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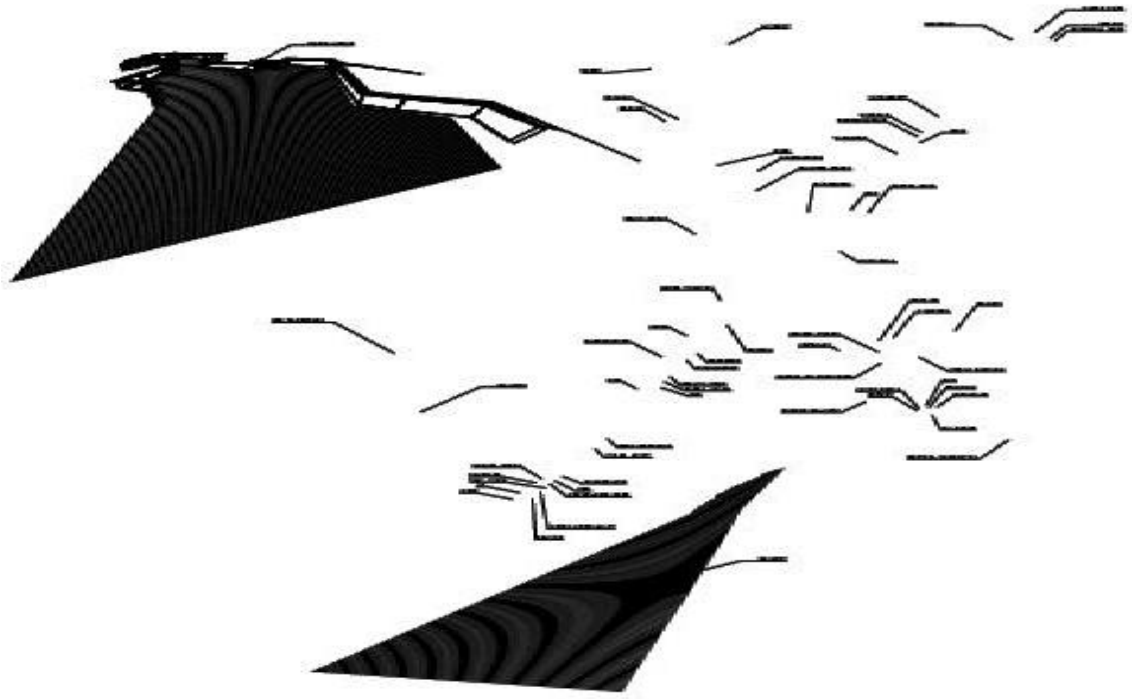

How to better compliment the business start-up needs of university-based incubatees

Acknowledgement

I would simply like to thank those generous people that took the time to help and contribute to this study. So many thanks!

Abstract

The purpose of this master thesis is to academically contribute to the understanding of the known phenomenon of university business incubation, and how it impacts the creation of new ventures.

University business incubation refers to a practice of facilitating the entrepreneurial practices of teams interested in the genesis of their start-up firms. The particular focus here is set on exploring the experiences of incubatees and practices administered out by the university incubator thereof.

Identified in this study are the various aspects that incubatees need provision for during the process that is the incubation of a start-up.

In order to achieve academic coherence the background of the subjects outlined in this study is split into sections of theory and analysis and the application of both towards a conclusion.

This study is carried out by way of a qualitative approach. The qualitative study comprises of conducting qualitative semi-structured interviews with four start-up members of the university incubation outfit.

The aim here is to learn about their perspectives on the phenomenon and the various interventions they experience via the university incubator. The subjects were selected based on relevant knowledge and experience to the subject in question. They comprise of students from the university. The two formats used for the qualitative study were: focus group study format and then semi-structured interviews.

The findings show that there are two levels to how incubatees can be supplied with support or intervention. At one level these interventions represent basic needs. Yet at a less obvious level interventions can give start-ups the edge they need. As bored out from the study, subjects unwittingly indicate the presence of knowledge leakage; knowledge that was transferred between each other but was not being formally captured.

The findings also show that there is a knowledge deficit that novice entrepreneurs entering the incubator hold in their skill-set. This knowledge deficit is real and relevant to their performance going forward. The knowledge deficit can include hard skills or tangible skills, but they can also included soft attributes, that underline their respective performances over time.

Regarding how to address the needs of the incubatee, the findings indicate that a university business incubator may use its selection mechanism to positively select those start-ups that

feed into their strategic goals. Aalborg University is not different. Therefore in effect others that don't align may be left behind. In addition, incubator managers are caught up in a dilemma of primary loyalty, to the strategic goals of the incubator and the strategic goal of the start-up. More so they are losing sight of daily start-up issues whilst being caught up into operational issues of the incubator.

The research also indicates that as university incubators sure-up their value proposition and operational strengths, they potentially become inflexibly to variation across the diverse range of incoming incubatees and business concepts.

Given the findings, the research carried out in this paper is believed to contribute information towards the topic of business incubation facilitation. However, possible further investigations within this subject areas will also be quite useful, particularly the relation to peer-to-peer knowledge capture and storage.

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CHAPTER ONE - INTRODUCTION

1.1 Introduction

The first chapter of this study sets in motion the general introduction of the research study. After that, the problem statement and it significance thereof is outlined. This then leads onto the generation of the research questions that serve to guide the entire study. To avoid misunderstandings the basic definitions of main concepts employed in this study are also included in this chapter.

1.2 Background

Denmark has a law on inventions that was put together within public research institutions (Law no. 347 of June 2nd 1999). It came into effect on January 1st 2000. According to this law, the researchers are obligated to notify the university in the event that they have made a patentable invention. The university will decide whether to take over the researchers' rights. In the event that the university decides not to take over the rights, the rights will remain with the inventors, and they are free to commercialise the invention on their own. It is against this backdrop that the University of Aalborg among other universities have been developing their entrepreneurship programmes (for start-ups) and knowledge and technology transfer programmes (joint and individual spin-outs).

A similar backdrop of entrepreneurial enabling has also been unfolding beyond the national level. Within the EU commission, there have been conscious efforts to drive entrepreneurial practices across the Europe. This shift in attitudes has resulted in initiatives and policies by the EU Commission to grow the number of new ventures. The idea is that both national and region economies can be bolstered thorough increased entrepreneurial activities. More specifically, University-based incubators can be important mechanisms therefore for local/regional development (Etzkowitz, 2002). According to the EU Commission Report (2008), it is important to stimulate entrepreneurial mindsets among university students.

This need for encouragement towards entrepreneurial mindsets has been simply due to a recognition of the fact that entrepreneurs and their ventures are imprinted by their founding environment (Beckman and Burton 2008; Bercovitz and Feldman 2008). In practice what this means is that the extent to which a student or university participant engages with venture creation and also the types of ventures created can be influenced by university-level environmental factors. Consequently, those benefits that emerge from the associated activities are forms of social and economic opportunities.

One manifestation therefore of this attitude and policy shift has been the presence of incubators at universities. Aalborg University is no different. At a generic level, business incubators are perceived as vehicles to nurture commercial ideas in a way

which makes them more likely to become marketable (Nosella and Grimaldi, 2009). However at a university-specific level, faced by the various challenges and the student/ incubatee needs, the format, nature and role of incubators has evolved into something careful adjusted. To which the strategic benefits and objectives need to be resolved.

Factoring in the diversity of actors and stakeholder involved in the functioning of university business incubators, the challenge for incubatees and incubator managers is to optimally align their core competences. This is imperative as many studies have already identified the importance of quality support provided and incubatee/ start-up team success (Mian, 1996, 1997; McAdam and McAdam, 2008).

1.3 The Problem Statement

On the one hand, both regional and national governments are encouraging entrepreneurship culture. Institutionally entrepreneurship-based curricula for students at earlier ages are also being promoted. According to Entrepreneurship 2020 Action Plan 20% of the students who participate in a mini-company programme in secondary school will later start their own company (EU Action Plan, 2012).

In the mean time, for the students at the Aalborg University, these entrepreneurial skills gap has not yet been taken can of. Therefore even though they have business plans for start-ups drawn up, the need is to seek out ways to compliment said skills gap. One option is the university business incubator.

Such was the case when two recent graduates of Aalborg University decided to start a business based on a mobile phone app. As design students at the university, they were able to design the content and interface of the app. What they were unable to do however, was to programme the software. Subsequently a member of the AAU incubator heard about the start up, contacted them and after a brief meeting asked them to join.

Upon joining the incubator, they drew up a business plan. As a start-up business it was clear that the business had potential. The managers at the incubator were confident that they could provide support to the venture. Support by way of legal consultation – arranging the intellectual property rights.

For many start-up founders, being accepted into an incubator represents an opportunity, not be passed up. This team was no different. However, in due course it became apparent that even though the incubator did facilitate their needs, there were in fact some other keys aspects that care to the fore, aspects that that they were initially unaware of - and aspects of support that were critical. Essentially what they needed in their start-up were skills to compliment what they already had. As Dosi et al., (2000) states, many start-up firms begin without all the requisite capabilities. But regarding the legal support, this was not something critical for the team and certainly not at that stage of their start-up process.

Such is the context of start-ups joining any given university business incubator. For many of them there is a need to fulfil certain business milestones. Moreover there is a need to secure certain skills, to compliment the skills of the core team. That said, this process of complimenting the core team skills is subject the said team's limited entrepreneurial knowledge (Westhead et al., 2005; Thompson and Downing, 2007).

As a result some teams unable to fully appreciate the incubator or to properly utilise the incubator. Similarly the incubator ends up providing support to the start-up, but not in an optimal way. The result is the start-up may lose out in terms of time and market entry timing. Such was the net result of the team in question. By the time they resolved to circumvent the resources of offered by the incubator and sure it up externally, they had lost out to a competing product.

This is the challenge and the thrust of this study – to bring more clarity to this issue and in so doing enable novice and student start-up firms to have a better idea of incubator-incubatee interaction landscape. To address this interaction this study opts for the viewpoint of the incubatee, as opposed to the incubator manager (Abduh et al., 2007), as such this study bleeds into the service logic delivery of value. Understanding how university conditions influence spin-off creation and development provides a much more relevant basis for deriving policy implications than just listing the characteristics of successful institutions.

To this end this study will seek to answer key questions that will help gain a better understanding of the motivations, perceptions and priorities of tenants that seek to carve out their position within a University business incubator and influence the process of business incubation, including the role of the manager, on the development of new start-ups that operate from such facilities. Hereby the focal issue that will be represented by the following question: how the AAU business incubator can better compliment the needs of the incubatees? In addressing this issue the study will seek to ask the following lead questions in association:

- How can the needs of the incubatees be described?
- How does the incubator currently go about facilitating these needs of incubatees?
- How can the incubator better compliment these needs?

By attempting to answer the above questions, this study will by implication be also be exploring related issues such as:

- What types of start-ups are typically selected?
- How are they selected?
- How do tenants interact with the incubator?

1.4 Justification

The fact that business incubators and in the case of this study university business incubators, can be set up to support new enterprise and new ventures is no new concept. Previous studies have demonstrated how various resources can introduced into the incubation process to enable incubatees.

To this extent much research has served to sure up best practices and in doing so there lies the tendency to reinforce certain aspects of the value proposition while missing out on others. The temptation leans to exploitation, meaning that new variation in the incubation process are missed out. This is particularly notable seeing as the business of business incubation is indeed highly contextual. Moreover, the eco-system in which a university business incubator resides is by implication highly varied in terms of the actors involved and in particular the students and start-up teams attempting to join. On the side of the dynamic the incubator management faces the challenge of resolving competing demands of strategic goals and micro-level needs of the start-up firms in its incubation tank.

What this study seeks to do is to bring to the fore the subtleties of the incubation process in doing so enable university business incubator to be more effective in their offerings and tenant/ incubatee interactions. And in terms of this dynamic what this study seeks to do is to depict a more collaborative interaction between incubator management and incubatees. The results of such insight can enable universities as a whole be more effective in the delivery regional business and enterprise growth.

1.5 Definitions

For the purpose of avoiding any confusion, the following key concepts and terminologies have been outlined below:

Legitimacy is defined as “a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions” (Suchman, 1995).

Benchmarking refers to evaluating performance, technology, process, competence and/or strategy with chosen geographical scope by learning from others that identify as having best practices in its respective fields as a competitor, as operating in the same industry, cluster or sector or in the larger context with chosen geographical scope (Kyrö, 2003).

Paradigm refers to the process of scientific practice based on assumptions about the world and the nature of knowledge; in this context, about how research should be conducted.

University Business Incubator – (UBI) in this report, as a way of avoid being pedantic, at times the term incubator will be used in place of UBI. This will be done without any form of ambiguity.

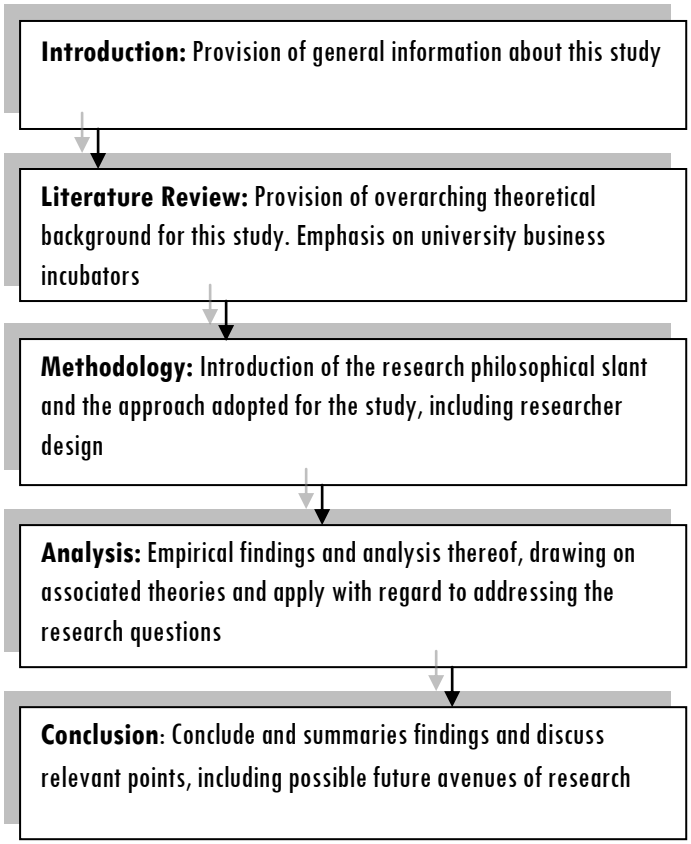
Business incubation program: While business incubation describes the actual assistance provided by an incubator to a tenant, the term business incubator program describes the notion of incubation and the policy supporting that notion. It also describes multiple business incubators within a state or national funding program for business incubation.

Business incubator tenant: The term business incubator tenant describes a start-up entrepreneur or business that is tenanted (housed) in a business incubator. To avoid sounding repetitive, this study will draw on the widely-used synonyms to this term, for example incubatee, or a collective version, start-up team. Similarly 'business incubator' is at times substituted with just 'incubator', to avoid over repetition.

1.6 Study Outline

For the purpose of clarity figure 1.1 is a simplistic flow structure outlining the progression of this study's construction by chapter.

Figure 1.1: Flow structure outlining study



CHAPTER TWO - THEORECTICAL STUDY

2.1 Introduction

In this section a review of the associated literature is provided. This sets out the parameters being investigated in this study. The aim is to present a clear picture in terms of the issues related and the theoretical fundamentals.

2.2 Business Incubator Evolution

Business incubators have been evolving since their inception decades ago. For most authors this inception period began in the 50s (Adkins, 2002), for others it was the 70s, a period where many incubation programs sprang up (Barrow, 2001). Either way, incubators have been shape shifting whilst playing an increasingly critical role in the development of start-up businesses and their associated communities over the years. By the 80s, there was a huge push to set up more BIs, an initiative championed by the Small Businesses in America (Allen and McCluskey 1990).

As the significance of BIs grew governments policy makers worked towards establishing more business incubators, as a tool for economic development.

As BIs have evolved, so has the number of capabilities that they have been furbished with. At a basic level BI offer simple solutions such as office space, while others are capable of dispensing more complex solutions for start-up business.

2.3 Meaning of Business Incubation

Due to the evolving nature of business incubators, the meanings associated are similarly fluid and can be viewed through different lenses. At a macro level the definition is an over arching and non specific view which is aimed at output, for the benefit of employment and GDP. For example the National Business Incubation Association (NBIA) outline its meaning as a place where the incubation activities are carried out, and where the would be entrepreneurs and the existing SMEs find a suitable place, in terms of facilities and expertise, to address their needs and develop their business ideas, and transform them into sustainable realities (NBIA, 2007; Al-Mubaraki and Busler, 2010).

Similarly the European Commission describes an incubator as a place where incubation activities are carried out, and where the would be entrepreneurs and the existing SMEs find a suitable place, in terms of facilities and expertise, to address their needs and develop their business ideas, and transform them into sustainable realities (European Commission, 2010). In both cases the reference is in terms of an interactive development process where the aim is to encourage people to start their own business and to support start-up companies in the development of innovative products.

At the firm level the incubator does and should take on a more nuanced meaning. To this end Hackett and Dilts (2004) point out that, despite the apparent similarities between definitions, the incubator concept has shown to be anything but clear in practice. Hackett and Dilts go on to conceptualised incubation as a process of mentoring designed to nurture young entrepreneurial firms to grow rapidly in a controlled environment, grooming them to acquire skills to reduce prospects of failure once they cease to be incubatees (Hackett and Dilts, 2004).

The term has also been described as a process whereby the incubator is a node in a wider network of stakeholders, enabling the flow of resources between young firms to outside and unconnected groups, while fostering mutual trust and awarding credibility to the new firms (Hansen et al., 2000; McAdam and McAdam, 2007).

