Explaining incubators using firm analogy

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ABSTRACT

Incubators are initiated to accelerate the development of new technology-based firms. Policy actors see them as a tool to initiate or revive innovativeness in regions and universities as a way to commercialize research results. However, even though the intended results of the incubator are good it is not known how the incubator should be managed and organized in order to achieve this end. When faced with a new type of organizations analogies can provide insights gathered from other contexts. To contribute to the further understanding of incubators this paper discuss the implications, in terms of highlighted dimensions and further clarifications needed when using the analogy of a firm. The paper uses empirical findings from six incubators. The discussion shows it is not clear who is the actual customer of the incubator. For example, can the policy actors that provide the funding to the incubator be seen as a customer paying for the service of regional revival and the NTBFs customers when their fees are not in relation to the services they are provided? In the discussion it is suggested that the incubator can have many customers with different value creation processes or no customers depending on the viewpoint taken.

1. Introduction

Ever since the success of Silicon Valley many different regions and nations have tried to replicate its success, but very few, if any, can say that they have succeeded. It is also a common mistake when trying to emulate this success to study Silicon Valley as it is today, rather than during its formative years (Adams, 2005; Bresnahan et al., 2001). Another problem is that although the different actors are visible, it is another matter trying to understand what they contribute, or have contributed, to the result. One of these actors is the incubator. Thus, for the incubators to be developed in order to contribute to the birth of more firms, commercialization of research and innovative regions they will have to be understood and managed.

When envisaging a new context analogies can be a possibility when making use of past experience (Gavetti et al., 2005). This paper therefore discusses one analogy, the professional service firm, in order to contribute to the understanding of incubators. However, this analogy only provides one perspective of incubators, and the paper therefore discusses which dimensions it is that become highlighted, and the issues that would need additional clarification.

1.1. Incubators

An incubator provides resources like space, goals, marketing, management, structure and financing to knowledge- and technology-intensive new technology-based firms (NTBFs). In other words, an incubator is an environment for initiation and growth of these firms (Aerts et al., 2007; Chan and Lau, 2005; Löfsten and Lindelöf, 2001; Lindelöf, 2002; Mian, 1994). The incubator seeks to accelerate the process from initiation towards a growing firm for its NTBFs. An incubator needs to have a program, including courses and a development process that the NTBF undergo. Only a limited number of NTBFs are accepted in to the incubator and all resources are mobilized and adjusted to the individual NTBF by a business developer.

Incubators can also be seen as being part of a transfer of resources that enables the development of firms based on the innovations made at the university (Lindelöf and Löfsten, 1999). The cooperation with other actors in this transfer can for some incubators be very close as in the case study of Taguspark where incubators, innovation centre, universities and R&D institutions were all part of the same Science Park (Durão et al., 2005). The incubator can reduce the perceived uncertainty for the NTBFs. It is further argued that uncertainty is reduced by the reputational advantage of where the NTBF is situated (Westhead and Batstone, 1998). The social input comes from the innovative milieu inside the incubator. In a way the social input will give access to the same kind of resources as the business and technological inputs but in a more indirect way since the resources will be mobilized...
through the social network. The network can also provide information about links between what seems to be unrelated resources and factors that influence timing of for example the launch of a product (Nicolaou and Birley, 2003). The proximity to the other members of the network, which comes from being situated in an incubator, increases the possibility of also transferring tacit knowledge (Inkpen and Tsang, 2005). As stated by Westhead and Batstone (1998) it is the linkages within the milieu as a whole that makes innovation happen rather than the individual firms. However, Chan and Lau (2005) found no evidence of benefits from networking in their study of Hong Kong-based incubators, and therefore argue that perhaps networking is more applicable in Western contexts. Furthermore, there is still not much empirical knowledge regarding the content and structure of how the incubator, university and industry relate to each other (Rothschild and Darr, 2005).

1.2. Groups, types and generations of incubators

There are many variations in the way in which incubators are organized and what goals they have. What is called an incubator in Europe differs from country to country (Aernoudt, 2004). Clarysse et al. (2005) found three different incubation models based on the activities and resources used and von Zedtwitz and Grimaldi (2006) found five types of incubators based on the management of the core services. Grimaldi and Grandi (2005) divide incubators into four groups; Business Innovation Centres, University Business Incubators, Independent Private incubators and Corporate Private Incubators. In this framework parameters such as being non-profit organization or not, inward or outward-oriented deal flow and tangible versus intangible offerings are used. The division between being non-profit or not is also used by Carayannis and von Zedtwitz (2005) but they also attempt to find an overarching incubator model. This incubator model consists of five defining services; office space, office support, access to financial resources, entrepreneurial start-up support and access to networks. Based on this the authors argue that all five defining services are needed in order to be an incubator in the strongest sense of the term, while four of them are sufficient for the weak sense, and fewer indicate that it is not an incubator.

Aerts et al. (2007) present the typology elaborated by the European Commission where it can be seen that incubators combine management and technological support as opposed to other similar facilities focusing on one or the other. It is further argued that the current incubators are the third generation of incubators preceded by the first generation that emphasized job creation and real estates, and the second where the intangible services were included. This third generation has a stronger focus on high-tech, ICT and the most promising NTBFs (Aerts et al., 2007). Similarly, Grimaldi and Grandi (2005) argue that the development of incubators has been towards a more intangible and high-value service. This means that analyses made on earlier generations of incubators does not necessarily apply to the present incubators.

1.3. Purpose and structure of the paper

As can be seen above, incubators are defined differently depending on the age of the study, the country in which the study takes place, and the goals of the stakeholders involved in the incubator. Most of the groupings of incubators above seemed to be based on the type of resources that the incubator was able to provide. Incubators therefore share traits with organizations labelled as professional service firms. The purpose of this paper is to contribute to the understanding of incubators, by using the analogy of a professional service firm.

More specifically, the paper discusses the aspects of an incubator that come into focus when using this analogy, which implies that the resource base of the incubator is its source of competitive advantage. The first research question is therefore:

What is the nature of needed future clarifications of incubators when using the analogy of a professional service firm to describe it?

Moreover, the paper also discusses problematic issues when using this analogy in relation to incubators and points in the direction of further research in order to improve the understanding of incubators. Thus, the second research question is:

What is the nature of needed future clarifications of incubators when using the analogy of a professional service firm to describe it?

The structure of the paper is as follows. Section 2 will discuss how the empirical data for this paper was collected, and how it was analyzed. Section 3 will provide the discussion of the empirical data in relation to the analogy. In Section 4 further discussion of the implications of using this perspective before conclusions (Section 5) are drawn.

2. Method

This section discusses how the empirical data for this paper was collected. As previously mentioned in Section 1, the purpose of this paper is to understand incubators, and consequently, the incubators have to be the source of the data. After a discussion of the case to be studied, the collection of data is described and reflected upon.

2.1. Finding the embedded cases of incubators

According to Ragin and Becker (1992) the case should not be defined at the initial stage of the research. In contrast, the question of the nature of the case should be asked repeatedly during the process of its development. There are many different kinds of organizations that are known as incubators due to unclear definitions, and regional as well as national differences in the conditions for both the incubators as well as the NTBFs. The study was therefore limited to Sweden.

The question then was how many cases to study. As mentioned by Eisenhardt (1991) the appropriate number of cases to study depends on what is known and how much an additional case can contribute. Furthermore, Easton and Harrison (2004) argue that there are two kinds of multiple cases; independent and embedded, where the embedded cases are mini-cases that share many contextual factors as a result of being part of the same network, industry or organization. According to Eisenhardt (1991) many studies that are referred to as single case studies are in fact embedded cases that provide complementary aspects that are put together to form a whole.

