The ‘Business Accelerator’: Just a Different Name for a Business Incubator?

Applied Economics Research Course (ECB3OKVECO)

By: Thomas van Huijgevoort (3473791)

University Supervisors:

J.P.C. Rigtering, MSc
L.C. Kruijne, MSc

External Supervisor:

D. Ritzen, MSc

Utrecht School of Economics
(June 28th, 2012)

Table of Contents

1. Introduction and problem statement

Business incubators have proven to be an economic development tool for the communities they serve. Since 1980, incubated companies have created over 250000 jobs, thereby increasing the tax base, occupying additional commercial real estate space, contributing to local business infrastructures and creating even more jobs in other industry sectors (Wiggins & Gibson, 2003).

The first business incubator is known to be established in 1959, in Batavia, New York. In the following decades, many more incubator initiatives followed. To illustrate the growth in the number of business incubators: in the year 1980, there were only 12 incubators in the US, but in the year 1995, this number amounted to 600(Wiggins & Gibson, 2003). The history of 'business accelerators' on the other hand, is much shorter, originating from around 2005 (Christiansen, 2009; Miller & Bound, 2011). A very small amount of scientific literature exists on business accelerators, however the growth in the number these programs shouldn't be neglected. According to Bloomberg Businessweek, in 2011 around 110 business accelerator programs are operating around the world. In the same year in the United States, 50 accelerators take in around 500 start-up firms into their programs (Tozzi, 2011).

The main purpose of a business incubator, is to create a favorable business environment for start-up firms to compensate for the lack of financial, knowledge and networking resources they generally have (Commission, 2002). The start-up firms in an incubator are in general provided with office space, shared equipment, administrative services and other business related services. (Bøllingtoft, 2012). Nevertheless, as different generations of incubators have evolved (Bruneel, Ratinho, Clarysse, & Groen, 2012), the processes, organizational forms, the sector of operation and value-added elements in business incubation have significantly changed (Ghasemizad, Kazemi, & Abbasi, 2011). The classification of 'business incubator' is increasingly becoming an ''overarching'' word, referring to a heterogeneous reality (Bøllingtoft & Ulhøi, 2005). In other words, business incubators are still defined as a homogenous entity, in spite for the fact that differences between several models are very significant (Bruneel et al., 2012).

The 'business accelerator' model has been growing in numbers extensively, since 2005 (Maltby & Needleman, 2012; Miller & Bound, 2011). Notwithstanding this

significant growth trend, the definition of this form of business incubation hasn't been found in scientific literature at this point (Christiansen, 2009; Miller & Bound, 2011). The purpose of the research is, to explore if the 'business accelerator' model is a distinct model, in comparison with other business incubator models. This leads to the following research question:

Is the 'business accelerator' a distinct model in the industry of business incubators?

Important to note, is that 'distinct' is defined in this research as follows: ***a unique model of business incubation, which can't be simply put in the seemingly homogenous category of 'business incubators', as a result of significant differences in the primary characterizing variables (Grimaldi & Grandi, 2005) and value-adding propositions between the 'business accelerator' and other incubator models***. The reason for taking this approach, is that in order to differentiate between a variety of business incubation models, one should take into account many different factors considering the input, the processes and the output of the business incubator model (Allen & McCluskey, 1990; Commission, 2002; Grimaldi & Grandi, 2005).

The research question will be addressed by first providing a theoretical framework, in which different types of business incubators are classified, starting from the beginning of the 1980s. In this framework, the 'business accelerator' model will also be defined. In the first sub-question, the most crucial differences between the 'business accelerator' and other incubator models, considered in this paper, will be analyzed. At last, an analysis of the crucial value-added elements of a 'business accelerator' program and a comparison with important value-added elements in other business incubator models will be given. The latter serves as an attempt to observe if a 'business accelerator' includes similar value propositions and fills up the same needs of start-up firms, as other business incubators in the industry. This in turn makes it easier for policy makers and entrepreneurs, to evaluate if the 'Business Accelerator' is a valuable option to invest/participate in.

2. Relevance

From worldwide research, it has been found that the largest percentage of incubators is directly or indirectly financed by government subsidies and grants. According to Al-Mubaraki and Busler (2010), more than 75% out of 80 business incubators worldwide was either indirectly of directly financed by government institutions. On the other hand, business accelerators are rarely (completely) financed by public sources (Christiansen, 2009). 'Business accelerator' programs might be considered by government institutions when evaluating initiatives for support of entrepreneurship and local business development (Miller & Bound, 2011; St. Jean, 2009). Though, the 'business accelerator' model has not been defined in the scientific literature. A strong definition of a 'business accelerator', elaboration on the specific program characteristics of a 'business accelerator' and an evaluation of the elements with which this model adds value to start-up firms, will benefit the presence of the model in scientific literature. This in turn, might help public institutions to evaluate their decisions for future distribution of funds. Currently, 'business accelerator' programs are mostly funded by private sources. If local governments are informed about the 'business accelerator', it certainly widens their perspective and increases possibilities to allocate funds, used for support of business incubation initiatives.

3. Sub-questions

- 1.) What are the key distinctive characteristics of the 'business accelerator', in comparison with other recent business incubator models?
- 2.) What are the most important elements through which a 'business accelerator' program adds value to start-up firms?

4. Methodology

To address the research question, a theoretical framework of the different business incubator models in the history will first be provided. In this framework, the ''main characterizing variables'' (Grimaldi & Grandi, 2005) of the different business incubator models will be reviewed and the models will be placed into the 'Business Incubator Continuum' of (Allen & McCluskey, 1990). Subsequently, a thorough

definition of the 'business accelerator' model will be given, after which a comparison with the other models of business incubation will be provided. This method allows for a structured review of the business incubator industry, which serves as the basis for evaluation of the 'business accelerator' as a distinct form of incubation. The frameworks of (Allen & McCluskey, 1990; Grimaldi & Grandi, 2005) are widely used in the area of research. The first has been cited 197 times and the latter has been cited 151 times, in scientific literature. As a result, this method is regarded as a safe way to characterize different business incubator models. Since scientific research on the definition of the 'business accelerator' is hardly available, different alternative sources have been combined to provide this definition in the most accurate way possible. A MBA research thesis from the University of Cambridge (Christiansen, 2009) on the topic of 'business accelerators', a report from a British Innovation Council NESTA (Miller & Bound, 2011) and a number of articles from accredited news websites (Butcher, 2011; Geron, 2012; Gilani, 2011; Maltby & Needleman, 2012; St. Jean, 2009; Tozzi, 2011) have been used to serve this purpose. The definition provided in (Christiansen, 2009) consists of common characteristics which are empirically verified in a database (see appendix 3), to be consistent among 78 'business accelerator' programs worldwide and is therefore used as a benchmark in this research paper.

The first sub-question for addressing the main research question, is formulated with the purpose of setting out the differences between the 'business accelerator' model and other recent models of business incubation, observed in the theory. The main characterizing variables (Grimaldi & Grandi, 2005) of business incubators, observed in several recent models of incubation (theoretical framework), will be compared to the 'business accelerator' model definition and its characteristics. The main objective is to identify and explain the most critical differences. The reason for this approach, is that a clear view on the unique features of the 'business accelerator' will contribute to the 'distinct' establishment of this phenomenon in the business incubation industry.

