders involved in the whole environment the incubator is acting.

Considering the changing environment in which the incubators work, it is important for the managers of these organizations to be able to adapt to the new conditions and insure a continued quality of their offer (Business developer BI 1).

The incubator as a system is seen as a mechanism of adding value to its “tenants” - the incubatees. This infusion of added value is done through the incubation process which makes the author believe that the business incubator managers should have a clear picture of the process of incubation. A visualization of the process will positively affect the understanding of the outcomes, how the process can be influenced and improved in order to create the flexibility necessary for adapting to the constantly changing environment.

### **1.3. Direction and Purpose**

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Due to the author’s personal interest in business incubators, a brief research on this subject was done, reading from several sources regarding incubators’ activity and importance, branch organizations, etc. In order to verify the information accumulated, two shorter meetings were conducted with the managers of one of the incubators that take part to this study. During the discussions, both the author’s point of view and the managers’ was focused on the process of incubation from the investor’s point of view and how it (the process) can be changed in order to increase the incubator’s attractiveness. During the time spent to study closer the incubation processes the author realized that in order to answer the question regarding the attractiveness of the incubator, the process of the incubation had to be studied in detail. Looking closer to the process as a white box (how the process is organized and managed, what activities happen and why, trying to study its internal activities, the whole incubator subject became wider and more complex.

In the light of the complexity of the incubator environment, both internal and external, and considering the factors explained in the background paragraph, the decision to move the attention totally on the incubation process as a white box was taken.

Several articles written by researchers and institutions pointed at the fact that incubation process is of key importance as it is the phase where value is added to the entrepreneur which is taking part of the incubation process. It becomes thus interesting to explore how the process looks like for different incubators in Sweden, when value is added, how and why, in the incubator's managers' opinion. The results can be used both by academics and practitioners. Academics can find a use for it as secondary data analysis for future research on the Swedish incubators in for example a longitudinal comparative research or as complementary information in theory building. Besides the aim the author has in conducting this study, an outcome might be even the cross-validation of other concepts. As part of the conclusion chapter, suggestions for future research will be made, providing hopefully some inspiration for other academic fellows interested in the business incubators subject.

For the practitioners, identifying the similarities and differences between these incubators through this study will surely shed some light on what one could change in the processes in order to change the outcomes of the processes.

## 1.4. Research questions

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The discussion above has led to the author asking the following questions, which this thesis will answer.

- a. What are the activities taking place in the incubation process and what are the resources needed in the incubation process in Swedish incubators?
- b. What is the perceived goal that is sought to be achieved through each phase and set of activities in the incubation process?

## 1.5. Delimitations

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This study will have as its focus the Swedish incubators and their incubation processes. Incubators have been categorized in different ways but one popular way to do that is by their focus. (Grimaldi, 2005). Thus, they can be university related type of incubators, public

business incubators and privately held incubators. Although their goals and focus are most likely influencing the design of the incubation process, the author chose to select for this study different types of incubators, regardless their focus. The selection of the subjects was done only by type of activities that the organizations themselves have described on their webpages.

Another delimitation is the direction of the focus on the incubation process - it will be an internal point of view, investigating the activities that take place within this process and what value it is added through these activities. The study has as aim the identification of differences between the organization of different incubation processes but will not, however explore the connections that could be drawn between these differences and incubator performances or outcomes. With that stated, some suggestions might be made during the analysis and interpretation of the results.

Due to the limited amount of time, the quota regarding the goal-amount of interviews with business incubators was limited to 7.

A final delimitation lies in the subjectivity of the study, as it looks into the the what, how and why of the incubation process by interviewing managers and thus obtaining an internal point of view of the incubation process.

## **1.6. Disposition**

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The figure below shows the structure of the thesis, enabling an easier overview of this paper and of what chapter contains what information. It is important to mention that this paper will not have the what appears to be “classical” structure employed by most master thesis papers. The author has chosen to approach this study in an inductive manner, starting to study the situation out of their own interest and curiosity and leading to a set of outcomes that will only then be compared to the existing theory. Nevertheless, in the process of empirical research, some data from different articles written on the subject was gathered, in order to confirm the relevance of information around the incubator processes. This collected information will be presented in the Incubators chapter. This results in the following structure, where methodology and findings will be presented before the theory available. This structure reflects better the line of events and steps leading to the outcomes of this study.

Introduction	•Background, purpose, research questions, delimitations
Methodology	•Research strategy, design, method, selection, data analysis, research quality
Background incubators	•History and information about incubators in Sweden, literature forming the framework of the study
Empirical research	•Findings from the empirical research for each of the study cases
Theory	•Previous research on incubator processes
Findings vs Literature	•Analysis of findings in the light of the existing theory, cross validation
Conclusion	•Discussion in the light of the results of the analysis, future implications, answers to the reasearch questions

## 2. Methodology

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*In this chapter the methodological approach chosen for this thesis is presented and justified together with the challenges and opportunities that this choice brings.*

### 2.1. Research strategy

---

As presented in the previous chapter, regarding the purpose of the study, a short background of the direction of this research was introduced. While in the beginning the author started to investigate on the incubator process subject, the strategy of the study inclined towards a deductive approach. The original idea was at that point to use the existing theory around resources, processes and value creation and based on that the author build several hypothesis. While pondering on the next steps of the research, in the attempt to outline the design of the study some difficulties appeared in understanding the incubation process from within. Still considering the deductive approach as valid way of gathering data, the search for theories on the incubation process as a white box began. The laborious work of browsing through theory while at the same time reading and discussing on incubators in general started to change the direction of the relation between theory and research. It pointed more and more on the fact

that the exploration of the incubation process started on the author's side while the search through literature did not give enough concrete concepts to take into consideration. At this point the decision was taken to continue the research in an inductive manner and having as aim to explore the incubation environment in the search for similarities and differences while at the same time interweaving with the coming-back to literature and theory. The research gained an inductive iterative character (Bryman & Bell) which was, as explained, imposed by the change of focus in the research and the amount of specific available theoretical data.

The different general approaches to adopt while undertaking a research can take the form of quantitative or qualitative strategy (Bryman & Bell) which, in few words, answer the questions "how much? how often?" respectively "what? why?" and "how?".

This thesis is focusing on exploring and understanding how the incubation processes look like from within, what activities are performed and what is the thought behind these activities in relation to the entrepreneurs taking part to this process. Since it is searching for the type of answers to the questions like "what?" and "how?" and in the light of the reasoning above, the research strategy adopted for this thesis is an inductivist qualitative one which at times has interpretivist elements.

This type of chosen strategy enables through its more unstructured and flexible way of gathering data the emergence of patterns, concepts, unrevealing details that through structured strategies would not be easily possible. This strategy is believed to serve the purpose of this study and allows the author and the readers to understand in detail the organization of incubation processes.

The figure below shows the steps often connected to the qualitative strategies and which the author followed.

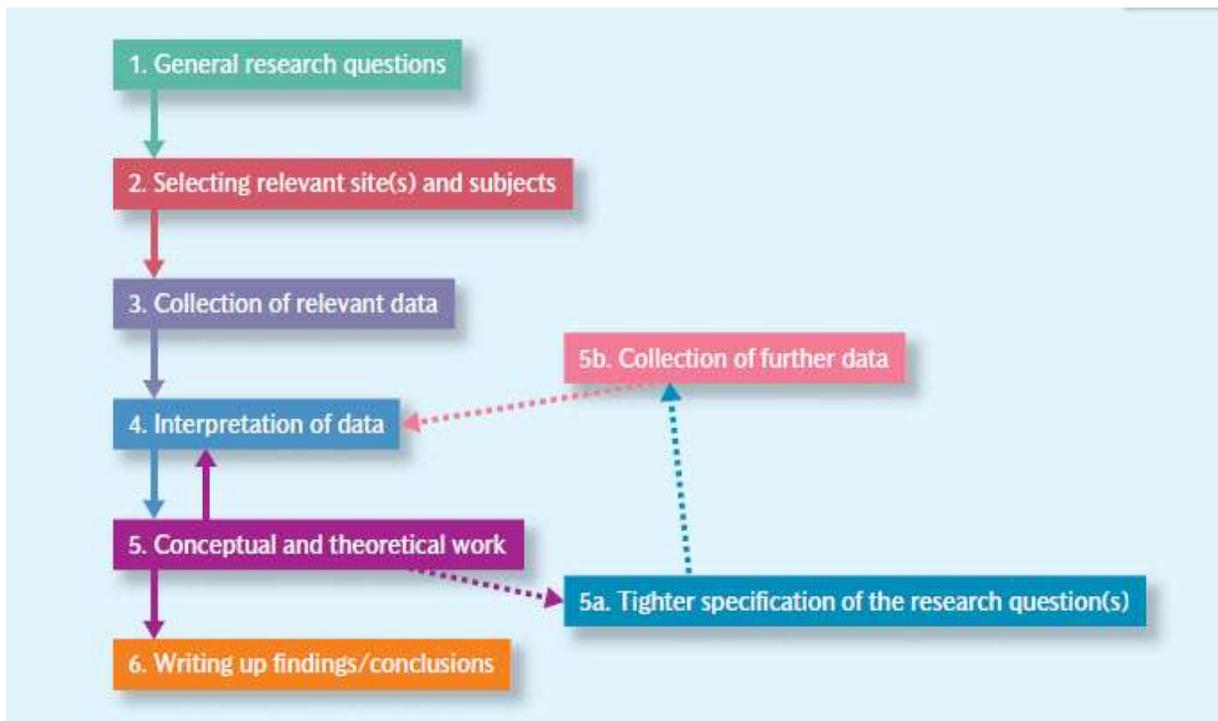


Figure 1: Main steps of qualitative research (Bryman & Bell, 2011, p.390)

## 2.2. Research design

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In order to answer the questions of this study the framework chosen for gathering the data is the multiple-case study, an increasingly used design in research. According to Bryman and Bell, this design allows the researcher to compare between the contrasts of the cases chosen and sustains the discovery of similarities and differences between cases.

Choosing a multiple case study is preferred in this case, in order to look into the particularities of several incubator processes in a set environment - the business incubation environment. Additionally, since one of the goals of the study is to find similarities and differences between different business incubators, the multiple-case study is suggested as a fruitful way of designing this research. Moreover, although the author is not aiming at building theory through this study, the wish is to keep open the possibility of allowing theory emergence either through the outcomes of the present paper or through including them in another research aiming at theory building. Bryman and Bell suggest that multiple-case study can lead through the comparison to concepts that enable theory building. Finally, comparing the cases

can help the author in validating theory around incubator processes, or the contrary, proving that a theory might not hold for these cases (Yin 1984, Eisenhardt 1989).

### **2.3. Research method**

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The research method adopted for gathering the qualitative data for this study is qualitative semi-structured interviews with all the business incubators selected for the research.

The author's interest is to gather data from the individuals working in incubators as CEOs or Business Developers in a flexible manner that allows changing the direction of the discussion, allows personal opinions that can reveal what points are important for the interviewee and leaving openings for details to emerge. This kind of malleability can both give a general overview of the subject but as well giving way for in-depth questions on queues that the interviewer perceives as unclear or worth developing during the interview.

Although a high degree of flexibility is sought after, a certain structure is needed for this type of study. As the focus of this research consists of the organization of the incubation process, some categories of questions have been developed in order to cover the topics related to the study of any process in general. The general topics have been decided upon by reading the available literature on the subject. Giving the interviewees the topics to talk on but with a high degree of flexibility in the way the answers are formulated, the accumulated data can be rich and with plenty of details to study, while maintaining a certain focus on the subject of the thesis.