Another reason for choosing the embedded single-case design (Yin, 2003) was that a motivation for writing the paper was the recent emergence of the Swedish National Incubator Program (NIP). The program had been founded as VINNKUBATOR by The Swedish Governmental Agency for Innovation Systems in 2003, and at the point of data collection in 2005 the administration was to be taken over by Innovationsbron, a newly founded foundation for national innovation financing controlled by several governmental agencies. This program was to develop the incubators in Sweden by providing both a network for the incubators as well as
a yearly funding of 0.5–4 millions SEK for each. At the initiation of the program, and then subsequently, a couple of years later, national bids were held to decide who could enter or continue in the program. Also, during their membership in the program the incubators were evaluated in order to determine future distributions of funding. Out of the more than 40 incubators and Science Parks in Sweden (SiSP, 2005) 18 were included in NIP. Incubators are from a policy perspective seen as commercializing research so that industries and regions are re-vitalized. A lot of governmental resources are at stake in developing the incubators, and it is therefore important that they are understood as being correctly evaluated so that the funding is used wisely. However, as in many other countries trying to revive their innovativeness, incubators in their current form are a rather new phenomenon in Sweden. NIP was therefore an interesting case to study.

The common trait of the incubators included in NIP was that they all received support from the program, both financially and otherwise, and that they were all affiliated to universities. As mentioned by Siggelkow (2007) it can be desirable to choose particular cases in order to gain certain insights. Since the purpose was to understand incubators it was desirable to choose incubators within the program that were different from each other. Johannisson and Mönsted (1998) argue that the way of organising business, and its context, is very regionally specific in the Scandinavian countries. The reason for this is strong regional identities and the immobility of its inhabitants. These arguments were the main reason for choosing interviewees from incubators that were located in different geographical places in terms of size of city and type of region. The origin of the incubators was also different in terms of age, reason for starting and type of organization in order to get a more representative result. A short description of the visited incubators is presented in Table 1.

### 2.2. Collecting data

The cases were to be studied with an explorative mindset through qualitative studies. According to Hill and McGowan (1999) this will lead to an increased understanding, as opposed to a more quantitative approach, when it comes to exploring the different factors and processes present in entrepreneurial organisations reality. Moreover, the complexity of factors is especially large in the Scandinavian countries where business is more intertwined with the rest of the community than in other places (Johannisson and Mönsted, 1998).

In order to get as much insight as possible about the visited incubators semi-structured interviews were conducted. The topics during the interviews were designed to cover as much as possible regarding the development of the incubators, and the daily activities taking place within them. The headlines in the interview guide were introduction, incubator, vision, the structure/organization of the incubator, recruitment of NTBFs, region, resources demanded by the NTBFs, access and diffusion of knowledge, access to resources for incubator located NTBFs, and closure where the interviewee was able to suggest additional topics and interviewees. Below each headline there were example of questions but these were not necessarily followed as long as all headlines were covered during the conversation. Through the use of a semi-structured interview guide the interviewee was more able to formulate their view on their environment through dialogue rather than simply answering questions (Kvale, 2001).

The interviewees chose where the interview should take place so that it would be in an environment that was comfortable for them. The interviews were recorded on mini disc, after having received permission to do so. The interview guide served as a memory help to ensure that all topics were covered. Since the topics were more or less related probing for more information or steering the direction of topics could often be done by referring to something mentioned earlier. The interview therefore got more of the form of a conversation than of asking questions. The duration varied a bit depending on how talkative the interviewee was but mostly it was about 1–1.5 h. In addition to the interviews additional written information about the visited incubators were collected before and during the visit and observations during the visit were noted as soon as possible after. After the interview the disc was transcribed.

The interviews where carried out between the middle of March and the latter part of April 2005. The interviewees were managers of their incubators; they are therefore seen as “experts” on their incubator. For the purpose of this paper they are seen as sufficient information since the incubators in themselves are very small organizations with just the managers and a couple of business developers with a varying degree of formalized attachment to the organisation. More over it is often a relatively new organisation where the manager usually is the person that has been there the longest and is most connected to the activities; often he or she is also the founder. When all interviews had been conducted and transcribed the transcripts were sent to the interviewees for confirmation as well as extensions of reasoning. In this way the interviewee get the chance correct misunderstandings and add things that might come to mind while reading the transcript. This process is called respondent validation (Bryman, 2002) and is intended to increase the construct validity (Yin, 2003).

### 2.3. Analyzing data and developing the case

The qualitative data from the transcripts needed to be structured to become comprehensive. The technique that was used resembles most to the technique that Grennes and Askheim (2000) refers to as cut-and-paste. Initially the steps suggested by Bryman (2002) was used as far as first reading the material and
then during the re-reading of the material take notes of common areas and points of interest. As Kvale (2001) suggest in the meaning-categorization technique the common areas are divided into dimensions that again are divided into sub-categories. Then sentences and sections are cut out from the transcripts and pasted below an appropriate sub-category. As mentioned by Grennes and Askheim (2000) this can be time consuming work but it usually enhances the quality of the analysis. This material can then be combined with theory and other data sources so that similarities and differences in the combined data can be identified (Easton and Harrison, 2004).

When the sorting of the material was done as described above it became clear that resources were an important issue for both the incubator and the NTBFs in terms of access and utilization. Thus, in this way the case material was used at this stage in order to inspire ideas regarding how an incubator could be understood. Therefore, due to the focus on resources, and the fact that there are private incubators that are organized as consultancy firms in terms of basing their development on the returns on investment from NTBFs, it seemed reasonable to believe that the incubators in the case material would be similar. The material was therefore further structured according to the dimensions that are seen as important in such firms. These dimensions are further discussed in Section 3.

The initial thought was then to investigate applicability of theories related to such firms for understanding incubators. However, as stated by Bartunek et al. (2006), a paper that is entirely consistent with the assumptions of its intended readers is not interesting. Therefore, instead of only making a comparison between the literature of professional service firms and empirical findings in order to see similarities and differences, the mapping between the two was thus restructured somewhat and used in further discussions in a more conceptual manner. Proceeding in this way would clarify what perspective of the incubator the use of this analogy would contribute to, as well as the issues or problems in using it.

Siggelkow (2007) argued that a case can have three uses; motivation, inspiration and illustration. As previously mentioned the case material first served as an inspiration in the direction of the professional service firms. As the analysis evolved it was then supposed to serve as an illustration for the resemblance with the PSFs, but then towards the end of the development of the case it turned out that it will have once more moved towards serving as a motivation for further research. Even though the analogy of the professional service firm provides insights, which allow the policy actors and incubator managers to borrow from past experience, the further discussion using the analogy showed that there were still issues to be resolved.

3. Analyzing incubators with a resource focus using the PSF analogy

As mentioned in Section 1 incubators are new and analogies can therefore be used to understand them, and to be able to apply previous experience. According to Gavetti et al. (2005) these analogies can be done to other firms or industries as well as other competitive settings. Furthermore, in order to use the analogy there is a mapping between the source and target context that has to be done within suitable dimensions. In this section the dimensions are found and used to discuss the empirical findings from the incubators using the analogy of a professional service firm.

