

# Unpacking Incubation Elements and Management Practices

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## Abstract

This paper follows upon a request for process oriented research that investigates incubation via an understanding of management practices and interactions. Going beyond other studies, this paper assesses affiliation with eight elements that underpin the commercialisation of tenant businesses, as recognized by Patton et al. The rationale behind this model is that intangible elements are the true contributors of value for tenants.

By means of a multiple case study we conclude that, despite that the intended values are generally of importance, the articulation of the model is cumbersome and therefore not very useful to comprehend the incubation process. We divide their elements into three categories: 1) elements that respondents identify with, 2) elements that respondents do not identify with, and 3) elements that are cumbersome. To unpack the cumbersome elements we suggest alternative formulations, being an *on-going tailor-made management advice and assistance* and *support with funding*.

## Keywords

Incubation process, Unpacking incubation elements, Management practices.

## 1. Introduction

Business Incubators (BIs) guide starting entrepreneurs through their development process and thereby constitute a strong instrument to promote innovation, entrepreneurship and economic growth [2, 11, 15, 21]. Because only few starting ventures make it through their early stages of development, the need to increase their population became a focus point for policy makers [6, 10, 21], inducing a substantial increase in public and private spending on BIs [38, 41]. This led to a vast increase of the population of BIs, to an estimated worldwide population of 7.000 nowadays [34].

BIs support new technology-based firms [3], -denoted as tenants, for co-location often is prerequisite [6]-, that consist of entrepreneurial individuals or teams in the process of setting up their business [42]. Due to their technological backgrounds they often have limited experience of business and its context [37]. They lack the competencies and knowledge required to operate a business, such as knowledge about marketing, accounting, financial and human resources [10, 41, 47]. To overcome these liabilities, BI support services try to make tenants aware of their inexperience, facilitate their ability to acquire appropriate knowledge and help to integrate this knowledge into the business context [37].

Rice [41] points to the importance of the relationship between the incubator manager and tenants and concludes that BI manager's skills in determining the timing and frequency of business support is crucial to the business development process [41, 52]. Each tenant is likely to require a different mix of support components, for individual needs will vary from tenant to tenant depending on the configuration of factors such as their experience base [22]. In dealing with these needs BI management helps, for instance via coaching [36] and co-productive management support [41], to accelerate the learning curve, and thereby the development/innovation process [10].

Altogether, this line of research is based upon the notion that intangible elements in the incubation process are the real contributions a BI makes [11, 21, 36]. It is therefore of concern that the extensive body of BI research up until now has focused upon the outcomes of the process, like income generated, jobs created and survival rates of tenants, rather than on these intangible elements [21, 33, 36]. On the basis of their 2004(b) review Hackett and Dilts [21] argue that there simply is too little evidence about BI managers' practices and how they contribute to tenant development [6, 21, 24, 36, 38, 41, 42]. Such an understanding is necessary to develop the capabilities of BI management, thereby raising quality and the industries' standards in management, policy and practice [23]. Hence, there is a need for process oriented research that investigates incubation via an understanding of management practices [6, 21, 23, 24, 36, 41, 42].

Using this as a starting point, Patton et al. [36] tried to extend the literature on the contents of the incubation process, by searching for elements that underpin the commercialization of tenant businesses [36]. In doing so, emphasis was put on the relationships that form in the incubation process, for instance between the manager and tenants. Their results, based upon a single case study, constitute a model of eight elements that underpin the incubation process [36]. This model seems promising for it captures intangible elements that have not been distinguished as such before, like *developing commercialisation skills in new business teams*. Nonetheless, some explanations of these elements remain unclear.

This paper contributes to the literature by means of a multiple case study and assesses whether the elements found by Patton et al. [36] are identifiable in other BIs. Besides testing the affiliation of BI managers and tenants with these elements, we also try to unpack the management practices that underlie these elements, for Patton et al.'s [36] descriptions remain a bit vague.

The paper is organized as follows: In section 2 the underlying theoretical constructs are clarified by means of a literature review. Section 3 describes the methodologies used to collect and analyse information. Section 4 presents the findings. Finally, section 5 presents the conclusion. Opportunities for future research are discussed within this section as well.

## 2. Literature Review

Although researchers have not reached consensus upon a single definition for BIs [6, 21], commonalities can be found within the literature that give an insight into the concept and its content [40]. In the BI context incubating refers to a 'controlled' environment wherein tenants are nurtured/hatched [2, 38]. A BI is the producer of business assistance programs that are meant to create value and learning opportunities for tenants, within this 'controlled' environment [41].

Scholars [6, 8, 10, 21, 25, 36, 41] recognize four components of assistance that generally are provided by BIs: 1) *infrastructural support*: available office space which can be rented under favourable conditions [6]; 2) *shared overhead resources* such as reception, parking space, availability of meeting rooms [10]; 3) Knowledge based *business support services*: such as coaching, training, attracting finance and business plan writing support [10], and 4) *networking possibilities*: an internal network of likeminded tenants and an the BI's external network of professionals [25, 42].

In their 2009 publication, Patton et al. [36] tried to extend the literature on the content of the incubation process, by searching for elements that underpin the successful commercialization of tenants' businesses [36]. This line of research originates in Campbell et al.'s 1985 publication [11], which introduced a model containing four added values a BI offers to tenants. This model suggests that BIs deliver added value through the provision of intangible elements, such as *diagnosing and evaluating tenant needs* and *access to an expert network*, rather than through infrastructural support [11, 36]. Patton et al. [36] build on this line of research, by taking contributions into account that follow from relationships that form within a BI, as between BI managers and tenants; among tenants; and between tenants and the external network [36].

The research they conducted was a single case study based on the high-tech BI of the University of Southampton, UK. Their findings resulted in a model of eight elements that underpin the commercialization of tenant businesses throughout the incubation process (Table 1) [36]. Because the explanations by Patton et al. are not always clear they will be elaborated considering additions by other researchers as well. The elements will be discussed subsequently.

**Table 1 Elements that Underpin the Incubation Process [36]**

1	A quality 'pipeline'
2	Picking winners
3	Monitoring and evaluating progress
4	Developing commercialisation skills in new business teams
5	Creating synergies within the internal support network
6	Building and maintaining an effective external support network
7	Access to appropriate funding streams
8	Managed exit

### **2.1 A quality 'pipeline'**

Reasoning behind a quality 'pipeline' within a BI [36] is that a steady flow of new tenants has a positive effect on the goings of the BI. For it focuses the attention of current tenants on their own work, thereby pushing the pace of their commercialization agenda so that chances of finding technologies with clear market potential increase [36].

Furthermore, a steady flow of new tenants also has a positive effect on the interest and enthusiasm of the external network. The primary reason why the professionals in the external network are sharing their experience with the BI is their eagerness for promising and exciting business proposals [36, 40]. A steady flow of such proposals will keep these professionals interested to be involved. In Patton et al.'s research participants acknowledged that the flow of new firms into the incubator was rather slow [36].

### **2.2 Picking winners**

Picking winners comprises the selection of high potential tenants only, whose ideas have a high potential for commercial application, growth or market success [2, 21, 36]. The selection of tenants and the associated entry criteria are an essential element in the incubation process [3, 10]. Literature on BI selection assumes that there are many potential tenants to choose from, creating the challenge of attracting a sufficient number of 'winning' applicants [3]. The reasoning behind the value of this element is that by selecting high-potentials, time and resources are devoted to the right initiatives, rather than to less promising business plans/entrepreneurs. Ideal candidates are likely to be judged on criteria such as technology focus, innovative products, high growth potential [3, 10], characteristics of the tenant's market and his capabilities [2].