Therefore, for the reasons described above and considering the description Bryman and Bell offer, the qualitative semi-structured interviews are considered the ideal way of collecting the data for this qualitative inductive study.

### **2.4. Data collection - Semi-structured interviews and selection**

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The primary data for the empirical research has been collected mainly through the semi-structured interviews. In order to obtain detailed and useful data focused on the subject of this thesis, the author created a list of themes that resulted after reading the first set of literature.

This set allowed a conceptualization of the subject the author was interested in without going in depth but giving the frame for identifying the main themes. Along these themes the questions were formed for the interview having continuously as goal to answer the research questions. The whole set of questions is attached in the Appendix of this paper. However, due to the flexible nature of the semi-structured interviews, other questions arose during the interviews, although they were not part of the questionnaire.

For conducting this study the author created a list of incubators that were contacted by e-mail as a first contact. Although previous studies suggested that incubator processes should be studied in separate groups, along the category the specific incubator belongs to, the author decided to select for this study different categories of incubators, regardless of their focus of activities, stakeholders, etc. The common denomination for the subjects of the interview is the main activity of the organization and the location: Swedish business incubator.

The list contained 13 incubators spread all over Sweden. All 13 have been contacted, the e-mails being directed to mainly the CEOs of the incubators, when the addresses were available. The goal was to conduct 9 interviews but at least 6 in order to collect enough rich data to be later used in the analysis. The study had 8 respondents out of 13 where one incubator declined the participation to the study due to a very busy period. The remaining 7 have presented their interest in the subject of the study and scheduled a time to participate in the interview.

To be noted the time frame allowed for scheduling an interview from the time of the first contact until the execution of the interview was up to one month. Advised by one of the supervisors, the author started very early contacting the incubators. On the upside, this allowed the author to allocate enough time for the sometimes time consuming task to book interviews but on the downside, since the first contact was made quite early in the process of formulating the research questions, it proved to be challenging in a few cases to convince the CEO's of the value of the study. The vague research questions and goal were an impediment in evaluating the worth of participating in this study.

The author returned with phone calls to both the non-respondent incubators and to those who needed a more detailed view over the goal of this study. The clearer formulation gave positive results, leading, as previously mentioned, to 7 interviews. Upon booking a time for interviewing the subjects, a list with the questions has been sent to all the positively respondents, in order to allow them to acquaint with the topics.

Due to time and distance constraints, 5 of the interviews have been conducted over the phone. The interviews held over the phone have been recorded with an application called ACR and varied in length from 35 minutes to 1h 45 minutes. The interviews conducted face to face were recorded with another application - Smart Voice Recorder and varied in length between 40 minutes to 1 hour. Along both type of interviews notes were taken and some memos were made marking several interesting terms or ideas that emerged during the interviews.

All interviews have been conducted in Swedish allowing the interlocutor a natural formulation and not hindering the train of thoughts. The interviews have been transcribed for an easier process of analyzing the data, the transcription being as well in Swedish. Currently, the author is waiting for response from the interviewees regarding their consent to publish the answers.

However, the identity of the interlocutors will not be made available for confidentiality reasons.

The incubators will be labeled from now on and used in that manner throughout the paper.

## 2.5. Data analysis

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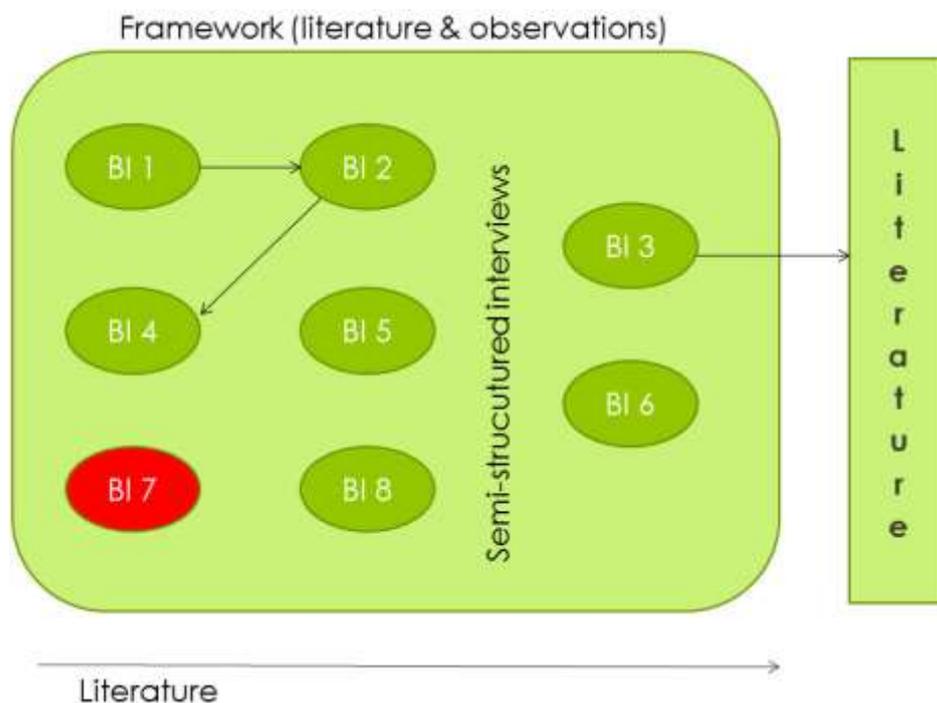
A very common approach to analyze the qualitative data accumulated is, as presented by Bryman and Bell, grounded theory, characterized by its facilitation of concept emerging and the parallel process between data collection and data analysis. One main processes of grounded theory that the author focuses more in analyzing the data is coding. More specifically open coding is [...] “the process of breaking down, examining, comparing, conceptualizing and categorizing data” (Strauss and Corbin, 1990) which is partially the practice used in this study.

More exactly, in the light of the feature of grounded theory (iteration) and the implications of open coding, the data gathered through interviews has been transcribed immediately and analyzed. Through this early coding, early emergence of themes and categories appeared. Realizing a probable issue in what early categorizing might entail - namely not seeing the next interview as a single entity in its own context but automatically generally categorizing it and possibly entailing to leading the interview in such a manner - the author had to try to regard every new interview not connected to any other data previously collected. This may sound confusing as the goal of the study is to find similarities and differences between incubator

processes. The author though did not want to categorize all the cases early on, but first follow the categorization the interviewees themselves made, look for themes within each case, within their own context and only then compare the categories and themes between cases and between accessible theory on the subject.

This framework of analyzing the data has been outlined through inspiration from the steps suggested by Creswell (1998) and Stake (1994).

Shortly put, the empirical data was qualitatively analyzed at two levels: at the each case level followed by a larger view, at the multiple-case level, as illustrated below.



## 2.6. Quality research

According to Bryman and Bell, the high quality of the research is ensured by fulfilling two concepts - reliability and validity.

*Reliability* is concerned with the replicability of the findings of the study in order to ensure generalizability and is distinguishing two subgroups - external and internal reliability.

Regarding the external reliability, it is difficult for another researcher to replicate this study as the social environment it was performed in will change. However, the author has followed a structure of conducting the research. Although the interview questions might be seen as a

problem posing for the external reliability, the author believes that the character of many of the questions is descriptive, where the interviewee is asked to describe the organization of the incubation process. Only a few questions ask for the personal point of view (or the institutions') on the subject. The belief here is that by sending ahead the interview questions, using questions to call for a descriptive answer and selecting for the interview employees in a position that requires or at least assumes a very good knowledge of the organization of the process, the attempt to increase the external reliability should be satisfactory.

Internal reliability is considered not to be applicable to this case, as only one author is performing the research.

*Validity* is concerned with the question if the researcher is measuring what the researcher claims is measuring (Bryman & Bell 2011) and even this concept consists of two sub-categories: external and internal validity.

External validity poses a problem as according to LaCompte and Goetz, the employment of study cases is common in qualitative researches. In this case, the use of multiple case study is slightly increasing the external reliability as several case studies are being employed. It does not mean though that the results can be generalized for the whole population (of incubators in this case). The author does not have the intention of emerging a generalization, especially since the focus is on the particular differences between the cases studied. Moreover, the belief is that the data provided by this study could be complementary used for a more general study, including more incubators in the research and only (if applicable) then leading to a generalization of a theory.

As regarding the internal validity, this is possibly high, as mentioned in Bryman & Bell's book, "[...] *the prolonged participation in the social life of a group over a long period of time allows the researcher to ensure a high level of congruence between concepts and observations.*" (Bryman & Bell, 2011).

### **3. Business Incubators**

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*In this chapter the author is building a general overview on the business incubators with focus on the Swedish particularities.*

The first business incubator that most of the writers agree on as being the formal startpoint of the business incubation has roots in the US, year 1959 when a real estate developer transforms

a large industrial property into small delimited offices to different companies. With time, some of the tenants were asking for advices around their business and we could say that this is when a very basic form of business incubation took shape. (World Business Incubation)

Within a few years business incubators appeared in university environments to fulfil the need of supporting academic persons in pursuing their entrepreneurial vision. With the increasing numbers of incubators operating and spreading to other countries, the interest in conceptualizing the incubator-incubation phenomena escalated leading to the the first researches around it in 1984 (Hackett and Dilts, 2004).

In 2012 more than 7000 incubators were registered worldwide (Knopp 2012) which shows a remarkable increase in number of these type of organizations over 53 years.

### 3.1. Definition

---

There are several definitions used for describing business incubators. Hackett and Dilts have been reviewing some of the definitions used for incubators and pointed out the different ways of looking at an incubator. Many researchers have bounded the presence of the incubatee on the real estate premises to the definition of a business incubator (Brooks, 1986) while later the focus moves on to the degrees of value-adding objectives. (Allen and McCluskey, 1990)

For example, a definition used in 1989 was:

*‘A place where newly created firms are concentrated in a limited space. Its aim is to improve the chance of growth and rate of survival of these firms by providing them with a modular building with common facilities (telefax, computing facilities, etc.) as well as with managerial support and back-up services. The main emphasis is on local development and job creation.’* (Centre for Strategies & Evaluation Services, 2002)

At a later stage the business support is emphasized more in definitions although the views are still split around the obligatory presence in well-defined spaces. An example of how it can vary across Europe looks as follows. The German and British definition adopted for describing business incubators was:

*“Business Incubation is a dynamic business development process. It is a term which covers a wide variety of processes which help to reduce the failure rate of early stage companies and speed the growth of companies which have the potential to become substantial*

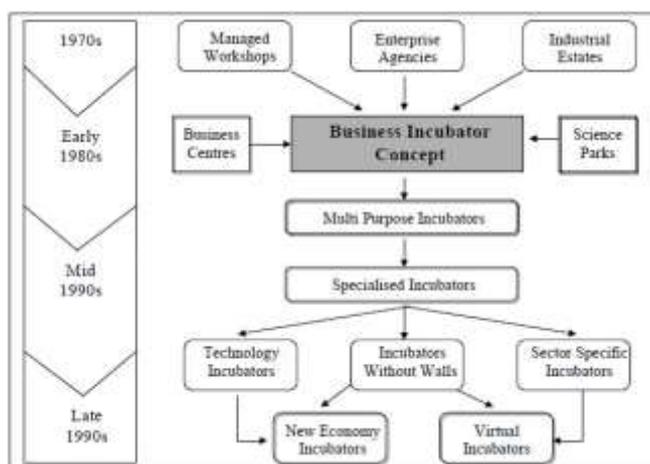
generators of employment and wealth. A business incubator is usually a property with small work units which provide an instructive and supportive environment to entrepreneurs at start-up and during the early stages of businesses. Incubators provide three main ingredients for growing successful businesses - an entrepreneurial and learning environment, ready access to mentors and investors, visibility in the marketplace.” (Centre for Strategies & Evaluation Services, 2002)

But France chose to define the incubators as follows:

“...are support organisations for innovative small and medium-sized businesses (SMEs) and entrepreneurs ... operating in the public interest, they are set up by the principal economic operators in an area or region, in order to offer a range of integrated guidance and support services for projects carried out by innovative SMEs, thereby contributing to regional and local development.” (Centre for Strategies & Evaluation Services, 2002).