The second and concluding sub-question aims to find out the most important elements with which a 'business accelerator' program adds most value to the start-up firm. Important to note, is that 'adds most value' is defined as follows in this research: ***'adds most value' refers to those specific ways in which a business incubator***

program maximally enhances the ability of its participating start-up firms to grow and survive in business (Mian, 1996). This purpose will be served by conducting a qualitative research amongst 3 'business accelerator' programs, consisting of a survey questionnaire (see appendix) and 8 personal interviews with both management members and (ex-) participating start-up firm members. The specific programs were selected for the research, by comparing them to the 'business accelerator' definition provided in sub-question 1, making sure that the sample programs corresponds to this definition, ensuring uniformity of the empirical research. In the survey questionnaire, the focus emphasis is put the ''importance-scale 1-10'' questions and the open questions on ''possible improvements''. In this way, more information will be gathered on the perceived importance of the value adding elements in the program. This data will complement data from (Christiansen, 2009), who conducted a same type of research among 'business accelerator' programs. As a result of the small sample size, it is decided to expand the research with structured individual personal interviews (asking a similar set of questions to each participant, see appendix). The questions cover specific points on the importance of each the value-adding components of the 'business accelerator', identified in the theory (see section 5.4). Using this approach, the data will be more in depth and will therefore provide more accurate views on perceived importance of the different value-added contributions of the 'business accelerator' programs. The criteria for respondents was that he/she is either a current of an ex-participant in the specific 'business accelerator' program or a current member of a management team of a 'business accelerator' program. Respondents who fit these criteria, are able to make a well-founded statement about the most important value adding elements. This approach is used in a number of scientific research papers on the business incubator industry. (Bruneel et al., 2012) use semi-structured personal interviews in order to map the value proposition of business incubators to their participating start-up firms. This format serves as a guide to ensure that all the desired topics are covered (Bruneel et al., 2012). The approach of a combination of a survey and in depth personal interviews is also utilized by (Bøllingtoft, 2012; Mian, 1996). The method is said to add breadth and depth to the analysis (Bøllingtoft, 2012).

Concluding, the results will be briefly compared with empirical research results from scientific research (Bruneel et al., 2012; Bøllingtoft, 2012; Commission, 2002; Dilts &

Hackett, 2004; Mian, 1996) on the perceived importance of the different value-adding elements in the value proposition of other incubator models. The reason for this approach is it allows for a comparison of the most crucial value-added elements of a 'business accelerator' model with the most crucial value-added elements of other models of incubation. An eventual difference in these observations can have significant consequences on the final conclusion of this research paper.

5. Theoretical Framework

In this theoretical framework, an overview of the business incubator industry will be provided along with the 'business accelerator' definition. This practice is very relevant, as the word 'Business Incubator' is increasingly becoming an ''overarching'' word, referring to a heterogeneous reality (Bøllingtoft & Ulhøi, 2005). The framework used to classify different business incubators, adapted from (Allen & McCluskey, 1990), is called the 'Business Incubator Continuum'. Over time, several new forms have entered the spectrum and will consequently be placed within the framework. One of these more recent forms of business incubators, is the 'business accelerator model', which will be defined at the end of this theoretical framework.

5.1 A historical overview of business incubators

As defined by the European Commission in 2002, the word incubator is broadly used to include a wide variety of organizations and initiatives, which strive to help entrepreneurs in developing business ideas from the start, to commercialization and eventually the launch and independent operation of new business ventures (Commission, 2002). This can range from University Technology Centers, to Virtual Incubators. The specific variety of different models in the incubation industry will be elaborated on in following paragraphs.

The first known business incubator dates back to 1959 (Batavia, New York). Charles Mancuso, a wealthy owner of several businesses, decided to buy a multi-storage building, which was unoccupied and required a great number of renovations in order to be restored for its original use. He divided the building into small spaces and to rented it out to small business owners. With the purpose of eventually having enough tenants in the building to create a positive return on his investment. The same incubator, which is called the 'Patavia Industrial Center' and is still existing nowadays, provides over 1000 people with a workplace. It would turn out to be a revolutionary idea of Mancuso, as there are currently thousands of business incubators worldwide. Though, there is a wide variety of different models in different industrial sectors and with different institutional missions (Almubartaki, Al-karaghouli, & Busler, 2010).

The spread of the concept of business incubation as is know today, dates back to the late 1970s and the early 1980s (Wiggins & Gibson, 2003). In Western, industrialized countries, industries had collapsed and there was a rapid rise in unemployment. A great need for a new economic development tool emerged, to restore these down going sectors (Commission, 2002). Since the concept has been introduced, it is recognized as a powerful tool for building up entrepreneurial communities, stimulating local economic development and creating jobs.

Most of the incubators were non-profit partnerships with local communities. Most of these were connected to universities, with the aim of teaching students business skills and giving them the opportunity to take new technologies to the market. The underlying motive here, was to foster development and create employment (Chinsonboon, 2000).

Apart from the connection of new ventures with the academic world in the form of a university partnership, the earlier established incubators were also established for efficient use of real estate. As a result of industry downturns, unoccupied properties were subdivided and rented out to new ventures as office space. These would in turn generate an appreciation of the real estate value, as aimed for in 1959 by Charles Mancuso. Lastly, business incubators have been set up by experienced entrepreneurs, to transfer their knowledge and experience and to create an efficient use of their financial resources (Wiggins & Gibson, 2003).

As incubators turned out to be an effective economic development tool, they have been extensively growing in numbers. From only 12 incubators in the US in 1980, to over 600 incubators in 1995 (Wiggins & Gibson, 2003). Worldwide, there was an estimated number of around 3000 incubators, about a decade ago (Commission, 2002). Even in the more developing regions like China, the number of business incubators is growing at a fast pace. From 1991 to 2008, the number has been growing more than 15-fold, from 43 to 674 business incubators (Rong, 2009).

The extensive growth in numbers of business incubators could only be realistic if there are clear signals of its success. Indeed, this is the case. In 2000, European business incubators were creating around 30000 new jobs per annum. Furthermore,

these jobs are created at a public cost of around €4500 per job (Commission, 2002). These costs are considerably lower than the cost of other publicly funded schemes (Commission, 2002). Supporting these findings on a more global scale, research from China shows that start-up firms participating in business incubators have a 70% chance of survival, which is said to be much higher than in society. Additionally, it is measured that the total annual investment from public sources comprises only a very small part of the revenue made by tenant incubator firms (Rong, 2009).

5.2 Different institutional missions in the business incubator industry

As mentioned in the previous paragraph, the purpose of the first business incubator, was to efficiently utilize empty real estate by occupying it with start-up firms. A positive return on investment in the property was made, by making sure that enough start-up firms were working in the property and were paying their monthly rent. However, as more people and governments became aware of the possible benefits for society, the business incubator was increasingly used by the public as a means to support economic development.