### **2.3 Monitoring and evaluating progress**

Monitoring and evaluating progress through real time feedback helps to contain downside risk for tenants, by preventing them from making costly and potentially terminal business mistakes [20]. This element is further highlighted by Hannon's statement that "*it is the managers ability to communicate, understand problems and resolve any tensions, and at the same time be a good listener and be able to give worthwhile advice, that will make the difference between a successful operation and one that is mediocre*" [11, 24, p.52].

The relationship between the manager and tenant can be reinforced within the processes that monitor and evaluate performance/capabilities [36]. Rice [41] recognizes three strategies for this to take place: 1) reactive and episodic: the tenant requests counselling effort; 2) proactive and episodic: proactive management involvement on an episodic basis; and 3) continual and proactive: on-going review of developmental needs [41]. In Patton et al.'s study monitoring and evaluation was organized through informal interactions with the BI manager, and through formal business review panels [36].

Hackett and Dilts [21] consider tenant drop-out during the incubation process to be a non-successful outcome of the process. However, if termination takes place in such a way that losses are minimized, it can also be seen as a useful strategy [36]. In the Southampton BI review panels are to weed out tenants that, according to them, are not in the position to achieve their goals [36].

### **2.4 Developing commercialisation skills in new business teams**

The following quote highlights the idea behind the next element: "*the problem of getting a bunch of very technical academics turned around and focused towards all the issues involved in starting a business isn't easy, they want to start one, but had no feeling of what starting one meant or was*" [36, p.627]. Due to their technological backgrounds tenants often have limited experience of business and its context [37], so they lack competencies and knowledge required to operate a business [10, 41, 47]. Hence they might need help with matters such as marketing issues to be able to understand their future customers, or at what price customers would be willing to buy their products [42]. To overcome these liabilities BI support services try to make tenants aware of their inexperience, facilitate their ability to acquire appropriate knowledge and help to integrate such knowledge into the business context [37]. Hereby managers stimulate tenants to develop their commercialisation skills.

One difficulty within this element is that sometimes tenants fail to see the need for external assistance, and mistake support for interference [6, 36]. "*Allowing others to have influence and control over something I had created was difficult but the hardest part was realising how poor I was at the business side of things*" [36, p.629]. This quote shows that it can be hard for tenants to come to terms with sharing control [6]. Tenants might perceive too much formal intervention as interference, whereas too little involvement questions the value of the BI [36]. Managers should be aware of this, and be on their guard for losing balance.

### **2.5 Creating synergies within the internal support network**

"*An important aspect of the value-added contributions of a BI is seen in its potential to foster cooperative interactions and synergies between the firms in-house*" [45, p.486]. Value is created because tenants, from similar industries and facing similar problems, learn from each other's experiences. Co-location enables this transfer of information, knowledge and experiences among tenants, as well as with the BI manager [25, 36, 42]. One task of the management lies in the recognition and deliberate encouragement of possible synergies among them, enabling shared learning [11, 42].

Remarkably, Patton et al. [36] found that, while meeting with like-minded individuals was given as a main reason for joining a BI in advance, after admission tenants do not endorse the value of internal networking [36]. Argumentations such as protecting intellectual property and restrictions in time/opportunities were mentioned to cause this shift in tenants' attitudes. However, the statements made by an external support professional that "*tenants do talk with each other*" and just "*one collaboration could be the catalyst*" indicated that the internal network was still perceived to be of (some) importance [36].

### **2.6 Building and maintaining an effective external support network**

Tenants are often in a disadvantageous position when it comes to acquiring resources, because they suffer from a phenomenon which is called 'liability of newness' [21, 45]. New ventures lack a track record, therefore they are less trustworthy and have more difficulties with attracting funds/resources

[21, 25]. Tenants benefit from being associated with the BI [48], and via networking [10], as they experience legitimacy in the marketplace [10]. Thereby developing their credibility [21, 45, 48], which in turn has a positive impact on their chances for survival [10].

External BI networks include organisations such as universities, industry contacts and professional service providers like lawyers, accountants, consultants, marketing specialists, etc. [21]. Knowledge acquired via this network is of a known/proven value [25], enabling a shortened learning curve [21], at little cost of uncertainty [26]. Examples of such knowledge are information on competitors or potential customers [37].

Via external networks, managers can make contributions to technological developments, by brokering between tenants and experts [41]. These are contributions that BI managers often cannot make themselves, because they lack a detailed understanding of tenants' technologies [24]. "*Therefore, developing and managing a networking infrastructure is a critical function of the BI*" [41, p.176]. As external networks enlarge the tenants' opportunities to learn, exploit knowledge, and to obtain access to resources [25, 42] and know-how [5]. In order for tenants to benefit from the network BI management has to fulfil an essential bridging function between tenants and experts [8, 24, 48].

### **2.7 Access to appropriate funding streams**

Attaining an appropriate level of investment is challenging for tenants, because substantial investments are usually required prior to revenue generation [32]. Campbell et al. [11] stressed the importance of venture capital for BI tenants. A lack of financial resources is one of the main barriers for high-tech SMEs [10]. BIs can support both by making tenants investment-ready [36], and by providing contact with early stage investors such as business angels or venture capitalists [10, 21]. Next to funding, venture capital investors also play a role in professionalizing tenants, by supervising tenant activities to ensure their own investments [10].

### **2.8 Managed exit**

The idea behind a managed exit is to prepare tenants for an independent, self-sustained future [25, 36]. After their stay they will continue their operations, and will have to count on their own capabilities. The moment of exit from the BI should be prepared for in order to prevent uncertainty [36]. The director in Patton et al.'s research indicated that uncertainty could be reduced by interacting with graduated BI tenants. But there are other ways in which managers can prepare tenants for graduation, for instance help in searching for new residence.

Bruneel et al. [10] stress the importance of a timely graduation to guarantee an adequate turnover of tenants. A frequent policy to stimulate tenant graduation is an incremental increase of the rent [10].

Now that Patton et al.'s elements that underpin the commercialization of tenant businesses are familiarized, the following section will explain the methodology as to how these elements are assessed in this research.

## **3. Methodology**

"*Case study is a research strategy in which the researcher tries to gain a profound and full insight into one or several objects or processes that are confined in time and space*" [51, p.178]. In this research a multiple case study has been performed in which each case has been treated as an independent experiment [54]. Following the typology of Thomas [49], the type of case study that describes this research is one in which *key cases* are the subject(s) of the research. The subject(s), meaning the institutions selected to provide information, are BIs. The 'key-ness' of a case manifests itself in its capacity to exemplify the object of inquiry [49], so the BIs in the sample are key cases because they provide examples of what is of importance throughout the incubation process. The related research object, the frame of analysis within which the case is viewed [49], is therefore formulated as *the valuable elements that are of importance throughout the incubation process*.

The research tries to increase the understanding of a broader issue, rather than focusing on a particular situation, therefore the purpose of this case study is *instrumental*. A second purpose of the research is to be *evaluative*. This type of case study is used to describe an intervention or phenomenon and the real-life context in which it occurred [4, 54].

The next component in Thomas' [49] typology relates to the approach of the study. Firstly, this approach is *testing a theory*. This research tries to assess whether the elements in the Patton et al.

model [36] are of importance in the assted BIs. The second approach of this research is to *build a theory*, or rather to contribute to the development of theory, in order to unpack components of the incubation process and enhance understanding.

The last component of Thomas' [49] typology, process, is configured as a *multiple case study*. Since the cases are being studied concurrently, the process is a *parallel case study*. The process-wise procedure enables parallel collecting of information.

### **3.1 Data collection methods**

Information was collected through semi-structured interviews, in which a list of questions (see Appendix) was combined with the flexibility to ask additional questions. Interviews took place in two rounds. The first round targeted questions in general, in the second round we added a focus on specific issues. After the interview, if permission was granted, a survey was sent to tenants. This was done to triangulate the information collected in the interviews.