A possible reason for the different definitions over time could be the development of the range of offerings and focus of the business incubators as concepts over time. Generally put and in very simple lines, from offering office-spaces, incubators have adapted their offering to the demand of their tenants and evolved towards more individualized and specialized services and activities.

The image below shows the evolution of the incubator’s model which reflects the evolution of the definitions as well.



There is no common definition of incubators that both theorists and practitioners agree on. The concept of business concept is widely used with different understandings, becoming more of an “umbrella” term than representing a specific type of organization (Aernoudt

2004). There are however common grounds. Business incubators aim to help and support small new ventures during their start-up period, which is identified as being precare for the young companies (Aernoudt, 2004; Rice , Peters and Sundararajan, 2004; Löfsten and Lindelöf 2002; Hackett and Dilts 2004). This support is delivered through physical space and specialized services such as management, accounting, networking, legal advice, etc. (Smilor and Gill 1986, Grimaldi and Grandi 2005; Soetanto and Jack 2011).

### 3.2. Incubators typology

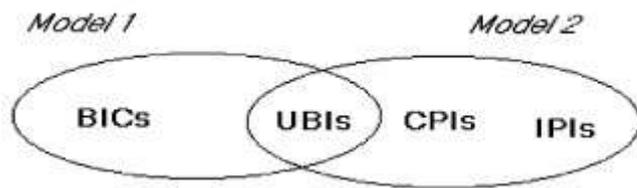
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Different researchers have categorized incubators in different ways and from different points of view. As Lalkaka states in his work, (Lalkaka, 2001) the influencing factors on the types of incubators are the sponsors, their objectives, the location of the incubator, the sectoral focus and the business model chosen by the incubator (profit, non-profit). NBIA (National Business Incubator Association) is categorizing them by the way the incubators deliver their services, by structure and the types of stakeholders while Bøllingtoft and Ulhøi (2005) choose an economic point of view and separated the incubators based on the purpose of existence: to contribute to the increasing of the regional development or to commercialize academic research.

The Centre for Strategies & Evaluation Services suggests in their Benchmarking report that a better way to classify the incubators would be by the type of the activities their tenants are involved in.

Grimaldi and Grandi (2005) found 5 types of incubators: business incubator centers, (BIC) university business incubators (UBI), technology incubators, independent private incubators (IPI) and corporate private incubators (CPI).

It is obvious that there are many ways of classifying the incubators, however the author considers the categorization made by Grimaldi and Grandi (2005) to be more holistic than others, as the variables used (institutional mission, industrial sectors, location, origin of ideas, phase of intervention, incubation period, sources of revenue, services, management team) are relevant when considering the incubators' environment. Below, the figure shows the simplified categorization of incubators that the authors named above have produced.



### 3.3. Business incubators in Sweden

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In Sweden, inspired by the American model, the first incubator took form in the '70s (SISP) and in '83 the first Science Park was created in Lund, having as its aim the development of regional companies. The birth of the science park was a result of difficult industrial conditions due to the crisis in the country that led to a high unemployment rate (Ideon website).

Most of the Swedish incubators are owned by different public actors, such as universities, local or regional communities, and funded through public funds managed by for example Vinnova and Almi. There are also privately owned incubators as well as private funds active in the Swedish incubator system.

In order to insure the flow of business ideas and to support companies and organizations acting as enablers of the commercialization of knowledge, nation-wide measures have been taken by the Swedish Government and introducing the first national incubation program in 2003 by VINNOVA - the Swedish Governmental Agency for Innovation System. Through this program the incubators get access to funds for different projects that they support and promote. Later this program moved to another government owned company Almi.

For this paper, the author has decided to use the Swedish association for incubators' definition, due to the focus of the study being exclusively Swedish incubators.

According to SISP (Swedish Incubators and Science Parks), *“an incubator provides a dynamic process of development of people and businesses. The incubator provides entrepreneurs with active and appropriate management support, financial, technical and commercial networks and a creative environment with associated office services.”* (SISP)

One aspect has been noticed by the author and as well underlined in different literature sources - ambiguities appear when terms are used for incubators and science parks and as well

regarding incubators and accelerators. In some literature, incubators are described as standing on their own organizations or as part of science parks, while accelerators take the shape of a separate entity. Nevertheless, other understandings include the accelerators as a phase of an incubator's program.

The confusion of terms is acknowledged by SISP as well but clarified in which sense it is used in Sweden. According to SISP the term accelerator is being used in a range from a short idea development phase til a full sized seeding-organization. However, in Sweden the meaning of accelerator should be correlated to a type of intensive process of business development that is often applied to business models with a very short path to the market, for example a platform application. It is thus included in the incubator concept but differentiated by the intensity of resources used and length of the program.

SISP continues even with the difference between business incubators and science parks (also called research and technology parks). The science parks do not offer business assistance although they can offer incubation programs and they take the role of a node for many innovation stakeholders.

### **3.3.1 Teacher exemption**

One aspect needs to be mentioned in the context of Swedish business incubators. According to the Swedish Law (LOU 1§2 1949:345), the teachers, researchers and doctoral students are considered exempt, which in other words it entitles them to the ownership of their own idea, even if it was developed during working or studying time. The owner of the idea can choose to commercialize this idea through any desired channel, while in other countries the idea has to be promoted through university owned institutions.

This aspect affects the constellation of the innovation system. In other countries the universities have built a specific idea-commercialization department which becomes the single point of contact between idea and the business environment. In Sweden the universities can represent the researcher owning the idea and they (universities) created thus relations to the business environment through organizations like holdings (which the university is running on behalf of the Swedish State) and incubators. From this point of view, an incubator can choose to have connections to a single university or to several ones. (Vinnova, Bilaga 3, VP 2006:02)

Reports and articles have been written around this subject and have evaluated the implications on the innovation progress in Sweden, advantages and disadvantages have been listed and counter-weighed. However, although interesting, this will not be covered by this study and will not affect the purpose of this research but it has to be considered if the empirical results are to be used in cross-cultural studies, benchmarking across borders, or other types of studies that imply comparison between different contexts.

### 3.4. Incubation process

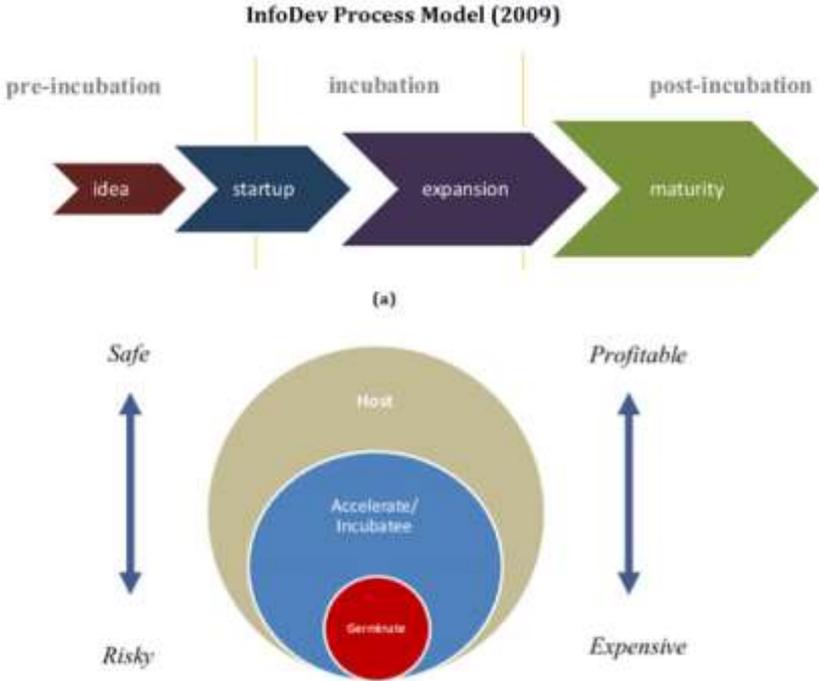
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As presented in the methodology chapter, the incubation process has been pointed out as important in the literature around incubators, especially when treating the performance of the incubators subject. Hackett and Dilts made in 2004 an extensive review of business incubation research and are mentioning what Adkins points out as important in the incubation system : *“Despite the fact that the NBIA has noted on many occasions that the incubation process is much more important than the incubator facility (Adkins 2001), the extent of what we know about the incubator-incubation phenomenon is limited almost exclusively to the incubator facility.”* This, together with synthesis of other relevant literature leads to one of their conclusions: *“ we must turn our attention from “what” to “how” and “why” “* (Hackett and Dilts, 2004a).

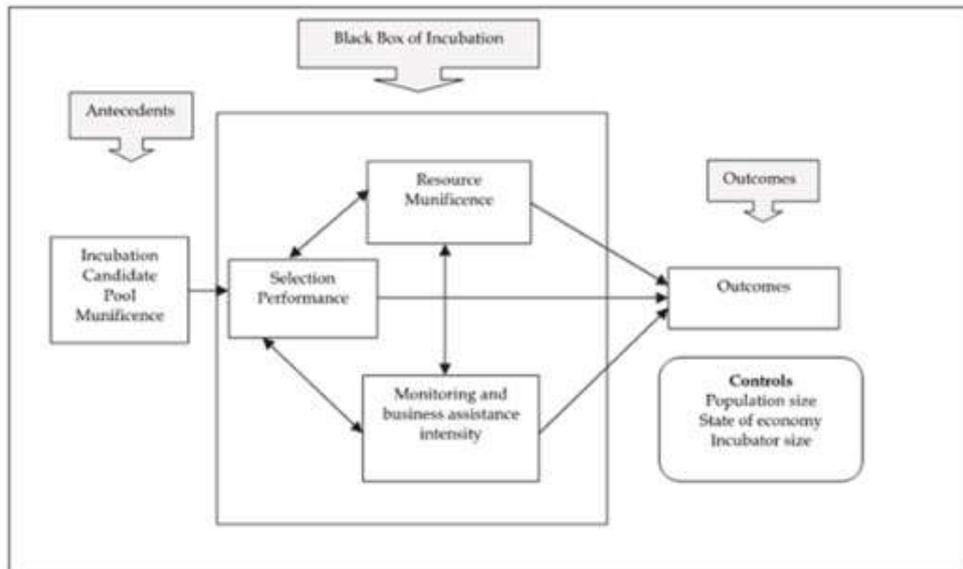
The importance of looking at the process of an incubator is quite clearly sustained by the theorists and some attempts have been made into exploring it. However, many of the models that have been created look at the inputs and the outputs of the process, without opening up “the walls” around the elements that it is consisted of. This type of process definition or study is called “black-box”, whilst a “white-box” way of studying the process would imply the unpackaging of the elements that form the process.