The first purpose of a business incubator, from both the perspective of the management and the start-up firms, is the provided infrastructure and the shared office resources. Low rent (or free) provision of office space is perceived as the most important decisive factor for tenant companies to enter a business incubator (Bruneel et al., 2012). Next to this, the management of the incubator has a 'real estate provision' motive to start, because especially in the earlier years of the business incubator, rental income was by far the highest source of income in the incubation industry. This is clearly illustrated by the story of Charles Mancuso.

The second purpose of a business incubator is the desired positive impact on economic development. Business incubators aim to stimulate economic development by promoting entrepreneurship, innovation, employment creation and growth. Reducing the risk of starting up a new business (especially in economically vulnerable times) should be mitigated to ensure continuing economic development (Aerts, Matthyssens, & Vandenbempt, 2007). The European Union has appointed the development of the incubation industry as a key component of regional development policy (Commission, 2002). Economic development through the incubator industry, is stimulated by new business formation, business stabilization

and business expansion. In other words, people with a business idea can enter a business incubator to realize their idea. People with an existing small business can enter a business incubator to reduce their chance of failure. Lastly, people can enter an incubator to expand their small business to a higher number of employees (Almubartaki et al., 2010). Viable firms, profits, technology diversification and jobs are created through incubators. Although the net number of jobs created seems relatively small, the cost effectiveness of a business incubator in pursuing this goal is beneficial and certainly not insignificant (Dilts & Hackett, 2004).

Despite the fact that the largest share of the total number of business incubators is still funded from primarily public sources and a is for large part non-profit, the third purpose of the incubation industry can be defined as creating a positive return on investment, or making a profit (Commission, 2002).

5.3 Different models in the business incubation industry

5.3.1 The 'Business Incubator Continuum' and another framework to classify business incubators

Business incubators are not easily comparable, because they are not a homogenous phenomenon. This fact was soon realized by (Allen & McCluskey, 1990), who have developed a framework in which they have distinguished between business incubators between different time ''generations'', namely the first, second and third generation business incubators. This framework distinguishes on a number of crucial areas in business incubators, such as the value proposition, the service offerings, their institutional mission, financing and business model. Next to the 'Business Incubator Continuum' of (Allen & McCluskey, 1990), another way to categorize different business incubators was developed by (Grimaldi & Grandi, 2005), who distinguished between 'Public' or 'Private' business incubators. Outside of these classification methods, several other models of business incubation have been identified and categorized. A 'Networked Incubator', a 'New Economy incubator', a 'Bottom-Up Business Incubator' and a 'Business Accelerator' are examples of more recently identified models, which will also be placed in the 'BI continuum' (Bøllingtoft & Ulhøi, 2005; Christiansen, 2009; Commission, 2002; Grimaldi & Grandi, 2005; Hansen, Chesbrough, Nohria, & Sull, 2000). The reason to represent these particular

models, is because they are observable on a significant scale and are relatively recent. Therefore, these are thought to be crucial in providing a complete comparison and should be included in the framework of the incubation industry. This doesn't necessarily imply that these are the only forms of business incubators. However, the scope of this research is too limited to provide a complete overview of all the different business incubator forms.

The 'BI Continuum' consists of three generations of business incubators. All types of incubators still exist next to each other, but time has shown a shift in value proposition, mission and structure of incubator programs. In short, there has been a shift from real estate provision and appreciation to for-profit enterprise development, as the main starting point of business incubators (Aerts et al., 2007).

The *first generation* of business incubators, which has started to emerge mostly in the 1980s, has focused its main value proposition on infrastructure. This infrastructure provided to the start-up firms, consists of office space rented out at favorable conditions and shared practical resources (Bruneel et al., 2012). Although this was the main feature provided by first generation incubators, it is still at the core of the value proposition of all of today's business incubators (Allen & McCluskey, 1990). First generation incubators focused on real estate appreciation and job creation. By providing incubator space at favorable conditions, the value of the building would eventually increase and jobs would be created. Together with the advantage of benefiting from economies of scale, start-up firms would get the opportunity to have cheap office space (Bruneel et al., 2012).

The *second generation* of business incubators has been identified in beginning the 1990s. During this decade, there was a growing need for a larger added-value than the original model, in the form of counselling, skills enhancement and networking services. The latter was provided to ease the start-up firms' access to capital and professional external relationships (Commission, 2002). It is argued that the need for second generation incubators has been coming from a specific range of companies, namely the technology-intensive ones. As these often lack the business expertise, marketing knowledge and sales skills, the previously mentioned additional elements of the second generation filled up this need (Bruneel et al., 2012). The business

incubator had become more than only a physical and practical arrangement for the start-up firms.

As the previous generation of business incubators has spread out during the 1990s, there is already a *third generation* of business incubators to be identified. This generation puts the emphasis on developing the network of the incubator and therefore the network of the tenant firms. The network possibilities within an incubator in the third generation are the main value proposition and it can provide start-up firms with access to potential suppliers, customers, investors and technological partners. (Bruneel et al., 2012). Also, the third generation of incubators tends to focus on start-up firms in the ICT- and High Tech sector (Dilts & Hackett, 2004). As the European Commission indicated in 2000, there was a large growth trend of third generation incubators, which were primarily for-profit and were focusing mainly on ICT and high-tech companies (Commission, 2002). These so called 'New Economy Incubators' seem to correspond to the third generation of incubators, as they were increasingly financed by private sources and had a for-profit mission (Commission, 2002). The third generation encompasses the philosophy that networking is the most essential element in successful business incubation (Hansen et al., 2000).

Value added through				
Real Estate		**Collaboration**		**Business development**
For-profit property development incubators	Non-profit development corporation incubators	For-profit collaborative incubators	Academic incubators	For-profit seed-capital incubators
Real estate appreciation	Job creation and enhancing of the entrepreneurial climate	Capitalize collaborative and symbiotic potentials	Commercialization of university research	Capitalize investment opportunity
Sell proprietary services to tenants	Regional/area development	Network development and nurture	Capitalize investment opportunity	Secure availability to risk capital
No interorg. collaboration	Interorg. Collaboration (multi stakeholder collaboration)	Firm-firm collaboration	University-industry collaboration	No interorg. collaboration

Source: Adapted from Allen, D. N., & McCluskey, R. (1990). Structure, Policy, Services and Performance in the Business Incubator Industry. *Entrepreneurship: Theory and Practice, 15*(2), 65.

Figure 1: 'The BI Continuum'

The above figure clearly summarizes the 'Business Incubator Continuum'. As said, the first generation business incubators are mostly on the left side of the figure, where emphasis is put on the real estate aspect. On the right side of the figure are the second generation incubators, where the emphasis is put on business development and creation. However, the third generation can also adequately be placed in this figure. As emphasis is put on networking activities, both internally and externally, we can see that the third generation incubators are seen as collaborative (in the middle), where firm-firm collaboration and business network development are the most essential elements. As third generation incubators also value business development very highly, it can be concluded that this generation of incubators combines both 'collaboration' as well as 'business development' out of the 'BI Continuum'.