The new technology-based firms are so new that they initially have very few resources, and that the novelty of the product and the firm also make availability of the needed resources scarce. The incubator is expected to accelerate and facilitate the development of these firms, and the incubator itself is also a new organization. Moreover, the incubator is expected to increase and transfer entrepreneurial resources within the region. In other words, resources seem to be a central concept of incubators. Thus, within the resource-based view it is assumed that it is the firm’s internal resources that constitute the heterogeneity between firms, and that the heterogeneity can be sustained through lack of the perfect mobility of resources (Barney, 1991). Furthermore, firms are the main unit of analysis in this approach.

When discussing incubators as firms, incubators provide the service of an accelerated development of NTBFs. Service is used as meaning service in the context of products. A service is intangible and created in interaction with the customer. The type of service delivered by the incubator is customized to each NTBF, and requires both theoretical education and intellectual capacities. There therefore seems to be many similarities with professional service firms (PSFs). Furthermore, the dimensions that will be used when mapping against the analogy will be related to resources that are central to both PSFs and incubators.

3.1. Professional service firms

Factors that are used to define PSFs are their type of activities and their type of knowledge base. Alvesson (2001) argues that the degree of knowledge intensiveness can be seen in the socially shared ideas about the importance of theoretical education and intellectual capacities that are needed to be able to carry out the work. Löwendahl (1997) lists a number of characteristics for PSFs. The main points of the characteristics include the customization of the services delivered. This means that there is an interaction with the client that is sufficient for the degree of customization that is needed. The deliverers of the service also have to be trained and highly educated within the area. When this is ensured, the service and the personal assessments made by the deliverer will be based on the rules of the profession. Similarly, Maister (1993) argues that clients approach PSFs seeking expertise, experience and efficiency. Depending on the type of problem the relative emphasis on each of the three will vary. This creates a spectrum of possible positions for the firms depending on how they choose to organize. The so far described characteristics fit a whole range of organizations: engineering, advertising, consulting, accounting and law firms. However, the most critical characteristic is whether the firm’s competitive position is a result of their unique client relations, unique solutions or unique ability to solve new problems (Löwendahl, 1997). It is further argued that in order to be a pure PSF, the majority of the delivered services should not be standardized (Löwendahl et al., 2001). Alvesson (2001) argues that the homogeneity or heterogeneity of knowledge within the organization can also influence the definition. Even though the knowledge is a defining characteristic it can still be heterogeneous and the focus is then instead on the organizational level (Robertson et al., 2003). This means that the knowledge instead becomes organizationally specific (Alvesson, 2001).

3.1.1. Value creation in professional service firms

Löwendahl (1997) summarize the value creation of PSFs into three processes that takes place either before, during or after the interaction between the PSF and the client. Before the interaction the PSF has to be able to convince the potential client that it will

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1 Thank you to one of the anonymous reviewers for pointing out the lack of need to justify the applicability of PSF literature as plausible in analyzing incubators.
be able to carry out the project. This will be easier for the firm to do if the firm and the knowledge workers that will carry out the project have a good reputation and have been successful in similar projects before. It will be harder to explain to the client exactly what the firm can deliver if it is an innovative service connected with a large knowledge gap. During the interaction with the client the challenge is to deliver the service in a way that is perceived to be in line with what was promised by all parties. This means that both the client as well as the firm should be satisfied and this includes a sufficient solution carried out in an efficient way which is a hard combination to master. After the service delivery the PSF can create value by institutionalizing what they have learnt from the project so that it can be used to gain and carry out future projects. This requires that the knowledge workers are willing to share their knowledge and that the client is confident that the knowledge will not be used against them in a future project. Löwendahl (1997) ends her summary of the value creation processes by arguing that even though these processes can be found in all service sectors they are more complex in PSFs because of the nature of the services, the interaction, the information asymmetry and dependence on individual knowledge workers. PSFs generate value both to their clients as well as their owners and firm members. This value can be both monetary and in the form of knowledge. Revenues can therefore be sacrificed for the opportunity of solving a project that will increase the knowledge base of the firm. Maister (1993) argues that a PSF has to fulfill three goals in order to survive. These goals include the delivery of outstanding service to its clients, professional satisfaction to its knowledge workers and financial success. According to Maister (2005) a PSF is present in two markets simultaneously; the market for clients and the market for knowledge workers. Since these two markets put different demands and constraints on the PSF the firm has to always find a balance between the two. Löwendahl (1997) also argues that the two primary processes in a PSF are to recruit and maintain the best knowledge workers and to attract the most interesting projects and that these two processes are interdependent. Because of the high degree of customization of the services delivered and the large amount of interaction between the PSF and the client the PSF becomes dependent on individuals and this in turn makes the balance even harder to find (Maister, 2005).

Since it was stated above that succeeding in the markets for clients and knowledge workers was central for the success of the PSF the finding and maintaining of clients and knowledge workers will be discussed as dimensions below. Further, it was also stated that the interaction between the client and the knowledge worker was central due to the nature of the services and therefore service delivery will also be a dimension. Finally, the resource base, in terms of resources that can be found both internally in the organization as well as mobilized externally, will be discussed as a dimension since the continuous development of the PSF is a prerequisite for the firm to be able to carry out projects and attract clients and knowledge workers.

3.2. Recruitment of clients

There are many ways to approach potential clients; such as seminars, speeches or articles, where the most effective are small scale. Maister (1993) emphasizes that it is important that the activities chosen are planned in a sequence so that the potential clients get to know the PSF more and more. The reason for this is that the PSF has to be known and trusted by the potential client before it is willing to describe their problems. For a PSF it is also important to appear knowledgeable to attract customers. They can do that by being associated with the right professional communities and having the clients that are known as high demanding. Alvesson (2001) describes that this is an interdependent process where the PSF use their current clients to develop knowledge and for their knowledgeable image and the clients in turn use the brand name of the PSF for their own image. When a potential client is found the PSF shifts tactics from broadcasting to courting. Broadcasting strategies was aimed at the entire target market while the courting instead focuses on one potential client in particular (Maister, 1993). This is where the terms for the potential relationship between the potential client and the PSF are agreed upon. As mentioned earlier in Section 3.1.1 value creation the potential client has to become convinced that the PSF will be able to carry out the project successfully with the resources agreed upon.

The recruitment of NTBFs is done both by reviewing applicants and by actively creating projects themselves. When it comes to the applicants there is the challenge of attracting a sufficient number of applicants but also to attract the right applicants. Three of the incubator managers reported that their incubators review 10 ideas per month, 320 ideas in three years and 165 ideas in 1 year, respectively. These incubators can therefore carefully pick the few NTBFs they wish to devote resources to after a structured reviewing process. Even when large numbers of applications are received they still try to be proactive by identifying potential NTBFs before applications are written, and maintain contact with the teams behind great ideas that for some reason, at this point in time, are rejected in the review. As one of them chose to put it, “it is like target-shooting”. Another incubator manager conversely reported that his incubator had reviewed 40–50 ideas the year before. They therefore have to make more of an effort to increase the number of applicants, and be less selective when choosing which ideas to move into the incubator as there still have to be enough NTBFs inside to be able to organize courses, create a network, etc. The three main sources to recruit from are academia, research institutes and the business environment. In addition single individuals are recruited for NTBFs were a certain competence is lacking. These are usually found in the external network or in the university’s entrepreneurship programs or the business lab.