Two of the black-box studies are the ones presented by Hackett and Dilts (2004b) and the InfoDev model from 2009. The figures below depict these models and how the presentation of the business incubator looks like from the black-box point of view. The InfoDev model makes a clear connection between the incubation process and the entrepreneurial life cycle. Considering the parts in the definition of an incubator that different theorists agree on, namely that the incubator is serving a new idea, a new venture through specialized services, this model takes into account both elements. Basically, the incubation process phases will serve different life stages of the entrepreneur. The process is divided in three sections: pre-incubation, incubation and post-incubation, a generic delimitation that compared to what the

author has been noticing while doing a pre-research, it is a proper representation of the reality. Nevertheless, the model is not going into further details around the activities in each phase of the process.



Hackett and Dilts (2004b) created the well-known process model in which they identify three characteristics of the incubation process: selection performance (based on what criteria the selection of the new ventures/ideas is being done) , resource munificence (the availability of the resources within the incubation process), and monitoring and business assistance intensity (the degree of involvement in assisting the new ventures).



### 3.4.1 Framework

In order to unpack the elements, the author has decided to form a framework which allows the formulation of questions for this study. For the first, the idea of delimiting the incubation process in phases, as presented in the InfoDev model. The author was aware of that the interviewed business incubators will not use same terms for the delimitations of phases as in the model presented above, hence only the idea of dividing the process has been used for the framework. Hackett and Dilts have used the selection - business support - mediation framework but the author found that looking at the incubator's activities, resources available for the activities and the reason for undertaking them would get us closer to answering the questions like "how" and "why" and of course finding answers to the research questions. The belief is that what Hackett and Dilts divide into selection, business support and mediation are covered by the categories activities undertaken in the incubator, resources needed for supporting these activities. In order to take a better look at the "why" of the incubation activities, the author chose to ask the interviewees about the expected outcome by the end of a group of activities during a certain phase of the incubator. It is not easy to discern here if the third element is related to the value added or not. The author felt a clarification has to be made here - the expected outcome from the manager's point of view is connected to the value proposition the incubators present their incubatees. By asking "what is the expected value that the phase will deliver", the focus is on the value proposition, the problem solved at the customer's end. The question requires the interviewees a reflection moment on the goal of the particular incubation phase and is even more relevant if the results of the study would be

completed with a similar one but conducted with the companies that have been through the incubation process.

The inductive character of the research will hopefully allow other categories to emerge within the delimited framework and will be in that case presented in the following parts of the research.

## **4. ANALYSIS**

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The analysis of the empirical research will be presented within this chapter, with the main focus on the themes of this study - how the incubation process looks like, the perceived goal of the activities and a personal view on processes will be presented as well. Please be aware that the findings may be subject to biases as they are based on the interlocutor's description.

The information gathered for each of the cases will be presented following the framework adopted, meaning activities, resources needed for the completion of activities and the expected goal by undertaking specific activities during given phases. The interviews have led to detailed data while the inductive manner of the research has allowed, as hoped for, emerging categories of data. These categories will be presented for each case, following after the main framework elements.

Due to the nondisclosure character of the interviews, the names of the business incubators and of the interviewees will not be presented. Likewise, their own names of the different phases of the incubation process will be replaced with the general categories pre-incubation, incubation and post-incubation. It has been noticed by the author that the post-incubator phase differs among incubators as it can take the form of an accelerator. Where that is the case, the author is using this terminology instead of "post-incubator".

### **4.1. Findings case by case**

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#### **BI 1**

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According to the business developer from BII, their role is to support the growth of the start-ups.

The incubator process consists of 3 phases: verification phase, incubation phase and lastly, accelerator phase.

### **Incubator phases**

The *verification phase* has a laboratory characteristic. In this phase ideas are being tested, prototypes are being developed and tested, business models are constructed. At this stage BII is trying to bring in an external competent person with knowledge in the respective field that the incubatee addresses. The role of the external point of view is to assess from a qualified point of view, if there is a demand for the prototype (idea, business model) that is being put together in the verification phase. The BII underlines that the external contact is not seen as a customer contact, but more a theoretical model which is tested against the market.

**Activities:** networking, events, education, testing ideas, meetings for assessing the team and idea, contract with the incubator.

**Resources:** 8 coaches working as consultants and the time invested by these in the projects. It is very rare that an external expert is involved at this phase. Sometimes students from the university in the region are taken in for testing ideas.

**Goal of the phase:** finding out if the idea is worth investing in, from both parties point of view - the incubator's and the entrepreneur's.

In the *incubation phase* a minimum viable product should be in place. A large amount of work is dedicated in this phase to the team that takes part of the incubation process, bringing in the correct competence if needed. Another big focus at this stage is on the idea which continues to be developed and even pivoted if necessary. Collaborators are identified as well in this phase and if everything moves fast even the Board of members is being put in place.

**Activities:** big focus on networking, courses for becoming certified Board of Directors members, lobbying for the projects towards the internal system, such as Almi, Vinnova, in order to finance them. Other typical services at this phase: marketing services, accounting, business legal advisors.

**Resources:** external experts, external consultants, big amount of money, internal coaches, offices, business partners, laboratories,

**Goal** of the phase: Most of the focus at this phase is oriented towards the market, having as goal to create contact with the potential customers. The incubated companies should be able to sell a complete product or service before leaving the incubator, and ideally they should be able to leave the incubator after the second phase.

The *accelerator phase* is as the name suggests concerned with accelerating the focus and activities towards the market, where the incubatee is being taken out towards the market and customers. If necessary, final adjustments are being done at this phase such as completing the customized product/service for the market.

The transfer from one phase to the other is based on a point-model, called “readiness level”. This model is used for tracking the development of the incubatee through different steps, showing how far through the journey they have got and providing tips on what the focus should be on at different stages. For example, before being accepted in the incubation process, an idea/entrepreneur is usually situated on level 3. In the verification phase levels 6 and 7 are targeted while at the end of the incubation phase, one should be at least on level 6 and preferably on 9. The levels and the time spent travelling between level 3 and 9 are individual though, depending on the type of industry the idea or entrepreneur is serving.

The accelerator phase is not covered by the readiness level as this aims growth processes or steps. The readiness level is seen as a mediator factor between the coaches and the entrepreneurs as it is used during the meetings as a map of progress on which both parts agree. It states clearly where the idea it is in its development, what needs to be done at that point.

**Activities:** internationalizing and scaling activities, networking with science parks and other incubators in particular.

**Resources:** very little internal, but mostly external in form of procurements, external experts, external contacts in branches connected to the entrepreneur’s field of activity.

**Goal** of the phase: the company should have a turnover in the range of 1 - 50 millions before the end of this phase (depending on the level they were when entering the incubation process) and is important for the incubator’s reputation that a successful company has taken part to their (at least) accelerator.

## Other categories case BI 1

**Selection criteria** - the BI1 has changed their selection criteria. They consider the team interested in joining the incubation process as the most important criteria and factor for a successful growth. “Better to work with a strong and good team and a half-ok idea than the other way around” (Business developer BI1).

Not all the companies are accepted in the incubation process and the main *rejection reasons* are the team’s own choice of not continuing for various reasons, such as too expensive or not valuable enough for their case; another reason could be that the incubator does not consider the idea considerably unique to support; the business model might not be viable enough and after discussions with the team, if there is no agreement in changing it, the team gets refused access to the incubation process. One more reason for rejecting applications can be if the idea providers are too interested in just the idea itself and less on creating growth.

**Cost for the entrepreneur:** fixed monthly fee

**Networking:** with the university in the region, other business incubators, collaboration between regions, companies, investors.

**Criteria to move to next phase in the process:** Yes, according to the readiness level

**Flexibility of the phases and services:** yes.

**Involvement intensity:** coaches, not partners

**Personal beliefs around what challenges the incubator is facing:** Go beyond the structures of the process and network more. The market requires customization of the process but the time is limited and does not allow that to the extent that is sought for.

## BI 2

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BI 2 has as its main role raising interest in entrepreneurial activities and entrepreneurship among the university students.

As the interviewee mentions, there is no incubation process that is being followed in the incubator and it has no specifically defined phases. The framework for BI2 is defined by a time limitation of 1 year, set by the contracts signed with the entrepreneurs, a time frame in which the entrepreneur has an office space and is obliged to be present at at least 80% of the

activities that the incubator is organizing. As an idea development framework, the goals of the entrepreneurs are being used. Thus, when the incubation journey begins, the entrepreneurial team sets the goals for their venture and they will use the knowledge gathered through the activities and support offered to achieve them.

The contract is divided in two parts and it covers 6 months for the first period, after which the contract is reevaluated. Depending on the evaluation of the past six months regarding the progress towards achieving the set goals, the contract can be prolonged for another 6 months and in some cases for a shorter or longer period of time.

**Activities:** workshops and lectures covering questions about declarations, laws, marketing, etc. Networking with external actors has an important role, especially in offering the support within the incubator.

**Resources:** a full - time employed coach and 3 junior business developers from the university the incubator is affiliated to. External resources are being used for workshops and lectures.

**Goals to achieve through the activities:** The expectation is that the entrepreneurs are taking advantage of the possibilities offered by the incubator and reach or even surpass their own goals. While doing that, the incubator is keen on seeing positive results for all the stakeholders involved in the incubator.

## Other categories case BI 2

**Selection criteria:** The team is the most important, more important than the idea. The team members have to have connections (student, alumni) to the university the incubator is affiliated to, have to be engaged, coachable, driven, diversity as knowledge backgrounds and gender. Criteria for the idea: it should present some newness on the market, solve a problem and it should be scalable.

**Rejection reasons:** besides the limited amount of places in the incubator, the diversity among team members and ideas is decisive.

**Costs for the entrepreneur:** free

**Criteria for moving to the next step:** achieving the goals set up prior the entrance into the incubator.

**Networking:** with the university and the regional actors - companies, incubators.

**Flexibility of the phases and services:** Besides the workshops that are fixed and with a 80% mandatory presence, the incubator can organize individual requests on extra knowledge needed through the incubator's network.

**Involvement intensity:** coaching, supporting involvement. However, it appears to take a slightly lighter form than other incubators. It could be explained by the incubator's main goal: to raise the university students' interest in entrepreneurship

**Challenges.** The interviewee sees as a challenge the motivation of the entrepreneurs in participating at the activities organized which might be influenced by the free character of the incubator. Another challenge and hope is to spread the knowledge around the incubator's activity and role beyond the student layer, reaching the teachers and thus having a more positive influence through mentor-like figures in the university.

### BI 3

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The third business incubator stated through the interlocutor that their role is to commercialize research ideas and expertise, forming early business projects into an attractive package for different industries.

#### **Incubator phases.**

The interviewee considers the incubation phases quite standard for an incubator and regards them as being transformed to what they are in order to meet the clients' (researchers') needs.

The *pre-incubation* phase is following a pre-phase where ideas are being checked for meeting the basic requirements for entering the incubator. In this phase the ideas are thoroughly scrutinized with focus on the potential of internationalizing the idea or the product, the uniqueness, IPR and the team. In this phase collaborators from the relevant branch are communicating their opinion around the market potential of the idea. If the idea is considered valuable, a recommendation is issued to the Board of Directors that ultimately take the decision of accepting or not the idea into the incubator.

**Activities:** testing ideas, meetings for assessing the team and idea, contract with the incubator.

**Resources:** internal - business developer, external knowledgeable persons in the branch .

**Goal:** The activities are aiming towards revealing the risk level, if the idea is worth investing in, both from the incubator's point of view and the idea provider's.

The *incubation* phase is the most intensive one, covering several structural capital processes, depending on the maturity grade of the idea and of the incubated venture, business model or growth pace. These processes in this phase cover all the steps any new venture has to go through, such as defining the idea, forming the team, finding the market and investors and they are covered together with the help of the business developer assigned to the incubated entrepreneur. At this phase the decision is taken as well if the business incubator will become an investing partner in the company and if this is the case, the investing process is a separate one from the incubation process, running in the parallel.