The interview questions allowed for different response options, such as percentages, numbers or multiple choice answers. Some questions were using Likert scales from 1 to 7, where 1 is strongly disagree with the statement and 7 is strongly agree with the statement. In order for the interviewees to express their views in their own words the respondents could at any time during the interview elaborate upon the topic as they pleased. Besides closed questions there were also a few open-ended questions asked.

The choice for a majority of closed-ended question was made for several reasons, one being that this would ease the repetitiveness of the interview, as well as the comparability of the information that was gathered. Another reason for using closed-ended questions was that addressing all the issues as open questions would be very time consuming.

In order for the interview questions to 'fit' to BI jargon and context, suitable interview questions were sourced from a study performed by the CSES [12]. This study was commissioned by the European Commission, aiming to benchmark European BIs. Remarkably none of their respondents was Dutch. Measures for Likert scale questions were mostly sourced from a study by Hughes et al. [26], and were revised to account for context where needed.

Before respondents were approached, a pre-test interview was conducted with a BI director. After this pre-test three questions were deleted and a few minor revisions were made in the formulation of other questions.

### **3.2 Interview protocol and analysis**

In the initial protocol interviews were conducted face-to-face at the respondent's worksite. At the start the respondents were given a copy of interview questions so that multiple-choice and Likert-scale questions did not bother the pace of the interview.

Multiple potential respondents expressed a strong preference for the interview to take place per telephone, as for time limitations combined with an expressed "*quantum of research requests*", therefore the decision to deviate from the initial protocol was made. In the second protocol interviews would take place per telephone. For convenience the Likert-scale and some multiple-choice questions were sent and returned by email afterwards. Out of the final set of respondents (Table 2) twelve interviews followed the original protocol, the three remaining interviews were conducted by telephone. One respondent provided information by email solely. The interviews lasted between 45 and 65 minutes. All respondents agreed to be audio-taped. These tapes were used for transcription to enable detailed analysis. The language of the interviews was either Dutch or English, depending on the interviewer.

The final question of the interview asked for permission to approach tenants. If permission was granted the survey was sent to these tenants, either via the BI manager or directly. A total of 48 tenants filled out the survey.

To start the analysis the transcribed interviews were encoded with SPSS. Averages and standard deviations were calculated where appropriate. The answers to the open ended questions as well as the data in the SPSS file were analysed in a qualitative manner. Interpretation of the answers, combined with an interpretation of the documents that were provided by the respondents, provided more in-depth information. In the end these findings were verified by the answers given in the survey.

### 3.3 Selection of cases

BI managers were interviewed to collect information. These managers were selected on the basis of the characteristics of their BI, rather than on the characteristics of individuals. A prerequisite for the BIs was that their tenants are operating in knowledge intensive industries, such as life sciences, space technology, energy and bio-industries. Table 2 shows the list of BIs that were consulted, divided into the varying BI types as recognized by CSES [12]. These types are distinguished to account for variety in the BI population. For practical reasons all respondents are Dutch.

**Table 2 List of Cases**

<b>Business and Innovation Centre</b>	<b>University Business Incubator</b>	<b>Science/Technology Park Incubator</b>	<b>Specialised Incubator</b>	<b>Virtual Incubator</b>
<ul style="list-style-type: none"> <li>• Dok41</li> <li>• Mac3Park</li> <li>• Tilburg Innovation Centre</li> </ul>	<ul style="list-style-type: none"> <li>• Biotech Centre/Triade Group</li> <li>• Erasmus MC Incubator</li> <li>• Starterslift</li> </ul>	<ul style="list-style-type: none"> <li>• Kadans Biofacilities</li> <li>• Mercator Incubator</li> <li>• Matrix Innovation Centre</li> </ul>	<ul style="list-style-type: none"> <li>• BioPartner Leiden</li> <li>• BioPartner Maastricht</li> <li>• Dutch Game Garden</li> <li>• ESA Business Incubation Centre</li> <li>• Greenhouse</li> </ul>	<ul style="list-style-type: none"> <li>• StartLife</li> <li>• VentureLab Twente</li> </ul>

### 3.4 Validity and reliability concerns

Case studies enable a researcher to study phenomena in a real-life setting, where boundaries between context and phenomena tend to be blurred [47]. The natural science model is the most common model to ensure the rigor of case study research [16], as to overcome these blurred boundaries. It divides these boundaries in four criteria: construct validity, internal validity, external validity, and reliability [16, 54].

Construct validity deals with establishing correct operational measures for the concepts being studied [54]. In the case of this research it was met by the operationalization of the theoretical concepts, which had partly been performed by CSES [12]. Using questions that had been formulated and used for this benchmark study increased the credibility of the research. The same holds for the Likert scale questions, since the formulation of these statements had been developed by Hughes et al. [26]. A pre-test interview also strengthened the construct validity.

Another positive contributor to the construct validity is the triangulation of sources. The use of interviews and a survey to collect information enabled us to look at the cases from multiple angles. The fact that not all interviews were conducted following the same protocol has a negative influence on the construct validity of this research.

Internal validity deals with establishing a causal relationship, whereby certain conditions are shown to lead to other conditions, as distinguished from spurious relationships [54]. Methods to increase the internal validity of a research are pattern matching, explanation building, and addressing rival explanations or using logic models. Since the interview respondents did not belong to the same BI, different viewpoints on the topics of interest have been expressed. Rival explanations will be discussed in Section 4.

External validity deals with establishing the domain to which a study's findings can be generalized [54]. Due to the scope of the research and time constraints the results are based on sixteen interviews, only one interview per BI. Besides that BIs are context specific institutions [25]. Therefore the generalizability of the findings of this research does not allow for a statistical generalization [49]. Analytical generalization denotes a process that refers to the generalization from empirical observations to theory, rather than a population [16, 54].

Reliability deals with demonstrating that the operations of a study, such as the data collection procedures, can be repeated and then lead to the same results [54]. Reliability can be improved by using case study protocol and developing a case study database. For the purpose of this research a case study protocol was developed, but due to respondent preferences we had to deviate from the protocol. This has a negative influence on the reliability. Taping the interviews, using a standardized list of interview questions and converting this response into a transparent encoding enables an easy replication of the research. This is a positive contributor to the reliability of the research.

Now that the methodologies used to collect and analyse information are described, the following section will present the findings of this paper.

## 4. Findings

Table 3 displays key performance statistics from the CSES benchmark study [12]. When comparing their averages and suggested benchmarks with the findings of this research, it shows that the respondents in this study are in accordance with these statistics. Although the number of management staff is relatively high, the sample is deemed to be illustrative for the BI industry on the basis of these scores.

**Table 3 BI Benchmarks and Averages**

	<b>Average from CSES</b>	<b>Benchmark</b>	<b>Average from Sample</b>
Incubator Space	3000 m <sup>2</sup>	2000-4000 m <sup>2</sup>	4735 m <sup>2</sup>
# BI Tenants	27	20-30	25.8
Occupancy Rate	85%	85%	87.6%
Length of Tenancy	35 months	3 years	2.9 years*
# Management Staff	2.3	2	3.4
Ratio BI Staff : Tenants	1:14	1:10-1:20	1:12
Percentage of managers' time advising tenants	39%	50%	38.7%
For-Profit : Non-Profit BIs	2:8	x	3:8

\*One outlier case was excluded here, for some specialist BIs have longer product development lead times [12].

When examining these benchmarks it shows that four out of the five largest BIs in the sample are operating for-profit. So it seems that for-profit BIs have more acreage. This might also influence the slightly higher average BI space in the sample, in comparison to the benchmark.