In some of the interviews it was emphasized that it was important to give many potential entrepreneurs the opportunity to try while others instead were more focused on finding the right entrepreneurs. The arguments for letting more entrepreneurs try is that important qualities, for instance if the person is coach able are not possible to fully detect at a screening meeting. Further, many entrepreneurs, who do not initially have a great idea manage to develop it or change it into a better idea during the process. If not, they can also later be recruited to another NTBF if they motivate and competence is right and the idea is not. In a similar way potential “idealless” entrepreneurs are recruited from the business lab, summer projects and entrepreneurial competitions. The arguments for having a more focused recruitment are instead to try to ensure the output. In addition, the incubator companies are the ambassadors of the incubator towards the external network and their actions will affect future prospects of resources. It has also been noticed that having higher recruitment requirements will increase the access to ideas from academia and business environment because it will then be more internally accepted to discuss with the incubator in those organizations. In other words, it becomes a way of brand building. Additional branding can also be done through other channels. The more direct approach is to use press, media and web where the more quantitative requirements can be communicated. It also builds awareness in the local community about the existence of the incubator. The interviewees also mentioned that in most of the media coverage it was the success of NTBFs that was fronted and
the incubator in itself was secondary. There were also joint efforts made between the local innovation actors. There is also the network approach of establishing a name within the desired industry, this process can be strengthened through newsletters. The sending lists then preferably includes successful entrepreneurs so that they will be able to refer their contacts to the incubator who will be successful by association.

Recruitment of clients is not only about finding new clients. It is also about continuing to do business with your current clients. Maister (1993) therefore suggests three additional categories of activities to carry out in relation to your clients. The three additional categories are superpleasing, nurturing and listening. Superpleasing is about exceeding the clients’ expectations during the delivery of the service in order to encourage the client to do business with the firm again as well as improving the word of mouth of the firm. Nurturing is closely related but is more about what the PSF is willing to do besides the service delivery to maintain and improve the relationship. Listening instead include the knowledge that PSF gather regarding the clients market to be able to suggest services that the client needs before it has been asked for. All these marketing activities are of course important for any type of firm. However, it is especially vital for a PSF since they sell services that are hard to estimate the quality of and that are made between the local innovation actors. There is also the present additional challenges when it comes to the management of the employees. The employees are of course a very important resource to a professional service firm since it is them who solve the customers’ problems. This resource, which is also called human capital, has to be increased in proportion to the level of customization of the services. This increase can, according to Skaggs and Youndt (2004), be done in two ways. Either additional training can be provided or the sought expertise is hired. Both these options present additional challenges when it comes to the management of these employees. One challenge is the possible alteration in the organization’s hierarchy. In professional service firms it is usually the person with the largest amount of expertise that also get the largest amount of authority even if he or she is not the manager.

3.3. Knowledge workers

The business developers are the knowledge workers of the incubator. Each business developer has the responsibility of around five NTBFs. However, the smallness of the organization enables the business developers to communicate with each other regarding their NTBFs both at formal meetings but also informally between the meetings. The business developers usually have different backgrounds, specializations and experiences to be able to meet the needs of more NTBFs. That way they can also consult each other in matters outside their own focus area. However, preferably they all have entrepreneurial experiences, relevant personal networks and credibility in the market. This way they are more likely to have and to be able to create personal networks within the relevant industries.

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At the same time it is critical that the organization is managed since lack of order will make it harder for the organization to maintain its level of productivity and creativity (Löwendahl and Revang, 2004). In addition, knowledge workers are rarely very open to direct supervision, and it is also usually not sought for either since it is their innovativeness and creativity that is value creating. Therefore a more covert approach to leadership is demanded (Mintzberg, 1999). The managers then seek to influence the values and attitudes of the knowledge workers. In this way the structural hierarchy does not become as strong but the actions of all the organization’s workers are still guided by the same frames (Kärreman and Alvevsson, 2004). This shared set of values will, besides from manage the organization and give a more unified impression in the market, help to counterbalance the power of the experts mentioned above (Löwendahl and Revang, 2004).

A management challenge that often occurs in PSFs is how you should schedule the time of the knowledge workers. Löwendahl (1997) argues that this can be complex since PSFs always have to bid on more projects than they have capacity for since they do not know which ones they will win. Moreover, for the profitability of the PSF it is important to have the right distribution of senior and junior members in the project teams. The more senior members give credibility and become inspired by solving new problems. Whereas juniors are cheaper and can receive training by solving problems that are similar to problems solved earlier (Maister, 1993). Since it is sometimes also possible for the client to pick the key members of the projects the workload can become uneven. Similarly, as an overworked employee is not happy a knowledge worker with too little to do can start to seek employment elsewhere and the PSF will be forced to recruit and train new knowledge workers when the next peak of projects approaches.

In addition to be creative and innovative when it comes to solving the customers problems it is also value creating for a professional service firm if its organization is innovative in terms of its own policies and procedures. To what degree this will happen have to do with the climate in the organization. Anderson and West (1998) define climate as the “shared perceptions of organizational policies, practices and procedures” and argue that the level of analysis of it is the proximal work group. The same authors also point out interaction, participative safety, task orientation and enacted support as important factors to have within the work group for creating the sought innovatory behaviour. Melander and Nordqvist (2002) even go as far as saying that this can result in a positive feedback loop of social capital accumulation which in turn will lead to a successful development. At the same time they warn that also the opposite can occur and that this will lock the organization into a path where the role of social capital will be down played. Based on the importance of being able to utilize resources found within their network for professional service firms this is a situation which this type of organization should seek to avoid.

The business developers monitor their assigned NTBFs closely initially, this is also when all goals and milestones are set and when the NTBFs are supposed to become familiar with all the resources that they have access to. The role of the business developer is not supposed to be an extra pair of hands in the NTBF. Rather, their role is to encourage, give advice and provide needed resources even though these activities can be made both on a strategic as well as an operative level. One of the interviewees used the analogy of a team coach, “If you are the coach of a team you do not play in the team. In contrast the coach train, cheer on, support and bring in competence and resources and replace team members and so on. You do not perform anything”. Or, as one of the other interviewees put it, “The role of the coach is really to enable them [the members of the NTBF] to see the current situation of the firm”. However, it was admitted that a large part of the time was spent on selling and external financing. Furthermore, it was mentioned that the business developers sometimes could take a more active part if the situation was very vital to the NTBF’s existence. An important issue seemed to be that the activities should be based on the NTBFs’ initiative so that it is ultimately them who are responsible for reaching their milestones and for their development. In line with this it is therefore the NTBFs that are responsible for scheduling the meetings that they need with their business developer. However, since the business developer is experienced he might remind the NTBFs of obstacles ahead or detect problems in for instance their business plan that he can bring to their attention. This approach also means that the number of hours spent on each NTBF can vary and it also varies how open the business developers are to giving informal advices between the sessions. In the incubators that had fewer requirements for entrance the uneven time distribution was even more elaborate. The NTBFs that showed most potential was prioritised even though many were given the chance. In one of the interviews it was mentioned that the same amount of time was used on the 5 most promising as on the remaining 15. However, as what type of NTBF you were seen could be altered during the process.

The knowledge workers of the incubator are the business developers. As in PSFs they are highly educated and they all have entrepreneurial experience to receive credibility. The business developers can have somewhat different focus areas such as financing or marketing and help each other if needed. However, they do not experience the issue of juniors versus seniors very much. Instead, all business developers carry more or less the same workload and status as they are all responsible for their own NTBFs within the incubator. Improvements in the incubator can take place due to new experiences in relation to an NTBF, the sharing of this experience, and the collection of new knowledge external to the incubator. The development of improved working procedures is encouraged in PSFs and incubators to become more efficient and more easily communicate the product even though both also see the importance of customization.