Next to the 'Business Incubator Continuum', (Grimaldi & Grandi, 2005) have used a different, but simple way, to differentiate between different sorts of business incubators. This method is also used by the National Business Incubator Association (NBIA) in the US and will be worth considering, together with the 'BI Continuum' (Bøllingtoft & Ulhøi, 2005) (Almubartaki et al., 2010). *Public incubators* were the first sort of incubators and were primarily financed by government institutions and other public sources. Their primary mission was economic development, by reducing the costs of doing business through the provision of practical facilities and mostly tangible assets. Their revenues came from service- and rental fees of the participating start-up firms. Within this definition, the distinction between BIC's (Business Innovation Centers) and UBI's (University Business Incubators) is made. Conversely, *Private incubators* have become increasingly popular since the IT revolution around the year 2000. Speed to market, synergy, network and strategic positioning have become more important for specifically ICT and high-tech start-up firms (Chinsonboon, 2000). These market developments have stimulated private, for-profit incubators to emerge. These business incubators asked start-up firms for a percentage of equity in their firm, with their main revenue being comprised of profits from these stakes in participating start-up firms. The 'private incubators' have put their focus on the rapid creation of new businesses (Grimaldi & Grandi, 2005).

5.3.2 Several other models of business incubation

In this paragraph, an attempt will be made to place other identified business incubator models, into the 'BI Continuum' framework of (Allen & McCluskey, 1990) and the BI classification of (Grimaldi & Grandi, 2005). The purpose of this is, to provide an accurate overview of the development of the business incubator industry. As the aim of this theoretical framework is, to provide a strong foundation for comparing the 'business accelerator' to other business incubators.

5.3.2.1 The 'Networked Incubator'

The first model that will be considered out of existing scientific research is the *'networked incubator'*. This model has been identified by (Hansen et al., 2000) and also more recently by (Bøllingtoft & Ulhøi, 2005). (Hansen et al., 2000) published their research on the incubation industry, consisting of an in-depth analysis of the leading incubators and a telephone survey amongst 169 incubators. This research has shown that the 'networked incubator' sets itself apart from the more traditional initiatives and it was stated that is was therefore more likely to be successful.

Citing Hansen et al. (2000), the 'networked incubator' has emerged due to the rising need for access, as the internet economy is very much a network economy in which access and connections can help quickly launch businesses, increase traffic at web sites and has the ability to speed up the diffusion of technologies.

Out of the 169 incubators in the sample, only 25% provided the asset of organized networking. The provision of an organized network has been identified as the distinguishing feature and is the foundation for specifying a separate incubation model: 'the Networked Incubator'. It enables start-up firms to establish partnerships with other start-up firms and external business connections quickly, placing them ahead of competitors in the market. The 'Networked Incubator' model emphasizes the dynamic working environment, with start-up firms constantly working together, and informal interactions of managing partners with participants (Bøllingtoft & Ulhøi, 2005). Also, resource needs from start-ups are pooled together, so that the management is able to obtain attractive deals from service providers. In this way, the internal network is utilized to maximally exploit economies of scale. Lastly, an external network of established firms is maintained by the 'Networked Incubator', to be able to provide the tenant firms with relevant contacts in the industry. This internal and external network access benefits decision making processes and creates

business opportunities of all kinds (Hansen et al., 2000) (Bøllingtoft & Ulhøi, 2005). In exchange for these benefits, the networked incubator mostly holds an equity stake in the portfolio companies, which is at the same time the main source of revenues.

The 'networked incubator' embodies two critical characteristics (Hansen et al., 2000):

- Networking is institutionalized, meaning that the mechanisms that foster targeted networking are actually in place, before participating start-up firms possibly need them. This facilitates organized and scalable networking, as the start-up firms are not dependent on the connections of a few managers of the incubator or the venture capital firm in question.
- A networking mechanism leads to preferential access for start-up firms, to certain business connections.

It is argued that the kind of organizational model, which exploits the entrepreneurial drive and network access to the maximum, while preserving the benefits of scale and scope, will be most successful in the ''new economy'' (Hansen et al., 2000). Due to a focus of internal and external networking, the inter-firm collaboration and the for-profit nature of this model, it can be concluded that there are significant similarities with the third generation incubator definition, previously provided (refer to Figure 1). Taking the classification of (Grimaldi & Grandi, 2005) into account, the 'networked incubator' shows most similarities with the 'private incubator', as defined in the first section of this chapter.

5.3.2.2 The 'New Economy incubator'

The European Commission has also identified and classified a separate type of business incubator: the *'new economy incubator'* (Commission, 2002). It is defined as a for-profit incubator system, especially accelerating the start and growth of ICT ventures. According to a survey from the Harvard Business School, 356 of this type of incubators were found in 2000. In the second half of the 1990s, the share of ICT ventures in the total of ventures in business incubators, has increased dramatically: from 1 out of 25 in 1994 to 20 out of 25 in 1999 (Commission, 2002). Two important characteristics of a 'new economy incubator' are its for-profit nature and it industry focus: the ICT sector. The main purpose of 'new economy incubators' is not job creation, but the establishment of successful ventures and making a positive return on investment. Furthermore, the main sources of revenue are the percentage equity

stakes the incubator partners hold in the participating start-up firms. Also, it is argued that 'New Economy Incubators' have an essentially virtual presence, because they have financial and business services as their core offerings (Commission, 2002).

The 'New Economy Incubator' model seems to be similar to the 'Networked Incubator' model, on several areas. These similarities are the business model of both types of incubators, the for-profit mission and the important role of provision of financial and business services (through networks) to start-up firms. Additionally, (Hansen et al., 2000) also described the fact that a large number of the 'networked incubators' is aimed at nurturing ICT-based ventures. Nevertheless, the European Commission did not emphasize the importance of organized networking in the 'new economy incubator', which is an important difference

This model, as emphasized in the first part of this paragraph, seems to correspond to the third generation of incubators the most (Allen & McCluskey, 1990). Furthermore, it shows the most correspondence with the private incubator classification of (Grimaldi & Grandi, 2005).

5.3.2.3 The 'Bottom-Up business incubator'

Interestingly, the following model of incubation has been defined and published in the beginning of 2012, significantly more recent than the other publications about the incubation industry that have been considered till this point. As a result, a range of models are defined in this research paper, covering the period from the start of the 'third generation' incubators (2nd half of the 1990s) and the present. This enhances the completeness of the industry overview provided in this sub-question.

(Bøllingtoft, 2012) has identified the 'Bottom-Up Business Incubator'. The reason for the chosen name, is that the identified incubators are all established and ran by the entrepreneurs themselves. In other words, these incubators are not supported in any way by either public or private funds. Hence, they do not pose a cost to society (Bøllingtoft, 2012). According to (Dilts & Hackett, 2004), the key characteristics of the incubator (co-location of businesses, shared services, management assistance and networking), are also present in the 'Bottom-Up Business Incubator'. As emphasized in the research, the exit policies of bottom-up incubators are relatively similar to the traditional model, as the tenant firms can stay until they ''outgrow'' the incubator space. The average stay of tenant firms in an incubator is around 3 years

(Commission, 2002). However, apart from the difference in the way these incubators are financed and ran, there are some other significant differences compared to the other business incubators from different generations (Allen & McCluskey, 1990). The screening criteria of a 'bottom-up business incubator' are mostly based on the sector: the dominant choice is ICT, media and telecommunication. Next to this, the entrepreneurs should focus on collaboration instead of competition. In traditional incubators, screening and admission is mostly based on business plan evaluation (Bøllingtoft, 2012). Another significant difference is that the 'Bottom-Up Business Incubator' does not provide external specialist business services, but these are only provided internally through networking with other tenant firms. The amount of internal networking activity between tenant start-up firms, seems crucial to the model of the 'bottom-up business incubator (Bøllingtoft, 2012).