It is noteworthy that this was the only clear difference between for-profit and non-profit BIs. There were no differences to be found between the BI's objectives, years in business, BI type nor services provided between non- and for-profit BIs.

The most common BI objective is *to contribute to competitiveness and local job creation* [12], respondents in this sample also gave this as an answer. The second most important objective is *to help universities/R&D centres commercialise know-how*, the choice for this is larger in the sample than in the CSES report. Only one respondent mentioned *profit* as an objective, as another one explains: *"I would love to merit tons of money, but reality is different. Incubators will not make profits themselves. We do offer value, by selling knowledge and contributing to the developments of the region, and at the end there are some cents for us left, but no large profits."*

Besides enabling for checking the information gathered in the BI manager interviews, the survey also enables a ranking of the services that are deemed important by tenants. A list of thirteen services that might be provided by BIs was proposed to tenants (Table 4). When looking at their response, access to a network is valued most, with an average score of 5.5 (where 1=*not important* and 7=*very important*). The second and third most valued services both comprise access to financial resources.

**Table 4 Tenants' service preferences**

<b>Service</b>	<b>Tenant Ranking</b>	<b>Average Tenant Preferences</b>	<b>Percentage of BIs Offering the Service [2]</b>
Networking, e.g. with other entrepreneurs, potential customers	1	5.5	88%
Help with raising bank finance, grants, seed and venture capital	2	4.5	79%
Incubator seed/venture capital fund, business angel network	3	4.4	48%
Mentors, board members and other senior advisers	4	4.3	x
Accounting, legal and other related services	5	4.2	51%
Support business planning and forming a company	5	4.2	86%

Pre-incubation services	6	3.6	68%
Advice on development of new products and services	7	3.5	61%
Market research, sales and marketing	8	3.3	53%
Training to develop business skills	9	2.6	x
Help with exporting and/or partner search abroad	9	2.6	52%
Advice on recruitment of staff and personnel management	10	2.4	39%
Help with e-business and other aspects of ICT	11	2.2	54%

The last column of Table 4 indicates the percentage of BIs that offer this service to tenants, these results were generated by Aerts et al. in a European study surveying 140 BIs [2]. This shows that the most valued BI services are indeed provided by the majority of BIs.

In our own sample BIs indicated to be able to provide nearly all of these services, either in-house or via the network, if there was a perceived need to do so. The least offered service in our sample was *giving advice on recruitment of staff and personnel management*, which was still offered by a majority of BIs.

Now the general findings are presented the following sections will present the findings considering the perceived importance of the elements that, according to Patton et al. [36], underpin the incubation process. Herein we reclassify these elements into three categories: 1) elements that respondents identify with, 2) elements that respondents do not identify with, and 3) elements that are cumbersome.

#### 4.1 A quality ‘pipeline’

Considering the first element, a quality pipeline, seven of the BI managers indicated that they are content with the current flow of tenants, flow being the entire stream of tenants in the incubation process (inflow, throughput, outflow). One manager explains that *“if I want to help more companies, that costs more. We need some financial stability and therefore we don’t want the flow to be too fast.”* Four managers indicated that their flow could go faster, one of which said that time was the limiting factor to actually make this work. Overall it seems that having a stable flow is the target, for this enables BI sustainability, but an added value for tenants could be exhibited from this element.

Tenants did not experience a fast flow of tenants coming nor leaving the BI. On top of that they are rather negative towards increasing the flow of new tenants, for they reasoned that the outflow of tenants should depend on the tenants themselves. According to them there is no need for the BI manager to intervene by hurrying/slowing down a tenants’ developmental processes for the sake of the BI. On the basis of the above we assign a quality pipeline to the group of cumbersome elements.

#### 4.2 Picking winners

Picking winners requires selection procedures to find tenants with the highest potential [36]. Selection procedures vary per BI. Some BIs solely have intake meetings, mostly between the potential tenant and the director. In other BIs selection is more comprehensive: in five BIs, potential tenants have to present their business plan to a selection committee consisting of representatives from finance, knowledge institutions, large companies, entrepreneurs and innovation experts. In one BI this committees’ judgement is decisive, so the manager does not have a say in tenant admission. When external organizations are involved in the selection procedure more selection criteria are considered. However, the BIs that have external organizations in the selection committee have an average admission-percentage of 43%. This is not so different from the total samples’ admission-percentage of 43.8%. Thus external selection committees are not necessarily more rigorous.

It varies per BI which criteria are of importance throughout the selection procedure. The criterion that is considered of importance by most BIs is that the *business must have an innovative project*. For specialised BIs it comes as no surprise that tenants should *operate within the BIs’ domain*. *Finance must be in place* is not an important selection criterion.

In relation to *picking winners* one of the BI managers made the remark that *“if it were possible to select the best business plans then this BI would no longer need to exist. For the potential of a*

*business plan is always connected to timing and the current economic situation, it is therefore impossible to make a definite judgement to decide which business plan is the best one". One contradicting remark is that it is necessary to properly assess tenants before allowing them entrance, for the BI is sponsored with public money. "This comes with the responsibility to make autonomous and sensible decisions."*

In general, the BIs in this research do practise selection procedures to judge tenants before admission, but they are not judged on being a *winner*. Expressions as "*can the tenant be a showcase for the incubator*" and "*we assess whether these individuals have what it takes to be an entrepreneur*" indicate that potential tenants are selected on the basis of their fit to the BI and their abilities. Potential is certainly considered hereto, but more as to indicate possibilities, rather than to select the 'most successful' entrepreneurs. One manager acknowledged this by saying that "*an incubator gives you the idea to let the entrepreneurs with the highest potential come to us. We will offer them so much services and we will pamper them so much with help and money that they can only be successful. Such an attitude attracts a certain kind of entrepreneurs, one that I don't want here. I prefer the ones that come here and say: I can do this and I will, over the ones that come here to be pampered and want me tell them what to do.*"

#### **4.3 Monitoring and evaluating progress**

We found that monitoring and evaluating tenant progress is practised, and mostly takes place via informal meetings. The way of management to keep in touch with tenant proceedings mentioned by all respondents was *proactive and episodic*, which comes down to counselling by walking around [41]. Formal meetings are less frequent than informal ones, and do not take place in some BIs. Formal meetings take up different forms, such as half-yearly progress reports or interviews, but none of the BIs use review panels involving external parties. So, in contrast to the selection procedure, no external parties are mentioned to consult failure in the incubation process.

Respondents indicated that it is hard to put a time frame to the occurrence of informal and formal meetings, because it varies throughout the incubation process. New tenants need more guidance than tenants that have been working in the BI for two years, so the amount of meetings decreases over time. This confirms a customized way of organizing support.

When asking for the most important management function, the majority of BI managers choose *providing advice and assistance to tenant companies* as meaningful. On average they spend 40.6 % of their time to this task.

Along with this some BI managers participate in setting a clear business agenda for tenants. In a few cases such business plans may include a time schedule as to when specific objectives will have to be accomplished. Independently from involvement in planning, managers indicate that if tenants do not manage to achieve their goals (in time), the majority of BIs will come to a point where the co-operation is ended. Closely connected to this is that a large majority of the managers considers failure of a tenant to be *a part of the process*, rather than a negative event.

#### **4.4 Developing commercialisation skills in new business teams**

The managements' view on the next element, developing commercialization skills in new business teams, is that the managers' role is of mediocre importance. Theoretical reasoning behind this element is that tenants, being technical experts, have limited experience of business and its context [41, 47]. BI managers could make contributions here by training/coaching tenants in the process of getting to the market [10]. In reaction one BI manager highlights the notion that he is not a teacher, "*I do not have the skills to really teach skills, but I can point to where they should look for, and arrange meetings with professionals.*"

Tenant response on this element varies from "*I can always spar with the manager about new ideas*" up to "*the management is not involved in this, and doesn't need to be.*" This also indicates a customized way of organizing support.