3.4. Service delivery

The customer is included in the production of a service and has therefore the opportunity of influencing the result of it. The roles between the firm and the customers might even be redistributed so that the boundaries between the two become more blurred than in other industries (Löwendahl and Revang, 2004). During this interaction many different tasks has to be performed to the customer’s satisfaction and the interdependency between the different functions for this reason becomes important (Gummesson, 1995). The degree of customization and interaction can vary between firms and depending on the way the PSF has positioned itself it will seek different types of clients. Since the client satisfaction and firm efficiency will increase if the client problem matches the combination of customization and interaction that the firm offers. Maister (2005) has identified four types of the customization and interaction combination, which he has named nurse, pharmacist, psychotherapist and brain surgeon. The nurse and the psychotherapist let the client take part in the problem-solving process to a larger degree than the pharmacist and the brain surgeon. Similarly, the psychotherapist and the brain surgeon deliver less standardized solutions than the nurse or pharmacist. However, more than one type of combinations can be present within the same firm although preferably not by the same professional.
Further, Armistead and Clark (1993) suggest that it is the perceived added value of the service that has to meet the price of the service rather than the absolute value. This argument in combination with the reasoning made by Dale et al. (1997), stating that negative word of mouth is not necessarily dependant on the degree of the customers dissatisfaction in services, suggest that quality is very subjective. Because the services that the PSFs provide are interdependent and require interaction with the client it is hard to predict the outcome and the amount of resources needed to obtain it before the project starts (Löwendahl et al., 2001). Similarly, it can be difficult for the client to determine the satisfaction of the outcome after the project is finished also since the alternative solutions are unknown.

The service delivery is the product of an incubator. It is seen as the entire process from the starting of a company to moving out of the incubator. Often services for the steps before and after the incubator itself can be offered in conjunction to the incubator. The services after the NTBF has moved out usually consist of maintaining the network, office possibilities in Science Park and courses or workshop packages for preventing the NTBFs from stagnating. The business lab where the idea concretized before perhaps moving into the incubator has more of the form of the incubator including courses. Usually the office facilities and the help there are more limited, but on the other hand, the requirements of entrance are not as high.

How long time that is spent in the incubator depends on the NTBF and the nature of its product. Milestone plans are used to determine the performance so far and actions needed for further development. At the milestone meetings external advisors can be used in addition to the coach. During the process in the incubator the finance, technique, market and organization of the NTBF should be developed. There has to be a dual focus on both current activities as well as long term survival. “There are many traps that small firms can fall into. I think you can avoid nine out of ten just by having seen many mistakes.” This is where the experience from having seen numerous NTBFs going through the incubating process comes into play. In the interviews it was mentioned that there was a current focus in the incubators of packaging, structuring and formalizing the products. The offer will then be less person dependant and easier to communicate or enter in a contract. The process was described as a creation of a toolbox. The approaches used are either developed from scratch or borrowed and adjusted from international incubators. The toolbox contains descriptions of the processes or modules offered, frameworks for contracts and presentations as well as checklists for follow-up meetings. The more interactive solutions also include logs for time, tasks and goals, intranet for information flow and possibilities for surveys among the NTBFs. Even though these toolboxes are increasingly used it is still a highly customized incubation process since there are so many factors that can be different in one firm compared to another and different NTBFs also choose to spend their time in the incubator differently. While some of the firms seek very little informal advices from their coach others are on the “verge of being annoying”. However, there are also parts of the offer that will be harder, if not impossible to subject to structuring such as the “spurring fellowship” within the incubator.

The degree of formalization of the education and courses that are offered at the incubators are varying. However, there seems to be a common process of making them less ad hoc than they are today. Many of the courses had the form of seminars or workshops that was set to not influence the daily routines too much. In some cases the courses were held in participation with the partner firms who then either offered the lecturer or invited the NTBFs to the internal courses of the partner firm. The challenge when planning courses seemed to be to make sure that all NTBFs got to know everything that they needed during their stay but at the same time being able to continuously offer something new to those who stayed longer. This was especially true for the incubators that offered common courses for the incubator and the Science Park to facilitate interaction. Another part of the challenge was to make them applicable for all NTBFs in the incubator regardless of industry or level of development. Therefore the common courses are also complemented with individual seminars. In some incubators the courses are mandatory and in others they are voluntary or connected with an extra fee. The most common areas to cover in the courses were reported to be sales, accounting, law, contracts, patent strategies, presentation technique, advertising, media and negotiation. One of the incubator managers said “There is a book entitled ‘What you didn’t learn at Harvard’, and that was also the starting-point when we put together our course program” suggesting that the courses and workshops are more concrete, hands-on and interactive than in business schools. “Here everything can be related to their NTBF and business idea as this type of information then becomes easier to digest”.

Incubators and PSFs deliver processes to their customers that seek to identify and solve a particular problem. The outcomes of these processes are dependant on the area of expertise of the organization. In incubators, the outcome is a growing firm that has reached that phase faster and safer than it would have otherwise. Like in PSFs it is hard to determine whether this outcome could have been reached in a better or cheaper way. The service delivery of the incubator also includes funding either directly from the incubator or through mediation in addition to the advices. This makes the NTBF more able to reach the desired outcome but especially the direct funding is generally not included by PSFs. The motivation for the incubator when delivering the service is also somewhat different compared to PSFs due to the payment system. This has not only to do with the fact that the majority of the funding is public funding, which is dependant on more systemic factors. Whereas many PSFs get paid according to billable hours the incubator charges a fixed fee where business advice is also included. More importantly, the larger part of the income from the NTBFs comes from the investments that the incubator makes in the NTBF. In other words, instead of striving to increase the hours spent on the firm the goal is to make the firm grow independently as soon as possible.

3.5. Resource base

The resource base of a firm consists of both tangible and intangible resources. In recent resource-based work the intangible resources have been found to contribute more to the competitive advantage than the tangible resources since they are more difficult to imitate and influence the allocation of other resources. This is also in line with early sources describing that it is the deployment of the resources rather than the resources themselves that are of importance (Newbert, 2007). For example, Skaggs and Youndt (2004) warn that service processes as such are rather easy to imitate since they cannot be patented. In order to mend this problem Armistead and Clark (1993) suggest that tacit knowledge, complexity and specificity can make it harder for competitors to copy the competitive advantage since it will then be harder to understand.

Knowledge is an important part of the resource base of the PSF and it is the resource base combined with the PSF’s domain choice (c.f. Thompson, 1967) that will enable or prevent the PSF to carry out a project (Löwendahl et al., 2001). It is also assumed that knowledge can be transferred between the firm members of the PSF without problems (Morris, 2001). The two main types of knowledge used by a PSF when solving a client's problem, is
technical knowledge and client knowledge (Empson, 2001). Consulting firms, which is a group of PSFs, have been mentioned as knowledge brokers between their clients and in production of management knowledge (Werr and Stjernberg, 2003; Morris, 2001). Wiklund and Shepherd (2003) stress the importance of the knowledge base, especially when it comes to creating a sustain-able competitive advantage since it is harder to imitate. A PSF needs both technical knowledge and client knowledge. In her presentation of the two types of knowledge Empson (2001) divides them into three groups each where the broadest type includes knowledge that is shared by all firms within that sector and knowledge of the industry in general. In the next level we find knowledge that is firm-specific, both in terms of knowledge developed within the firm and knowledge of a client firm. The most specific group consists of individual knowledge, of an individual person in the client firm or as in knowledge based on a person’s previous experience. Further, Empson (2001) argues that there can be resistance to make individual knowledge firm specific since individual knowledge is that person’s competitive advantage. Moreover, a similar resistance exists for making firm-specific knowledge more generally available within the industry as this would diminish the core competence of the firm (Löwendahl et al., 2001).