The 'Bottom-Up Business Incubator' model can also be placed in the third generation of incubator, in the BI Continuum of (Allen & McCluskey, 1990). Furthermore, it best fits the definition of the private incubator in the classification of (Grimaldi & Grandi, 2005).

5.3.2.4 A short summary of different incubation models

Below, figure 2 is provided to give a short summary of the most critical characteristics of the three chosen models in the incubation industry. These characteristics are all specific for the 'third generation' of business incubators. The ''unknown'' boxes refer to the fact that some of the data about the characteristic has not been found explicitly in the literature.

These 3 models all include the basic elements in a business incubator, as described by (Dilts & Hackett, 2004). The basic elements were mostly present already in the 'second generation' of incubators. However, as can be seen in the table, the screening/admission policy and the exit criteria of the 'Bottom-Up Business Incubator' differ from those of traditional incubators. Furthermore, the bottom-up incubator distinguishes itself, because of the fact that funding is completely independent and management as well as full operation, is done by the founders (initiating entrepreneurs) (Bøllingtoft, 2012). This is different from the other 2 models, where funding mostly comes from external private sources, such as venture capitalists or corporate investors (Commission, 2002; Hansen et al., 2000).

	'Networked Incubator'	'New-Economy Incubator'	'Bottom-Up Business Incubator'
Dominant Industry sector	ICT, high technology	ICT related	IT, media and telecommunication
For-profit/Non-profit	For-profit	For-profit	For-profit
Private/public funding (majority)	Private funding	Private funding	None of these
Networking	'Organized network' (internal and external) as a crucial part of value proposition	(unknown)	Internal network as the basis (inter-firm cooperation)
Main source of revenue	Equity stake (%) in tenant start-up firms	Equity stake (%) in tenant start-up firms	(unknown)
Screening/admission criteria for start-up firms	(unknown)	(unknown)	Entrepreneurs' willingness to cooperate and share knowledge
Exit policy for tenant start-up firms	(unknown)	(unknown)	Tenant start-up firms can stay till they ''outgrow'' the incubator space

Figure 2: Critical characteristics of some recent incubation models

However, it can be seen from figure 2 that there are significant similarities between the different recent forms of business incubation. All of these are primarily focused on one industry, namely the ICT-related ventures. Additionally, all the 3 models operate dominantly on a for-profit basis. Most of the models are for majority privately funded and operate with the same kind of business model. Perhaps, it can be inferred from this that the three definitions do not all represent one specific, stand-alone type of incubator. These models might display a single trend, going on in the business

incubator industry since the late 1990s. The following citation from (Chinsonboon, 2000) accurately describes this trend, emerging from needs assessed by the market itself:

''In recent years, and especially during mid-1999 to early 2000, the number of new for-profit high technology incubators has increased dramatically. Incubators are seen as organizations that can address the unique needs of today's new ventures: speed-to-market, synergy and network, talent cultivation and strategic cohesiveness. The growing number of incubators in the New Economy also represents a wide range of organizational forms.''

Some of the relevant different organizational forms referred to by (Chinsonboon, 2000), have been shown in this chapter. While attempting to view the same overall trend, researchers have given other names to the phenomenon. Hereby pointing at the increasing number of for-profit, high technology, network driven business incubators that has been established since the second half of the 1990s. This seems to be a notable trend in the incubator industry, since it is already going on for more than a decade. The widespread establishment of business incubators in general, has only started since the 1980s (Commission, 2002).

5.4 The 'Business Accelerator'

The 'Business Accelerator' can be considered as a special case, in the business incubation industry. Reasons for this include the recent origin and the lack of scientific research devoted to this organizational form. The latter is likely to be a result of the first reason. In this section, a definition of this form of business incubation will be provided, together with an attempt to place it in the right context, by means of the 'BI Continuum' framework.

5.4.1 Relevance of the 'Business Accelerator'

In 2011, an estimated number of around 110 business accelerators has been reported worldwide (Tozzi, 2011). In 2010, the estimated number of companies funded by business accelerator programs in the US was thought to be over 180 (Miller & Bound, 2011). Recently, the Wall Street Journal reported that applications for participation, in the roughly 200 existing business accelerator programs, have doubled in the last 2 years (Maltby & Needleman, 2012). The growth trend has on the other hand been put into perspective by a research of a US venture capitalist, Aziz

Gilani (in cooperation with Kauffman fellowship program) in 2011. It suggested that there have been found only 38 relevant accelerator programs in the European and US industry (Gilani, 2011). Nevertheless, these findings infer a substantial growth in the number of 'Business Accelerator' programs. There are more estimations existing on the environment of business accelerators. However, not overlooking the doubtfulness of the preciseness of this data, the number is significant (refer to total global number of incubators) and there have been written a substantial number of articles about the phenomenon on reliable news websites such as the Wall Street Journal, Forbes, the Bloomberg Businessweek and TechCrunch (Butcher, 2011; Geron, 2012; Maltby & Needleman, 2012; Tozzi, 2011). Furthermore, a 'Global Accelerator Network' (www.globalacceleratornetwork.com) has recently been established to track the growth of the phenomenon.

5.4.2 The rise of the 'Business Accelerator'

'Business Accelerator', which is addressed in this research is adapted from (Christiansen, 2009), who suggests that the first of this kind of 'seed accelerator programs' has been established in the year 2005. This business accelerator, based in Mountain View California, is called 'Y Combinator' and has been established by Paul Graham, who is seen as the pioneer of the 'Business Accelerator' in the incubation industry. As the total value of the incubated start-up firms has been estimated at $7.78 billion by 2010, Forbes has ranked 'Y Combinator' at the first place of their top 100 list of worldwide incubator programs (Geron, 2012). This is an interesting finding, as it has only been established in 2005, competing with highly experienced and well-established incubator programs. Following in 2007, the Boulder, Colorado based business accelerator 'TechStars' was established. Currently operating on four different locations, TechStars has brought forward 114 companies, from which 98 were still active in 2010. These companies have raised a total of $134 million in venture capital and employ around 714 workers (Geron, 2012). Being listed second on the incubator ranking composed by Forbes (based on total value of start-up firms), 'Techstars' is seen as one of the pioneers of the accelerator model, together with 'Y Combinator'. In the same period (starting from 2005) a growing number of 'Business Accelerator' programs has been established worldwide. This trend has been starting in the US and moving to Europe and other parts of the world.

For example, there have been an increasing number of accelerator programs reported in China.