**Activities:** Business plan, planning the implementation of the business plan, putting together a winning team, finding investors, networking, education (everything from sales to courses for Board of Directors members), events.

**Resources:** internal - business developer assigned to the project, office spaces (if chosen by the entrepreneur), other internal resources depending on the chosen modules; external - experts from the industry, former incubated entrepreneurs, investors.

**Goal:** The aim of this phase is to assess the development of the concept, the opportunity of scaling the business and the commercialization of it. Furthermore, the actions are taken towards developing the product/service and nearing the end of the phase initial sales should be initiated.

Third phase is the last part of the incubation process where an evaluation of the progress of the incubated company is being undertaken as well as the evaluation of growth strategies backed-up with investments interests. Stepping out of the incubator implies that the company can stand on its own, without the business incubator's help, has proven a winning concept for their idea and has attracted enough investment to allow it continue its activity and expansion.

**Activities:** evaluation activities of the development and strategies of the incubatee.

**Resources:** internal - the business developers within the incubator.

**Goal:** Through the activities in this phase the identified processes within the venture's growth strategies are being assessed if scalable.

For the BI 3 it is important that in the end they are the name behind a venture that succeeded on the market and to attract investors, which the author translates into “good reputation”.

### **Other categories case BI 3**

**Selection criteria:** Since the entrepreneurs are mostly researchers, the projects have to have a very good idea that meets the criteria newness, scalability and high growth potential, international market. Even the team is valuable, but the idea has a critical importance.

**Rejection reasons:** The incubator terminates the collaboration in cases of low IP protection or if the business developers’ and idea provider’s goals differ too much.

**Costs for the entrepreneur:** Free except renting the office space and if deciding for contracting operational services offered by the business incubator. The incubator offers legal, administrative and accounting services.

**Criteria for moving to the next step:** milestones. The business developer allocated to the project sets the milestones together with the team and the progress is evaluated together with the rest of the members of the incubator during dedicated meetings for such evaluations of all projects that are being incubated.

**Networking:** Tight connections with the university, other incubators, industries and investors.

**Flexibility of the phases and services:** the entrepreneurs can choose different modules and activities from the range provided by the business incubator.

**Involvement intensity:** business developers, partners, not coaches. The reason for taking this role is due to the fact that often researchers are interested in finding a partner who can get involved in the business, not just coaching the idea provider.

**Challenges:** In an incubator environment where the aim is that the entrepreneurs should take part of as much of knowledge as possible through the input of different business developers, finding the balance between knowledge input and uniformity in the way the business developers work can be a challenge.

Another challenge is presented by the modular character of the incubation process, where a flexibility in services offered can make it difficult to deliver ahead a clear picture to the entrepreneur of what exact services will be offered and what steps will be taken.

“We are not an incubator, but we work with incubation processes”

### Incubation phases

Although the organization does not want to be called a business incubator, considering that it does work with incubation processes, they - the process and phases - will be treated as such in this study.

The organization has chosen to modify the processes that are often linked to the concept of business incubator in order to become more efficient. Hereby, the “*pre-incubation*” phase has been shortened and divided in two different processes of different lengths, serving two different types of clients: the idea-giver and the entrepreneur. The difference between the two categories is the maturity of the idea. A client classified as entrepreneur already has a team in place, while the idea-giver has only an idea. Along this separation, two processes have been developed. The author will call them “The idea process” and “The entrepreneur process”, for the ease of the reading.

*The idea process* is testing a hypothesis of a scalable business plan through a program taking the shape of a class, where the different ideas are being connected to a team of entrepreneurial students. For a full year, the team will attend to lectures, get allocated an office space and a coach, will take advantage of a wide network and even some initial investment.

To *the entrepreneurial process* technical ideas are chosen which present a big business potential addressing the global market. The phase leads the team into an intensive and short program based on the LEAN startup methodology, program formed out of lectures, seminars, feedback sessions while taking advantage of the network and knowledge that the other teams participating in the incubation process are contributing with. The program’s aim is to quickly find and outline the customer value, without building a product. The outcomes have to present a clear and strong evidence of solving a real problem and presence of potential customers.

**Activities:** Both processes offer the same types of activities but they will differ in length and intensity, as explained above. The activities are lectures, seminars, inspirational meetings, feedback sessions, networking, events,

**Resources:** A dedicated coach will follow and underpin the team’s activities and decisions along the way. Externally, mentors are being included in the processes and rarely contracting

other external resources. The organisation never includes external consultants in the processes.

**Goals:** The goal with these processes is to find the proof of market existence and of growth potential of the venture. These processes also aim to give a much more precise picture of the investment object - the incubated entrepreneur.

In the *second* phase, the focus moves from validation of idea and need to validation of the market and product/market fit.. The aim is to start building processes for delivering the product to the market. Teams that get accepted to this phase will spend between 12 to 18 months trying to reach a positive cash flow, get paying customers and attract external investors. The coach is assisting the team in their efforts of validating the customer, a role that is being later replaced by the investment manager, as soon as the company has attracted external investments.

Towards the end of this second phase, when the sales are becoming repetitive, the *accelerator* process will take over, moving the venture towards scalability and internationalization as part of the third phase.

**Activities:** Assistance in building the delivery processes and structure, sales activities, finding external investors, assessment activities of the progress made, of the proofs of market. The teams continues to participate to events and networking.

**Resources:** Internal - the ventures benefit from the broad and cutting-edge experience of the coaches; other resources necessary for this phase are offices, service providers.

**Goals:** Through this phase the venture should reach positive cash flow, have paying customers while the reputation of the organisation supporting the incubation process (BI 4) should open doors towards external investors. The expectations of this phase is also to confirm that the venture continues to have growth potential, proving itself being worth investing in.

The third phase is focusing the efforts on building the internationalization processes and attracting more investments.

**Activities:** The organization is following the venture in its process of attracting investments, collaboration with the external investors, legal advice.

**Resources:** The investment manager, eventually the external investor as well, legal advisors.

**Goals:** Finding proofs for growth potential and together with the first injection of capital from the BI 4, the venture should have created a good and attractive case for further investments. By building an attractive company, BI 4 will continue to build on their portfolio of successful ventures, maintaining thus a good reputation.

#### Other categories case BI 4

**Selection criteria:** The entrepreneurs have to pitch for their idea presenting a real problem that their solution solves, present themselves and show that there is a potential for growth. The applications are rated according to an internal scale system and in the end, collectively, the BI 4 coaches take the decision for accepting the idea or entrepreneur in any of the incubation processes or phases. However, the two different processes have different priorities. In the idea process the idea has higher importance while in the entrepreneurial process of the first phase, the team weighs the most in the decision of accepting them in the incubator process.

**Rejection reasons:** Rejection or removal from the incubation process can be the case if the idea is not meeting the criteria for selection or later, if proof of viable business plan, market, paying customers is not provided at set times.

**Costs for the entrepreneur:** The incubation processes are free in the first phase/processes but it costs as soon the teams have entered the accelerator phase. This “membership fee” is covering costs for the office with necessities, breakfast one day per week, costs for the coach. The organisation does not sell additional services to the incubated teams and if any external resources are required (very seldom), the teams will be paying the cost. However, legal services are being offered for a limited amount of hours, through a collaboration with legal advisors.

**Criteria for moving to the next step:** The teams have to find and present proof that the idea is viable, proof of a solution to a problem, proof of market and well defined segment. Without proof, the team has to leave the incubation process.

**Networking:** The organisation has strong relations with specific companies in specific sectors, with the university affiliated to, regional incubators and few incubators in the country.

**Flexibility of the phases and services:** The flexibility lies in choosing if going further from the one of the first phase/processes towards the Accelerator phase. Otherwise the programs offered are not flexible or individualized.

**Involvement intensity:** The organisation is providing support in form of coaching, role that switches to the one of investment management during the accelerator phase.

**Challenges (personal beliefs).** One of the challenges is regarding the ways of insuring a high quality of deal flow while the other is looking at challenging ways of a continuous development of in-house expertise. This is referring to finding the balance between the level of the in-house expertise in a continuously changing environment.

## BI5

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BI 5's mission is to lower the risk for the companies participating in the incubator and maximize their results, while taking into consideration their needs and expectations. One particular aspect that influences the incubation process is that the customer segment of this incubator is large, covering everything from students and private persons to big, developed companies and according to the interlocutor, the incubation processes can be longer than usual. The processes are built along the Smart specialization strategy, which implies that they are adapted to this strategy, serving a much wider segment of potential incubatees, according to the interviewee.

The work of the incubation process is delivered through 9 business advisors and the supporting staff, plus external consultants when needed.

### Incubation phases

The incubator has developed two programs that run towards the end of the three phases, dealing with the focus, goals and needs of the ideas and companies joining the incubator. One program takes into consideration goals aiming at a revenue under 5 million SEK , while the other looks into the needs for an idea that is aiming for 50 million SEK in revenue.

In the *pre-incubation* phase the idea/entrepreneur/company's needs are being identified together with a business advisor and afterwards the case is taken into a forum where all the other participants, collectively verify, refine and improve the idea. Another focus is on the team and finding the champion that is ready to support the work of the team.

**Activities:** Meetings with the idea giver, meetings within the forum, networking, education, setting the goals.

**Resources:** The internal network formed by the other entrepreneurs, business advisors

**Goals:** This phase should lead to a clear idea about the product or service, it should provide a confirmation that the idea and team are worth continuing with.

*Incubation phase* - in this phase the focus is on the verification of the market, finding at least one customer, which is crucial for the continuation of the process. The product or service is being developed with the customer's need in focus and activities around the business model economy are being undertaken. The advisor continues to support the team's activities and works intensively on the team, preparing it for the growth period through leadership and board of director courses, evaluating its strengths and weaknesses.

**Activities:** Market related activities, validation of the market, finding at least one customer, outlining the budget for the product or service, creation of the business model, education, events, team building and evaluation, networking, sales, assessment meetings.

**Resources:** The business advisor, network -both internal and external

**Goals:** The phase aims to deliver at least one customer for the incubated idea, the team should have a clear picture of the market and be prepared for the growth phase.

*Third phase* - in this phase the two programs start, programs which will differ according to the goals of the teams. A lot of strategic work is being undertaken around financing the venture through customer financing and not through venture capital. The reason for this choice is based on studies showing the relevance for this type of financing and due to the lack of the last mentioned one. The Board of Directors is being formed through collaboration with the *Styrelseakademin* (Academy of Board of Directors).

At this phase, in the program for specialized services and products, the advisors, although with a wide knowledge, cannot always meet the needs of the entrepreneurs. In this case the services of external consultants are being sought.

**Activities:** Including a Board of Directors if necessary, identifying the organizational structures that have to be adapted in order to grow, sales,

**Resources:** Network, business advisor, external consultants for the specialized products or services.

**Goals:** Converge towards the main goal of the incubator, the phase should deliver a strong team with a Board of Directors, where the activities undertaken have diminished the risks the ventures face and prepared the team to reach their growth potential. Through their growth, the

incubator will reach their goal towards the public stakeholders, to return through the incubated successful company 10 SEK per 1 SEK invested from public funds.

### **Other categories case BI 5**

**Selection criteria:** The idea/entrepreneur/company should aim at the international market, the team should be driven and coachable

**Rejection reasons:** One of the major reasons for not being accepted to the incubator is not aiming for the international market or if the team together with the advisor cannot find a way of developing the initial idea in order to reach internationalization. If the team is not coachable it is also a reason for not collaborating.