Firms need to be able to redistribute new knowledge in order to be able to provide unique services to their clients, that they could not have done by themselves. Morris (2001) therefore argues that there are advantages with encouraging networks between the individuals. Maister (1993) also argues that it is not groups that collaborate, it is people who collaborate. Therefore, collaboration should be encouraged by facilitating the possibility for individual persons from various groups to get to know each other. This can then result in collaborations, on a small scale with early successes, which in turn can grow larger. According to Maister (1993) this will be more effective then initializing collaboration programs. The networks can also include universities and other firms within the industry to obtain new knowledge. New knowledge is also obtained from the clients that the firm works with; the structure of the portfolio of clients is therefore strategically important. Since the past clients decide which clients the firm will be able to serve today and the knowledge becomes path dependent (Löwendahl et al., 2001).

The knowledge in incubators can be found both in the business developers and the NTBFs currently in the incubator. The network between these is used to share parts of the knowledge that these actors have, and are able to gain from external sources. In Section 1 about incubators it was mentioned that it is the internal milieu in the incubator rather than merely the individual NTBFs that could cause innovation to happen (Westhead and Batstone, 1998). An awareness of this also seemed to be present in the interviewed incubators. In some of them the focus seemed to be on facilitating for such an environment to arise by offering meeting places for spontaneous interaction such as information meetings, common breakfasts, social activities, offices situated close to each other and newsletters. Others instead emphasized the importance of informally building a culture. This could take the form of consciously offering too little of some resources so that the NTBFs have to ask each other to learn the practical routines of the incubator, wait in line for coffee or share offices. These efforts could also include team-building activities, encouragements to the NTBFs to acknowledge their successes as well as internal networks where the NTBFs are customers to each other or make customer offers jointly. It might seem easy to name the different efforts that are made. But still it is fuzzy exactly how and if this leads to the sought after milieu. “It is not that the NTBFs have to share their knowledge with each other, like a giant system for it… on the other hand we arrange meetings that facilitate such contacts. We encourage the NTBFs in various ways so that they will get to know each other socially and professionally, and then such things happen between the NTBFs.” Or, as one of the others puts it, “It is not formal. And we do not force anyone. And we do not mention it, it just commences”. The most advanced form of culture building also monitors the developments of the culture. In addition they act proactively when the culture is at risk by inviting previous NTBF members who can act as culture carriers by setting an example for the current NTBFs at for instance social events. Another solution is to let the negative culture die by waiting for the negative elements to move out, or rotation of offices, followed by a determined rebuilding of the culture.

In the external knowledge network there can be found actors like recruitment firms, sales coaches and PR-agencies but most importantly experts within the field of the NTBFs. These actors can be found both at the university as well as in the business environment. Their main task is usually to give advice formally as parts of advisory boards or at follow up meetings or informally but they can also be included as board members with a varying level of commitment. The external network can also provide potential future customers or suppliers and including them early in the process their advices can make the product easier to market. Finding these resources can be dependant on the personal networks of the coaches but also through connections with the local university or business environment. In some incubators there is also a more formal matchmaking of contacts through a weekly news mail.

The more formalized part of the external knowledge resources are the partner firms. These firms include accounting firms, law firms, patent bureaus and banks. The contracts with these firms are very different. They can be preferred supplier, where the incubator in some cases pays parts of the costs, have discounts or deliver for free. By delivering for free they hope to have invested in future clients. In some cases they are situated in the Science Park since this enables a larger degree of informal communication. On the other hand, this can make the interaction less focused so other incubators prefer to have them localized outside the incubator where the NTBFs can go to visit them or there can be scheduled days of meetings inside the incubator. The managers in the interviews emphasized the importance of the personal contact with the partner firm representative. The approach in how to achieve this was, however, varying especially when it comes to the age of the contact person. The arguments for using a younger person was that it would then be easier to relate to the NTBFs since they would then be in the same age and that it would then be a learning process for both parties. On the other hand, by instead using the most senior person at the firm this person would have more experience and hence easier detect mistakes in the NTBFs and in addition he would have more authority to make decisions on his own as well as a relevant personal network. Besides the “normal” services delivered by these firms it can also be a part of the deal with the incubator to deliver work shops or to sponsor social activities or events.

The external financial network provides financial resources both to the incubator as well as the NTBFs directly. The main sources of financial resources for the NTBFs are public funding in terms of different grants, subsidies and scholarships that can be applied for both locally and nationally. The incubator therefore makes sure to be updated on the possibilities and deadlines for these applications and helps the NTBFs to find them and apply to them. The structure of the more local funding has in some cases been partly the work of the incubator. There are also other opportunities of soft finance not the least from the local banks in some regions. It is also possible to approach risk capitalists and business angels although not all business ideas are suited for or mature enough for that. The communications with these actors...
are also administered through the incubator since it is their brand name that acts as a quality control towards that market. “First we try public funding, and then we move on and then finally perhaps we look at venture capital and then we are the ones choosing which venture capital to approach. We severely control this process since we have the experience, and we know how many mistakes can be made so we do not let go of them”. In some incubators the business developer selects the possible risk capitalist and rehearses presentations with their NTBFs, etc. In other incubators the risk capitalists are instead invited for a 1-day program where they meet many potential investment objects and then can later discuss further with the ones that spurred their interest.

It was mentioned during the interviews that there were different measures taken in order to make the connections with venture capitalists and business angels more formalized as a more structured network. This way the contacts would be more person independent and it might be possible for some of the business angels with entrepreneurial experiences to contribute with more than funding. On the other hand, it was also mentioned that some of the business angels prefered not to make their investments or interests known. In some incubators it was also efforts made to create an investment fund or holding company with funding from actors like innovation foundations, local banks and private investors. This way initial funding for the NTBFs can be more easily distributed by the incubator itself according to application. When the NTBF is later seeking additional funding the firm will be more mature and hence more attractive to the financial market.

In a PSF the external network is extended and maintained continuously and it generates new knowledge about clients, markets and new processes within the area of expertise. This new knowledge contributes to the knowledge base of the knowledge workers and hopefully also to the knowledge base of the firm and can be used for helping current clients and recruiting new clients. Moreover, the external network can also give access to other resources, such as additional experts, that the PSF can mobilize if needed when solving a client’s problem. This is also true for the incubator. For the incubator part of the external network is structured and these structured networks are included in every service delivery. There are deliverers of services to the NTBFs that are working with the incubator continuously, a financial network that is increasingly structured and the university to which the incubator is affiliated.

An innovative environment in a PSF context usually refers to the knowledge workers. It is important that they have shared perceptions and transmit new knowledge to each other. In an incubator there are also formal and informal ways of creating that environment among the coaches. To extend that to the customers is more unusual; other professional service firms rarely localize their customers in their own house and also rarely encourage them to interact. If there are synergies between customers the incubator is rather particular compared to other service providers. Secondly, the relationships between the incubator and the other actors will be discussed in terms of whether or not the other actors can be identified as customers. More importantly, this gives the opportunity to discuss the roles of the other actors in order to further understand the actions of the incubator.

4. Discussion of incubators as service providers

The discussion of this paper is based on the empirical findings above that indicate similarities between incubators and service providers. Firstly, a model of the incubator as a service provider is found and then implications from this model are discussed. One of the implications is that if this model is used the value creation can be seen as taking place through two different processes; the development of NTBFs and the process of satisfying the needs of the policy actors in order to obtain further public funding. The other implication is the issue of customers to the incubator. The NTBFs only contribute directly to the incubator in one of the two value creation processes, and even then their relation to the incubator is rather particular compared to other service providers.