What has been the main trigger for the increasing trend in the establishment of business accelerator programs? One important contributing factor has been the changing economics of start-up firms (from the start-up firm perspective), in the last decade. Lower technology costs, easier routes to customer acquisition and better forms of direct monetization have paved the way for high technology teams to quickly bring a product to the market. The decreasing costs of software and hardware have been an important trigger for the increasing number of start-up firms and 'Business Accelerator' programs. Through the rise of internet, new business models have been emerging and it became possible to create revenue from day 1 of the business (Miller & Bound, 2011; St. Jean, 2009). From the perspective of the investment community, accelerators facilitate a way for early stage investors to lower the risk of investing in ICT or other high-technology start-up firms. After the dotcom boom of 2000, investors became extremely cautious with putting these firms in their portfolios, because of the high risks attached (Commission, 2002). 'Business Accelerator' programs are a great way for venture capital or angel investors to diversify their portfolios, with investing small amounts in a larger number of start-up at once, and thereby reducing the risks of the investment. For high-technology start-up firms, obtaining external capital is very hard in today's economy. Accelerator programs step in, and provide the opportunity to both start-up firm and investor to decrease the risk of going in business (Miller & Bound, 2011), which can be one of the explanations for the increasing trend.

5.4.3 The 'Business Accelerator' model definition

The 'Business Accelerator', pioneered by 'Y Combinator' and 'TechStars', hasn't been found in scientific literature so far. In this section, an attempt is made to provide a clear definition of the 'business accelerator' model. In this definition, the key characteristics will be identified.

For defining the 'Business Accelerator' model, the definition of a recent MBA thesis report from Cambridge University will be used (Christiansen, 2009). This research consists of an extensive web survey and composition of a database with existing 'seed accelerator programs', a survey amongst entrepreneurs and personal interviews with founders of a variety of these programs. All the programs provided in the database, correspond to the definition of a 'seed accelerator program'

(Christiansen, 2009). The findings in that research will be complemented with data from web articles and a report on 'the rise of accelerator programs' by NESTA, which is a UK-based, innovation and research platform (Miller & Bound, 2011).

The key elements of a 'business accelerator' program
Start-up firms receive funding (up to $50000 dollars each), in exchange for equity (average between 6-10%)
Company founders consist of small teams (averaging 3), with technological backgrounds
Each group of start-up firms stays in the program for a defined period of time: mostly between 3 and 6 months
Intensive coaching/education program, consisting of business advice and product advice
Networking program to meet other advisers or investors
An open application process for start-up firms intending to enter, which is highly competitive
May/or may not include: Demo Day for start-up firms to show their progress to investors
May/ or may not include: Free or subsidized office space for the start-up firms to use during the program

Figure 3: the key elements of a 'Business Accelerator'

Adapted from (Christiansen, 2009) and (Miller & Bound, 2011)

Figure 3 displays the key characteristics of the 'Business Accelerator'. These characteristics are defined according to the database compiled by (Christiansen, 2009). This real-time list contains 78 accelerator programs worldwide (see appendix 3), which fit the elements from figure 3. Through manual web search, (Christiansen, 2009) has defined these programs and confirmed the presence of the main elements from figure 3. These criteria are confirmed as belonging to the definition of a 'Business Accelerator' by (Gilani, 2011) and (Miller & Bound, 2011). Therefore, it is assumed that these characteristics are representative as a benchmark, when defining the 'Business Accelerator'.

In the 'Business Accelerator' model, the participating start-up firms receive a fixed amount of investment at the start of the program. This amount is mostly reaching up

to $50000 per team. This investment can be in the form of a convertible note or an equity investment (mostly between 6%-10%) (Christiansen, 2009; Miller & Bound, 2011). The average size of the team of founders per start-up firm mostly consists of around 3 persons. The reason why teams are usually not smaller, is that the work pressure of running a start-up firm and the intensity of the program becomes too large in this case. The reason why teams are not larger, is that the investment per start-up firm becomes too high, as this mostly goes parallel with the number of founders (Gilani, 2011; Miller & Bound, 2011). Then, the time period for a start-up firm of being in an accelerator program is generally fixed between 3 and 6 months. The rationale behind this, is that ICT-related firms (in today's world of high technological advancements) take a relatively small amount of time to enter the market and the efficiency of the program will be maximized under high pressure circumstances (Christiansen, 2009). Then, the majority of business accelerator programs provides an extensive mentoring program. The aims of this are practical coaching in the form of product support and business support and an opportunity to build a long-term relationship with these mentors, who are in most cases entrepreneurs with experience in the relevant industry. It is argued that the quality and the size of the mentoring network, is an important quality indicator for start-up firms intending to opt for a specific 'Business Accelerator' program. This aspect is closely connected to the subsequent element mentioned in figure 3, which is networking. Business accelerators usually provide preferred access to network meetings, industry relevant conferences and internal guest speakers. Furthermore, in a lot of cases, a Demo Day is organized where the local investment community is invited to observe the progress and the finalized propositions of the participating start-up firms. This is a very useful opportunity to receive relevant feedback and to connect with people who could provide future follow-up investments (Christiansen, 2009). Accelerator programs operate in such a way, that each time when a new program period starts, one ''batch'' or ''cluster'' of start-up firms gets selected through an open and highly competitive (especially with the popular, high quality programs) procedure. The number of companies participating in a program varies significantly, ranging from 10 to 70, depending on the available office resources, management and network (Gilani, 2011; Miller & Bound, 2011). The last specific characteristic of the 'business accelerator' model of incubation is the fact that in most cases, office space is provided for the start-up firms. This is either heavily subsidized or provided for free.

5.5 Similarities of the 'Business Accelerator' with the 'third generation' of business incubators

In the theoretical framework, different models of the 'third generation' of incubators (Allen & McCluskey, 1990) have been shown as an attempt to identify the critical characteristics of the trend in the incubation industry, starting from the second half of the 1990s. These more recent models of incubation corresponded with the 'private incubator' classification of (Grimaldi & Grandi, 2005). The purpose of this paragraph, is to show how the 'Business Accelerator' corresponds to the trend in the business incubation environment. Prior to thorough emphasis on the differences, it is worthwhile to look at some remarkable similarities of the 'Business Accelerator' with the latest generation of business incubators. This enhances our understanding, that the 'Business Accelerator' is not a phenomenon that emerged out of void.

The relevant generation of incubators in the 'BI Continuum' framework to consider, is the 'third generation'. This generation involves start-up firms from mainly the ICT-sector, a majority of the incubators has a for-profit mission and only a few of them are (partly) financed by public sources (Commission, 2002; Dilts & Hackett, 2004). Referring back to figure 2, it can be seen that the relevant and more recent models of incubation (section 5.3.2.4) accurately correspond to the third generation of incubators.

At first, the 'Business Accelerator' model puts an emphasis on ICT-related start-up firms, which corresponds with the third generation of incubators. Secondly, the for-profit nature of business accelerators also fits with the third generation classification. Thirdly, emphasizing a major aspect of the third generation of incubators, is the focus on networking. It has been shown that the provision of an organized external network (Hansen et al., 2000) and or the utilization of an internal cooperative network between participating firms (Bøllingtoft, 2012), plays a very important role in the third generation incubator environment. In defining the 'business accelerator' model, the importance of a large external business network and the opportunity for internal cooperation with other tenant firms also became evident. This is yet another similarity corresponding factor of the 'business accelerator' model with the third generation of the 'BI Continuum' framework. Fourthly, the revenue model of a the third generation of incubators is mostly 'equity' based (refer to figure 2). Comparing this fact with

figure 3, it can be seen that the ‘business accelerator’ model is also based on this model, as start-up firms mostly give up on average between 6%-10% of equity to participate in a specific accelerator program. Thus, the business model of business accelerator programs corresponds to the general trend of the third generation of incubators. At last, generally all the third generation incubators offer a range of basic services on the area of business support and coaching, either from external of internal parties, paid or for free. Furthermore, the basic ingredient of business incubation, which is working space for the tenant start-up firms, seems to be maintained throughout the third generation (Hansen et al., 2000). Without taking the minor differences in provision of these basic services between ‘Business Accelerator’ programs into consideration, it seems that they correspond with the third generation on these areas. Office space and mentoring/coaching services are also integrated in the value proposition of this model.