**Costs for the entrepreneur:** A service charge of 400 SEK/month is required for accessing the working space.

**Criteria for moving to the next step:** If the team is not reaching the set goals, which were decided by the team and together with the business advisor, it can be the case for an expulsion from the incubator. However, if there is a legitimate reason for not reaching them, the activities can be resumed. For these evaluations, the business advisors are meeting the teams every sixth month where the teams has to pitch for their venture.

**Networking:** The incubator seems to have a wide network which is fully exploited, making use of the customer's network, the customer's customer network, and so on, leading thus to a regional, national and international network of collaborators, investors, potential customer and potential incubatees.

**Flexibility of the phases and services:** The incubator has formed their processes so that they can serve several interests at the same time and meeting all their needs.

**Involvement intensity:** The leadership of the incubator has moved away from being a part-owner of the incubated companies and has taken instead the role of business advisors, training and teaching the team how to handle the challenges that come with running a business.

**Challenges:** It can present a challenge when the stakeholders requirements are affecting the incubated team's work. For example, Vinnova is requiring information from and about the incubatees, which requires time from the incubated entrepreneurs to do. This is sometimes seen by the entrepreneurs as not related to their focus on just developing an idea to a business.

## BI 6

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According to the BI 6 interlocutor, their role is as wide as the regional innovation system. They are working as business developers for knowledge-intensive innovation ideas/companies, trying successfully to meet the challenge of reaching both in width and expertise in all branches. The incubator works towards the innovation system as well proposing initiatives, collaborating with regional actors from public institutions to private companies. The networking and collaboration in the region has a huge importance, acting among others as a “pool of resources” for all the stakeholders.

The incubator is carrying on the work without demanding the presence of the entrepreneurs on their premises, however, if there is a need for an office, there are contracts made with real estate actors who can provide a working space. The incubator is organizing meetings and events to which the entrepreneurs are expected to participate, creating and supporting thus the internal network that otherwise is reached through physical presence in offices situated in the same building.

Besides collaborations with real-estate companies, the incubator has created a tight collaboration with several companies/partners that deliver different services (banking, IP, accounting, legal advice, etc.) depending on the needs and phases the entrepreneurs find themselves at. These contracted companies are preferred suppliers and they deliver their services at a more than fair price to the incubatees, becoming thus a very important resource for the incubated entrepreneurs.

The incubation work is supported through a number of 10 internal business coaches, 70 external business coaches that are hired for a limited amount of time when required and a number of 20 external specialist coaches, with expertise in prototyping and production. This wide span of coaches and expertise is meant to cover all kind of needs that the entrepreneurs might have.

**Incubation phases.** The incubator has developed 5 different programs to serve the needs of the incubated entrepreneurs. The author reckons that all five fall under the 3 generic phases with the exception of one which is an elongation of the third phase, a program meant for the renewal of the network.

The first phase of the incubation process coincides with the first program of the incubation process, in which the ideas, teams or companies selected are working with concepts as LEAN

startup, Customer Development, NABC. In this phase, the entrepreneurs will work actively on testing their ideas on customers, finding at an early stage if their product or service does indeed solve a problem.

**Activities:** Workshops, seminars, lectures, testing the idea on potential customers, networking

**Resources:** The internal business coaches, partners and sometimes the external coaches.

**Goals:** At the end of this phase a Minimum Viable Product should be in place. The phase is confirming if the idea and team are viable for this venture.

When the first phase is completed, the team moves to the *second phase* which also implies a change of focus and of business coaches. Entering this phase, the entrepreneur has to commit to the program by meeting the requirements of paying a deposit and participating in the activities of this program at a 90% attendance rate. The efforts are aimed at getting deeper knowledge in business development and structuring an organization, financing methods, market positioning while the work on validating the idea and market continues. The entrepreneur gets in touch more and more with the preferred partners and takes part of a wide network.

**Activities:** Meetings with external coaches, internal coaches, preferred partners, building the business model and present it in front of a panel of chosen individuals with knowledge in assessing business models.

**Resources:** Internal and external coaches, preferred partners

**Goals:** The entrepreneur should increase its knowledge in business development and have ready a business plan. Through the activities in this phase, the collaboration ties between the incubator and its partners are reinforced.

Between the second and third phase there is a program that the incubator has put together for the companies with high potential that have completed the second phase but need to work on some points in order to fulfill the criteria to enter the Accelerator (third) phase. To this program there is no registration possibility as it is offered only to selected ventures.

The third phase - *the accelerator* takes the newly formed company out on the market and provides the support needed for reaching international markets and it can take up to three years. Financial possibilities are offered to some of the companies together with intensive support from internal coaches, external business and specialized coaches.

**Activities:** Introduction to international markets, advice and support

**Resources:** All internal and external coaches and partners.

**Goals:** Through this phase the higher goal should be reached, of having delivered the growth of the company with minimized risks. As a natural follow-up, the incubator's relations with the private and public funders are getting stronger.

As mentioned before, the BI 6 has five programs out of which, if applied on the framework of this study, the third program is a repetition or intensive focus on points that have been already taken into consideration in the first and second phase, so the author considers this program as falling under the phase one and two. The *fifth* program is dedicated for the alumni companies and it involves these actors in the continuing collaboration with the next wave of incubated companies.

**Challenges:** The financing possibilities in the incubator are taking the incubated companies a long way, but not as far as the business incubator would like. Therefore, a plan to introduce a new updated accelerator program is in discussion, having as goal to support the entrepreneurs in reaching higher revenues.

Another interesting subject the incubator is looking at is the development of customized incubation processes for immigrants who have commercializable ideas.

### **Other categories case BI 6**

**Selection criteria:** Since the programs (except the third and fifth) are freely detached from each other, giving the option to choose in which one an entrepreneurs wants to participate, there are an array of criteria for each program/phase that must be fulfilled.

**Rejection reasons** are connected to each phase of the incubation process. If criteria aren't being met or the expectancy of results at the end of each phase fails to be positive, it can be the case of interruption of the collaboration.

**Costs for the entrepreneur:** The participation at the incubator process is free, except the provision for entering the last two phases and the costs for the external coaches and preferred partners. However, the incubator eases up the burden of having high expenses in such early phases and postpones these costs by offering the possibility of using bills of credit.

**Criteria for moving to the next step** Each phase has criteria for entering the new program.

**Networking** - the incubator makes use of a wide network of partners in both private and public sector, on the local, regional, national and international level.

**Flexibility of the phases and services** - the programs and the wide groups of partners that have been established and are at the disposition of the incubatee presents a high level of flexibility.

**Involvement intensity** - the incubator acts only as support and advisor, not as part owner.

## BI 7

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BI 7 sees themselves as helping out capable entrepreneurs in building and growing their company while minimizing the risks a new venture faces. When considering the development curve from idea to product and out on the market, the BI 7 would like to help out the entrepreneur when the idea has a bit more substance and the team is more or less formed, in other words, they would like to intervene at a later stage on this development curve.

To their help the business incubator is providing advices and support through the business coaches and offering different packages meant to increase the entrepreneur's' competence and knowledge. The BI 7 is very seldom purchasing external services such as consultants focusing instead on supporting the incubated ventures to find on their own the extra needed knowledge or competence.

### Incubation phases

*Pre-incubator* phase focuses on meeting the idea giver and evaluate the idea, trying to determine if the project is interesting for the incubator and if its maturity grade is right for helping through its services and support. Through an initial program steps will be taken to look at the problem that is being solved with the presented solution, at the possible existence of a market, how big the market could be, what competition there might be. At the same time the entrepreneurs will have the possibility to show how driven and committed they are. With a presentation of the case, the idea giver has the opportunity to convince the coaches of the viability of the idea in order to be taken into the next phase, the incubation phase.

**Activities:** Workshops, meetings, assessment of the idea.

**Resources:** Internal coaches.

**Goals:** The phase aims at determining if the idea and entrepreneur are worth investing in, and if the timing is right for the incubator to intervene.

The *incubation* phase is conducted under the supervision of the business coach and the intense work is converging towards verifying the business concept on the market by taking contact with potential customers and checking the customer benefits and needs, how to deliver the product. The incubator supports the activities through discussions on the business concept in a forum of coaches and experts. The activities in this phase are looking at the team as well and start preparing it for the growth phase to follow together with outlining the desired levels of growth by offering different modules or programs that build on the entrepreneur's' competence in branding, leadership, HR, etc.

**Activities:** Workshops, seminars, meeting the customer, assessment of concept, networking

**Resources:** Internal coaches and experts, network, offices.

**Goals:** The phase aims at verifying the market and hopefully finding the reference customer needed for the development of the product, as well at having a verified business plan in place.

The third phase is very similar to an *Accelerator* phase where with a clear view of the market the process of making the first sales is initiated while the company and its structure are being built. Even in this phase the entrepreneur is supported by advices from the designated coach but as well the whole network of the incubator, both internal and external.

**Activities:** Workshops, seminars, meetings, networking, events, forum

**Resources:** Internal coaches, network, offices

**Goals:** By the end of this phase, the company should be able to stand on its own and already be on the path of growth.

**Challenges:** In the view of the interlocutor, their organization and strategy comes with some challenges, such as maintaining a good quality of the deal flow, what measures to take to attract this type of deal flow. A second challenge is regarding the competence needed for all the projects taken into the incubation process - what methods to choose for insuring a continuously updated competence that can meet the needs created by an invariably changing environment.

### **Other categories case BI 7**

**Selection criteria:** The focus is on both idea and team in equally weighing parts. The reason behind it might be the timing in intervening in the idea development process, which is a bit later than other interviewed business incubators.

**Rejection reasons:** In case the team is not getting involved enough in the incubation process or shows that the collaboration is problematic, it is a good reason to end the relationship with the entrepreneur. Another reason can be the stagnation in development of a project for various reasons.

**Costs for the entrepreneur:** The incubated entrepreneur is paying a membership fee which is subsidized at different degrees, depending on the maturity of the venture.

**Criteria for moving to the next step:** Each phase has criteria to fulfill such as verification of idea, of business concept and of growth potential.

**Flexibility of the phases and services:** The packages offered give a certain flexibility, allowing the incubatees to pick and choose according to their needs.

**Involvement intensity:** The BI 7 does not take shares in the incubated companies.

## 4.2. Analysis among cases

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In this section the empirical findings gathered through interviews and documents provided by the business incubators will be analyzed in order to reach categories of similarities and differences between the cases.

### 4.2.1. Similarities and differences among cases

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#### Similarities incubation phases

Most business incubators participating at this study have adopted the delimitation of the phases similar to the framework adopted for this research. Different names have been given to these phases but overall one could say they fall in the same framework.

#### Differences incubation phases

During the interviews differences appeared regarding the incubation process phases as follows: some of the business incubators have developed programs that either are fitted under incubation phases or that are meant to replace the phases or even overlap some of them. The number of such programs varies from 3 to 5.

The variation of how this can look among cases can be seen in the figures below.



### Similarities and differences - activities:

Below the author has grouped the similarities and differences along the theme activities, for an easier overview. The text marked in red is the point where activities differed among the incubators. Once again, the delimitation of the phases is generic.

As not many differences appear to be obvious among the activities undertaken by the business incubators, one can notice that the activities follow more or less the activities that are usually taking place in any new venture across all the incubation processes studied.



After analyzing the interviews it became clear that the business incubators have different focus when they assess the idea and the entrepreneur for admission to the incubation process. Hereby, the two main groups get defined – the incubators considering that the idea is more

important that the team, respectively – the team has priority in choosing who gets accepted and who doesn't. The reason behind choosing idea over team, according to the interviewees, is that the team can always be replaced, but not a very good idea. This type of focus seems to have been the usual way of prioritizing, according to several interviewees, and among the business incubators that took part to this study, the predominant characteristic of the incubators still prioritizing in this manner are those interested in the high expertise type of ideas.