Karatas-Ozkan et al. (2005) chronologically presented 13 definitions of “incubators” or “incubation” based on Albert and Gaynor’s (2001) analysis of existing literature. Their review of definitions of the term “business incubator” illustrates the transition from physical assets to knowledge-based assets.

That said, for the purpose of this study, incubation is about; developmental assistance offered to client firms via the incubator management through in-tangible services such as coaching, mentoring, consulting, general advice, business introductions, technical appraisal and business network access. Our definition, therefore, does not include incubators’ physical resources and infrastructural support services such as a common reception, courier services, computing facilities or internet access.

2.4 Perspectives on Business Incubation

Right from the start in 80s, when studies of BIs began to emerge, evaluation dimensions varied depending on the researcher and industry. Therefore in an effort get a structured overview, by 2004 the studies were all collated by Hackett and Dilts.

Hughes et al. (2007) pointed out that business incubators originally took a top-down management style, in their provision services to start-up companies. The role of the incubation manager is now considered to be a combination of a knowledge provider and a network provider.

Whilst initial studies leaned towards a descriptive approach, they later progressed towards tenant development studies. These looked at how tenants developed within the incubator. However as the concept of incubation evaluation matured, studies were aimed towards investigating whether the incubation ‘concept’ influenced tenant and (by association) incubator success.

Albert and Gaynor (2001) grouped the existing incubator literature around three dimensions: descriptive, prescriptive and evaluative works. For the descriptive studies the aim was towards definition and classification of incubators. Regarding the prescriptive studies, the aim was to outline the role of incubators in economic

development and to set out best practices, based on research on key features of successful incubation programmes. Alternatively however, according to Alvarez and Busenitz (2001), entrepreneurial capabilities are based on different information, personal backgrounds, heuristics; they are rooted in path-dependent processes that are difficult to emulate as they embody much tacit knowledge; and they are highly immobile, because they are typically linked to specific resources with which they co-specialise. By implication, an approach which includes 'best practise' is not necessarily workable.

Alternatively however, Hackett and Dilts (2004) focused their studies towards 'unpacking' the variables of business incubation - towards explaining how and why the incubation process leads to specific incubation outcomes. As Hackett and Dilts outlined, incubation as a process was just as important as the inputs and outputs of a business incubator. In their study Hackett and Dilts were essentially pointing out the effect of context on incubator type.

2.5 Types of Business Incubation

The most basic business incubator classification lies between for-profit incubators/ public incubators and those of a non-profit nature (Grimaldi and Grandi 2005). The thrust of non-profit incubators is the provision of logistical services to reduce the costs of starting up (Grimaldi and Grandi 2005). Regarding for-profit incubators, these are set up to achieve profits from the involvement with new ventures. These incubators generally seek a return on their investment. Across the two dimensions there are specific types of business incubators, from industry-targeted incubators to university based incubators.

Similarly Aernoudt (2004) outlines five versions: mixed, economic development, technology, social and basic research incubators. Grimaldi and Grandi (2005) divide business incubators into five categories: business innovation centres, university business incubators (UBIs), technology incubators, independent private incubators and corporate private incubators. Becker and Gassmann (2006) also introduce a similar yet more comprehensive classification. They distinguishes between independent (holding, venture capital, virtual), corporate (service providers and technology development) and government (university, science park/ technology, community), non-government (non-profit development).

Within the category of 'government' Mian (1996) focused on 'university incubators'. Mian identified that university incubators focus on attributes; basic incubator services (shared offices, services and rent breaks), and access to university-related services (faculty consultants, technology transfer programs, employee education plus training and library services). Subsequently the thrust is to commercialize university technology (Allen and McCluskey 1990). In step with Mian (1996) this study focuses on the incubation archetype that is university-based.

2.6 University-Based Business Incubation

University business incubators are another example of the aforementioned 'public incubator'. As such they can be important mechanisms for the local/regional development (Etzkowitz, 2002). The rational of the university business incubator (UBI) is to bring together technology, know how, and capital to leverage entrepreneurial talent to speed commercialization (Grimaldi and Grandi, 2005). They can also be viewed as an academic tool focusing on the business world.

In practice university business incubators are assumed to minimise the potential of failure (Hackett and Dilts, 2004) associated with the commercialization of new ideas by entrepreneurs, as they transition through the early stages of the start-up process.

The value of these types of incubators has been greatly acknowledged by research and the European Union Commission. And in many EU Commission reports, this link between university business incubators and region economic growth has been highlighted (EU, 2008). Consequently there has been an increase in universities trying to merge with or develop business incubator programmes.

At Aalborg University the situation is no different, as the university seeks to grow its entrepreneurial activities in the North Jutland. Just as incubator programmes differ, so do entrepreneurs (Heckett and Dilts, 2004), similarly so do the range of students attending a university business incubator. But to properly provide value, the university also must critically evaluate their set of value offerings.

2.7 Burden of Performance at University Business Incubators

The European Commission (2002) emphasises that survival rates are one indicator of the performance of incubators. They also state that high-growth firms and their capacity to create new jobs are important. In practice however, performance assessment is related to the quality of the support delivery. These support services can come by the way of coaching and counselling Chan & Lau, (2005), business plan development which Pena (2004) covers , and training – as researched by Aerts et al., (2007). Chan and Lau (2005), also report that a range of criteria in addition to coaching and counselling should be taken into account for effective evaluations, for example; pooling resources, sharing resources, public image, networking, clustering, geographic proximity, costing and funding. Collectively these offerings have been surmised by Barrow, (2001) as; infrastructure, business support and access to networks. Alternatively Bøllingtoft and Ulhøi (2005) put forward their supporting dimensions for incubatees based on tangible and intangible resources.

In practice the incubator is basically subject how it engages with the context in which it sits. At Aalborg University this translates across three facets: research, education and knowledge collaboration. This is outlined in the 2016-2021 Strategy as Core Activities (Aalborg University, 2015, p. 3).

Focusing on business incubation at universities, Mian (1997) proposed a number of dimensions that could be used to assess the effectiveness of campus incubators. Mian introduces four dimensions in his assessment framework on the performance of university technology business incubators: (1) programme growth and sustainability, (2) tenant survival and growth, (3) contributions to sponsoring university's mission and (4) community-related impacts.

These dimensions are comprehensive, yet, not dynamic enough, particular when you consider that the incubation 'process' is continuous and fluid. Mian actually reflects on his work and in turn echoes this fact - which is that his framework did not fully account for the micro-level internal interactions (Mian, pg 280). Allen and McCluskey (1990) extract different measures from their literature review: tenant employment, incubation period, tenant success rate, local retention of graduates and added value of incubator services. They evaluate incubator size and occupancy rate, jobs created and firms graduated.

Other studies of University business incubators such as that of Lendner and Dowling (2007) have taken the perspective of exploring the impact of university campus incubators' main goals, their organizational structures and their business strategies on incubatees. For them this is preferred when measuring UBI performance. Similarly Karatas-Ozkan et al. (2005) offer a management-leaning understanding. They highlight contextual constraints and opportunities, and the impact of these entities on shaping incubator programs. They too however did not address the university business incubator's team-level internal social implications.

It could therefore be argued that the reason for these management-leaning approaches to UBI measurement is a reaction to the EU Commission standpoint – as they see it business incubation is relevant particularly in terms of economic development. They emphasise that; a strong indicator of successful incubation is the graduation of the clients – seen as a key factor which leads to sustainable business and wealth creation impacts on the economy (EC, 2008).

Furthermore, for a UBI seeking EU funding, it could be more demonstrable to use instruments for inputs and outputs – factors that can readily associated with start-up graduation. Conversely alternative aspects and activities may be interpreted as not of particular relevance in terms of promoting regional economic development. For example such alternative aspects could be an approach which is too academic and remote from the 'bottom line' or output targets, such as patents, employment numbers, survival rate and even sales turnover. By implication these measures fail to address the degree of effectiveness by with an incubator meets the evolving needs of the incubatees. Grant (1991) argues that capabilities may evolve from routines and interactions. As a result it is possible that some value is not realised because incubatees are not even aware in the first place.

Such dilemmas observed chime with the viewpoint of Hackett and Dilts (2004). They point that business incubator performance can be particularly context dependent, and thus not universal in terms of output measure (Hackett and Dilts, 2004). Furthermore, UBIs are also about social and intellectual capital which can vary in operational definition depending on the university.

Moving this 'context sensitive' viewpoint along; Vanderstraeten and Matthyssens (2012) state that it is the one-on-one match of incubatee needs and an incubator's offerings that defines the incubator's value proposition. This viewpoint leans more towards a dynamic feedback type of context. It accounts more for a dyadic, evolving and customized relationship between the incubatee and incubator (Rice, 2002). Such is the viewpoint of this study. To this extent it should be noted that in order to make progress in explaining incubator functioning and performance, insights into the antecedents and consequences of incubator customization are required.

2.8 Stages of Business Incubation

Based on the process approach to incubation are Al-Mubaraki (2008) outlines three stages of incubation; Start-up creation, Early stage, Expansion.

The University incubation process can similarly be categorised into three stages; the early stage, the incubation stage, and the maturation stage. The EU Commission (2008) categorise these stages as; pre-incubation, incubation and post-incubation. Here the process is managed by the existence of entry/exit policies. See figure 2.1 and 2.2.

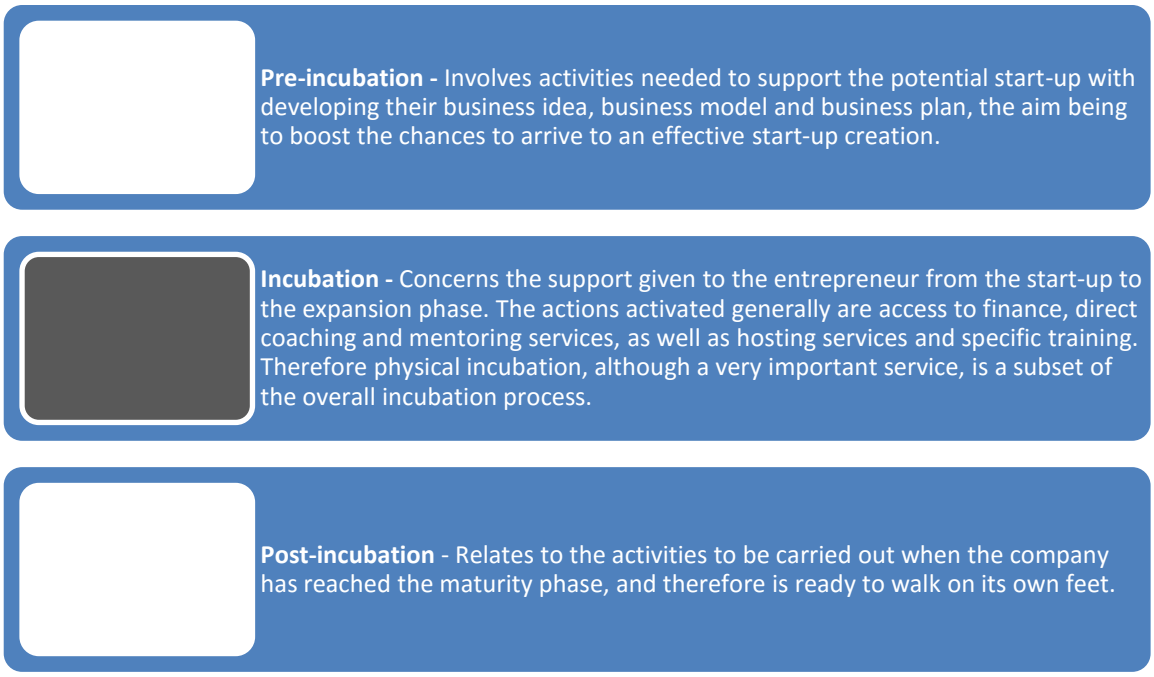


Figure 2.1: Incubation Process Stages, Adapted from EU commission 2011

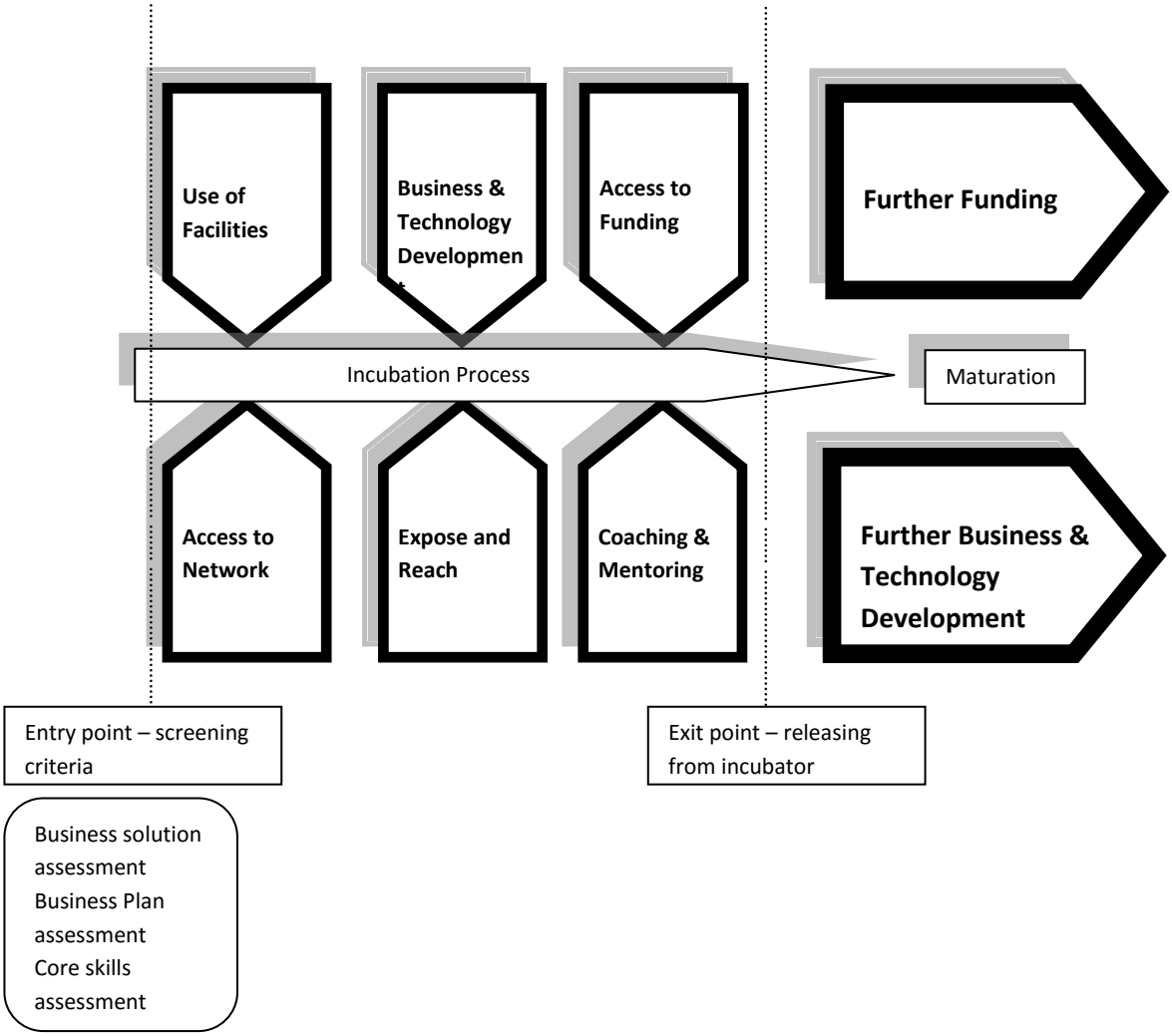


Figure 2.2: Entry and Exit Managed Incubation Process

During the selection process, business incubators account for a start-up's market, financial, and team characteristics (Aerts et al., 2007). As highlighted in his study (1997), Mian points out that university business incubators are keen to identify early-stage start-ups that present success potential. By association this approach may carry with it some selection bias. One could say that these biases will be influenced not by the needs of the applicants, but by the competences of the UBI. In effect this presents a bottom-up versus top-down dilemma.

2.9 Bottom-up Versus Top-down Incubation Process

In spite of the 'context sensitive' nature of UBIs, some studies draw attention to the overriding aspect that is incubator management. They point out the importance management quality, as an antecedent to incubator performance. Some researchers have also addressed the issue of networked incubators (Bøllingtoft and Ulhøi, 2005), evidencing the mechanisms through which managers create and develop relationships amongst the entrepreneurs in the incubator and between the entrepreneurs and other external agents. According to (Bøllingtoft and Ulhøi, 2005) incubators provide support and tangible and intangible resources and value-added

services to incubatees through: real estate, collaboration and business development. However they state they this is dependent on how well the management can balance new entrants with matured incubatees/ tenants.

Without question the role that management plays is crucial. That said, due to the need to achieve targets and to meeting future funding criteria, management of the incubation process is greatly influenced by the aforementioned top-down approach. In this context the drive to meet performance targets will overtake the incidental or circumstantial needs of the incubatees as they progress through incubation. In effect there is a management-tenant conflict of primary interest that performance metrics cannot account for. Considering that the performance of a UBI is being impacted not just from the top down, but by incubatees, Bruneel et al. (2012) proposed that an incubator's value proposition should be evaluated by its incubatees. That said a UBI is also being impacted by other stakeholders such as the local/ regional governance policy makers and by the direct and indirect financers, albeit to a greater of less extent. Each stakeholder plays some role in shaping the UBI.