As the ‘Business Accelerator’ includes several critical similarities with the other recent models of business incubation, it can be concluded that the ‘Business Accelerator’ corresponds to main elements of the ‘third generation’ of business incubators of the last 15 years.

6. Sub-Question 1: What are the key distinctive characteristics of the 'business accelerator', in comparison with other recent business incubator models?

6.1 The 'business accelerator' model compared to the 'third generation' business incubators

The main value proposition of different generations of business incubators in the 'BI Continuum' (Allen & McCluskey, 1990), has changed from offering cheap office space and shared office facilities (first generation) to an extended offer of business support services (second generation) and eventually the addition of networking services to the value proposition(third generation). The value proposition of today's incubator landscape seems to be homogeneous (Bruneel et al., 2012). However, it is shown that not all business incubators develop their value proposition parallel to the different generations of business incubators. A large amount of first and second generation business incubators doesn't achieve to make major changes in their offering and do, as a result, have a value proposition which is only relevant to a low share of their tenant start-up firms (Bruneel et al., 2012). On the other hand, third generation incubators are focusing more on the alignment of their service proposition with the interest of the tenant start-up firms, as these incubators are more focused on the creation of profitable ventures, instead of the goal to ''look good in the eyes of policy actors by increasing income (e.g. rental income, service provision) (Bruneel et al., 2012). Other characteristics of the third generation incubators (relative to older generations) are the fact that these have shorter incubation periods, a larger number of companies graduating and a higher provision of different services and intervention with tenant start-up firms. Furthermore, first and second generation incubators show a tendency to focus on receiving a stable revenue through rental income and recruitment of more mature companies. Third generation incubators show a greater focus in selecting high potential young companies and growing them to a higher level quickly (Bruneel et al., 2012). In section 5.3, a short overview of characteristics present in third generation incubators has been provided. Together with the inter-generational differences between business incubators provided in this section, we have developed a clear overview of the main traits and features of the third generation of business incubators. Additionally, in section 5.3.2, figure 2 is provided

to summarize the key characteristics of the several identified incubator models. These 3 models have been categorized into the third generation of incubators, due to the similarities that were observed. In section 5.5, the 'business accelerator' model has been implemented into the 'Business Incubator Continuum'. The model has the most similarities with the third generation of incubators. The comparison between the older generations of business incubators (first and second) and the third generation, has already been made in this and other sections of this research paper (section 5.3). For this reason, when evaluating the differences between the 'business accelerator model' and other models of business incubation, it will only be compared with the third generation of incubators. Another reason for the value of this approach is that the third generation of incubators and the 'business accelerator' model are both quite recent in terms of history.

The comparison will be provided using the 'key characterizing variables' of (Grimaldi & Grandi, 2005) and the 'BI Continuum' framework of (Allen & McCluskey, 1990). These variables of the third generation business incubators will be set out using the information given in section 5.3.1 and 5.3.2.4. The key characteristics of the 'business accelerator' model are given with the information from section 5.4.3. Figure 4 below displays the comparison between the 'business accelerator' model and the third generation business incubators. Some of the variables were not provided in the definitions earlier in this paper, and will be provided with the help of additional literature.

Characterizing variables	***'Third generation' business incubator***	***'Business Accelerator ' model***
Institutional Mission	Profit-oriented (majority)	Profit-oriented
Industrial Sectors of Investment	High-Technology (specialized: ICT-related in most cases)	High-Technology (specialized: ICT-related in most cases)
Financing	Private financing (majority)	Private financing (majority)
Location	(no data available)	(no data available)
Market	National/International	National/International
Origin of Ideas	(no data available)	(no data available)

Phase of Intervention	In stage of business idea, product development, early growth	In stage of business idea, product development, early growth
Sources of Revenue	Provision of seed capital investment, in exchange for equity percentage in start-up firms.	Provision of seed capital investment, in exchange for equity percentage in start-up firms.
Services	Business support services, financial services, networking services, office-space, office facilities. (to varying extent)	Business support services, financial services, networking services, office-space, office facilities. (to varying extent)
Management Team	(no data available)	(no data available)
Incubation Period (exit policy)	20 months on average	3-6 months on average
Selection and Admission Criteria	No clear, standardized admission and selection procedures, lack of competition . Start-ups can be admitted throughout the year.	Very competitive, clear and rigorous procedure of selection and admission. One group of start-ups can be admitted at same time, and ‘’graduates at same time.

Figure 4:

The main characterizing variables of ‘third-generation business incubators’ and ‘business accelerator’ programs

Adapted from: (Allen & McCluskey, 1990; Grimaldi & Grandi, 2005)

In case of a similar observation of the characterizing variable between third generation incubators and ‘business accelerators’, it is important to note that this not necessarily imply overall equality of this characteristic amongst all third generation incubators and ‘business accelerators. The aim of the comparison, is to see whether the important characterizing variables substantially differ amongst a majority of the ‘business accelerator’ programs, in comparison with third generation incubators. For

example, implying that the service provision to start-up firms is similar amongst the two categories, it doesn't mean that every single 'business accelerator' program offers the exact same service package as all the third generation incubators. It means that on general, the value proposition of type of services amongst third generation incubators doesn't differ much from 'business accelerator' programs (note: ''varying extent'' in figure 4). For the scope of this research, only significant unique elements in the 'business accelerator' model in comparison to third generation business incubators are regarded as relevant.

6.1.1The similarities between the 'third generation' business incubators and the 'business accelerator' model