The incubator will first be discussed in relation to the other actors from the perspective of identifying the value creations in incubators as service firms. Secondly, the relationships between the incubator and the other actors will be discussed in terms of whether or not the other actors can be identified as customers. More importantly, this gives the opportunity to discuss the roles of the other actors in order to further understand the actions of the incubator.

4.1. The incubator as a service provider—finding a model

As was mentioned above, a PSF delivers customized services through the mobilization of resources, and the value creation can be summarized in three processes (Löwendahl, 1997). First, the PSF needs to convince the potential client that it will be able to deliver the service, secondly, the service has to be delivered in line with the promises and, thirdly, after the delivery the knowledge from the project has to be institutionalized in the PSF. Therefore, in order to be able to do this the firm needs to have knowledge. This knowledge is according to Empson (2001) technical knowledge and client knowledge, which in turn can be divided into personal knowledge, firm-specific knowledge and knowledge that is shared throughout the industry. The improvement of the knowledge base is controlled by the two interdependent processes of recruiting the best knowledge workers and attracting the most interesting projects (Löwendahl, 1997). Above it is further mentioned that value creation can be divided into three steps; before, during and after the service delivery.

To be able to attract the NTBFs with the best potential in terms of assumed future development and assumed contribution to the resource base of the incubator, it has to be able to convince the founders of the advantage of the incubator location. Similarly, the incubator needs to display its advantages as a potential collaboration partner to the actors that the incubator wishes to be able to mobilize resources from. When the NTBF moves into the incubator it is assigned a business developer who delivers the service of an accelerated development by mobilizing resources. The business developer is able to mobilize the resources through the relationships that the incubator has. To know which resources to mobilize the business developer has to be able to assess the needs of the NTBFs during all stages of the development process. From the identification of the NTBF needs the business developer packages the mobilized resources. For example, knowledge about how to sell the product is an often needed resource. The business developer can then send the NTBF to a general selling course, coach the NTBF in its selling techniques, mediate contacts to a selling expert or help the NTBF hire a seller. Depending on which strategy or strategies the business developer uses, different sources for the mobilization will be used. When the NTBF is ready to move out of the incubator it has developed into an organization that is ready for further growth. When the NTBF moves out of the incubator the idea is that it should be equipped with enough resources to be able to continue its development independent of the incubator. The incubator uses the example of the successful NTBF in order to attract more resources and NTBFs. Moreover, the experience of the development is also diffused into the incubator both adding to the knowledge of the business
developer(s) and to the base of resources that the incubator is able to mobilize from in the future. These additions come from the new contacts that had to be initialized due to the specific needs of the firm, contacts that the firm brought into the incubator either during the development or that they previously had as well as from the NTBF itself that later, as a more mature firm, can be useful for other NTBFs in the same industry.

Fig. 1 seeks to illustrate how the incubator has relationships with external actors, and that a part of the resources provided through these relationships are then transferred to the NTBFs inside the incubator. The illustration is, of course, a simplified model. In the incubator there are a number of NTBFs at all three stages of the value creation, which have to be served simultaneously. They all have different needs, depending on their development phase and prerequisites. Furthermore, each NTBF also needs resources from more than one source, and can also need resources from the same source but in different ways during its development.

When the incubator is seen from the perspective of being a service provider, the activities of the incubator centers on developing the resource base of the NTBFs. This way the incubator also develops its own resource base, and also indirectly the resource base of the region by increasing the number and success rate of growing NTBFs. The incubator is then an organization with clear boundaries that mobilizes resources from other organizations when their own resource base is not enough, and the incubator is therefore dependent on the capabilities for this mobilization, which rests mainly within the business developers of the incubator. The NTBF initially becomes a receiver of resources but as its resource base increases it will also be able to complement it more and more by itself. This can be done by utilizing the incubator location both in terms of image effect and by using the advice and mediation from business developers and fellow NTBFs. When the NTBF moves out the resource base is large enough to continue alone, and the NTBF now handles its relationships with, for example, suppliers without the interference of the incubator. When connected to the illustration in Fig. 1, this means that the incubator seeks to increase the number of external sources from where to mobilize resources, and to be able to mobilize an increasing number of types of resources from each source. Moreover, it also seeks to improve its ability to satisfy the needs of the NTBFs by being able to fully utilize the external resources that it is able to mobilize together with its internal resources.

4.2. The incubator as a service provider—two value creation processes

Even though the activities of the incubator are focused on the development of NTBFs, this does not mean that it is the NTBFs themselves that provide the largest incomes for the incubator. Furthermore, the incubators income is not necessarily positively related to the number of NTBFs in the incubator. In contrast, the largest part of their income is public funding, which is only indirectly related to the NTBFs. From the perspective of the policy actors incubators can be seen as a tool to develop NTBFs and regions. It is argued by Johannisson and Mönsted (1998) that the current existence of small firms is a precondition for further entrepreneurial activities in the region. This is also supported by the results found by Delmar and Aronsson (2001), which indicated that the more accepted it is perceived to be to start a firm the more will also be started. The incubator is therefore a tool to meet these challenges and is therefore given public support.

Due to the incubators’ large dependency on public funding the incubators need to look good in the eyes of the policy actors in order to gain increased income. The providers of public funding are usually interested in results on the macro level. The incubator needs to show that they are a good investment for the society. They show this through different calculations of generated tax money and incomes to the region both directly and relative to public investments. In other words, when brand-building the incubator, the decision makers of public funding make up an important target group in addition to other potential NTBFs and network members. Within the regional network the incubators are one group of actors but it is their interaction with NTBFs, universities and other actors that makes them valuable. Related to this, actors like incubators are seen as the glue in the regional network since they are linking different resources. Similarly, the university as a knowledge base is seen as a driving force in the creation of a regional network. The university affiliation is an important part of the customer offer as well as the incubator’s ability to obtain additional external resources. It is also used both as part of the knowledge base and deal flow. To be able to fully benefit from the relationship with the university the incubator has to gain legitimacy within the university. Similar to the providers of public funding the incubator also has to include the university in their branding strategies. The issues discussed in this section also make the incubator less geographically mobile and more dependent on the industries emphasized at the university.

Even though there in theory is competition between the different incubators many NTBFs apply to the incubator that is affiliated to the university at which the founders are previous students or where the idea has originated. However, it should not be forgotten that underpinning the ability to fulfill obligations towards the policy actors and universities is the development of the NTBFs. As described in the empirical section the delivery of the service of an accelerated development has many similarities with the service delivery provided in PSFs. During the interviews a wish to reduce the share of public funding was expressed. This was mainly done in two ways. Since the incubator fees, which were very low especially initially, did not cover the costs for the incubator program stock options were in some cases given to the incubator as part of the
contract. The final payment received will then be dependant on the success of the NTBF. Some of the incubators also sought board room representation while others only saw it as a monetary solution. Another way to obtain additional funding that is not as dependant on the success of the NTBFs is to provide additional services. The gathering of information about the NTBFs also result in an extensive statistical material that can either be sold as it is or accompanied by an analysis or evaluation. When delivered to universities, besides the one to which they are affiliated, or parts of the regional municipality or other local actors this can give incomes that extends the coaching time that has to be replaced when developing the material or organising the activity. In addition it may also be beneficial for the relationship building to the external actors to be able to deliver these additional services. On the other hand, it was also mentioned that these activities sometimes take the focus away from the core activities.