Based on these findings we question the extra value of the element 'developing commercialisation skills in new business teams'. It does make sense that some tenants have limited experience of business and its' context [37], but in that sense support in developing commercialisation skills can be just as valuable for one as support with business planning or personnel recruitment for another. It totally depends upon the particular tenant, his capabilities and needs. Therefore the real value of this

element lays in a customization of support, something that follows upon monitoring and evaluating a tenants' needs (over time).

Therefore, from a theoretical notion, it is suggested that Patton et al.'s elements *monitoring and evaluating progress* and *developing commercialisation skills in new business teams* should not be treated as separate elements. Instead, to capture these elements together we suggest that *on-going tailor-made management advice and assistance*, provided that, in order to be able to give tailor-made advice an on-going monitoring and evaluation of progress is required, is a better representation for the intended value of the relationship with the BI manager.

To not lose track of the notions such as that tenants might need support in developing commercialization skills, a checklist can be developed consisting of needs that are of frequent occurrence. For example, one of the interviewed BIs indicated that tenants had to participate in an entrepreneurial assessment in order for the BI manager to estimate their capabilities. Standardizing (and formalizing) such practices can improve and ease the managements' job in tailoring advice and assistance.

#### 4.5 Creating synergies within the internal support network

The next element, creating synergies within the internal support network, is confirmed to be of importance by all BI managers. Table 5 displays the average management scores for the given statements, where 1=strongly disagree and 7=strongly agree. Table 4, at the beginning of this chapter, already showed that networking in general (both internal and external) is highly valued BI tenants. This contradicts the work of Patton et al. for their tenants were not so positive about internal networking.

It shows that the internal network is frequently used for the exchange of information and experiences, so tenants do experience shared learning. BI managers also encourage tenants to participate in this kind of networking and to share their own experiences. This endorses the importance of creating synergies within the internal support network.

**Table 5 BI manager networking views and practices**

List of Statements	Average	Standard Deviation
1. Exchange of information and experiences takes place frequently and informally among members of the incubator	6.13	0.99
2. Our tenants experience shared learning with some of the other businesses in the incubator	5.13	1.25
3. I encourage tenants to learn from and share experiences with each other	6.13	0.64
4. Our tenants learn a great deal from the members of the businesses external network	5.63	1.06
5. I encourage tenants to learn from external individuals/organizations	5.75	0.89
6. If a tenant experiences a problem that I cannot help to solve, I mostly bring him in contact with a professional within the network	6.36	0.52
7. If a tenant experiences a problem that I cannot help to solve, I mostly tell him to discover a solution by himself	2.75	1.58
8. Tenants tent to hang on too much to the incubator's network	2.75	1.49

#### 4.6 Building and maintaining an effective external support network

Managers can make contributions to technological developments via external networks, by brokering between tenants and experts [41]. BI managers stated that tenants do learn a great deal from the external network, and BI managers encourage acquiring knowledge via this route (see Table 4). When it comes to problem solving tenants are connected to the external network rather than that they are pushed to find a solution for themselves, as one manager stated: "*why on earth would you make them reinvent the wheel themselves?*"

#### 4.7 Access to appropriate funding streams

All BIs indicate to be in contact with multiple organizations, such as business angels, venture capitalists and local institutions, in order to attract finance for tenant investments. Also informal investors are mentioned, "*they are former businessmen that invest amounts between the 100,000 and 600,000 euros. We also have some contacts with larger players, and they say to be interested, but*

*when it comes down to it they back off because they find the projects too small.*” Only one BI in the sample actually takes a share in tenants itself. The survey indicated that access to funding streams and help with making the tenants investment-ready is highly valued by tenants.

Despite the fact that this element is perceived to be valuable, we categorize it in the group of cumbersome elements. This is because actual access to appropriate funding streams takes place via the BIs network, so boundaries between these two elements are blurred, and therefore cumbersome and cluttered. To better capture the value underlying this element we suggest the simple formulation of *support with funding*.

#### **4.8 Managed exit**

According to Patton et al. the moment of leaving the BI should be prepared for in order to prevent uncertainty [36]. The somewhat hesitant response by the BI managers indicated there was no real concern for this element. Most of the BI managers do not know for how long a tenant will remain in the BI. Only four BIs work with a fixed time of stay for tenants, but indicate to be flexible when tenants have reached these time slots. So the managers find renting for a fixed period of time to be a non-important exit criterion. The only exit criterion that is recognized as influential for leaving the BI is a need for extra (office) space. The majority of managers indicate not to help tenants prepare for leaving the BI.

It also varies per BI what a tenant should have accomplished before being ready for graduation, in most cases this is not strictly specified. The common tendency is that tenants should be able to make the next step as to sustain business, so their business should be viable. But it differs per tenant how this is determined/evaluated. Some achievements that are mentioned as requirements for a tenant to be ready for graduation are for a tenant to have its first customers, or that he made sure his technology is patented.

Now that our findings have been presented and interpreted the following section of the paper will conclude upon our research. Opportunities for future research will be elaborated upon at the end of this section as well.

## **5. Conclusion**

Following a request for research that investigates incubation via an understanding of management practices and networking interactions [21], we extend prior research that holds intangible elements to be the foremost contributors to the incubation process [11, 21, 36]. As a starting-point for this research we evaluate the model of Patton et al. [36], which consists of eight elements that underpin successful commercialisation of tenant businesses in the incubation process. We complemented these elements by means of a literature review, and then assessed affiliation with these elements by means of a multiple case study, interviewing BI managers and surveying tenants.

The use of the qualitative approach has provided an in-depth understanding of the important elements of the incubation process. Notwithstanding the recognition of- and appreciation for most of the values covered by the elements of the Patton et al. model, we conclude that the model is cumbersome and therefore not very useful to comprehend the incubation process. Based upon our analysis we divide these elements in three categories; 1) elements that respondents affiliate with, 2) elements that respondents do not affiliate with, and 3) elements that are cumbersome.

The elements *creating synergies within the internal support network* and *building and maintaining an effective external support network* are well supported in this research. Managers as well as tenants consider networking, internally and with external parties, to be an important activity for transferring knowledge and experiences into tenant businesses. These networking activities are both facilitated and encouraged by BI management.

The managers in our sample did not really affiliate with *picking winners*. Selection of tenants does take place by means of varying selection procedures, the most comprehensive ones involving external selection committees. But these selection procedures are to select tenants that are a good match to the BI, rather than the ones with the highest potential for business success. One practice worth mentioning is a test that assesses whether the potential tenant has got what it takes to become an entrepreneur.

Another element that was BI managers did not affiliate with is *a managed exit*. This element is not much of concern for the BIs in the sample. Only four BIs work with a fixed time of stay for tenants, but indicated to be flexible when tenants have reached these time slots. It also varies per BI what a

tenant should have accomplished before being ready for graduation, and yet still it differs per tenant how this is determined, and some BIs do not even identify with the graduation as such.

The first element that we classify to the third group is a *quality 'pipeline'*, which mainly serves to ensure the sustainability of the BI itself, rather than contributing to the tenants' business. To be fair, the external network was not assessed in this research, so the argument that a steady flow of new proposals will keep these professionals interested and involved might hold. But we do believe that this element is just a cumbersome way of addressing the need for a sufficient occupancy-rate.

*Monitoring and evaluating progress* is appreciated by the managers in the sample. Informal meetings take place regularly, but formal external review panels as Patton et al. describe are not consulted, not even in situations in which a tenant terminates its business. BI managers evaluate such tenant failure as part of the process.