The rationale behind the second type of prioritizing is that a very good team can turn a “half ok” idea into success, which according to some of the interlocutors has been even proven through studies.

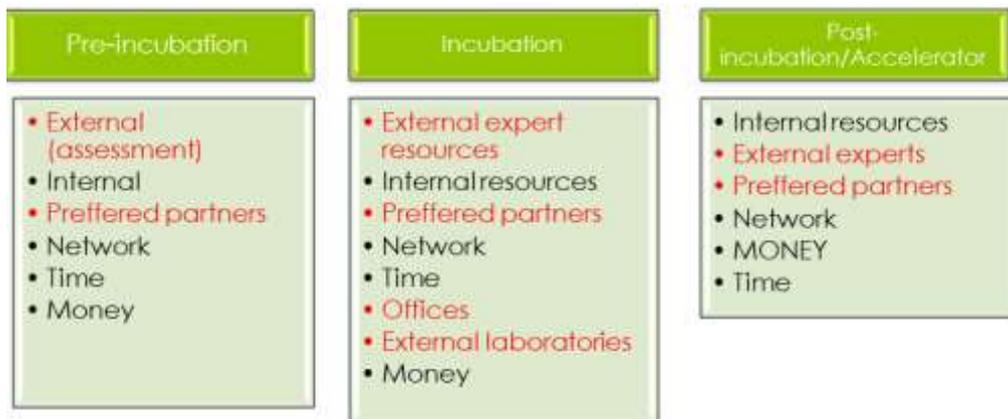
### **Similarities and differences - Resources**

The similarities in this category are few and constant: the internal resources are used by all the incubators and take different forms such as coaches, advisors, business developers.

The network is important and constant here as well, involving both the internal and external network formed by the coaches/business developers and their network; the entrepreneurs becoming a local network which extends with every entrepreneur's own network.

Time is also seen as a resource and it differs only in quantity, as every incubator invests through coaching/advising/ other services. Finally, money is another resource which the author has decided not to categorize by provenience but it is just noticed as a resource in the incubation process. The money is used for supporting different activities and it varies along with the degree of idea development, increasing (as in need for) with every stage of the process.

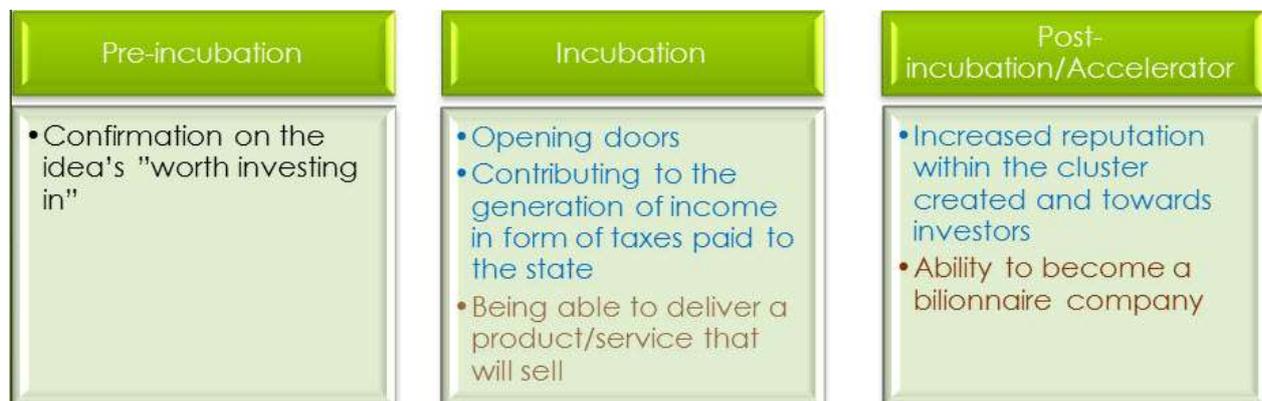
In the category resources the differences are predominant. Some incubators use extensively a large network of external coaches, advisors and specialists through all the phases of the incubation process, while others, at the other extreme pole, use only internalized resources. Some incubators chose a middle way creating a pool of resources through different methods and allowing the entrepreneurs to choose based on their needs.



Another noticeable difference among the incubators under resource category is the usage of offices. Not all the business incubators are considering the presence of the incubated companies on their premises as necessary and they act accordingly by having the entrepreneurs on site; only offering them offices if desired; excluding the offer completely but instead using the external network in case there is a need for an office space.

Since business incubators work with different types of ideas in knowledge and expertise, some incubators are using as resources laboratories for their products, but again, this is not common for all the interviewed cases.

### Similarities and differences - Goals



With no exception, all the incubators have invariably answered the same to this category. The answers are divided by purpose, goal of the phase with an internal point of view and external one. Consequently, the pre-incubation phase is expected to confirm if the assessed idea is worth investing in it for not only the incubator's coaches but as well for the entrepreneur. Continuing in this sense, the incubation phase should enable the incubator to become a "door opener" for the incubated venture and through this phase to get closer to contribute to the generation of income to the state. The same phase on the other hand is expected to build on

the capacity of the incubatee to deliver a sellable product/service. Finally, the last phase should have built the entrepreneurs ability of building and growing a successful company, which will add positively to the incubators' portfolio and will maintain the good reputation within the public and private investment network.

#### 4.2.2. Emerged themes

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As hoped to attain through the usage of the inductive type of research, several additional themes have emerged through the semi-structured interviews. Emerged themes are the categories that unexpectedly surface as findings while decoding the interviews and their appearance can be positive as it can point to characteristics of the incubation processes that a more strict way of collecting data and decoding might have eliminated during the process.

a) Selection to incubator - besides the already two identified main focus points in the process of *idea and team* assessment, a third component appeared at one of the incubators, namely the *diversity* of ideas, team members and their background. The choice of this criteria lies in the ambition of the respective incubator in creating a diversified internal network that stretches over different sectors and has different roots in different backgrounds, allowing thus the network to gain a wider competence and knowledge.

The focus of the selection criteria could be explained by the type of entrepreneurs that choose to apply to a business incubator, which in its turn is influenced by the orientation of the university in the region. From the interviews it has been observed that researchers tend to need more involvement from the incubator's side leading the incubator to take an operative role in the entrepreneur's venture. It seems right to assume that the assessment of the selection criteria will have a focus on the idea and not the researcher, serving then the more specialized type of projects.

On the other side, the incubators which have stated that the team is more important are those serving intensive knowledge ideas.

Another point of view would be that the idea is at a much earlier stage, where a team hasn't yet been put together. Nevertheless, the incubator chooses a strategy of meeting the operational needs by either getting involved and taking the operational role or by guiding the entrepreneur in finding the right match for the idea and team.

b) Another formation was created during decoding, based on the type of involvement of the business incubator in the activities of the incubatee. The author has separated them in the categories *coaching vs partner*. The coaching type of involvement does not become a part owner in the company and maintains the relation to a guiding level, pointing the entrepreneur in the right direction but letting him/her taking the decisions. Even this category has some fine differences in different grades of coaching - business coaches and business advisors/developers.

The partner type of involvement is becoming a part owner in the newly created company and takes an operative role.

Along these categories it has been observed that the coaching style is predominant in the incubators aiming for the wide expertise and knowledge, while the partner appears in the incubators serving mainly researchers' ideas and thus with a need for specialized competence.

c) One observation led to an additional category regarding the type of resources used for the incubators to sustain the incubation process. The author observed two extremes where at one end we have the *internalized resources* and at the other side the *externalized resources*, which were mentioned in the analysis among cases paragraph. The author believes that internalized resources might be beneficial for a very specialized incubator, lowering thus the costs (for the incubator, the venture or both) of purchasing external expertise and maintaining the knowledge in-house, giving possibly an advantage to the business incubator. However, such a strategy can challenge the inflow of updated knowledge and expertise.

At the other pole we find the type of incubator externalizing all type of resources except the internal business coaches. Noticeably, the coaches had less influence in the decisions made by the ventures than in other incubators, acting more as a very light guidance but administrating strongly the constellation of externalized resources around the venture.

d) One last theme that emerged is pointing at the overall approach towards the incubation process. The author has recognized two types in this category - *flexible vs controlled*. The flexible subcategory is characterized by a modular type of incubation process, where the incubator has either individualized training for the entrepreneurs or different packages of education programs which can be freely combined, based on the different needs the ventures might present. At the other end there is the incubator with a strict array of programs or activities that have to be followed by every incubated startup. Even here it has been observed

that the flexible type of approach is present in the incubators focusing on the wide knowledge and expertise, while the controlled one is predominant where the need for specialized expertise appears.

### 4.2.3. Correlations, hypothesis

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Looking at the emerged themes and considering all the information gathered through the interviews, the following correlations can be drawn along the new categories:

Starting from the focus in selection, the author can make the correlations:

Researchers -> Focus on idea -> specialized projects -> partner -> controlled approach

Other types of idea givers -> Focus on team -> wide knowledge -> coach -> flexible approach

Researchers + mixed -> Focus on team and idea -> wide knowledge and specialized expertise -> coach + external/internal partner -> a mix of obligatory programs and flexible modules

The third focus in selection has been seen only at one case, and it is not enough for making a correlation more than what was described earlier in this chapter.

One observation made during the study is that there seems to be different ways of supporting the entrepreneurial journey within the incubator process. The incubators are using different tools and models for mapping the progress, for managing the startups, such as business model canvas, LEAN methodology, readiness level, NABC method, Customer development, or even internally developed methods. All this, while all of them declaring more or less the same goals, both goals for the entire organization but as well for each phase of the incubation process.

## 5. Findings and analysis vs. Literature

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With a starting point from the models described in the Framework chapter, the InfoDev model 2009 and Hackett & Dilts', the author has come to the conclusion, through an observation of the activities undertaken within the incubation processes, that the incubation model does follow the entrepreneurial life cycle as depicted in the InfoDev model from 2009.

Secondly, the study has unpacked the main elements presented by Hackett and Dilts in their model (2004) and by doing these new relations between goals, activities, focus appeared, enriching the results of this study. However, the author does not see this as a fully detailed

description of a business incubator's incubation process as the more categories were unpacked, the more got revealed. Due to time constraints the study had to be limited though to the results that the reader can find in this research.

As it has been mentioned early in the paperwork, the author has continued to study the literature around business incubators while proceeding with data collection and decoding it. In this parallel process an article written by Anna Bergek and Charlotte Norrman ( Incubator best practice: A framework. 2008) was studied and at the end of the analysis of this present research some interesting similarities and differences appeared between the two studies.

The study conducted by Bergek and Normann is treating two subjects: developing a framework for business incubator assessment by taking into consideration the goals of the business incubators and their incubation models. The study set on using as well Hackett and Dilts model and the elements of an incubation model chosen for the research were selection, business support and mediation. Through *selection* it is understand the approach of the incubators towards the selection criteria, the authors categorizing them into two approaches: focus on the idea and focus on the entrepreneur. Further, business support is in the authors' opinion reduced to how the incubators' role looks like in the incubation process, identifying two extremes - the strong intervention - where the incubator's coaches guide decisively the startups towards the set goals. At the other end, the authors have defined the "laissez-faire" category which are getting involved in the support of the startups only when requested .

The last element of the incubation model, the mediation, refers to how the incubators engage in networking, taking the role of mediator between the incubatees and the outside world. Here the categories have been divided into regional, technological and cluster connected incubators.