2.10 Incubation Process versus a Service Dominant Logic

According to Akçomak (2009), in addition to the earlier mentioned outputs-versus-inputs mode of investigating incubators, they can also be viewed as a facet of a wider ecosystem – an ecosystem of interconnecting parts. (Etzkowitz, 2002; Hsu et al., 2003) draw parallels with this by reframing based on a stakeholder theory. They acknowledge that an incubator is part of a wider entrepreneurial ecosystem and that there are thus various constituencies involved in incubator evaluation. Similarly Groen (2005) identifies the start-up process as embedded within a wider network and influenced by social system through interaction of its various parts. Arroyo-Va´zquez et al. (2009) extends this concept of incubation towards a facet of a wider entrepreneurial environment and business start-up culture. Furthermore, this stakeholder perspective allows us to view the external factors from the incubator's perspective. This perspective ties into the service dominant logic (S-D) Logic – a mode of incubator evaluation that has not been appreciated much thus far. For the potential student and nascent entrepreneur it is imperative to experience the UBI as a form of service. This is necessary as for the most part, potential incubatees will have quite limited real life start-up experience and knowledge.

Service dominant logic (S-D logic) as highlighted by (Vargo & Lusch, 2016, p. 10), could be said to lie at the forefront of service ecosystem. Essentially an S-D logic should underscore the dynamic nature of service ecosystems and stresses the interdependence between actors who integrate resources through service exchange (Vargo & Akaka, 2012). By implication this means that individual actors exercise their own agency (Lusch & Vargo, 2014). They find solutions and create value for themselves and maybe others in the service ecosystem. This in turn allows for the shaping and even reshaping of the ecosystem around the UBI. Based on this perspective, incubator value creation will serve both at the micro-level and the macro

level. Furthermore, this value will be co-created. Lusch & Vargo (2014), describe this as processes moving from the micro level to the macro level and in the reverse, making the system dynamic over time and space. In practice what this means is observing the degree to which the incubatees are contributing to the value proposition of the incubator, but also the degree to which they have agency to do so.

Similarly, following Rice's (2002) assertion that entrepreneurs operate in an inter-dependent "co-production dyad" where business assistance is co-produced between the incubator manager and client firm. Such mutual co-production of incubation assistance is primarily driven by the nature of the relationship between the incubator manager and the entrepreneur. Therefore managing client firms and policy actors simultaneously are the keys to success (Aaboen, 2009).

To appreciate this stakeholder and co-creation approach some researchers incorporate a wide stakeholder community (McAdam and Keogh, 2006). Meanwhile others opt for a limited stakeholder set incorporating only the viewpoint of the most important stakeholders (Ratinho and Henriques, 2010). Either way, what is crucial is to include the viewpoint of the incubatee to such investigations. This is a point made by Bruneel et al. (2012). However, the stakeholder perspective allows us to also take into account the external factors.

Following the stakeholder theory, it should be noted that stakeholders are in effect exercising their degree of power, legitimacy and urgency, over the start-up. Yet power, legitimacy and urgency are dynamic variables (Sachs and Maurer, 2009).

2.11 Conceptual Model

Consider for a moment Parsons' social system theory (Groen, 2005), and introducing this as part of the entrepreneurial process, analysis can thus be framed across four dimensions: interaction between actors, striving for goal attainment, optimisation of processes and maintaining patterns of cultural structures and symbols. What this does is enable us to build the model here based on the concept that the incubation process indeed takes place within a wider ecosystem of activities and actors.

This perspective resonates with theory which outlines that UBIs can impact a start-up/ tenant from across four domains (Hackett and Dilts, 2004; Rasmussen and Wright, 2015; Arroyo-Va´zquez et al. 2009) and by consequence impact its own value proposition and performance. Furthermore, given the dynamic nature of the incubation process at a university, this study draws on the iterative approach put forward by (Hackett &Dilts. 2004). Therefore this study takes into account that the varying nature of incubation changes as per the varying resource needs of the start-up firm over the duration of the incubation period; and even the start-up firm's industrial affiliation (Friedman and Miles, 2002; McAdam and Marlow, 2007). Rice (2002) for example found that incubator managers who provided substantial time to individual start-ups - varying their application of counselling styles, were more effective in generating valuable assistance to incubated companies.

Taking a similar standpoint Westhead et al. (2005) also argue that the difference in behaviour among entrepreneurs based on their entrepreneurial experience should be taken into consideration when designing new entrepreneurship programmes.

Keeping these perspectives in mind the investigation here is framed within the evaluation lens provided by Groen (2005) and Arroyo-Va´zquez et al. (2009). From this standpoint it is possible to take into account a process-based tenant's perspective, as opposed to inputs and outputs. Taking into account these factors, the three theories (Hackett and Dilts, 2004; Groen, 2005; Arroyo-Va´zquez et al. 2009) have been adapted to frame the conceptual model, see table 1. From these aforementioned theories five variables have been pooled together. These variables have all been selected to form part of the conceptual framework used to structure the research questionnaire, see appendix a.

For the purpose of this study they are outlined as: facility/infrastructure benefits, mentoring/coaching benefits, networking benefits and funding and pre-selection knowledge and awareness (pre-selection entrepreneurial context of team), see figure 2.3. These parameters constitute the set of parameters that frame the concept here. They are based on previous research efforts but configured for the purpose of this study. It should be noted however that this study is about incubatee/ tenant experience. What it is not is an attempt towards benchmarking incubator performance.

Variable	Process Characteristics	Main Sources
Pre-Selection Context of Core Team	Awareness of value proposition Awareness of core-team competence in relation to incubator strengths and weaknesses	Arroyo-Va´zquez et al. (2009), Hackett &Dilts. 2004, Etzkowitz, 2002
Business Support and Counselling	Evidence of optimising business support system	Groen (2005) and Arroyo-Va´zquez et al. (2009)
Financial Capital	Evidence of optimising financial enabling	Groen (2005) and Arroyo-Va´zquez et al. (2009)
Networking Support	Evidence of optimising networking paths	Groen (2005) and Arroyo-Va´zquez et al. (2009)
Infrastructure	Evidence of optimising infrastructure towards strategic goals	Groen (2005) and Arroyo-Va´zquez et al. (2009)

Table 1: Source Theories Underpinning Measurements

Figure 2.3: Conceptual model, Adapted from Groen (2005) and Arroyo-Va´zquez et al. (2009)

CHAPTER THREE – METHODOLOGY

3.1 Introduction

This chapter describes the basis for the decisions made in determining the research methodology and it provides grounding for the methodology and approach chosen.

It will then discuss issues surrounding the research design, the construction of the survey questionnaire, the selection of the sample population and the subsequent qualitative methods applied.

3.2 Choice of Paradigm

The term paradigm refers to the process of scientific practice based on assumptions about the world and the nature of knowledge; in this context, about how research should be conducted (Guba and Lincoln, 1994)

In practice researchers operate within a scientific paradigm that is either explicit or implicit. Guba and Lincoln (1994) describe epistemology, ontology and methodology, as categories of research paradigms. The ontology deals with ways of constructing reality, “how things really are” and “how things really work. Epistemology deals with different forms of knowledge of that reality, what nature of relationship exists between the inquirer and the inquired? While methodology deals with the choice of tools we use to know said reality (Guba and Lincoln, 1994).

These research paradigms are underpinned by four main worldview orientations. Guba and Lincoln (1994) also describe these as positivism, post-positivism, critical theory and constructivism/ interpretivism. However, taking their cue from the works of Kuhn (1970), Burrell and Morgan (1979) insist that when studying social theory in general, and organization theory in particular, it is best to position the analysis in terms of of four key paradigms. They outline these paradigms as: functionalist, interpretive, radical humanist, and radical-structuralist—that represent four ‘mutually exclusive views of the social world’ (Burrell and Morgan 1979, p. 8). Firstly, for the purpose of this study, it is important to describe how these concepts apply in this particular case.

Considering the process of incubation as a culmination of a range of activities and actors across an eco-system, it is necessary to adopt an interpretivist paradigm. Interpretive theory encompasses symbolic interactionism, labelling, ethnomethodology, phenomenology and social constructionism. As opposed to the structuralist standpoint, which is about removing subjectivity of actors and the researcher, the interpretive theory is more about accepting human behaviour as the outcome of the subjective interpretation of the environment. Such is the context of a UBI or Aalborg UBI; which can be defined as a process of brokering in which the incubator is a node in a wider network of stakeholders and institutions, enabling the flow of resources (McAdam and McAdam, 2006). And qualitative research follows

the paradigm based on the assumption that multiple realities exist (Vishnevsky and Beanlands, 2004).

3.3 Choice of Research Method

This study seeks to generate a closer understanding of university business incubation at Aalborg. By viewing the incubation process as an interaction between actors and artefacts, interacting over time and space, it is possible to describe the phenomenon. As it is, quantitative methods have been used to consider the overall incubator performance (Voisey et al., 2006), however it is also necessary to understand the soft throughputs, these facets that are associated with said quantitative data but yet more tricky to get at. 'Soft throughputs' or intangibles can therefore represent the intermediate stage on the way to achieving the hard outputs. To this extent qualitative data on soft throughputs can serve to contextualise the incubatee-incubator interaction. Dewson et al., (2000) describe this as gaining a valuable context for the incubatees' needs and progress, and providing a truer more rounder picture. Barker et al., (2002) described this as making-meaning of the situational interaction or process. Furthermore, this reason a qualitative approach is more suited (Yin, 1994; Creswell, 2009).

Similarly, Kvale (1996) defines qualitative research investigation as an attempt to understand the world from the subjects' point of view; to unfold the meaning of peoples' experiences, effectively uncovering their lived world. By echoing this approach, this study attempts to answer just that. In practice the qualitative approach will make use of narrative and interviews. In the context of business incubation, such narrative can allow for discovery of 'soft issues', as opposed to incubator targets and quotas (Dewson et al. 2000).

3.4 Research Design Choice

This study adopts the interview method of qualitative analysis. Yet, there are essentially four types of qualitative research. They can be classified according to what each method is trying to study. They are: the characteristics of language, discovery of regularities, comprehension of the meaning of action and reflection; to give meaning to that being studied (Barker et al., 2002), in this case the UBI being studied. For this reason the in-depth interview method was chosen. The in-depth interview method was chosen because: (a) it would provide the opportunity to generate rich data, (b) the language being used by the interviewees were considered essential in gaining insight into their perceptions and values, and (c) contextual and relational aspects were seen as significant to the understanding (Yin, 1994).

3.5 Data Collection

The main data collections involved were via literature reviews, questionnaires, observations and a focus group discussion.

Regarding the literature, previous research studies into the relating areas of business incubation and university based business incubation were carried out. Previous studies were compared and contrasted against each other to establish the relevance of each, in light of the subject areas of University business incubation.

Regarding the questionnaire, it was necessary to underpin the constructs of the questionnaire by the aforementioned literature review. However it was also necessary to determine the best format by which the questions developed should be presented to the interviewees/ incubatees. To do this some qualitative study factors had to be considered.

Along a continuum there are basically three types of research interviews: structured, semi-structured and unstructured. Structured interviews are, essentially, verbally administered questionnaires. It involves a list of predetermined questions, with little or no scope to variation. Consequently, they are of little use when 'depth' is required.

At the other end of the continuum is the unstructured interview. This does not reflect any preconceived theories or ideas and is performed with little or no organisation. To this extent it simply involves open ended question, progressing according to response. The unstructured interview is usually very time-consuming and can be difficult to manage.

Somewhere in between the two ends of the continuum is the semi-structured interview, consisting of several key questions that help to define the area to be explored. The rationale for using the semi-structured interview method was due to the fact that it was capable of providing a guide from which to explore the UBI process and focus in on the particular contextual and local aspects of the system being studied (Flyvbjerg, 2004). Indeed researchers of entrepreneurship increasingly use narrative and interpretive methods, and inductive and iterative methods to shed light on the lived experience of co-creation (Berglund et al., 2007).

Regarding the focus group study, it was necessary to secure participants that were not only willing to participate, but also capable of providing responses that were relevant to the subject area. Patton (1990) describes this as a representative sample. To this end the objectives of the focus group were to develop a good understanding of respective experiences. The group included both postgraduate and undergraduate students from Aalborg University and a member from University College Nordjylland.

3.6 Interviews and Focus Group Meeting

The subjects used in this study were start-up teams who are participating in the incubation process at the AAU incubator. Original five subjects were selected however only four semi-structured interviews were executed as this fifth member was suddenly unavailable, table 2 outlines the four start-ups. This was not a setback in practice as this did not affect what the author was trying to explain. This fact is addressed in the reliability and validity segment of this chapter. By way of the semi-structured interview the aim was to asking incubatees to describe how they experienced the most important aspects of the incubation process; how they thought said aspects were interconnected. Though this approach was subjective and contextual, the aim was to gain deep insight.

To this extent incubatees were asked how their internal and external interactions developed, and how their interactions contributed to developing their entrepreneurial ventures. Incubatees were actually asked to elaborate on the whenever necessary. These conversations between researcher and interviewee give detailed answers about the day-to-day experiences of the interviewee whilst addressing research questions in detail (Kvale, 1996).

In all four subjects/ incubates, follow-up questions were used, post interviews. This was necessary as in every case certain answer given during the interview had to be clarified.

Each semi-structured interview lasted for about 15-20 minutes long. All four were transcribed, see appendix b. From this data, patterns that emerged were highlighted. The focus group study lasted 45 minutes. This was a suitable length of time for participants to share their experiences, thoughts and opinions (Brewerton and Millward, 2001). The meeting was also transcribed (see appendix c), and used to determine forms of convergence with data from the other data sources. The interview data was supplemented with archival data from industry reports (EU Commission, 2008) and previous incubator benchmark reports (AAU Incubator Benchmark Scorecard 2014).

These secondary data sources were important sources of information in terms of aiding understanding of the context and ‘story’ of incubators and AAU incubator in particular. Moreover it served as a way to triangulate - to observe the validity of findings (Denzin and Lincoln, 2005; Yin, 2009).

Tunnel Vision	SmartRef	Innovation-Spark	FlatCap
• Technology - Games designs and develops computer games for game enthusiasts • Member since 10 months • Team size - 5 (with plans to add new members soon)	• Sports Technology - App Development start up. Focusing on aiding sports referee management • Member since 3 months • Teams size 3 (with plans to add new members soon)	• Health Care Technology - Healthy Mattress – a new and innovative way of taking care of patients with a need for long term bed rest. • Member since 7 months • Team size - 2 (also with plans to add new members soon)	• Entertainment develops gamified digital marketing tools for retailers, helping their B2B partners give customers a great virtual experience. • Member since 10 months • Team size - 5

Table 2: Profile of the Four Start-ups Used

3.7 Reliability and Validity

When accessing a phenomenon, validity and reliability are concepts are particular to gauging the quality of measures in physical and social sciences. However it is necessary to note that in this study, an interpretivist and qualitative approach has been adopted. To this end reliability has been conceptualised as trustworthiness, authenticity, credibility and quality (Golafshani, 2003). Meanwhile validity is used here to underscore strength of qualitative study – demonstrating the accuracy of the findings (Creswell & Miller, 2000). This rests on the summation of 'believability' or 'plausibility', which similarly is based on coherence, insight and trustworthiness (Lincoln & Guba, 1985). One of the ways this was addressed was through triangulation. According to Golafshani (2003), triangulation can be employed to eliminate bias and to increase truthfulness of a proposition about some social phenomenon.

Triangulation in this case was hereby put forward as a procedure for convergence among different sources of information to form themes (Creswell, 2009). As mentioned earlier in this chapter, this involved data from online group platforms, questionnaires, observations and a focus group discussion. To contribute to the validity and trustworthiness a method by which we collected data from multiple sources in order to get different sources of evidence can be used (Yin, 2009).

Allied with triangulation, Yin (2009) recommends checking for construct, internal and external validity. To cater for construct validity, Creswell (2009) recommendations were adhered to, as such effort was made to:

- Give rich descriptions to convey findings – description to transport the reader to the setting and give the discussion an element of shared experience
- Apply self-reflection - creating an open and honest narrative that will resonate well with the reader
- Present discrepant information that may counter the themes talked about
- Spend a prolonged time in the field – and in this way, enabling an in-depth understanding of the phenomenon under study to develop. Thus lending credibility to the narrative account

Internal validity was achieved by way of adhering to Yin's (2009) postulation of triangulation, whereby as each interview was conducted more information was acquired which was triangulated with other interviews and observations.

Regarding external validity, this was addressed by confirming whether the results obtained could be generalisable. However, in terms of external validity, it is safe to say that UBI assessments are highly context sensitive. This makes generalisations inappropriate. In other words, in qualitative studies such as this study, the aim is to say something about how a certain process or event is possible, achievable and meaningful. Not whether it is true or representative for a population. The aim here is not to seek sample size in order to achieve representativeness. Instead it is the aim here to collect data that is justifiable with the question this study is trying to answer; how the business incubation process at AAU unfolds. To this end Guest et al. (2006) describes aiming for saturation. And by implication, saturation involves 'greater than one'. Therefore, even though four subjects were used in place of five, their collective responses indeed serve to address the subject area.

Regarding reliability this was achieved by adhering to several factors (Creswell, 2009):

- The administering of the study was carried out by the same person
- The same questionnaire instrument was use for both BIs
- The same procedure of phone call-questionnaire-follow-up phone call, was used for both
- Questions were administered to appreciate subjects who were qualified to provide informed responses
- Also effort was made to keep the research questions accessible, yet neither too broad nor too narrow.

3.8 Limitations

As with many other studies, this study is not without its limitations. Here the limitations of this study are outlined. To this end the represent some interesting avenues for further research.

Firstly, the study is based on the AAU incubator, located in northern Jutland. This therefore is not representative of all UBIs. For example the context of business incubation at Stamford University in America is different; particularly given the fact that entrepreneurial environment there is more advanced. According to Levie et al., (2014), spatial context may have an important influence on entrepreneurial and innovation ecosystems.

Secondly, this study looks at incubate needs as per deliver through incubator programmes and interventions. To this extent its consideration of capture value between incubatee and incubatee is limited.

Thirdly, the approach used by an incubator is like to impact the incubatee over a period of time during start-up's entrepreneurial journey. This study however only captures are cross-section of time, in so doing only captures a snap-shot of it needs facilitation and not an evolution.