When thinking about the value creation of the incubator as two processes; the development of NTBFs and satisfying the policy actors, the key to success for the incubator is to be able to manage and operate both these processes simultaneously in a way that makes the two processes fertilize each other. Consequently, the incubator could then be seen as two PSFs in one where the pace of service delivery is very different in the two different processes since the development of the region is more of an infinite process. What this reasoning is trying to argue is that the actors are, in the same way as a consultant firm or a for-profit incubator would be to a stakeholder, so important for these incubators that they should be regarded as customers, since they in reality contribute more to the survival of the incubator than the NTBFs do, and consequently, the incubator has to cater for their needs. On the other hand, it is not for certain that the contribution to the survival necessarily makes an actor a customer. Simultaneously, it is difficult to find actors that are customers to incubators in the traditional sense, and Section 4.3 will therefore be devoted to this issue.

4.3. The incubator as a service provider—who is the customer?

The incubator as a firm has many customers or no customers depending on the viewpoint taken. This section discuss the roles of the NTBFs, the university, financial actors and policy actors with a focus on whether or not they can be seen as customers to a service firm.

The NTBFs are the basis of operations at the incubator as customers often are. However, they are not paying customers in the traditional sense since the incubators, besides the very small rents, are only paid for their services indirectly through return on investments that the incubator may have done in the NTBF, and the public funding they receive for the demonstration of a number of developed NTBFs. There is also a rather special type of deliverer–customer interaction between the incubator and the NTBF. Therefore, in order to receive the service, the NTBF is required to locate inside the incubator and encouraged to interact with the other NTBFs there, and when the period inside the incubator is over they have to move to another location and not return as a customer, i.e. they will never come back in the same shape again. Some NTBFs, when they become larger, spin-off ideas that return to the incubator to become a developed NTBF. The original NTBF can also, for example, attend a seminar or take a course at the incubator after they have moved out from the incubator to update or complement their knowledge when they further develop. This is viewed positively at the incubator, and some of them also design special courses for further developed NTBFs, for example, on the verge of getting introduced to a more global market. It is not only that these NTBFs can pay for these courses but this is also an opportunity for the incubator to remain in contact with the NTBF so that it can help or interact with the NTBFs that are currently in the incubator.

For the university the incubator provides the opportunity of commercializing research results so that the university does not need to organize this activity in-house. Furthermore, the incubator provides expertise on NTBFs that the university can use for research or teaching and the incubator also provides theses and employment opportunities for the students at the university. Conversely and simultaneously, the university can also be seen as a supplier to the incubator so that it is the incubator that is customer to the university. Then, the university can deliver knowledge in different "packages"; people, courses, industry advice, technical updates, ideas for potential NTBFs, etc. The incubator does not pay the university, and the university does not pay the incubator but what the incubator delivers to the university is often more or less a condition for what the university delivers to the incubator and vice versa. In relation to the university, there is also a greater possibility of speaking of the creation of a long-term customer satisfaction. Even though the same NTBF is not likely to return, it is very likely that the same department at the university will have more than one idea for a potential NTBF, and that they have knowledge that could be applicable to more than one firm.

For the financial actors the incubator provides a deal flow of potentially interesting NTBFs to invest in that they might not have heard about otherwise. Furthermore, the incubator decreases the information asymmetries between the NTBF and the potential investor by ensuring that they have been properly evaluated, and that the incubator will monitor the continuing development of the NTBF. These services decrease both the search costs for new firms and the perceived risks connected with the potential investments. The financiers do not pay directly to the incubator for these services but, through their investments in the NTBFs, they increase the likelihood of the successful development for the NTBFs, which in turn contributes to the return on investments and public financing received by the incubator.

For the policy actors the incubator provides an accelerated development of NTBFs. The incubator is also a tool for the policy actors to carry out their intentions. By reporting the results of the incubator in terms of return on investment measured by output such as employees, number of NTBFs and growth of NTBFs, it is also easier for the policy actors to demonstrate action taken towards their own superior authorities. The policy actors are important customers for the incubator since a large portion of the financing for both the incubator and the NTBFs come from the policy actors. However, it is the policy actors that have contributed to the founding of the incubators, and it is then the incubators that apply for funding from the policy actors rather than the policy actors demanding services from the incubator.

This section has discussed that there are relationships between the incubator and the other actors in which resources are exchanged and developed. However, the actors that receive the most resources from the incubator, the NTBFs, pay rather little and the policy actors that receive fewer resources in absolute terms pay the most. However, the actors will not remain in their relationships if they had not found them beneficial and indirect benefits are therefore probably of importance in the relationships where one party seemingly contributes more than the other. In the case of professional service firms, good customers are, as discussed earlier, not defined only by payment but also by in what way they contribute to the resource base in terms of for example knowledge. The definition of customers in relation to incubators will therefore be problematic since whether or not the actor and the incubator will be able to contribute to each other will be dependant on the other actors that the incubator has a
relationship with. And simultaneously, the incubators have no customer relationships in the traditional sense. As stated in the headline to this section the incubator can therefore have many customers or no customers when described as a professional service firm. Based on the discussion in this section an issue for further research would be to understand the power relationships in these relationships in order to shed light on whether or not the incubator resembles mostly to having a customer or being a customer in these different relationships and maybe even during different stages of the relationships.

5. Conclusion

When using the analogy of a professional service firm to describe an incubator the dimensions related to resources are highlighted. These dimensions are more specifically recruitment of NTBFs, knowledge workers, service delivery and resource base. These dimensions are intertwined as they all contribute to the improvement of each other in terms of access and ability to utilize. As the dimensions are improved so is also the incubator since the increased complexity of the resource base will also make it harder to imitate.

However, it is not clear who is the actual customer of the incubator. It was discussed that the incubators create value both by serving the NTBFs but also by serving the policy actors since these provide the majority of the funding. Moreover, these two processes are related since they are both dependent on the successful development of NTBFs but it is still argued that it is the ability to manage these processes simultaneously so that they fertilize each other that is the key to the success of an incubator. Furthermore, the discussion above showed that the incubator can have more customers than the NTBFs and the policy actors or even no customers, depending on the view taken. As was seen with regards to all suggested customers, it is not the traditional supplier/customer relationship of buying and paying. It is also possible, as in the case of the university, to argue that it is instead the other way around, so that it is the incubator that is the customer. A common denominator however, is that the incubator mobilizes resources on behalf of these actors, and is simultaneously dependant on these actors to be able to do so.

Mobilization is an important issue related to incubators since many of the resources are never transferred to the incubator. Instead, they remain in its original organization until they are needed. However, if the incubator is able to mobilize the resource it is still seen as a part of the resource base of the incubator when viewing the service delivery of the incubator. When using this analogy an important issue of future research for the improvement of incubators is to identify, and learn how to manage, the resources, most likely capabilities, within the incubator that determine its ability to mobilize resources. Ability related to this issue includes both the access and utilization discussed in relation to the dimensions but also to be able to do it in a more customized and efficient way than alternative organizations.

Another related issue is the distribution of responsibility resulting from using this analogy. As seen in the model the NTBFs are comfortably situated within the incubator that serves almost like a filter for them towards the outside world rather than integrating the NTBF in the surrounding environment. Consequently, the incubator is largely responsible for the growth of the NTBFs. Similarly, towards the other possible customers, the incubator is responsible for delivering services in order to ensure that resources can be mobilized in the future. Since the issue of customers is problematic it might be better to consider the actors as stakeholders that have different interests in the incubator that also change over time. The focus would then be on the interaction between the incubator and the different stakeholders in order to produce a positive outcome for all. The capabilities for increased innovation might then possibly be found outside the incubator and then we have yet to identify the role of the incubator in these interactions.

References