However, monitoring and evaluating does not clearly distinguish itself from *developing commercialisation skills in new business teams*. Both elements are based on the view that BI managers contribute through interactions with tenants, relying on a customized way of offering this support. Therefore we propose to reformulate these two elements into the following one: *on-going tailor-made management advice and assistance*, on the condition that on-going monitoring and evaluation of progress is necessary in order to be able to give tailor-made advice and assistance.

Also *access to appropriate funding streams* is recognized as a cumbersome element. Supporting access to investors is highly valued by all parties involved, but in this formulation it does not clearly distinguish itself from networking. To better capture the value underlying this element we suggest the simple formulation of *support with funding*.

An interesting notion for future research is to develop a checklist of tenant needs that are of frequent occurrence, like the need to develop their commercialization skills. Constructing such a checklist, along with the tests that are to check for such needs, can standardize and thereby unpack some of the learning tendencies throughout the incubation process. It would also be interesting for future research to examine whether dependence on a network, as to acquire knowledge and experiences, might harm the entrepreneurial orientation of tenants. Ambidexterity might be of concern, because tenants develop via experimenting (to establish innovation) but at the same time gather existing knowledge from professionals. The direct returns from the exploitation of existing knowledge are higher, putting the long-term gains out of explorative/entrepreneurial activities at stake.

## References

- [1] Aernoudt, R. (2004). Incubators: Tool for entrepreneurship?, *Small Business Economics*. No.23:127-135.
- [2] Aerts, K., Matthyssens, P., Vandenbempt, K. (2007). Critical role and screening practices of European business incubators, *Technovation*. No.27:264-267.
- [3] Alsos, G.A., Hytti, U., Ljunggren, E. (2011). Stakeholder theory approach to technology incubators, *International Journal of Entrepreneurial Behavior & Research*. No.17:607-625.
- [4] Baxter, P. and Jack, S. (2008). Qualitative case study methodology: study design and casestudy implementation for novice researchers, *The Qualitative Report*. No.13:544-559.
- [5] Becker, B., Gassmann, O. (2006). Corporate Incubators: Industrial R&D and what universities can learn from them, *Journal of Technology Transfer*. No.31:469-483.
- [6] Bergek, A., Norrman, C. (2008). Incubator best practice: a framework, *Technovation*. No.28:20-28.
- [7] Bhabra-Remedios, R.K., Cornelius, B. (2003). Cracks in the egg: improving performance measures in business incubator research, 16<sup>th</sup> annual conference of Small Enterprise Association of Australia and New-Zealand, hosted by University of Ballarat, Ballarat, Australia.
- [8] Bøllingtoft A., Ulhøi J.P. (2005). The networked business incubator—leveraging entrepreneurial agency?, *Journal of Business Venturing*. No.20:265–290.
- [9] Boumgarden, P., Nickerson, J., Zenger, R.R. (2012). Sailing into the wind: Exploring the relationships among ambidexterity, vacillation, and organizational performance, *Strategic Management Journal*. No.33:587-610.

- [10] Bruneel, J., Ratinho, T., Clarysse, B., Groen, A. (2011). The evolution of Business Incubators: comparing demand and supply of business incubation services across different BI generations, *Technovation*.
- [11] Campbell, C., Kendrick, R.C., Samuelson, D.S. (1985). Stalking the latent entrepreneur: businessincubators and economic development, *Economic Development Review*.
- [12] Centre for Strategy and Evaluation Services (CSES) (2002). Benchmarking of Business Incubators, *European Commission Enterprise Directorate-General*, Sevenoaks, Kent, United Kingdom.
- Sections: Manager questionnaire, Executive Summary, Main report.
- [13] Chang, Y.-Y., Hughes, M. (2012). Drivers of innovation ambidexterity in small- to medium-sized firms, *European Management Journal*, No.30:1-17.
- [14] Clarysse, B., Wright, M., Lockett, A., van de Velde, E., Vohora, A. (2005). Spinning out new ventures: a typology of incubation strategies from European research institutions, *Journal of Business Venturing*. No.20:183- 216.
- [15] Cooper, S.Y., Park, J.S. (2008). The impact of ‘incubator’ organizations on opportunity recognition and technology innovation in new, entrepreneurial high-technology ventures, *International Small Business Journal*. No.26:27-56.
- [16] Gibbert, M. and Ruigrok, W. (2010). The “what” and “how” of case study rigor: three strategies based on published work, *Organizational research methods*. No.13:710-737.
- [17] Gibson, C.B., Birkinshaw, J. (2004). The Antecedents, Consequences, and Mediating role of Organizational Ambidexterity, *Academy of Management Journal*. No.47:209-226.
- [18] Grimandi, R., Grandi, A. (2005). Business incubators and new venture creation: an assessment of incubating models, *Technovation*. 111-121.
- [19] Gupta, A.K., Smith, K.G., Shalley, C.E. (2006). The interplay between exploration and exploitation, *Academy of Management Journal*. No.49:693-706.
- [20] Hackett, S.M., Dilts, D.M. (2004a). A real option-driven theory of business incubation, *Journal of Technology Transfer*. No.29:41-54.
- [21] Hackett, S.M., Dilts, D.M. (2004b). A systematic review of business incubation research, *Journal of Technology Transfer*. No.29:52-82.
- [22] Hannon, P.D. (2003). A conceptual development framework for management and leadership learning in the UK incubator sector, *Education + Training*. No.45:449-460.
- [23] Hannon, P.D., Chaplin, P. (2003). Are incubators good for business? Understanding incubation practice – the challenges for policy, *Environment and Planning C: Government and Policy*. No.21:861-881.
- [24] Hannon, P.D. (2005). "Incubation policy and practice: building practitioner and professional capability", *Journal of Small Business and Enterprise Development*. No.12:57–75.
- [25] Hansen, M.T., Chesbrough, H.W., Nohria, N., Sull, D.N. (2000). Networked incubators: hothouses of the new economy, *Harvard business review*. No.78:74–84.
- [26] Hughes, M., Hughes, P., Morgan, R.E. (2007). Exploitative learning and entrepreneurial orientation alignment in emerging young firms: Implications for market and response performance, *British Journal of Management*. No.18:359-3.75.
- [27] Jansen, J.J.P., van den Bosch, F.A.J., Volberda, H.W. (2006). Exploratory Innovation, Exploitative Innovation, and Performance: effects of organizational antecedents and environmental moderators, *Management Science*. No.52:1661-1674.
- [28] Lalkaka, R. (2001). ‘Best practices’ in business incubation: lessons (yet to be) learned, *International Conference on Business Centers: Actors for Economic & Social Development*, Brussels.
- [29] Levinthal, D., March, J.G. (1993). Myopia of learning, *Strategic Management Journal*. No.14:95-112.
- [30] Lin, H.-E., McDonough, E.F. (2011). Investigating the role of leadership and organizational culture in fostering innovation ambidexterity, *IEEE Transactions on Engineering Management*. No.58:497-509.
- [31] March, J.G. (1991). Exploration and exploitation in organizational learning, *Organization Science*. No.2:71-87.