Finally, in order to truly gauge the effectiveness of any given intervention models, there will be a need compare incubated start-ups with a control group of perhaps non university-incubated start-ups in order to provide robust insight.

CHAPTER FOUR ANALYSIS

4.1 Introduction

This section presents the findings related to incubation experience from the perspective of incubatees, by identifying the components they interact in their efforts to meet their start-up business goals. The aim is to present a meaning to the data captured.

4.2 Context

The idea of business incubation at Aalborg University is dual purpose. On the one hand it represents a means to achieving regional government goals of growing entrepreneurship in northern Jutland; meanwhile it also represents a solution to the issue of preparing students that may wish to enter the arena of entrepreneurship, post graduation.

But how well does it do this? Currently the incubator has a global performance benchmark of 54, with the global average being 66 (AAU Incubator Benchmark Scorecard 2014).

As an umbrella infrastructure to the university incubator is SEA. It connects the incubator to the other facets of entrepreneurship endeavours in and around Aalborg. SEA (Supporting Entrepreneurship at Aalborg University) represents an initiative by the university and local government bodies to support students getting into enterprise and entrepreneurship. Through SEA's activities with industry, the idea is to develop new start-ups.

In essence SEA functions as a facilitator of knowledge exchange, sometimes between the university and organizations. It is also meant to nurture its network. Furthermore, when its partners need a collaboration agreement, the patent and commercialization office gets involved, IPR can be developed and spin outs are created. Along with the patent commercialisation office, SEA other key partner is the knowledge transfer office. Strategically the three partners try to capture commercial opportunities. See Figure 4.1.

To facilitate the potential tenants, the incubator's value-propositions are:

- Duration of incubation program: 8 months (AAU BI Benchmark scorecard, 2014, but flexible in practice)

- Incubators/office space: 'rent break' this is provided but is limited to a select few, available on a temporary basis

- Business counselling (such as management skills or accounting)

- Access to mainframe
- Access to entrepreneur basics course

Regarding the performance, the incubator has a set of Key Performance Indicators (KPIs), which it aims for. They are:

• Number of students applying to be incubated

• Average number of applicants accepted

• Number of mentors involved with start-ups

• Number of actual student start-ups

• Investment secured for start-ups in the program

• Number of AAU students taking on its offered entrepreneurship courses

• Number of corporate representatives involved

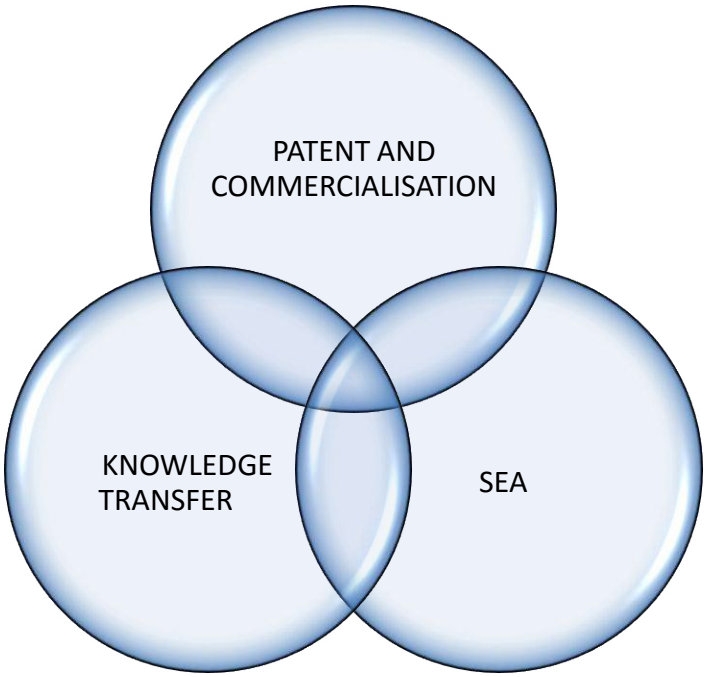


Figure 4.1: SEA's Key Partners

4.3 Stakeholders

Collaboration indeed takes place within the AAU incubator and beyond, some of these are to do with the provision of skills to incubatees and others are more strategic-related between a given start-up and external partner. However due to the range of collaborators at all levels, there is an unavoidable dilemma of resolving all the competing interests by all the stakeholders. According to the incubator representative, Bo:

There are many stakeholders around entrepreneurship in the region, and internally at AAU, there are numerous stakeholders also ... they all have an idea on how to we should build and develop the incubator...

According to stakeholder theory, Aalborg university incubator, by implication of its operation, is subject to several stakeholders (Etzkowitz, 2002; Hsu et al., 2003 Rong). To this extent there may be a considerable gap between what a focal unit sees as the interests of its stakeholders- the focal unit here being the incubator. Figure 4.2 illustrates these relationships with the incubator.

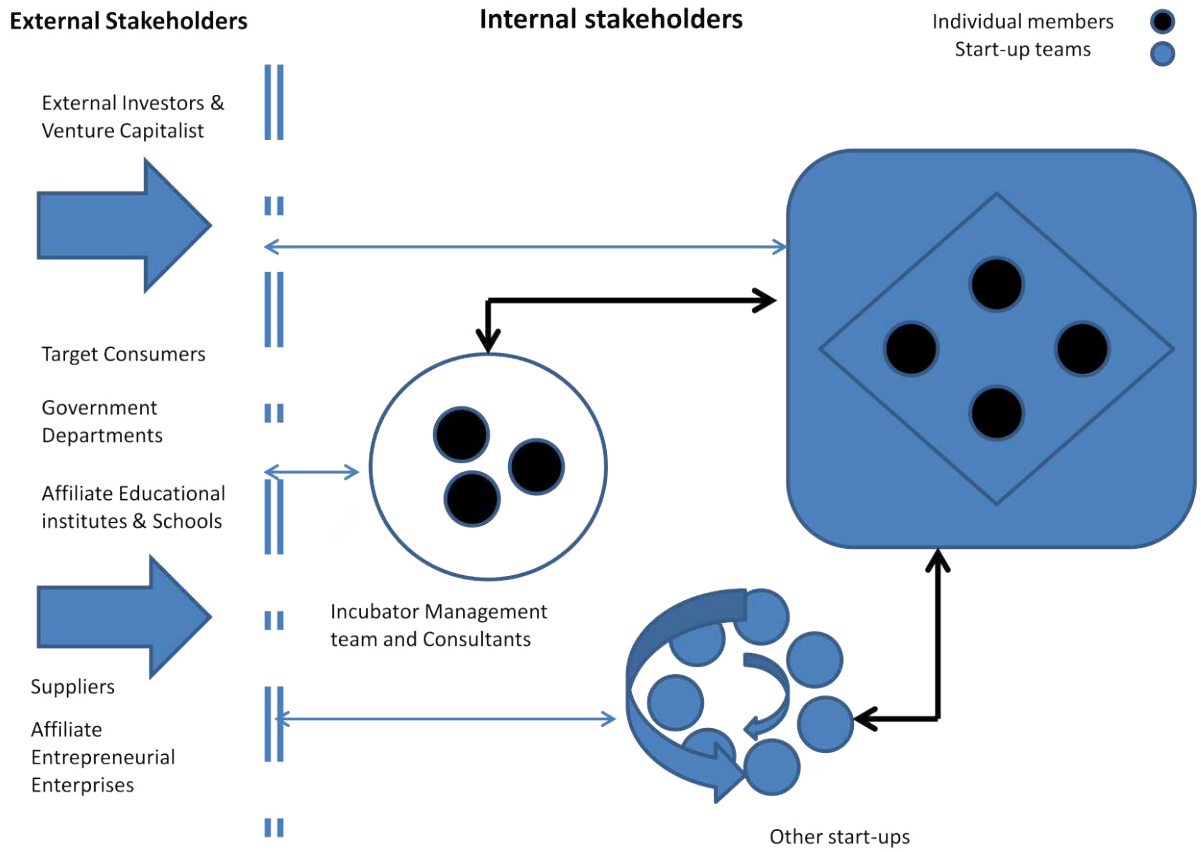


Figure 4.2: Stakeholder Relationships across Ecosystem

Given the fluid and intangible nature of the relationships within such a network of various stakeholders (Etzkowitz, 2002; Hsu et al., 2003), one cannot arbitrarily assign numeric quantities to each stakeholder influence. What can be done however is to assign categories based on the character of the data gather from the incubatees and other data sources. To this extent the categories postulated by Green and Hunton-Clarke (2003) can be used. Here in this study the data gathered can therefore be distinguished into three types of stakeholders. See figure 4.3. Regarding a new start-up or incubatee entering the university incubator, there is a limit to how much involvement can be achieved – both in real terms of shaping the incubator culture, and also owing to the fact that as novice entrepreneurs they have a knowledge deficit.

Furthermore, given that each incubatee will graduate at some point. By implication the individual incubatee's contribution to future incubator strategy may be viewed as expendable, certainly in terms of how well it aligns with the interests of the AAU incubator. Conversely other stakeholders such as the managers and university board are quite clearly identifiable based on the current incubator's strategic goals, and are fundamentally impacting the value capital of the incubator (see aforementioned KPIs). As a consequence incubatees dynamically fall into the two lower categories, see figure 4.3. Certainly in terms of how they affect decisions that impact the incubator. As stated by Morten the manager at the AAU business incubator: *'Yes there are different goals that can met but we have to decide which KPIs we should strive to reach'*

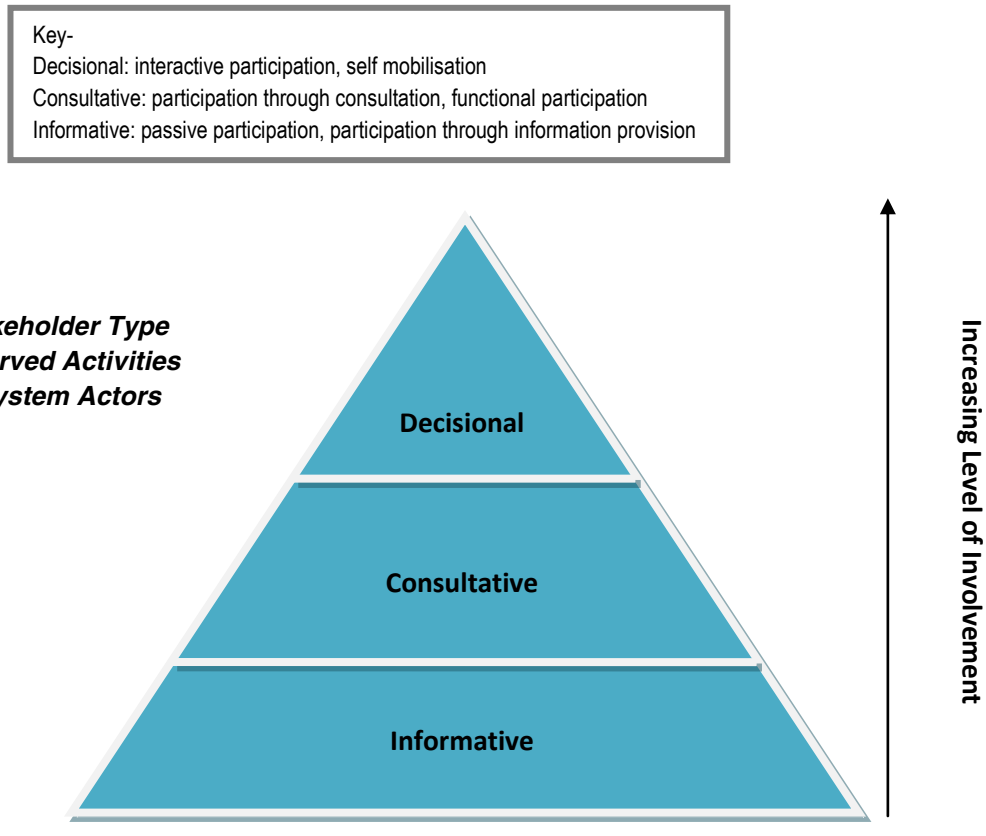


Figure 4.3: Stakeholder Type Based on Observed Activities & Actions by System Actors

4.4 Start-up Selection

Researchers have pointed out that tenant screening is an important component in the incubation process (Merrifield, 1987; Mian, 1996; Hackett and Dilts, 2004).

For new start-up teams at the AAU business incubator, they face what is on the surface, a selection process. The UBI outlines a set of criteria regarding the selection. It takes into account the presence of a credible business idea, a committed team and a solid business plan. Potential candidates that score high on these are granted access. In addition the business idea must hold significant growth potential.

In practice however the selection is actually on ad hoc basis. Tenants interviewed revealed that their participation had come about almost by accident or as a result of being in the right place at the right time. Figure 4.4 shows an overview of the selection process and how this feeds into the incubation process at the Aalborg university business incubator.

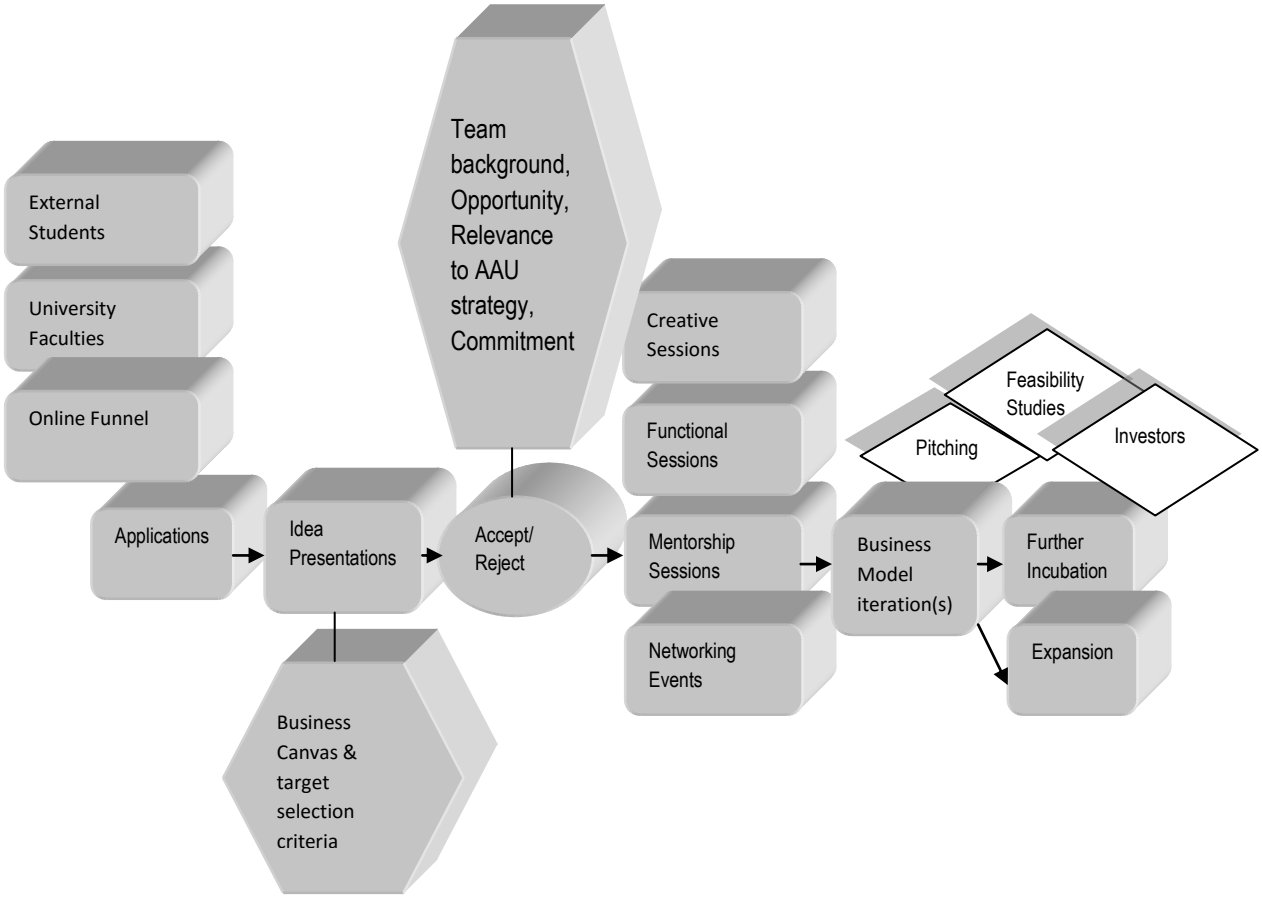


Figure 4.4: Selection-incubation process at AAU incubator

The UBI selects start-ups that seemingly can bring added value to the UBI. This is something of an anomaly as future projections cannot be a hundred percent certain, particularly given the fact that according to Hackett and Dilts (2004) the definition of incubatee "success" can be unclear. Such uncertainty is further likely given the fact that for a novice entrepreneur, which are typical of a UBI, have a knowledge deficit as mentioned earlier.

4.5 Maturation

Graduation is the Incubator decision that a tenant should leave the Incubator (Peters et al., 2004), and the discontinuation of support (Schwartz, 2009). The methods for graduation can be divided in two different ways, namely those setting the graduation criterion as a fixed term (Peters et al., 2004), and those that graduate on a case-by-case decisions (Rothaermal and Thursby, 2005). At the AAU the tendency is to lean more toward a case-by-case situation. Though on the one hand this allows them to be flexible, it also leaves room for much uncertainty, as will be pointed out later in this analysis chapter.

Business ideas do not all have the same potential. In some cases it may depend upon structural characteristics such as market size, industrial sectors involved and phase of business development (Grimaldi and Grandi, 2005). As Aabeon (2009) points out, it is contradictory to have various goals regarding what constitutes when incubatees graduate. In fixed-term graduation tenants are graduated when they reach the time deadline (Peters et al., 2004). At AAU incubator this time line varies, as it is not likely that all incubatees will reach a large enough resource base in the same time span. Ultimately it highly unlike that any two incubatees will exit with a set of all encompassing predefined targets. Of the subjects interviewed, there was no clear link between the duration of their time at AAU and therefore how much resources they had accrued.