After an empirical study on which the above framework was applied, the authors could separate the incubator models in different categories. (see the figure below).

Model categories	Selection	Business support	Mediation	Incubators
Category 1	Idea & picking-the-winners	Major involvement (shares and/or participation in management/board)	Technological innovation system	<i>Incubation at Chalmers, Karolinska Innovation Systems, GU Holding, (Teknikdalen<sup>b</sup>)</i>
Category 2a	Idea/entrepreneur & picking-the-winners	Program-based, incubator-initiated	Regional innovation system	<i>Stockholm Business Incubator, Kista Innovation Growth, Science Park Jönköping</i>
Category 2b	Entrepreneur & picking-the-winners	Program-based, incubator-initiated	Regional innovation system	<i>Gothia Business Incubator, Uppsala Innovation Centre, Growlink Incubator</i>
Category 3	Entrepreneur & picking-the-winners	Loose/on demand, entrepreneur-initiated	Regional innovation system	<i>Aurorum Business Incubator, Ideon Innovation, Minc, (Teknikbyns Företagsgenerator<sup>c</sup>)</i>
Category 4	Idea & picking-the-winners	Program-based	Cluster	<i>Inova, Umeå Innovation</i>
Category 5 <sup>a</sup>	Idea & survival-of-the-fittest	Loose, entrepreneur-initiated	Local	<i>As described above, many incubators (and universities) provide a pre-incubation process.</i>

Considering the findings of the present study, the following could be discerned as similarities and differences between the author's findings/analysis and Bergek cha Normann's framework.

In defining the concept of incubation process, the authors (Bergek, Normann) mention in their work that offices are an important advantage for the incubated startups and secondly that they disagree with the idea saying that "*co-location is not necessary*". The results of the present study show that Most of the incubators have offices and is a requirement for taking part to the incubation process, few have it as an option, one incubator is considering not using physical offices anymore and the rest do not use offices at all unless requested from the entrepreneur's side. In that last case, the office is being arranged through the network of the business incubator. In the light of the literature, the results of the study show a change which raises the question if this is the expression of a movement from the "classical" type of incubator towards the virtual incubator.

Moving further, as shown earlier, the emerged theme *selection to incubator* of this study points at the same two approaches of selection as the article presents: idea or team. However, a third possible approach was revealed, the diversity one. Of course, more empirical findings have to be found in order to support this third approach, but should nevertheless be considered as a possible emergent approach.

Another emerged theme regarding the type of involvement is as well reflecting in the opinion of the article's authors who are also dividing the business support in similar categories, *strong intervention and laissez-faire*.

Apart from this, an observation made by Bergek and Normann is also to be found in this present study, in particular that although all the incubators have very similar goals, both general and for every incubation phase, the practices to achieve the same goal differ.

Comparing the correlations presented in this paper and the framework depicted in the article above, it is easy to see similarities between categories that have been formed which it presents an interest as both results originate from two different ways of conducting the research.

A next step to continue this study would be to test the emerged framework, but due to time constraints this will not be completed in this paper.

## 6. Conclusions

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As different literature reviews show and including the author's interpretation of the studies conducted so far on the incubator matter, the business incubator is still a relatively new area on which it has been researched since 1984 (Lalkaka, Hackett). Different models have been created on business incubators and incubation processes using different points of view. The chances are that with the increased interest for entrepreneurship and commercialization of research, the focus will stay on finding and sustaining ways of preventing their lack of success. Since business incubators act partially to prevent such a possible trajectory, the research on this matter is still relevant.

Although several incubator/incubation models have been developed, very few touch upon the incubation process answering questions like how and why the support provided in the incubation process happen the way it does and which model is best to use in different situations. Most of the attention is directed to the inputs and outputs in and out of the

incubation process, the evaluation of the outputs or of the whole incubating system, disregarding the importance of the core of this system – the process itself.

The aim of this study has been to answer the questions:

- a. What are the activities taking place in the incubation process and what are the resources needed in the incubation process in Swedish incubators?
- b. What is the perceived goal that is sought to be achieved through each phase and set of activities in the incubation process?

The results have been rich and several new categories were allowed to be formed through this type of study. The answers to the questions have already been depicted in the images in the analysis chapter, but if to summarize the results, this would be done as follows:

A business incubator in Sweden has as goal to help entrepreneurs build successful companies. This is done by selecting an early stage idea ( a selection with different focuses) into an incubation process which most often is divided in phases where an array of activities take place in order to develop the idea into a product and then sell it to the identified segment of customers. These activities can take different shapes, from internal meetings to workshops, events and they are organized in different ways, from a flexible approach to a more controlled one in form of modules, packages programs, or simply as they are. The resources needed for undertaking the incubation process activities vary as well from types of resources to what degree of involvement the resources have in the activities. Each phase of the incubation process has different focuses and accordingly, the activities and resources varies in type and intensity. The goals of the phases are matching the life cycle of an entrepreneurial idea and they are the reason of why exactly those activities have been chosen for each and one of the phase, which in the end are aiming at fulfilling the main declared goal.

These incubator processes have their particularities which come with challenges as well. The cumulated view of the various interviewees on what are the challenges they face looks as follows:

- The incubators acknowledge that it can be challenging to maintain the flexibility of the process and of the resources in order to adjust to the changes of the trends;
- It can be challenging to increase the engagement of some entrepreneurs;
- A better mediation towards the general public about the purpose of existence of the incubators is difficult sometimes;
- Finding ways and methods for insuring a high quality of Dealflow;

- Finding ways and methods to contain and develop the in-house competence

An observation made by the author regarding challenges is that in an incubator where the decisions around an incubated project are taken together with all the other business developers it implies that a consensus of ideas has to be reached. It does come with advantages and disadvantages: it confers a great opportunity for the entrepreneur to take part to a variety of input from different knowledgeable business developers; on the other hand, each business developer has an own way of delivering results which can conflict with the others'. Reaching a conclusion around a project could thus take time if the differences are high and could lead to a uniformity in the ways a result is being delivered, hereby not allowing individualization in the way a project is being approached. Nevertheless, this way of decision making can be providing rich and knowledge based decision and input.

As part of the results of this study, correlations were made thanks to the detailed data that was collected and some hypothesis and observations could be drawn.

Consequently, the offices do not seem to be required at the same extent as they used to be in the work during the incubation process. Although some literature considers them as crucial, this study points at a change in this matter as several incubators have left out the physical premises from their offerings. This decision has been taken after the business incubators have conducted studies among their alumni companies. Such a result can be useful for future business incubation managers to take into account.

The networking as activities and network as a resource are as a red thread through all the categories and phases of the incubation process, helping the business incubator to support the entrepreneur, and respectively, helping the entrepreneur in its company's growth. Considering the above observation, a conclusion could be drawn that there is a shift from a more classical type of incubator, which involves that the entrepreneur has an office on the incubator's premises, to the virtual type of incubator where the network has a major role and allows the incubatee to participate to the incubation process from a freely chosen location.

Another observation has been made when trying to fit the modules and programs an incubator has developed into the framework selected for this study. Some difficulties were encountered when incubators have taken away the delimitations as phases and instead filled this "space" with different modules and programs. These are as well the incubators that have specifically mentioned that they are trying to move away from the business incubator definition. The

author could remark that these new structures resembled in some ways a community rather than controlled by boundaries process.

A small observation has been also made on the activities offered by the business incubators which most of the times are packaged into modules or programs. When entering any of these, the way these modules and programs were organized reminds of a process, which brought the author to occasionally looking at the incubation process as a cumulation of processes, processes within a process. This idea could present different ways of analyzing the incubator process, namely by opening the white boxes within a box, going even deeper in the structuring of an incubation process.

While analyzing the Swedish incubation system environment, the author found it difficult to group the incubators in categories as the boundaries between the different types of incubators seem to be diffuse. A question surfaced then if this is influenced by the Swedish law which makes the idea provider the sole owner of the idea and if possibly the network has an impact as well.

In the light of the relevant literature, this study contributes to the academic knowledge by remarking differences between the results and some points of view presented in Bergek and Normann's article as well as it cross validates some of their findings, as discussed in the findings vs. literature section.

Moreover, the emerged categories have formed a framework which needs to be tested in order to confirm if it can be used for categorizing business incubators in Sweden by their business model. Through this framework the results from Bergek and Normann's study is being cross validated and adds some new elements. A combination of the two frameworks would possibly give a stronger framework.

The results can be used by both academics and practitioners. They can be used as complementary information in a larger multi case study at national level. Further, the results can lead to generalization as well at national level.

The results would have been interesting to see in a mirrored research with a study looking at the incubation processes but through the eyes of the entrepreneur.

Another continuation of this study would be to test the emerged framework for grouping the business incubators by incubation model along the lines selection (idea vs team vs diversity), type of resources (internalized vs. externalized), involvement degree (coach vs. partner),

expertise level (wide vs. specialized), flexibility of the incubation process (flexible vs controlled). Another possibility would be to interweave this emerged framework with the one presented by Bergek and Normann.

In the light of a conclusion drawn along the challenges that incubators face, an interesting subject could be valid for future research - How decision making within incubation processes affect the business developers and the entrepreneurs in the cases where all decisions are taken through general consensus of opinions.

The results of this study can be positively deployed by practitioners as well, if the focus is on the similarities and differences among the cases. These might help in finding out answers regarding resource efficiency and performance of the process.

## 6.1. Limitations

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Some practitioners and theorists would argue that using the processes of business incubators serving different interests or sectors for a comparison is like comparing pears and apples. I believe that in the same manner the IT processes have influenced business processes, transcending sectors, incubation processes can be analyzed across type of incubators in Sweden. It is up to the manager of these processes to pick and use differences or similarities and combine them in such ways that enhance the productivity and quality of the processes. In a similar way to how this study has been conducted, using an inductive approach, if one could ignore the pre-conditions of the incubator and look deeper, into the cells of the processes, see what particularized which, and then return to the surface, above the pre-conditions and apply the findings to its own context, maybe that process can be seen in a new light, bringing new faster, flexible and improved ways of administrating an incubation process. Being focused on delimitating and holding up the boundaries might lead in time to rigidity and obsolete processes.

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## Appendix

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### Interview Questions

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1. Vilken roll anser ni fylla som inkubator? uppfyller inkubatorn i er åsikt?
2. Hur ser er inkubationsprocess ut? I vilka faser delas den upp i?

3. Har ni en antagningsprocess för företagen? Vilka krav måste uppfyllas? Vad gör ni/hur gör ni när ni utvärderar?

Varje inkubationsfas som processen delas i får följande frågor (upprepade vid varje fas mao)

4. Vilka tjänster och support erbjuds i den här fasen till företagen (som finns i inkubatorn)?

5. Varför just de tjänsterna vid just denna fasen?

6. Vilket värde förväntas tjänsterna och supporten att skapa hos företaget?

7. Vilket värde förväntas tjänsterna och supporten att leda till hos er?

8. Vilka resurser/kompetenser krävs/finns hos er för att kunna erbjuda denna tjänst/värdeskapande aktivitet?

9. Används det externa konsulter för tjänster/support i denna fasen? Vem betalar dessa konsulter i så fall?

10. Finns det krav för att företaget skall flyttas till nästa fas? Vilka? Vilka målsättningar finns för denna fasen?

(sista upprepande fråga)

11. I vilka omständigheter upphör ett inkubation-avtal med ett företag som finns i inkubationsprocessen ?

12. Vilka utmaningar upplever ni kring inkubator processen? Skulle ni ändra något och i så fall, vad, hur och varför?