- [32] McAdam, M, Marlow, S. (2011). Sense and sensibility: the role of business incubator client advisors in assisting high-technology entrepreneurs to make sense of investment readiness status, *Entrepreneurship & Regional Development*. No.23:449-468.
- [33] Mian, S.A. (1996). Assessing value-added contributions of university technology business incubators to tenant firms, *Research Policy*. No.26:325-335.
- [34] National Business Incubation Association, (2009), Business Incubation FAQ, addressed on 19-3-2012, page: [http://www.nbia.org/resource\\_library/faq/#3](http://www.nbia.org/resource_library/faq/#3)
- [35] O'Reilly, C.A., Tushman, M.L. (2004). The Ambidextrous Organization, *Harvard Business Review*. No.82:74-81.
- [36] Patton, D., Warren, L., Bream, B. (2009). Elements that underpin high-tech business incubation processes, *Journal of Technology Transfer*. No.34:621-636.
- [37] Patton, D. and Marlow, S. (2011). University technology incubators: helping new entrepreneurial firms to learn to grow, *Environment and Planning C: Government and Policy*. No.29:911-926.
- [38] Phan, P.H., Siegel, D.S. and Wright, M. (2005). Science parks and incubators: observations, synthesis and future research, *Journal of Business Venturing*. No.20:165-182.
- [39] Raisch, C.B., Birkinshaw, J. (2008). The antecedents, consequences, and mediating role of organizational ambidexterity, *Academy of Management Journal*. No.47:209-226.
- [40] Ratinho, T. Harms, R., Groen, A. (2011), Are they helping? An examination of Business Incubators' impact on tenant firms, Dissertation to obtain the degree of doctor at the University of Twente, includes the following publications.
- [41] Rice M.P. (2002). Co-production of business assistance in business incubators, an exploratory study, *Journal of Business Venturing*. No.17:163-187.
- [42] Scillitoe, J.L., Chakrabarti, A.K. (2010). The role of incubator interactions in assisting new ventures, *Technovation*. No.30:155-167.
- [43] Scholten, V.E. (2006). The early growth of academic spin-offs: factors influencing the early growth of Dutch spin-offs in the life sciences, ICT and consulting, *PhD-thesis*, Wageningen University and Research Centrum.
- [44] Schwartz, M. (2008). Beyond incubation: an analysis of firm survival and exit dynamics in the post-graduation period, *Journal of Technology Transfer*. No.34:403-421.
- [45] Schwartz, M., Hornych, C. (2010). Cooperation patterns of incubator firms and the impact of incubator specialization: Empirical evidence from Germany, *Technovation*. No.30:485-495.
- [46] Soetanto, D.P., Jack, S.L. (2011). Business incubators and the networks of technology-based firms, *Journal of Technology Transfer*.
- [47] Stake, R. E., (2005). Qualitative case studies, In N. K. Denzin & Y. S. Lincoln (Eds.), *The SAGE handbook of qualitative research (3rd ed.)* (443-466). Thousand Oaks.
- [48] Studdard, N.L. (2006). The effectiveness of entrepreneurial firm's knowledge acquisition from a business incubator, *International Entrepreneurship and Management Journal*. 211-225.
- [49] Thomas, G. (2011). A typology for the case study in social science following a review of definition, discourse and structure, *Qualitative Inquiry*. No.17:511-521.
- [50] Tötterman H., Sten, J., (2005). Start-ups: business incubation and social capital, *International Small Business Journal*. No.32:487-510.
- [51] Verschuren, P., Doorewaard, H. (2010). Designing a Research Project (second edition), Eleven International Publishing, The Hague, ISBN 978-90-5931-572-3.
- [52] Warren, L., Patton, P., Bream, D. (2009). Knowledge acquisition processes during the incubation of new high technology firms, *International Entrepreneurship and Management Journal*. No.5:481-495.
- [53] Wiklund, J., Shepherd, D. (2004) Entrepreneurial orientation and small business performance: a configurational approach, *Journal of Business Venturing*. No.20:71-91
- [54] Yin, R.K. (2009). Case Study Research: design and methods (4<sup>th</sup> edition), SAGE Inc., Thousand Oaks, California.

## Appendix: BI manager interview questions

This appendix shows the standardized list of questions that was used to conduct the BI manager interviews.

### Part 1: General Information

We start by examining particular information of the respondent and the goals of the incubator he/she works for/in.

Name of the respondent: .....

Respondent's position: .....

Name of the incubator: .....

Location of the incubator: .....

Start-up year of incubator operations: .....

1. What is the physical space of the business incubator? Please indicate in square meters:

Total area:  Incubator units:

2. What percentage of the total incubator space is currently occupied? approximately \_\_\_\_\_%

3. How would you best describe the incubator?

- a) Business & Innovation Centre (BIC)
- b) University business incubator
- c) Science/Technology Park Incubator
- d) Specialised incubator (e.g. rural incubator, e-business incubator)
- e) Virtual business incubator

Other type – please specify:

4. Who are the main partners involved in operating the incubator?

Please distinguish between (a) partners that are members of the board and (b) other partners: (*please tick the boxes*):

<i>Partners involved in the incubator:</i>	<i>Members of the board</i>	<i>Other partners</i>	<i>Not Involved</i>
University			
Technology/Science park			
Community			
Non-profit development department			
Holding			
Venture Capitalist			
Virtual Organization			
Service Provider			
Technology Development department			
Other, please specify:			

5. Is the incubator designed to be: For-Profit  Non-Profit

6. What are the main objectives of the incubator?

Please rank the two objectives that are of most importance for the incubator:

<i>Objectives of the incubator</i>	<i>The two most important objectives are:</i>
To contribute to competitiveness and local job creation	
To help universities and R&D centres commercialise know-how	
To help companies generate spin-off activities	
To help disadvantaged communities/individuals with projects	
To make profit	
Other objectives, please specify:	

**Part 2: Tenants and Tenant Selection**

The following questions will ask for information involving incubator tenants/clients, and the procedures through which they are selected.

7. How many tenant companies is the incubator currently assisting? Please distinguish between (a) tenant companies occupying incubator space and (b) other ('outreach') clients not located in the incubator facility.

Tenant companies \_\_\_\_\_ Other ('outreach') clients \_\_\_\_\_

8. Where did the current tenant companies originate from? Please indicate the number in each category:

<i>Origins</i>	<i>Number</i>
Start up	
Branch of existing firm	
Spin-off from university or R&D centre	
I don't know (added)	
Other - please specify: -	

9. How many tenant companies has the incubator assisted since it started operating? approximately \_\_\_\_\_ companies

10. How many tenant companies have stopped operations for the mentioned reason, and therefore left the incubator before graduation?

Bankruptcy: approximately \_\_\_\_\_ companies

Refrain business: approximately \_\_\_\_\_ companies

Sold to other company: approximately \_\_\_\_\_ companies

11. If a tenant 'fails' during the incubation process, and therefore has to stop operations, that is considered to be:

<i>We make sure that this does not happen</i>	<i>A big loss</i>	<i>Unfortunate</i>	<i>Part of the process</i>	<i>A good thing</i>	<i>Failure throughout the process is part of the selection, only the best will make it</i>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>

12. How many tenant companies have 'graduated' since the incubator started operating?  
 approximately\_\_\_\_\_ companies

13. Approximately how many enquiries does the incubator receive from potential clients each year, and how many of these are subsequently taken on by the incubator?  
 Inquiries\_\_\_\_\_ Initial screening\_\_\_\_\_ Admissions\_\_\_\_\_

14. Approximately how many tenants (clients) graduate (and therefore leave the incubator) each year?  
 Graduates\_\_\_\_\_

15. The previous questions have asked for the in-flow and out-flow of tenants (clients), are you satisfied with the pace of this flow? In an ideal situation this flow would in comparison to the current state be:

- a) Faster
- b) Slower
- c) Should stay the same

Please explain why:

16. Who is involved in the selection of new tenant companies?

- a) Incubator manager
- b) Incubator staff
- c) A selection committee, *if so please indicate who participate in that committee:*
- d) Others:\_\_\_\_\_

17. Do you use a fixed procedure to select tenant companies? Yes / No

If yes, please explain this procedure:

18. What sort of criteria are used to screen projects for admission to the incubator? Please tick the relevant boxes:

<i>Admission Criteria</i>	<i>Not important</i>	<i>Quite important</i>	<i>Very important</i>
A business plan must have been prepared			
Financing must be in place			
Business must have an innovative project			
Business must demonstrate high growth potential			
Other criteria - please specify: -			

### Part 3: Incubator Services and Management

19. What sort of professional services does the business incubator offer? Please tick the appropriate boxes and indicate whether the services are provided by (a) incubator staff (b) an external party:

<i>Professional Services</i>	<i>In House (a)</i>	<i>External (b)</i>	<i>Not provided</i>
Pre-incubation services			
Support business planning and forming a company			
Training to develop business skills			
Accounting, legal and other related services			
Market research, sales and marketing			
Help with exporting and/or partner search abroad			
Help with e-business and other aspects of ICT			
Advice on development of new products and services			
Help with raising bank finance, grants, seed and venture capital			
Incubator seed/venture capital fund, business angel network			
Advice on recruitment of staff and personnel management			
Networking, e.g. with other entrepreneurs, potential customers			
Mentors, board members and other senior advisers			
Other services - please specify			

20. What sort of experience and skills does the incubator's management/staff have? Please indicate the number of managers and staff who:

<i>Staff experiences and skills</i>	<i>Number</i>
Have set up/managed their own firms or worked in business	
Previously worked for public authorities/agencies or universities	
Have previous experience of advising start up and small firms	
Have participated in training that is relevant to business incubation	

21. How many managers/staff members are involved in assisting tenants  
 \_\_\_\_\_ managers/staff members

22. What are the main functions of the incubator's management team? Please rank the following functions:

<i>Management Functions</i>	<i>Ranking</i>
Routine management of incubator affairs	
Providing advice and assistance to tenant companies	
Networking with other incubators and business support organisations	
Other roles - please specify:	

23. Taking the second of these functions (Providing advice and assistance to tenant companies), approximately what percentage of your time is devoted to providing tenants with advice and assistance?  
 Percentage of work week \_\_\_\_\_%

24. In what way and how often do you initiate monitoring and evaluating the development process of a tenant?

	<i>Every day</i>	<i>Once per week</i>	<i>Once per two week</i>	<i>Once per month</i>
Informal meeting				
Formal meeting				

25. How do you keep in touch with a tenant's proceedings? Please tick the box of the way of counselling that takes place within this incubator:

<i>Way of keeping in touch</i>	<i>Takes place in this incubator</i>
Reactive and episodic (on tenants' /clients' request)	
Proactive and episodic (counselling by walking around)	
Continual and proactive (day-to-day review conversations)	

26. In your opinion, how important is the role of the incubator manager for the development of commercialization skills of the tenant company's teams?

<i>Not important at all</i>	<i>Not important</i>	<i>Less important</i>	<i>Medium</i>	<i>Important</i>	<i>Very important</i>	<i>Extremely important</i>
1	2	3	4	5	6	7

Please explain:

27. Please encircle the degree to which you agree with the following statements: (*where 1=strongly disagree and 7=strongly agree*):

<i>Statements</i>	<i>strongly disagree ----- strongly agree</i>
We repeatedly tell tenants that the firm's survival depends on adapting to market trends	1 2 3 4 5 6 7
We encourage the development of innovative marketing strategies, knowing well that some will fail	1 2 3 4 5 6 7

#### **Part 4: Networking and Exploitative/Explorative Behaviours**

28. Please encircle the degree to which you agree with the following statements: (*where 1=strongly disagree and 7=strongly agree*):

<i>Statements</i>	<i>strongly disagree ----- strongly agree</i>
Exchange of information and experiences takes place frequently and informally among members of the incubator	1 2 3 4 5 6 7
Exchange of information and experiences takes place frequently and formally among members of the incubator	1 2 3 4 5 6 7
Our tenants experience shared learning with some of the other businesses in the incubator	1 2 3 4 5 6 7
I encourage tenants to learn from and share experiences with each other	1 2 3 4 5 6 7
Our tenants learn a great deal from the members of the businesses external network	1 2 3 4 5 6 7
I encourage tenants to learn from external individuals/organisations	1 2 3 4 5 6 7
We try to bring many participants into our business processes and projects early	1 2 3 4 5 6 7
We excel at identifying opportunities	1 2 3 4 5 6 7
We always try to take the initiative in every situation (e.g. against competitors, in projects and when working with others)	1 2 3 4 5 6 7
Our tenants are encouraged to take calculated risks with new ideas	1 2 3 4 5 6 7
To our tenants we emphasize the importance of both exploration and experimentation for opportunities	1 2 3 4 5 6 7
Our tenants frequently try out new ideas	1 2 3 4 5 6 7
I encourages tenants to experiment to find solutions for their problems	1 2 3 4 5 6 7

Our business is creative in its methods of operation	1 2 3 4 5 6 7
We actively introduce improvements and innovations in our business	1 2 3 4 5 6 7

29. Please encircle the degree to which you agree with the following statements: (*where 1=strongly disagree and 7=strongly agree*):

<i>Statements</i>	<i>strongly disagree ----- strongly agree</i>
Rules and procedures occupy a central role in the incubator	1 2 3 4 5 6 7
If a tenant experiences a problem that I cannot help to solve: I mostly bring him into contact with a professional within the network	1 2 3 4 5 6 7
If a tenant experiences a problem that I cannot help to solve: I mostly tell him to discover a solution by himself	1 2 3 4 5 6 7
Tenants tend to hang on too much to the incubator's network	1 2 3 4 5 6 7
Balancing between learning from others and learning from experimenting is very important in the incubation process	1 2 3 4 5 6 7

Please explain your choice for the final statement:

**Part 5: Funding and Graduation (exit)**

30. What kind of private funds and investments are you trying to attract within your network?

- a) Business angels
- b) Venture capitalists
- c) Local institutions and companies
- d) Combination
- e) The Incubator itself takes a share in tenants
- f) None of the above
- h) Others (please indicate).....

31. Please encircle the degree to which you agree with the following statements (*where 1=strongly disagree and 7=strongly agree*):

<i>Statements</i>	<i>strongly disagree ----- strongly agree</i>
Together with the tenant (client), I set a clear business agenda	1 2 3 4 5 6 7
Developed business agendas include specific goals to achieve within a certain time schedule	1 2 3 4 5 6 7
The Incubation process contains 'Go'/'No go' decision points	1 2 3 4 5 6 7
I know exactly for how long current tenants will stay within the incubator	1 2 3 4 5 6 7
I help tenants to prepare for leaving the incubator	1 2 3 4 5 6 7

32. What should a tenant have achieved before exiting the incubator? And how are these 'goals' or 'targets' set?

33. What happens if a tenants does not achieve his 'goals' or 'targets' (in time)?

34. What is the average time of stay of a tenant company in the incubator approximately\_\_\_\_\_ Years

35. What criteria are used to decide when tenant companies should leave the incubator? Please rank each of the following criteria according to importance (*where 1=not important and 7=very important*):

<i>Exit criteria</i>	<i>Not Important -----Very Important</i>
Companies can only rent units for a fixed period of time	1 2 3 4 5 6 7
Companies leave when they need more space to expand	1 2 3 4 5 6 7
Companies leave when they achieve agreed business objectives	1 2 3 4 5 6 7
Companies leave when they fail to achieve agreed business objectives	1 2 3 4 5 6 7
Companies leave when they require support the incubator cannot offer	1 2 3 4 5 6 7
No particular exit criteria	1 2 3 4 5 6 7
Other criteria - please specify	1 2 3 4 5 6 7

Next to interviewing Incubator management, we are also working on a survey research for tenants of BIs. Can you please help to find respondents for this survey? May we send a survey to your tenants/clients?