To this end, Hackett and Dilts (2004b) propose that tenants should be appraised by whether they are surviving and growing profitably. But profit however, might not be an accurate measure to capture venture growth, because entrepreneurs are willing to sacrifice profit initially to survive and grow (Peña, 2004). As mentioned by Christopher from FlatCap, *We have a different business model in terms of the gaming industry and so it is not that straightforward, looking at our profitability.*

Though a case-by-case situation makes much sense, it is also necessary not to still focus on the wrong types of measures. For all the subjects interviewed it was evident that graduation represents potential prohibitive financial costs going forward, and in particular to fixed costs such as rent. For this reason it could be valuable to the start-ups for the AAU incubator to offer a tentative graduation/exit policy. Interestingly Rothaermal and Thursby (2005) observed something similar in their study where incubatees required a more flexible set of targets in relation to exiting.

That said according to Hackett and Dilts (2004), start-up graduation might also be influenced by political pressures. Though this was not evident courtesy of the interviews, it is still a likely factor that affects decisions made regarding graduation at the AAU incubator.

Given the fact that all the start-ups interviewed at the AAU incubator were pre-trading firms, profitability can only be determined in terms of forecast. For this reason, the AAU incubator does in fact a real issue of deciding whether or not to veto the remaining or exiting of a given start-up team. This is exacerbated by the fact that the AAU and the regional government are making efforts to grow regional employment numbers. As such they are keen to put pressure on the non-performing teams or exit them, to provide space for others.

Taking an alternative perspective to this issue however, Hackett and Dilts (2004b) suggest that forcing exit is in some cases a good thing. According to them, early removal of non performing tenants has a social aspect as well, since it increases the probability that tenants can exit their business without suffering high costs (Hackett & Dilts, 2004b).

4.6 Early Stages and Start-up

For a newly accepted incubate at the Aalborg UBI, they are faced with the task of accessing all available competencies whilst moving through the sequence of growth phases. These phases are namely: the idea for new product or service and/or opportunity recognition, a go-or-no-go decision to proceed, resource assembling - this could be information, finance, and people, actual launch of the new venture, and finally start trading. Aalborg UBI reframes these phases as Discovery, Start and Growth. The Start begins once the start-up team has been selected. At this point a mentor is assigned and weekly meetings will be conducted with a business developer.

For a new start-up at the incubator, it is imperative to understand the processes and the different modes through which the incubator can add value. As discussed earlier these modes can come by way of a physical infrastructure, a business support service, network support and business support – which could include economic capital (Aerts et al., 2007; Bruneel etal.,2012). And in terms of Aalborg UBI, collaboration and knowledge sharing are themes that run through the said modes. To this extent the questions in the interview sought to explore the interviewee's perceptions of these areas.

4.7 Entrepreneurship Culture

The first set of questions asked of each interviewee was geared towards ascertaining the perceptions, priorities, perceived benefits of joining the incubator and the underlining presence of an entrepreneurial culture, which should include promotion and awareness relating to entrepreneurial culture (Arroyo-Va´zquez et al. 2009). Such awareness is lacking as mentioned by many as incubatees stated that awareness was incidental than planned:

"We joined by accident" – Tunnel Vision

"People from the incubator were involved in our studies" – SmartRef

"We learnt about the incubator because we were on a course 'New Venture Creation'"–
Innovation-Spark

"We chose to do a summer course about our business idea and that's where we heard we can get help... help with developing our business and we heard we can get spaces to work" – FlatCap

The Incubator draws on its contacts across the university are for promotional activities. However this could be done better:

"It would definitely have helped our start-up if we had know more about the details of incubation and the processes when we originally spoke to them... maybe we would have been able to work out a better solution with them" - Focus Group Study

"Actually I am wondering why the some people like myself have not heard about more details of what the incubator can do for potential students" – Focus Group Study

Furthermore there is usually some confusion regarding events:

"ohh we didn't hear about that one... sometimes there are things like that that we don't hear about sometimes they advertise on some platforms but not others.... sometime you can miss things because you of that" – SmartRef

4.8 Facilities and Physical Resources

The second set of questions to the interviewee was to gain an insight into the incubator's physical resources manifest themselves, in terms of how well they serve the needs of the incubatees. A critical element to this should be the degree of flexibility. Ratinho and Henriques (2010) point to flexible offices in relations to the fact that the start-up very often vary in scheduled usage and in team size over time.

One of the main factors that stood out was the reason behind why the incubatees joined the scheme:

"...they said to us, 'hey we have this thing going where you can get space'"- Tunnel Vision

"...we basically showed up and used the work space... but not much more"- FlatCap

Participants thought that the inherent flexibility of the Incubator was a very valuable aspect of the facility's operations, as it saved them from having to rent larger premises from the beginning in the hope that the space would be used.

According to Mintzberg (1979) he hypothesizes that effective organizational structuring requires a consistency among the (organizational) design parameters and contingency variables. Interviewees also stated the importance of the location of the incubator and the sufficient amounts of work spaces:

"...we only use the office space ... we don't need much more and it is always available" – Innovation-Spark

"...and we need to use money for developing and for fixing bugs and stuff like that... so it great not to worry about rent" -SmartRef

In addition to the use of the incubator's shared resources such as administrative services, start-up teams have the choice of spaces of varying utility; from smaller sized spaces, to larger sized spaces.

"Actually the free office space is really good for us... it's quite easy as to take any room ... sometimes we can use the smaller ones but we also use the bigger rooms when we need to... and we need to use money for developing and for fixing bugs and stuff like that... so it great not to worry about rent." - SmartRef

The issue however arises that as the incubator loads more start-ups into its space in an effort to satisfy its maxim of 'getting commercial ROI fast' and 'hard targets', some start-ups will struggle with a diminishing availability of space if they grow in size, as stated by one of the incubators:

"*One of the things we are not worried about... YET... but it could become an issue for us ... it's that we have become a large team... and it's hard to be sure how long we can remain under the incubator – and then the new start-up join ... there is a bit of uncertainty there... Also they were still not certain about their office space requirements in the medium term" – Tunnel Vision*

4.9 Business Support

According to Bergek and Norrman (2008) business support is the most important aspect of an incubator's activities and focuses on developing the incubatee's resource bases. This in turn will positively affect the incuator's own resource base as well (Aaboen, 2009). Business support is provided for incubatees by way of training and by way of coaching. Incubatees also got help with their business plans if needed:

"...we needed this as we were trying to set up a contract with the manufacturing company regarding production. We were concerned that there may be some hidden information with the contract detail that we might miss... so we consulted with Bo (a staff at the UBI)... and they were able to go over the details with us and help us with setting up the contract..." – Innovation-Spark

"...we needed to apply to the Erasmus Entrepreneurial Scheme ... but to do this we needed to get our business plan right... they were able to help us" – Tunnel Vision

Most incubatees have a clear idea about their strategic aims. However when pushed to defining what this would look like in detail, things becomes a little bit fuzzy to define. For example speaking about prioritising tasks towards meeting a deadline for their first customer, ended with the comment:

"Well we are still learning about things... things we need and things we don't need..." - SmartRef

"And in terms of our business model... it's a bit unclear whether we will be considered as making profit... but it is definitely something we will have to speak to them about at some point) – Tunnel Vision

Such statements indicate that the incubatees at the AAU incubator are more consistent with an effectuation logic approach Sarasvathy (2001), as opposed to a causation approach. That said the managers at the incubator recognise the importance of training and they try to address the aforementioned knowledge gaps, by booking presentation sessions from industry experts and offering lectures, see appendix d. These experts are for the most part booked in an ad hoc way based on incubatee-staff conversations or as a result of fielded surveys regarding 'who would you like' us to book to give you a lecture. However, many incubatees are novice entrepreneurs and as such are to a degree functionally unconsciously competent and or consciously incompetent (Burch and Gordon, 1974); this therefore serves a limited yield.

"We currently are in need of some funding. But to complete the application form we need to meet some criteria for example put together some an actual budget ... detailed accounting... and though we can write one... we don't know how to present it... if it will be professional enough" FlatCap

"Still need to get some help regarding how we can model our business" - SmartRef

Such statements are further substantiation of the fact that in spite of the events and presentations offered by the incubators, they also repeatedly demonstrating competency gaps.

From the perspective of coaching, as a mode of business support at the AAU incubator, Rice (2002) points to this via three modes: reactive coaching, pro-active coaching and long-term coaching. Considering incubatee statements:

"Actually like today we are having some issues with a form... so we had just spoken to Bo (staff member) and arranged for a meeting with him tomorrow to help us with it" – SmartRef

"We were concerned that there may be some hidden information with the contract detail that we might miss... so we spoke with Bo (a staff at the UBI)... and they were able to go over the details" – Innovation-Spark

These interactions indicate that the incubator management policy is to allow for incubatees to bring issues to them as opposed to the other way round, or a more dyadic and continuous interaction – which theory postulates to be important (Rice, 2002; Pena, 2004; Patton et al. 2009). Long-term strategic plans are worked out between incubatees and incubator, however these long-term plans do not translate well into micro level milestones, and as such even though this provides, flexibility, it also creates a certain level of uncertainty for the incubatees:

"*And it's hard to be sure how long we can remain under the incubator... and then the new start-ups join ... there is a bit of uncertainty there... when a start-up is mature enough to leave the incubator."*- Tunnel Vision

Well we talked to them about this... but they say there is no firm rules about that ... they say it would depend on a lot of things and also how many other teams are actually in the system. – Innovation-Spark

Some of this approach could be attributed to the fact that the AAU business incubator is happy to see the individual start-up show there worth so to speak. Yet some of this approach can be attributed to the fact that many of the incubatees are in fact from a technology background and as such more interested in the technology aspects of their businesses and crossing the business competency chasm is a task they prefer less to attend to.

Therefore, in so far as strategy is concerned, such initiatives to events have been largely implemented with limited dyadic consensus between management and incubatees, and in terms of what should be measured.

Continuing on the theme of business support, most tenants feel comfortable in the incubator, particular given the presence of a peer-to-peer support between themselves – incubatee-incubatee. The best example is that offered by Phillip:

"But in one example... it was the case that we were having difficulties when we started using a project planning tool... we wanted to set up all our projects but kept having problems understanding parts of the software... we heard that someone in one of the other teams had already done something similar using that software... so we went to him as said 'hey we'd like to use the planning tool as you did... we tried we've been having difficulties... would you be able to help us'... They came over and helped us set up the tool and gave us some tips to get going. This helped a lot and saved us so much time..." continues

"Also sometimes we can use team members from other start-up teams to do product testing... when we need a fresh pair of eyes or objective input..." - Innovation-Spark

4.10 Financial Support

Grimaldi and Grandi (2005) found in their research that incubators on the whole did not directly provide their tenants significant funding, though tenants do see securing venture capital as crucial (McAdam and McAdam, 2008). The UBI at Aalborg University is no different, as interviewees were clear about their desire to secure external funding towards either product development or towards promotions:

Well we have not had direct funding from the incubator... we have mainly focused on getting financial help from outside the incubator. – Tunnel Vision

"We are hoping that as being a part of the incubator ... when we go to ask for investments or funding from external partners... we can state that we are associated." - Innovation-Spark

"We currently are in need of some funding... we need to finish setting up the platform that our customers will visit and use... and so we need to pay for the technical skills." - FlatCap

To this end the incubatees are aware not to expect much financial aid from the internal stakeholders.

That said debt financing is not necessarily the best route for start-ups (Aernoudt, 2005). Furthermore, central to the role of SEA is to facilitate knowledge transfers and to commercialise any knowledge and technology captured. Therefore financing only makes sense when it will drive the university strategy: were investment is equity based. In other words proof-of-concept matters for SEA start-ups (AAU Strategy, 2016 -2021).

4.11 Access to Internal and External Incubator Networks

The last set of questions aimed at the subjects was to explore how well the network and relational systems facilitates their start-up needs. Networking is critical for business incubators to provide added value-services to tenant firms (Bøllingtoft and Ulhøi, 2005).

All interviewees admitted that a key benefit to them after joining the incubator was to the chance to tap into the incubator network, but in particular at the internal level. For example:

"We were not very sure but we knew that we might be able to benefit from being around other start-ups that were also selected." – Tunnel Vision

"But really it's important for us to be part of a bunch of other like us and a supervisor to help each other and learn from each other and also survive the first couple of months" - SmartRef

"We also hope to benefit from being part of a group of people ... people also in the same situation as us... trying to start up their businesses... and we can also motivate one another." – Innovation-Spark

"Yes ... it still is... we hope to get their knowledge ... but also to spar with other start-up teams and share knowledge..." - FlatCap

"But we have also been able to benefit from other teams here too... by spotting the mistakes made by others... this saves us time and money... and this is a very important for us." - FlatCap

From the answers collected is evident that the co-habitation of the incubatees, is facilitating for cross-pollination of ideas and resources. To this extent incubatees see the networks available as a mean of broadening their sources of information. Conversely they see the channels as means of transmitting information between one another. They state that there is direct interaction between incubatees and they regularly exchange ideas. This invariably serves as a means of cost reduction.

Also emerging from the question is the incubate-incubator relationship which tends to start against a backdrop of incubator incubator managers targeting certain faculties and then soliciting students and their ideas from there. The following examples illustrate this point:

"We came across the guys from SEA who said 'hey we have this thing going where you can join and get free space to work'." – Tunnel Vision

"People (staff-member) from the Incubator were involved in our studies... Entrepreneurial Engineering." - SmartRef

"They said they were interested and wanted us to join (the incubator) and that they could help with marketing and the legal aspects of the business and product. But as we could see ... we already had these skills in our team." – Focus Group Study participant, P2

Externally:

Also evidence is that there is a stronger level of direct peer-to-external activity, than there is per-to-incubator-to-external. To this extent teams are circumventing either out of choice or out of condition, to acquire resources externally.

"Externally we tend to use our own network… as we find this more reliable. Whenever we can find a solution in the incubator here we don't wait for them... we try to look in our own network..." –Tunnel Vision

"We were hoping for more help relating to our decision making ... or to collaborate with external partners." - Innovation-Spark

"We did have help also from an external party.... the local government business start-up support centre." – Innovation-Spark

FGS dialogue extract:

P2: Yes... well we would have like to join them but unfortunately they didn't have the network to access the skill we wanted.

TE: So what did you do then?

P2: We actually went out and searched for a programmer ourselves.

TE: How...?

P2: We put an advert online.

On the part of the incubator, they act to facilitate the external-internal channels, chiefly by way of the events they organise. An example of this can be seen courtesy of the events calendar which includes formal meeting up workshops. Here incubatees can meet and or collaborate with other participant from across the external eco-system.

Furthermore there is a deficit in social capital - some of the responses given by incubatees implied that they have yet to secure an optimal network.

"I would say not really but then the incubator is part of a large group of related parties ... and the system is still forming so things move just a little slow... there is a list of things the incubator has to prioritise and get moving." – Tunnel Vision

"I mean there wasn't much structure to what we could do/or how we could use the incubator. We basically showed up and used the work space... but not much more... now is getting better ...there is more help and more structure for us to develop." - FlatCap

In terms of internal-external interactions, one key benefit for the incubatees that stands out is that of credibility or legitimacy. The ability to signal credibility through association with the university brand image has helped the UBI start-ups open the proverbial doors, which would have otherwise been unavailable. This is demonstrated in the extract below.

Innovation-Spark dialogue extract:

Zara: We are hoping that as being a part of the incubator ... when we go to ask for investments or funding from external partners... we can state that we are associated (affiliated) with SEA and this could help other to be confident in us and our start-up.

TE: So you are looking to benefit for legitimacy by association?

Zara: Yes, you could say that.

Knowledge Sharing

The business incubator tenants at Aalborg University are typically from the technology industry. As a consequence there are commonalities amongst them to help with knowledge sharing. Furthermore the fact they are co-located helps to drive face-to-face interactions:

"to be part of a bunch of other like us and a supervisor to help each other and learn from each other." - SmartRef

"But we have also been able to benefit from other teams here too... by spotting the mistakes made by others... this saves us time and money... and this is a very important for us." - FlatCap

In terms of servicing the needs of the incubatees, this is important as it indicates that there is a good amount of trust across the start-up teams, a factor that is a necessary precursor for knowledge sharing.

The incubator management further encourages interactions between start-up as mentioned earlier, by way of frequent formal meetings. According to theory (Amin and Roberts, 2008), increasing these actions can only be a positive in the long run, in terms of inter-exchange of knowledge between incubatees. That said, the same would strictly apply for exchanges between incubatees and externals parties. For example Aalborg Business Incubator's valuable assets are embedded in part in the social relationship among its incubatees and their relations with external parties. Therefore the transfer of such tacit knowledge should be codified, for long term gain. But said codified information seems to only be captured and directed from bottom up, in the form of patents, technology and legal agreements. Meanwhile internal and external peer-to-peer is not being captured and codified. As demonstrated in this reply:

"I mean there wasn't much structure to what we could do/or how we could use the incubator. We basically showed up and used the work space." - FlatCap

"Sometimes we are able to share with the incubator (staff) our concerns and they are then able to invite key people from outside to come by and give us a lecture or presentation." – Tunnel Vision

Another example of knowledge not being optimally captured for the use of other incubatees is to do with the SPININ programme. Here selected incubatees have the chance to get matched-up with an already established entrepreneur. During the course of the tenure, the incubatee will get the chance to pick up some insights and providing the established partner with their own fresh input. That said, on completion,

there is no evidence of a formalised way of capturing and codifying things at some things that were learnt.

4.12 Service Configuration for Incubatees

Even though the AAU incubator identifies as a 'non-specific' university incubator (Global Performance Benchmark Scorecard 2014), note the extract below from one of the subjects in this study:

TE: And these teams... were they from different backgrounds or faculties?

CG: Well most were from tech... I think all of them were tech companies actually

TE: So this was the norm?

CG: Yeah definitely... I would say it's like 75% tech...

The comment made by one of the subjects relating to the percentage of technology companies in the UBI at Aalborg is one to be looked over. A confirmation of what industry typifies the focus of the start-ups in the incubator was able to reveal that the subject (FlatCap) was not exaggerating – technology-focused start-ups seem to be the current norm.

On the surface this is not a surprise, as such a trend is indicative of Aalborg University's strategic aim to garner commercial ROI from the efforts emerging from the university as a whole. To this end, technology based start-up fit the bill, definitely in terms of knowledge transfer and subsequent conversion to commercial gains. In practice such homogeneity of start-up-type has much benefit. For example, it is the shared industry background and interest background of said incubatees that will expedite the per-to-per sharing of knowledge and generation of new knowledge thereof. For example it could be said that relationships are underpinned by the shared interests of the members. This could be interpreted as an intrinsic benefit (Deci and Ryan, 2000). Furthermore, this will enable Aalborg UBI to focus its competencies in the management's provision of support, structure and networking. That said, at the team-level another picture has emerged based on the data gathered.

These observed details indicate that on the one level incubatees share a lot of commonalities in terms of what needs to be taken care of to get where they need to go. However, on a more practical level, they have differing needs based on their differing team attributes. To this extent the start-up teams are getting the base-level help they need, but could also get help in areas that may inadvertently super charge their growth rate.

Indeed this approach requires continuous personal interaction between incubator representative and incubatee. The argument being that incubator services such as

networking and strategic counselling offered in a nuanced manner is indeed important for incubatee success (Hansen et al., 2000; McAdam and McAdam, 2008).

To achieve this, the responses given by the subjects in this study were grouped in such a way as to counter-balance the aforementioned hard measures (KPIs). For the purpose of this study they were grouped into four 'soft measures': 'degree of interdependency or mutuality' – co-creation of value between incubatees and the management, their 'networking & resource acquisition competency', 'business pivoting competency' and 'advocacy competency', advocacy competency being how effective the team or members of, are at inspiring and motivating themselves and other about their start-up. By adding this approach, the AAU incubator and others can further impact the incubator performance, as a result of enabling the respective entrepreneurial mind-sets of the individual start-ups. Figure 4.5 illustrates this relationship.

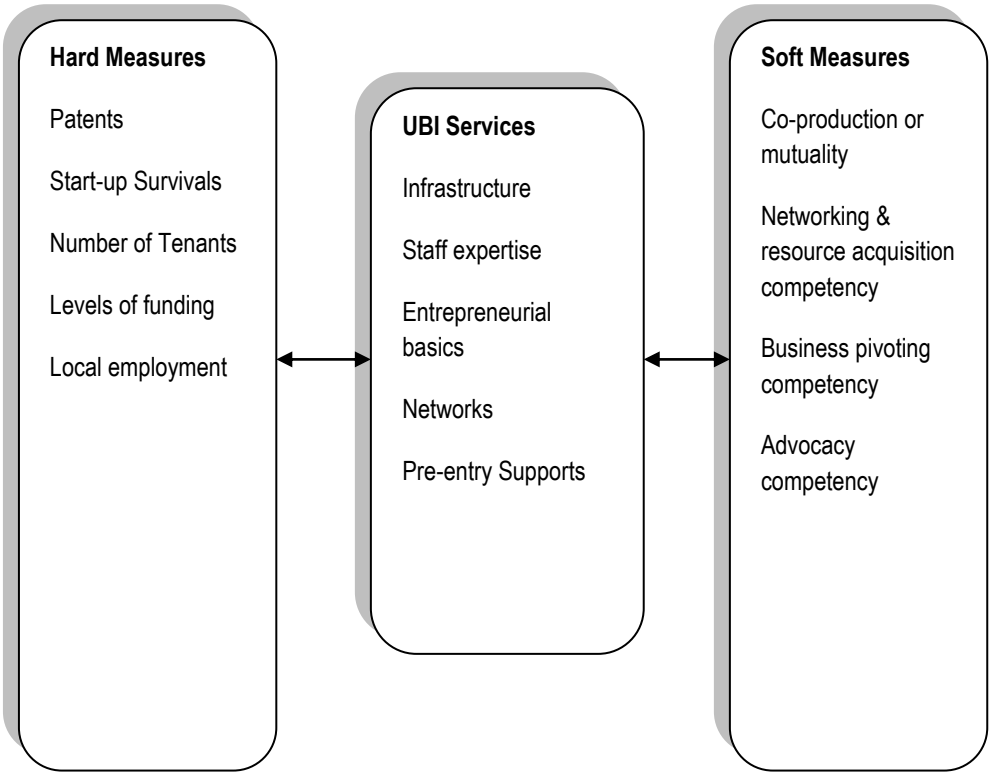


Figure 4.5: Hard Measure Soft Measure Relationship

That being said, it could be argued that in spite of the differences in-between start-ups and the low number of current incubatees, compared the say the UBI Europe average of 30 (Oxford University Innovation, 2014) mean that the needs heterogeneity is not high enough to warrant such a nuanced take. In effect however what this mean is that potential capabilities are being 'left on the table'.

This study addresses this challenge – going beyond basic-level help they need. To achieve this, the observations extracted from the data have been categorised along the aforementioned four dimensions in terms of the start –up's respective competencies. This in turn gives a dynamic overview of how to configure their respective support packages. The matrix chart offered up in figured 4.5 can be adapted therefore and used as a tool to get closer to individual start ups regarding incubatee needs.

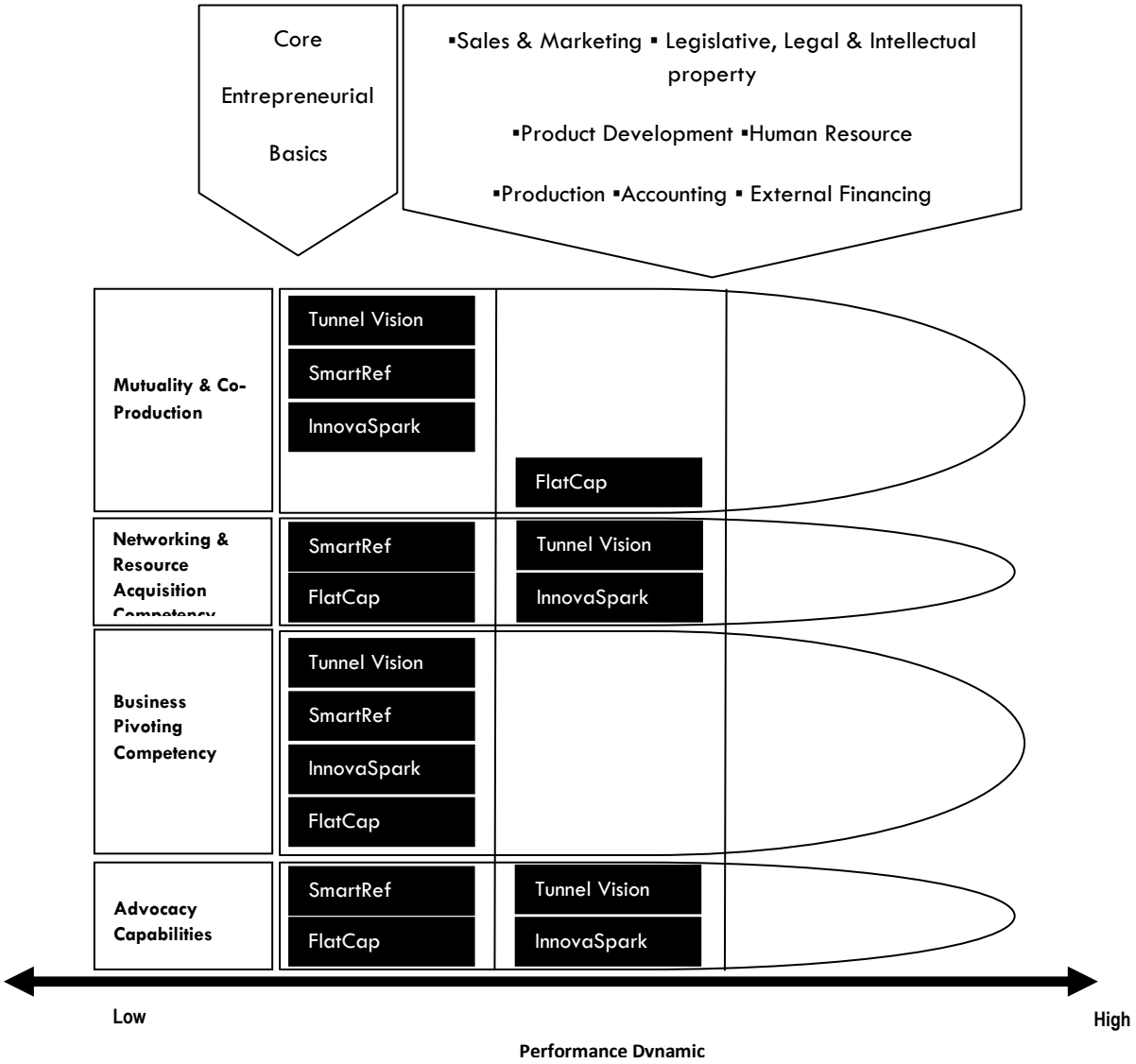


Figure 4.6: Service Matrix for Incubatees

The matrix incorporates a combination of the core requirements, with are the 'entrepreneurial basics' offered at AAU incubator. But in addition each start-up is then assessed based on their relative level of: 'degree of interdependency or mutuality' – between them and the management, their 'networking & resource acquisition competency', 'business pivoting competency' and 'advocacy competency', advocacy competency being how effective the team or members of, are at inspiring and motivating themselves and other about their start-up. All these factors will affect the success levels. Whilst keeping these factors in mind, the incubatees and their incubator managers can agree or other strategic elements should be formally added to the entrepreneurial basics pot.

Given that Lusch and Vargo (2006) describes value that is co-created, and given that Rice (2002) has portrayed business support as a co-production relationship between the incubator managers and start-up teams. The co-produced output according to Rice is: passive environmental intervention (equipment, facilities, informal networking, etc.), counselling (reactive and episodic, proactive and episodic and continual and pro-active) and networking (drawing on expertise to fill knowledge gaps, referrals, and so forth). To this extent, the matrix enables a clearer picture of how to proceed between incubator and incubate, particularly in light of the co production and mutuality observed in the content of the interviews - three of the four start-ups have a low level mutuality, more so than FlatCap – which has managed to co-produce in direct collaboration with the incubator, securing their current provisional contract with a customer:

"We got to know him through (the network of) one of the managers here"

Regarding the other three start-ups, they are evidently relying less on 'co-production' of value:

"Not very sure ... might be able to benefit" - TV

"At the moment they just provide guidance and feedback" – TV

"Whenever we can find a solution.... we don't wait for them" TV

"Actually we have had the idea since... we were for sure going to develop the business even without the incubator" - SmartRef

"Actually we just got some help... but we also got some help from outside" Innovation-Spark

The capacity for 'networking and resource acquisition' also varies across the start-ups. For example TV and Innovation-Spark in their responses demonstrate networking and resource acquisition competencies:

"We got on the Erasmus scheme..." TV

"We are hoping for more help relating to our decision making or to collaborate with external partners" Innovation-Spark

"Actually we just got some help ....but we also got some help from outside" – Innovation Spark

"We started contacting them by email" – Innovation-Spark

On the other hand SmartRef and FlatCap in their responses described some issues in this area:

"Well we are still learning about things... things we need and things we don't" – SmartRef

"We have the tech skills... but we also need the marketing side of things" – FlatCap

But how well are these incubatees about to utilise the value offerings of the Aalborg University BI to 'pivot' their respective start-ups. This is important. As the start-up develops, elements of the industry they are focused on might require them to changing the business model or shift the monetisation focus. To this end all start-ups demonstrated that this could be an area of weakness for them going forward:

"We recently had to put together a business plan ... this was very hard for us because of our background... not being in business studies" –TV

"We still need to get some help regarding how we can model our business to and get some revenue streams and maybe how to promote our app"- SmartRef

"We could get in touch with the programme secretaries ... but actually we haven't thought much in detail about the exact ways in which we could get in touch with these people who can help in that way" – Innovation Spark (in response to might go about getting in touch with external students?)

All the incubatees that were questioned were indeed able to put across the thrust of their respective businesses. That said it was interesting to notice the differences is how the said parties achieved this – some with better effect than others. Tunnel Vision and Innovation-Spark demonstrated good 'advocacy' or championing of their start-up:

"We launched our first prototype and enter it into a competition which we won" – Tunnel Vision

“We started by contacting them by email... and told them we were with the UBI and we explained the business ... they thought it was a great business idea.... so we then started to speak to them by phone” – Innovation-Spark (in response to the question how they sold their idea to the local government business support team).”- Innovation Spark

What these demonstrate is that on some level there are similarities across the incubatees, however there are also differences. These differences need to be looked at. Micro-level interventions to these differences could completely boost the survival rate of a start-up – a metric that is measured in terms of incubator performance.

CHAPTER FIVE DISCUSSION AND CONCLUSIONS

5.1 Introduction

This chapter presents a discussion of the findings of this study. It provides reflections in light of the study findings. Following this it outlines recommendations for possibilities of future studies.

5.2 The Value in Nuanced Business Support

As a strategic tool, a university business incubator can play its role in terms of economic development and innovative growth. The service can be delivered via its choice of interventions in the forms of tangible and intangible offerings. This process provides the incubated start-ups with what is essentially an enabling environment at the start-up stage, once they are selected. Arroyo-Va´zquez et al. (2009) refer to this as a contextual background of entrepreneurial culture. The aim is to reduce the chances of failure and to increase their entrepreneurial confidence. However, it is also importance to link them up with the necessary resources and enable them to acquisition or acquire the correct types of resources they need. The point at which this becomes potentially fuzzy, it when the incubator key stakeholders have to find a balance between the incubator's strategic aims, its associated resources and the usually diverse range of needs of the tenants or incubatees. Hackett and Dilts (2004) point to this dilemma as one of property development versus business assistance.

This dilemma is further exacerbated by the fact that the said needs of incubatees will shift over time. This is a given. Invariably incubatees will undergo a development process through the course of their incubation period (Chan and Lau, 2005). As such their needs will evolve.

SEA identifies some key factors they look for during the incubation selection process. These are:

- Business plans should be rooted in the teams disciplinarily, but at the same time cross-disciplinary or building on knowledge from other domains
- Address a problem area that is recognized by stakeholders (or that you convince us that it will be by your endeavours)
- Carried forward by a dedicated team of students
- Described in a convincing way
- Endorsed or backed by your supervisor
- That are ambitious and with a degree of uncertainty (not related to execution).

Given these above factors, the aforementioned dilemma of alignment between incubatees and incubator is thus avoided, by aligning with the theory of Hackett and Dilts (2004). Focusing on the selection process, the University BI selects incubatees that will share common problem areas as the 'key' stakeholders. That said, according to Hackett abd Dilts (2004), such an approach to serving the incubatees

leaves the incubator with the choice of being either idea-focused or entrepreneur focused. The Aalborg BI is more idea-focused, which is why the detail-level needs are not catered for. According to Hackett and Dilts (2004), the entrepreneur-focused approach, in contrast, requires the ability to judge personality as well as the knowledge of more general business development requirements in relation to which the experience, skills, characteristics and driving forces of entrepreneurs may be evaluated.

Nonetheless, the incubator-incubatee interaction was found to have a positive impact on the teams. They believed that they were able to solicit advice whenever they needed and they could gain value whenever through these interactions by way of the extent of access to potential internal/external entrepreneurial networks.

5.3 Co-Producing Value

Regardless of the approach adopted by the Aalborg University's business incubator to serve its incubatees, the net result of their efforts is a set of manifestations by way of their incubator's value proposition. On the face of it, this is mainly a top-down emergent set of manifestations, as mentioned in the previous chapter. However, value proposition, is in fact a direct result of value created, in particular, value co-created. Value antecedents in fact exist via the efforts of both the incubator efforts and those of the incubatees and the wider eco-system (Lusch and Vargo, 2006).

From such a co-production perspective, incubatees do not passively receive business advice based on predefined expert knowledge. Rather they are inter-dependent actors. And though there is evidence of this co-creation of value much of it is unidirectional - from the side of the management. This approach is consistent with the idea-focused approach, in so far as it leans away from the service model. However, once a university business incubator adopts a service model, this will broadly define the way it provides support to its start-ups. Ordinarily these two models, idea versus service will differ, but also will overlap. And to a great or less extent will influence the incubate-incubator interaction across the much referred to dimensions of: structural capital, training and coaching capital, and networking capital. To this extent, most of the universities offer value across said dimensions. However it is the differing underlying strategic mindsets that will affect their interactions and in turn value base. Indeed this value base is something that can be optimised by those university incubators that choose to adopt a more service logic approach.

5.4 The Value in Start-up Team Variation

On the one hand it makes sense for the AAU incubator to consolidate its value proposition vis-a-vis a clear identity. Through the selection process the incubator is able to whittle out those start-ups that will not serve to reinforce its image and values. They are also able to make cost reduction as they can simply replicate elements of the service, particularly given the fact that they are running at for

instance 75 percent tech-based start-ups, as mentioned in the last chapter. Schwartz and Hornych (2008) echo this approach by suggesting that studies of incubatees have been conducted in diversified sectors offering poor incubator performance results. Meanwhile studies on sector specialized incubators have demonstrated better performance results (Schwartz and Hornych, 2008). This does however render the AAU incubator inflexible to changes and in terms of the generation of new ideas.

As outlined in the selection process criteria, the AAU incubator uses its selection process as a tool to whittle out potential start-ups that may not be suited to its strategic goals. By doing this incubatees are left for the most part to prove themselves. For the AAU manager, this is good because it frees him (Morten Dalgaard) up to focus on running the incubator. However on the other hand this can be a draw back in terms of developing incubatees. A study by Lewis (2001) concluded that incubator managers spend most of their time on operational tasks in order to secure the future of the business incubator rather than helping the incubatees. This is ironic seeing as Autio et al., (2000) found in their study that a start-up's age plays an important role in building organizations' capabilities and routines.

5.5 Integrating Social Media

Networking, Community, connecting with others to plug skills gap were reoccurring sentiments across both the focus group study, and the interviews held. Indeed the AAU incubator runs a Facebook that serves as a tool for communication amongst the various incubators and other external actors. Information is shared on there and members are invited to contribute ideas.

As much as this is a great example tool of aiding incubatees by way of support or resource acquisition, it is precisely this tool that isn't being leveraged optimally. As a tool, the social media medium could be used to achieve much more than being a simple sounding board for events, announcements and generic commentary. It could in fact be used as a means to capture and code peer-peer or and cross team information capture and codification.

This is particularly useful as not all knowledge may be codified or transferred formally (Nonaka, 1994; Polanyi, 1967), therefore the capture of knowledge through less structure mechanisms maybe more effective in some situations, vis-a-vis social media. To this extent more peer-to-peer and cross team interaction should be encouraged online. This is not the case at the moment. It becomes even more interesting when you consider that many of the start-up teams are more or less in the same industry. There is much information that can be exchanged and process in a way such that the AAU incubator community can process and store, and process again as more start-ups join. Right now, as a start-up joining, they will encounter pockets of tacit information that may or may not be accessed, depending on who one speaks to. This was evident even in this study, where it was evident from the

subjects spoken to that their access to information was fragmented and without persistence some of it could remain without knowing. Kaplan and Haenlein (2010) provided a list of types of social media applications such as Facebook and collaborative projects. The former however can be leveraged a lot further.

5.6 Conclusion

This study sought to answer a key question that was designed to gain a better understanding of the influence a university business incubator has on developing new start-ups. To this end, this chapter concludes the findings of this report through answering the research question, courtesy of the findings outlined earlier in the report. Moreover, recommendations are presented and possibilities for future research are put forward.

The overarching research question of this report as per outlined in the first section was: How can the AAU business incubator better compliment the needs of the incubatees?

In addressing this question the follow questions were consequently answered:

What are incubatees really benefiting from once they start the incubation process?

From the research in this study it was shown that the principle benefit for start-ups joining the AAU incubator is the chance to locate themselves. The chance to have a workspace from which to operate is crucial. Certainly the opportunity for having office space is critical for a start-up however this should be seen as just that, meanwhile that it serve a basic function, however it does not assure growth and survival. To this extent it should fall into the same category as the AAU incubator's offering of 'entrepreneurial basic'. As Allen and McCluskey (1990) postulate, infrastructure is the basic function common to all kinds of BI and the core of their value proposition.

Above this are business support services, in the form of coaching and training as mentioned earlier. Yet, required above that is a 'nuanced' business support. And this is where the friction remains. Do we as an incubator focus in on particular needs of our incubatees? This is something that becomes an issue, as to the degree to which could affect the performance of the incubatees and in turn the incubator.

Certainly the incubatees look to their incubation peers to tap into knowledge streams and social networks. This is of clear benefit to them all. Acquiring knowledge and capabilities through inter-start-up relationships is this situation faster and more convenient, particularly as many teams share industry focus.

Legitimacy is also a factor that bore out from the study. The incubatees also acknowledge the fact that by way of association they stand a better chance of accessing potential resources of value, not just from with the university but also externally. Smilor (1987) points to this as building legitimacy in transactions.

How can the needs of the incubatees be described?

Overall the needs of the incubatees are no different to what theory tells us, though there are layers to said needs. In addition to the aforementioned infrastructure support and business support, the incubatees also reference the need to access funding. That said it could be argued that any given firm can always do with funding to help things move along. Also theory postulates network enhancement as a benefit to start-ups. The incubatees at AAU incubator are no different. The question does however remain as to how well the individual teams/ start-ups are effective at optimising these latent resources. Certainly in terms of incubate needs; these dimensions of benefits are to be catered for. But the presence of or lack of a standard benefit is not what should be assessed for per se. For example if one considers the financial aspect of support there is not much of this. And theory supports this incubator standpoint, as covered in the previous chapter. Also if you consider networking, this is more of an internal inter-start-up team activity than it is externally. To this end there are very few nodes of connections and social capital between incubatees and external teams in similar start-ups. And this could be a good activity to investigate in future studies – connectivity between incubatees at AAU incubator and external incubates in other university business incubators.

That said, there can be another lens through which to view the incubate needs. In this regard they can be explained as two-tiered. In other words the incubatee needs can be described as needs they know of, and needs they do not know of. These needs are dynamic regardless of the incubator's provision of 'entrepreneurial basics and ad hoc training events, which may or may not go deep enough.

How does the incubator currently go about facilitating the needs of incubatees?

As mention above, the two main modes of addressing the needs factor of incubatees is through the provision of 'entrepreneurial basics' and training days. This is consistent with theory and shows a positive correlation with business growth Pena (2004). Also included are the collaborative events that are periodically set up, not just within the incubator but involving similar entrepreneurs from the wider entrepreneurial eco-system.

In practice these activities provide for a real development of competencies. This incubator approach highlights the fact that AAU offering of business support can actually be divided into two: those that are generic, and those that need to be more tailored, more specifically the function of the business support between the staff and the incubatees. The generic offering are a given so focusing on those that need to be tailored, this study highlighted a feasible lens through which to tackle such intangibles. And this leads to the next question.

How the incubator can better compliment these needs?

Taking the standpoint that offering business support should also include a more needs-tailored aspect, the AAU incubator will need to consider how well or not so well the respective start-up teams are demonstrating soft skills. This means for example, a start-up team's propensity to champion their business and in doing so motivate others around them towards their business goals. This also means that the AAU incubator needs to ascertain the propensity of the incubatees to be co-produce value, to pivot their business if necessary and to develop their resources and their network. The entrepreneurial competency therefore of each start-up team could be assessed by way of how they engage both internally in the incubator, in the university environment and across external actors. Moreover, honing in on a more focused evaluation the nuances in their skill-set can be better track. In turn the potential of the start-up is evaluated to boost its capabilities in order to accelerate the level of growth.

One thing this would require is for the training and coaching format to allow for a more continuous interaction, as opposed to the current reactive and episodic situation demonstrated by the subjects interviewed. Ultimately it boils down to what the university see as important. According to Roberts and Malone (1996), incubation models show that differences in venture creation can be related to priorities regarding what type of ventures are supported by the university.

It would seem that the AAU incubator is particularly focused on study areas of knowledge transfer yield and patent commercialisation yield, such as engineering and technology. The issue with this is that the incubator is loaded up with much skill and perception duplication.

5.7 Recommendations

Given that the incubatees make clear reference to the regularity and importance of the informal knowledge exchange across teams. And indeed the direct knowledge exchanges between incubatees and external parties, there should be a mechanism put in place to facilitate its capture and formalisation and storage.

Inter-exchange of knowledge should be facilitated further. One way they could do this is to introduce a dedicated knowledge sharing virtual platform that will be available across faculties and to external enterprises.

Lastly but in no way least important is for guidelines to be introduced to underpin a more mutual and continuous interaction between individual incubatees and the coaching personal at the incubator.

5.8 Future Research

One of the restrictions of this study was the fact that the data collected cannot be the basis of much generalisation. But keeping that in mind, the phenomena that is

business inculcation process is particularly contextual. For this reason future research in the direction of seeking generalisation will not be a recommendation here. It is unlike that patterns across different university incubators will not be influences by underlining strategic policy. What is a best practice at three university incubators may not transfer well to the fourth. That said, it could be noteworthy to carry out a study with a very large sample of university incubators. This will be a costly effort, not least owing to the fact that it would also need to be longitudinal. The purpose of this study is not so much about generating 'best practises'. Instead it is about enabling incubators and incubatees with an interaction-sensitive way of managing the student start-up incubation process.

What would be of interest as a future study would be a longitudinal study of the same yet larger same size. This was what could have been introduced to this study, if not for the time factor implications of a longitudinal study. Also interesting for the future would be to do a study comparing AAU incubator with another University BI, comparing the commonalities and differences in their dispensing of business support to individual start-up teams, particularly from the co-production view of business incubation. These would also be interesting if conducted as a longitudinal study.

Another area that could be of interest for future research is relating to start-up peer-peer internal and external connectivity. This could be of value given the fact that there is latent value with the social networks across the entrepreneurial eco-systems and these social networks contribute towards the co-creation of the values that becomes the value proposition of a given University Business Incubator.

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APPENDIX A

QUESTIONNAIRE

Semi-structured interview questions

How did you become aware of this incubator?

How long has your enterprise existed (signed up with the incubator)?

Can you give a brief description of your business?

How many of you are in your team?

What are you team's core skills?

And what is your current operating status of your business?

What is your understanding of the purpose of this incubator?

Why did you choose to apply and signed up with this incubator/ how do you think they can help you?

- Finance, facilities, networks possibilities, other?

Were there other factors that may have influenced you?

Are you aware of what this incubator's core competences are? Please explain?

Tell me about a recent issue you (and your team) have had since joining the incubator?

- What was the issue?
- How did the incubator interact with you to resolve it?
- What was the result/solution?

Infrastructure

Tell me about your experience regarding your use of the incubators facilities (office space, computers, printers, internet etc)?

Do they meet your needs or are there areas where it is failing you?

Please explain?

Business support

Have you got full access to potential support or financial support?

Tell me a bit more about that?

- What were you trying to achieve
- How did you go about using the incubators network?
- Who did you link up with?
- What was the result of the connection?

And regarding the business-related skills you have in your team – is there areas that the incubator has been able to add to it?

Tell me a bit about that?

- What were you trying to achieve
- How did you go about using the incubators network?
- Who did you link up with?
- What was the result of the connection?

Networks

What so you know about that incubator's network – within the university and beyond

Is it something you have accessed?

Given an example of a time you utilised the network?

- What were you trying to achieve
- How did you go about using the incubators network?
- Who did you link up with?
- What was the result of the connection?

APPENDIX B

SUBJECT INTERVIEWS TRANSCRIBED

Name: Innovation-Spark

Interviewee: Zara Amin

Duration: Seven Months

Position: Co-founder

M: TE

Core skills: Medicine and Industrial Design; Bio-Medicine

Business Solution: Healthcare and patient mobility

Current Status: Shopping prototype to investors for possible investment

Warm-up question

TE: Actually could you tell me how you came to learn about the incubator?

Zara: But actually learnt about the BI in final semester... We were on a course called 'New Venture Creation'. We had an idea and during the course we developed it further with the study group... We learnt about business models and how we could use them to build the start-up.... we got to speak to different people regarding how to develop the start-up and how to build a solid business model... we also learnt about the mind-set of the customers.

TE: And could you tell me a bit about your start-up?

Zara: We have designed a prototype product to help in mobilising patients that are in need of long term bed rest... helps them to be more comfortable.

TE: So in what ways were you expecting the BI to help you beyond this initial phase (ideation)?

Zara: We were hoping for more help relating to our decision making ... or to collaborate with external partners... we want to make sure we have somebody to oversee our decision making process... to confirm that we are making the right choices and decisions... we want to make use of experience the incubator consultants have.

TE: Is that all?

Zara: We also hope to benefit from being part of a group of people ... people also in the same situation as us... trying to start up their businesses... and we can also motivate one another.

TE: And what have you benefited from so far... based on your business model and business plan... were there any areas that were identified... areas where they could offer some skills to solve.

Zara: Not formally ... so we presented them with our business plan and our competences... we just felt that they could offer us something as they are a business incubator... and they support entrepreneurs with their start ups...

TE: To take a closer look... let's look at an example of how the incubator has helped you... if you could tell me about a recent issue your team had ... what it was and how the incubator facilitated you and resolved the issue?

Zara: Yes... for example we needed some help with the pricing strategy of our product... we needed this as we were trying to set up a contract with the manufacturing company regarding production. We were concerned that there may be some hidden information with the contract detail that we might miss... so we spoke with Bo (a staff at the UBI)... and they were able to go over the details with us and help us with setting up the contract...

We were also able to get help with the patenting of our product.... with the legal side of the contracts...

TE: If you could walk me through how this help was provided in practical terms please?

Zara: Actually we just got some help... but we also had help from outside (the UBI)... we had an external contact and they help us with developing the price points for our product...

TE: And the issue was fully solved?

Zara: Yes.

TE: Regarding the physical facilities that the incubator offers... have they met your needs in terms of enabling you to deliver your business?

Zara: Well we only use the office space ... we don't need much more and it is always available... though we also sometimes work from home or from other locations such as the university library...

TE: And is there a time scale on how long you can continue to use the incubator facilities and spaces?

Zara: Well we talked to them about this... but they say there is no firm rules about that ... they say it would depend on a lot of things and also how many other teams are actually in the system... and if these teams are 'making a turnover'.

TE: As you mentioned earlier in the conversation, you hope to get funding at some point... How do you see the incubator helping you towards this goal?

Zara: We are hoping that as being a part of the incubator ... when we go to ask for investments or funding from external partners... we can state that we are associated (affiliated) with SEA and this could help other to be confident in us and our start-up.

TE: So you are looking to benefit for legitimacy by association?

Zara: Yes, you could say that.

TE: You also mentioned earlier that you are looking to add to the team... in terms of skills... could you give me an idea of what that would look like... what this skills could be?

Zara: Yeah we need some people to take care of the financial side of things... financial statements and things like that... also someone to help with Photoshop and design ... and also someone experienced in business development...

TE: If you could walk me through how do you see the incubator helping you towards these goals?

Zara: Well we know that one of the managers here has some experience with accounting ... and has got good connections in the wider business community in this region.

TE: As you mention the business community in the region... considering the network of the incubator... in what ways for example has it help your start-up?

Zara: Umm... some... we did have help also from an external party.... the local government business start-up support centre...

TE: How did that come about if you could please walk me through in practical terms?

Zara: We started by contacting them by email... and told them we were with the incubator and we explained the business ... they thought it was a great business idea.... so we then started to speak to them by phone and then they sent us a contract that we could use for securing a manufacturing deal with the manufacturers...

We were them able to set up a meeting with both the manufacturers and the regional business consultant...

TE: So to confirm... the incubator pointed you in the direction of the external contact (regional business consultant)...?

Zara: No ... we did a search online ourselves for other parties who could help with consultancy... and we found someone there we could contact by email... so we emailed them.

TE: Okay.

And also you mentioned potentially needing someone to work with Photoshop for your start-up... how do you see the incubator helping you towards this goal?

Zara: We haven't spoken to them about this yet.

TE: Assuming that you do speak to them and they are unable to provide such skills... given that... as you mentioned earlier... they skills are in business development and law.... is there any other way you think you can help you towards achieving this goal?

Zara: well we have actually thought about getting in touch with somehow with some current students who are more able to in this area than us and get them to help.

TE: If you can... could you walk me through how might go about getting in touch with external students?

Zara: We could get in touch with the programme secretaries ... but actually we haven't thought much in detail about the exact ways in which we could get in touch with these people who can help in that way

TE: Cool ... well thanks so more for the chat about your experiences... what I would like to know however... is there anything else you would like to express or add to the conversation... something you feel we may have not discussed?

Zara: Well overall I think for us... just being associated with the incubator is very good for us and we feel that it will help us with opening a lot of doors.

Name: FlatCap

Interviewee: Christopher Gade

Duration: 10 months

Position: Co-founder

Moderator: Thomas Edward

Industry: Retail and Technology

Business solution: online convenience shopping and points rewards

Core Team's core skills:

Current Status: we are currently looking for some funding

Warm-up question

TE: Could you please tell me a little about your firm?

CG: We are a group of game developers... we decided to get together and start working towards something that we all love... in Denmark it is kind of the way we are encouraged... to do things that we very much interested in... so we started the company based on our interests in games and game development... but there are a lot of other aspects that have to go into making these games and getting them to the customers... for example marketing ... this has to be successful in order to make money from the games.

TE: What are the backgrounds of your team?

CG: We are all engineers

TE: And how did you hear about the incubator?

CG: after graduating we chose to do a summer course about our business idea... and that's where we heard we can get help...with developing our business and also get office space to use and work on our plans... we had a lot of start-up teams.

TE: And these teams... were they from different backgrounds or faculties?

CG: Well most were from tech... I think all of them were tech companies actually

TE: So this was the norm?

CG: Yeah definitely... I would say it's like 75% tech.

TE: What do you think is the reason for this?

CG: I think it is because it is easy for us to already have the ideas... we are already thinking along these lines... we have the tech skills... that's the first thing right... but we also need the marketing side of things to develop...

TE: And in what ways have you benefited so far?

CG: Well though we have been with the incubator now for about ten months, at the beginning there wasn't much going on.

TE: What do you mean?

CG: I mean there wasn't much structure to what we could do/or how we could use the incubator. We basically showed up and used the work space... but not much more... now is getting better ...there is more help and more structure for us to develop

TE: Why do you think this was the case?

CG: The incubator got more funding so they have been able to invest more.

TE: So in what specific ways were you expecting the incubator to help you beyond the initial start-up?

CG: actually we weren't very sure... we just thought it could be an opportunity to join... we thought well they could have more experience with start-ups... and we could gain from their experience as they should know some of the pit falls

TE: And now is this still the case?

CG: Yes ... it still is... we hope to get their knowledge ... but also to spar with other start-up teams and share knowledge... coming from an engineering background... there are a lot of business issues that we are not familiar with ... for example budgeting, accounting and things like the law related issues... things that you might have to comply with... understanding these things and making sure we don't make any bad mistakes is important...

TE: To take a closer look... let's look at an example of how the incubator has helped you... if you could tell me about a recent issue your team had ... what it was and how the incubator facilitated you and resolved the issue?

CG: We currently are in need of some funding. But to complete the application form we need to meet some criteria for example put together some an actual budget ... detailed accounting... and though we can write one... we don't know how to present it... if it will be professional enough... or what types of things we can focus on or avoid...

TE: If you could walk me through how this funding will help you in practical terms please?

CG: For us because of our business model we don't see marketing as an issue right now... first we need to finish setting up the platform that our customers will visit and use... and so we need to pay for the tech skills to do this...

TE: Regarding the physical facilities that the incubator offers... have they met your needs in terms of enabling you to develop your business?

CG: Yes ... we can basically use the spaces here whenever we want.

TE: As you mention earlier there are other start-up teams also sharing the facilities. Considering the network of the incubator, in what ways for example has it help your start-up?

CG: A good example is our current potential customer. We got to know him through (the network of) one of the managers here at the incubator... he knew someone who knew someone who works for a leading supermarket chain (in Denmark)... it is through this connection that we have had a few meetings and secured a temporary (provisional) contract... once we have delivered the platform and initial test campaign we'll be able to enter a more permanent deal... but we have also been able to benefit from other teams here too... by spotting the mistakes made by others... this saves us time and money... and this is a very important for us

TE: what would you say is your overall opinion of the incubator here?

CG: I would say average... but for something that we do not pay for... we are very okay with it... if we must say anything it would be with the bureaucracy involved... it makes things move very slow.

Name: Tunnel Vision

Interviewee: Co-founder (Phillip)

Duration: 10 months

Moderator: Thomas Edward

Industry: Gaming industry

Business solution: Entertainment/Education

Core Team's core skills: Medialogy and game development

Current Status: About to deliver first product demo, in two months time

TE: Could you please tell me a little about your firm?

Phillip: We produce games for gamers... we ourselves are a group of gamers... we have produced a game (flagship product) that works on light and shadow as an alternative way of experiencing a game.

TE: And what are the backgrounds of your team?

Phillip: We are all form Medialogy and game development backgrounds.

TE: And how did you hear about the incubator?

Phillip: We joined by accident... idea was originally a project and we were looking around for rooms (spaces) to work. We came across the guys from SEA who said 'hey we have this thing going where you can join and get free space to work'.

TE: And what did you expect for the UBI... what they could offer you?

Philip: we were not very sure but we knew that we might be able to benefit from being around other start-ups that were also selected.

TE: To take a closer look... let's look at an example of how the incubator has helped you... if you could tell me about a recent issue your team had ... what it was and how the incubator facilitated you and resolved the issue?

Phillip: We needed to apply to the Erasmus Entrepreneurial Scheme ... but to do this we needed to get our business plan right... they helped us with this... it's hard for us because of our background... not being in business studies... actually we were able to put some things together... and take it over to the staff member here to give us feedback and tell us how to make it better.

TE: With regard to funding... has the incubator helped towards this goal?

Phillip: Well we have not had direct funding from the incubator... we have mainly focused on getting financial help from outside the incubator.

TE: And in terms of the coaching and consultation, could you tell me more about your experience?

Phillip: At the moment they just provide guidance and feedback ... in terms of daily practical business skills we have got that from the Erasmus scheme... it's funded by the EU scheme ... were we get the opportunity to work with an established entrepreneur and get to pick up lots of tips...

TE: Are there any things that you feel are lacking in the incubator here that would otherwise be of benefit?

Phillip: I would say not really but then the incubator is part of a large group of related parties ... and the system is still forming so things move just a little slow... there is a list of things the incubator has to prioritise and get moving... so some things are left until later... and so we have to sometimes wait longer in order to get things done.

TE: As you mentioned earlier in the conversation about funding... How do you see the funding helping you?

Phillip: Well for us we always wanted to work in the gaming industry and to support our start up in terms of paying for courses, paying for trips to lecturer and having salaries... for this we need to raise money

TE: Anything else that you could use funding to develop your business?

Phillip: For example we also need artwork... with funds we can get this done...

TE: How do you see the competencies within your team being complemented by what the incubator offers?

Phillip: like other start-ups here at SEA, many of us already have a solid competence in relation to the product... so for us its gaming development... and not a lot in terms of business development so this (area) is basically where we get help from the incubator.

TE: Considering the network of the incubator... in what ways for example has it help your start-up... what was the issue and how was it resolved?

Phillip: Yes we have a lot of examples... but in one example... it was the case that we were having difficulties when we started using a project planning tool... we wanted to set up all our projects but kept having problems understanding parts of the software... we heard that someone in one of the other teams had already done something similar using that software... so we went to him as said 'hey we'd like to use the planning tool as you did... we tried we've been having difficulties... would you be able to help us'... They came over and

helped us set up the tool and gave us some tips to get going. This helped a lot and saved us so much time.

Also sometimes we can use team members from other start-up teams to do product testing... when we need a fresh pair of eyes or objective input... externally we tend to use our own network... as we find this more reliable. Whenever we can find a solution in the incubator here we don't wait for them... we try to look in our own network... sometimes we are able to share with the incubator (staff) our concerns and they are then able to invite key people from outside to come by and give us a lecture or presentation.

TE: is this structured?

Phillip: No but the incubator does offer a crash course about entrepreneurship at the start of the selection process... the aim is to give an insight into the basic tools needed

TE: Is there anything else you would like to express or add to the conversation... something you feel we may have not discussed?

Phillip: One of the things we are not worried about... YET... but it could become an issue for us ... it's that we have become a large team... and it's hard to be sure how long we can remain under the incubator... and then the new start-ups join ... there is a bit of uncertainty there... when a start-up is mature enough to leave the incubator... by this I mean it varies from start-up to start-up... what is breakeven and what is profit... these are not always related to size of start-up ... and in terms of our business model... it's a bit unclear whether we will be considered as making profit... but it is definitely something we will have to speak to them about at some point

TE: Hope that goes well for you... meanwhile thanks for the time... i might have to email you also, if i need to follow up on anything...

Name: SmartRef

Interviewee: Sebastian

Duration: Two months

Position: Co-founder

Moderator: Thomas Edward

Core Team's skill-set: IT and engineering

Business Solution: Sports refereeing

Current status: Proto-type development

Warm-up question

TE: Could you tell me how you came to learn about the incubator?

Sebastian: People (staff-member) from the Incubator were involved in our studies... Entrepreneurial Engineering

TE: And could you tell me a bit about your start-up?

Sebastian: We developed a smartwatch app to help referees to improve the games... We had this idea that we could develop an app that would help sports referees do a better job at refereeing

TE: So in what ways were you expecting the incubator to help you beyond this initial phase (ideation)?

Sebastian: We still need to get some help regarding how we can model our business to and get some revenue streams and maybe how to promote our app... actually like today we are have some issues with a form... so we had just spoken to Bo (staff member) and arranged for a meeting with him tomorrow to help us with it

TE: Well actually they did an even about app promotion...

Sebastian: Really... what was it like... did you attend?

TE: Yeah... I did... they had a few people from some agencies and some guys from a Company called Snappy... I was pretty good

Sebastian: "ohh we didn't hear about that one... sometimes we don't hear about some events ...sometimes they advertise on some platforms but not others.... and you can miss things because you of that"

TE: Yeah I have missed a few myself

Sebastian: we did go to one interesting presentation with that guy from Copenhagen... that was very inspiring... did you go to that?

TE: Nah... that one I missed.. had a class to attend

....so if you could tell me about a recent issue your team had ... what it was and how the incubator facilitated you and resolved the issue?

Sebastian: We wanted to register the company... and they helped us with some of the legal stuff relating to registering

TE: If you could walk me through how this help was provided in practical terms please?

Sebastian: we found out about registering but we were not so sure about all the legal terms and stuff like that... so we book some time with one of the consultants and he helped us go through the details.

TE: Regarding the physical facilities that the incubator offers... have they met your needs in terms of enabling you to deliver your business?

Sebastian: Actually the free office space is really good for us... it's quite easy as to take any room ... sometimes we can use the smaller ones but we also use the bigger rooms when we need to... and we need to use money for developing and for fixing bugs and stuff like that... so it great not to worry about rent...

TE: At the workspaces have been fine for you?

Sebastian: actually we had a few little issues with getting into to the building but nothing great

TE: By that what do you mean?

Sebastian: I mean at the begin our cards were not working and it took a while to get them activated...now its fine... here we have space to focus

TE: why do you think this was?

Sebastian: I think I was just because of the many people that you have to go through to get things approved... it can take a bit long

TE: And regarding funding... How do you see the incubator helping you towards this goal?

Sebastian: Well right now that is not something we are going for.... so we can't say... maybe in the future...

TE: So when you decide... you just go up to them and ask?

Sebastian: well we can talk whenever . . . but actually we might try something by ourselves... we are not sure about going to them for finance because we have our own network and there is a lot of support from the

TE: Fair enough... so considering the network of the incubator... in what ways for example has it helped your start-up?

Sebastian: We are currently trying to get some with interface design experience to join our start-up team. We have spoken to the people at the incubator about this but we have not been able to get anyone. We have decided to ask around in the people we know... at the moment there are two more people will possibly be adding to the team soon.

TE: So overall: how do think the incubator could help you best?

Sebastian: Well we are still learning about things... things we need and things we don't need ... but really it's important for us to be part of a bunch of other like us and a supervisor to help each other and learn from each other and also survive the first couple of months... especially without a revenue stream.

TE: And is there anything else you would like to express or add to the conversation... something you feel we may have not discussed?

Sebastian: Actually we have had the idea since a year and worked on it since half a year. We were for sure going to develop the business... if not here then somewhere else... but then we had the incubator people talk to us during our programme... where things go from here we can't say but for us it does not necessarily depend on this incubator.

TE: Well thank you for the interview... hopefully we can speak again in the future... i might actually be emailing you again if we have anything we need to clear up.

Sebastian: sure... but we'll be going on holiday back to Germany...

TE: Well I'll just email you... how's that...

Sebastian: yeah sure that's fine... just email and one of us will get back to you

APPENDIX C

FOCUS GROUP STUDY TRANSCRIBED

Focus Group Study: Observing the UBI at Aalborg University

Participants of focus group meeting: Aalborg University Students - Jens Pedersen (P1), Alex Klump (P2), Nikolaj Ulriksen (P3), Magnus Nørager (P4), Martin Braun (P5), Moderator (TE).

Moderator: Thomas Edward

Stated the purpose of the talk and outlined the parameters – also read a quote from the OECD, 2008, relating to UBIs...

Warm up:

So if you could... could you give what your general idea is about University Business Incubators?

P1: Well I understand it as for example if you have an idea ... but you don't have the knowledge to turn it into something profitable... and you need to make a budget ... maybe you need some physical space to work ... the incubator is there to help you in some way..

P3: Well I see it as some kind of consultancy ... that can help in getting money to develop your business idea ... but maybe there are also other things that the incubator can provide help... things that I am not aware of?

TE: Could you consider why you may have had a limited amount of knowledge regarding incubators?

P4: Actually I had no idea this facility was there for us to use.

P2: My understanding is that it's just something that the government is offering... to encourage people to develop their Business Ideas and get more people into START-UPS.

TE: Yes there are also studies that show a link between the number of Start-ups, in an area and a positive effect on the local economy...

P1: Like Student Businesses?

TE: Yeah...

P3: So has the incubator just been introduced?

TE: Well it's a young incubator and still growing

P1: So they are still learning things maybe?

TE: Yes... but its position is becoming more relevant with the more students going into entrepreneurship courses... the number of entrants has been increase that's for sure...

P4: Actually the government has been promoting this in the region... they have been setting them up in other parts of the Jutland region... places where people can go to get experienced help...

P5: I'd image that a incubator is a place where people can help one another with their business issues. This is probably different from some of the other business incubators around Jutland...

TE: So have any of you had any experience collaborating with the incubator?

P2: Yes actually... I have... we were contacted by one of the representatives at the incubator... they offered that we come by and speak to them about a business idea we presented in one of our lectures...

TE: what was the idea?

P2: It was an event App... Which you could use to buy concert tickets and such

TE: And how did that go... what was your experience?

P2: Well we ended up speaking to them ... but what they offered us.... we decided was not what we actually needed.

TE: And what did they offer?

P2: We had a specific need for technological competence... and needed a programmer ... someone to do the programming for the App... and that was our main concern..

TE: And you didn't have this in your team?

P2: In our team... we were very good at the financial part of things and also the legal aspects. We also had competences in project management and optimisation.... But we didn't have someone with the programming skills for App building and maintenance. This was an obstacle for us.

TE: And you spoke to them about this?

P2: Yeah... and they couldn't provide us with someone to do this for us.

TE: Could you speak more about that

P2: They said they were interested and wanted us to join (the incubator) and that they could help with marketing and the legal aspects of the business and product. But as we could see ... we already had these skills in our team.

P1: And you said they (the UBI) heard about your idea during a lecture?

P2: Yeah we had a lecture about start-ups and we had to talk about our business ideas ... they were there at the time.

P4: So after the initial meeting with them you found out that they could not offer what you needed?

P2: Yes... well we would have like to join them but unfortunately they didn't have the network to access the skill we wanted.

TE: So what did you do then?

P2: We actually went out and searched for a programmer ourselves.

TE: How...?

P2: We put an advert online.

P5: You know... about get the help you need... i guess it would depend on the type of incubator you approach that would determine what type of help is actually available for your start-up... It might be important to go with a business incubator that specialise in providing technical competences.

TE: Well if you think about it ... in terms of a incubator... there will be people coming from across different faculties of study... so there will be a diverse range of needs.

P4: Yes but there are some skills that are definitely necessary to a start-up business ... and not easy to access out there.

TE: How do you think this limitation in resources can be addressed by the incubator?

P3: Well maybe they should have a way of easily get in touch with people with all the different skills that maybe me required on behalf of the start-ups.

TE: I guess all incubators have to face this issue of resource limitation. But why do you think this could be?

P2: It could be that at some universities there is actually a type of student or client that approaches the incubator... and so for this reason the incubator will just focus on providing for this type of client and their type of needs... and therefore others types of clients are not provided for that much... but of course it could also be the fact that lack of funding can limit the amount of things a incubator can offer.

P5: And it is also possible that some of these needs are not available at some points, but available at other times.

TE: Actually yeah.

P1: But I see a incubator to definitely be able to play the part of putting others in contact with the skills of others... when they don't have these skills in the incubator

TE: I agree except that in the case of Nick, the incubator was not able to access any channels to get the skills they needed.

P4: Actually apart from networks... I think incubator would be useful in terms of getting funding for the start-ups... to use towards developing them further.

TE: And what about you (Drawing dialogue from P3). What is your opinion?

P3: Well I only have a little experience in this area but I think maybe the type of business idea and start-up will come before the type of incubator I would like to approach.

I will definitely be looking for mentoring and some coaching though... help with how we can develop the business... understanding our situation... defining where we would need to be like in a year ahead... understand where to go based on where we are at the time.

For me it is also possible that because of my limited knowledge in this area I would need help in understanding the things I CAN do and the things that I will need to get help with.

P5: For some people they are not even sure about what their limits are and areas where they might need help ... so consultation is very important.

P4: Actually for me I have already had some business ideas but I have not really thought about taking them to the incubator ... Instead I have taken the business plan to an external consultancy.

TE: So... considering that there are various people contributing to the functioning of a incubator, in what way do you see these various stakeholders impacting the incubator performance.

P3: From my point of view the stakeholders will have different levels of impact... some more than others... For me a good incubator needs lots of competent people serving the clients... and also these competent people need to be from different backgrounds... because the starts-up could be from all types of backgrounds too. But then the people funding the incubator are important... but yeah... the people serving the clients should be the most important in terms of impacting performance.

P5: I agree... I really think that the more a incubator is made up of different types of people consulting... the better it will be at meeting the different needs of the different clients.

Actually I saw a documentary about some area or region in China... a big hardware producing region... they have a lot people coming into this region with ideas... this has allowed them to create lots of spin-off ideas... in other words... variety is important.

TE: So like a knock-on effect ... feeding into others areas

P5 Yes... like more starts-up all influence more start-ups... all communicating their experiences... and this could impact the incubator in a good way.

P1: I would also say that it is important that a incubator is surrounded by a very good network and community around it... a good business community.

TE: And what about the role of the government in all this...for example in terms of raising the profile of the incubator?

P4: Actually that's true because I haven't previously know about the university incubator service and so there might be something I could offer... to clients of the incubator... but I am unable to because I have not be made aware of the service and the needs of the clients.

P2: It could be an idea to have the different student courses more integrated through the incubator... for example someone in manufacturing with clear channels with someone from computer programming. Then everyone can access the help they need when they need it.

P5: Actually I am wondering why the some people like myself have not heard about more details of what the incubator can do for potential students

...my opinion is that communication plays a big role... and if the incubator does this right and communicates more effectively there could be a better chance of being more successful.

TE: Well... thanks for that everyone... that's about all for now... but is there anything else that you may want to add to this discussion... something you think we may have not covered?

P3: Definitely ... I think that some of us may not know much about the incubator and its facilities in detail... and so really it could be useful for them to communicate these things more effectively and also act more like a connector... between students...

P5: Yeah maybe build a more visible online community.

P2: It would definitely have helped our start-up if we had know more about the details of incubation and the processes when we originally spoke to them... maybe we would have been able to work out a better solution with them.

TE: Well so far so good... thanks again for the meeting... I might at some point contact you again if I need to clarify anything regarding our discussion. Thanks!

APPENDIX D

EXAMPLE OF EVENTS AND TRAINNING SESSIONS OFFERED AT INCUBATOR

Example of Events and Sessions Offered by SEA Over the Past Year

- **Guest Lecture/Entrepreneur – Nov 2016**
- **Business Planning Skills – Nov 2016**
- **Patents & Start-Ups – Dec 2016**
- **Guest Lecture/Entrepreneur Dec 2016**
- **Start-Up Info –**
  (funding, business planning etc) –
  Apr/May/Jun 2017