As shown in the theoretical framework, the 'third generation' of business incubators shares a couple of key characteristics. First, their institutional mission is mostly equal, existing with a for-profit goal. Secondly, a large portion of the third generation business incubators operates in a (high-technology) specialized industry sector, which is in most cases ICT related (Chinsonboon, 2000; Commission, 2002). Thirdly, as most of the third generation incubators are operating with a for-profit mission, the majority of this generation is financed by private sources (Commission, 2002; Hansen et al., 2000). There is a lack of clear data on the 'market' which the different models of incubation generally serve. Though, it is known that first and second generation business incubators put a larger emphasis on serving the local market and thereby develop the local economies, than third generation incubators (Commission, 2002). Since third generation incubators are focusing increasingly on high-tech ICT related businesses and are ran on a for-profit basis, it could be argued that these incubators have the largest interest in stimulating international (even global) expansion of these businesses. The reason for this, is that ICT-related products are easily scalable and sellable throughout the world, due to the internet infrastructure. Furthermore, for-profit incubators financially benefit from worldwide expansion of the tenant start-up firms, as this increases their scale and revenues (increasing the incubator's value). Therefore, it is expected that the market for third generation incubators is mostly on, at least, a national level. Subsequently, it is observed that the phase of intervention in the third generation incubators is generally within the first year after establishment of the business (Bruneel et al., 2012), when the start-up firms are in the early stage of product development or prototype. This is supported by (Ratinho, 2011), who states that third generation show a great focus in graduating nascent companies with high

speed, keeping a stable turnover and incubating a larger number of businesses. It is also shown, that for-profit incubators generally prefer to house a start-up which is in the ‘’early growth’’ stage, already having customers (Grimaldi & Grandi, 2005). Although, some third generation incubators still ask service fees and receive rental income, the general trend in the business model (sources of revenue) of third generation incubators is similar. Namely, third generation business incubators mostly invest a certain amount of money in each of their start-up firms and take a percentage of equity in exchange. In third generation incubators, this investment can reach up to a million dollars in exchange for equity percentages up to 50% (Commission, 2002). In ‘business accelerator’ programs, this investment (up to 50000 dollars) and the equity percentage is mostly smaller (between 6-10%) (Christiansen, 2009; Maltby & Needleman, 2012; Miller & Bound, 2011). However, despite of these differences in exact values, the working of the business model is the same and will therefore be regarded as similar, comparing third generation business incubators and ‘business accelerators’. This business model is said to be a good way of aligning the interests of the business incubator with the client firms, thereby increasing the chance of start-up firms’ success (Almubartaki et al., 2010). Referring to the example and theory given in section 6.1, it can be argued that the basic service provision in the value proposition of third generation incubators consists of the same aspects (see figure 4). Though, it is frequently stated, that ‘business accelerator’ programs have more extensive structured mentoring programs (product support and business support) and more management involvement in operation of the participating start-up firms, than third generation business incubators do (Christiansen, 2009; Fishback, Gulbranson, Litan, Mitchell, & Porzig, 2007; Maltby & Needleman, 2012). The availability of data lacks to prove this statement, but further research could present proof to this statement.

The previously set out characteristics of third generation incubators have been observed to be rather similar to the ‘business accelerator’ model (Christiansen, 2009; Gilani, 2011; Maltby & Needleman, 2012; Miller & Bound, 2011; St. Jean, 2009).

Then a few characterizing variables could not be compared due to the lack of enough (reliable) data. These variables are location, origin of ideas and the management. First, there is no specific information found, on the location of third generation incubators. However, according to the European Comission, 54% of the total number

of incubators are established in an urban area (Commission, 2002). Furthermore, we know that 'business accelerator' programs' location is regarded as a very important determinant for an entrepreneur in opting for a specific program. In this decision, the density of the entrepreneurial and investment community around the 'business accelerator' play an essential role (Christiansen, 2009). Thus, it is expected that the most desirable locations are also urban areas for 'business accelerator' programs. However, this is more or less speculation and is not backed up by data. The variables 'origin of ideas' and management are not verifiable by data and can therefore not be proved as substantially different between third generation incubators and 'business accelerators'.

6.1.2 The relevant differences between the 'third generation' business incubators and the 'business accelerator' model

As the methodological approach to this research is such, that if there is a difference in one of the 'main characterizing variables' developed by (Grimaldi & Grandi, 2005) between third generation business incubators and 'business accelerators', we can speak of the 'business accelerator' model as being distinct. The aim of this section is to set out the observed differences in the variables, between third generation business incubators and 'business accelerators'.

6.1.2.1 The incubation period

The first significant difference observed between the third generation of business incubators and the 'business accelerator' model is the incubation period. According to the European Commission, the average incubation period is approximately 3 years (Commission, 2002). However, when narrowing the spectrum down to the 'third generation' of business incubators, the average incubation period is much shorter with approximately 1,7 years of average residency in the business incubator. Remarkably, observed in this research, the incubation period in a 'business accelerator' is significantly lower, with the average being between 3 and 6 months of program duration (Christiansen, 2009; Gilani, 2011; Maltby & Needleman, 2012; Miller & Bound, 2011). The fact that the incubation period in a 'business accelerator' implies that one can speak of a significantly different approach. As mentioned in section 5.4, the reasons for the trend of a shorter incubation period can be attributed to the decreasing time and costs it takes to launch an ICT-related start-up firm (Christiansen, 2009; Miller & Bound, 2011). Furthermore, the process of speed creates a larger number of start-up firms and a high pressure, stimulating progress.

From the perspective of the venture capitalist, one of the major advantages of the 'business accelerator', is that the it brings efficiency to the market, due to the speed of companies ''entering'' and ''graduating'' 'business accelerator' programs. Entrepreneurs spend less time on looking for capital investment, the capital is employed more quickly and business ideas are tested and validated in a faster way (St. Jean, 2009).

6.1.2.2 The selection and admission criteria

The second significant difference between the third generation of business incubators and the 'business accelerator' model is observed to be 'the selection and admission criteria'. The policy of an incubator concerning 'selection and admission criteria' is very important, because when properly done, it presupposes a degree of homogeneity and therefore optimizes the networking synergies of exchanging ideas and knowledge between tenant start-up firms (Commission, 2002). This is in turn stated to have significant positive impact on the the success of tenant start-up firms (Bøllingtoft, 2012). Furthermore, more careful and perhaps competitive admission and selection criteria, benefits the filtering of the truly most high- potential start-up firms, increasing efficiency (Aerts et al., 2007). Next to that, careful selection and admission procedures ensure that start-up firms make more use of the provided services and the offer can be more specialized on a specific sector of businesses with rather similar needs (Ratinho, 2011). This is an important implication, as it has been widely proved that the extent to which an incubator is able to adjust to its start-up firms' needs, has a positive impact on the business incubator's performance (Aerts et al., 2007; Bruneel et al., 2012; Bøllingtoft, 2012). Admission criteria for a business incubator, when existing, can consist of viability of the product, entrepreneurial and managerial potential of the start-up team member(s), the growth potential, the ability to pay rent (if applicable) and the ability of the start-up firm to be compatible with the objectives of the incubator (Commission, 2002). However, a great problem is that a large number of business incubators doesn't have clear selection and admission procedures, among all the different generations of business incubators, as admission can happen on the basis of a business plan or first come first served (Aerts et al., 2007; Bruneel et al., 2012; Commission, 2002).

Taking the importance of this characteristic into account, it is worth to have a closer look at the selection and admission procedures within the 'business accelerator'

model. The application progress and incubation structure of a ‘business accelerator’ program is completely different. In a ‘business accelerator’, the incubation starts at a specific (fixed) time, with a fixed number (‘’batch’’ or ‘’cluster’’) of start-up companies being admitted (Christiansen, 2009). Then, the ‘business accelerator’ program will have a time span that is the same for every start-up firm. Meaning, that each participating start-up firm is ‘’graduating’’ from the program at the same time. Furthermore, the application process is said to be (depending on the exact value proposition) very competitive and based on a clear set of specialized admission criteria. Applicants have to go through several rounds, some consisting of an interview, a video application motivation and elaborate judgment by partners from both an entrepreneurial and financial background (Miller & Bound, 2011). For high profile ‘business accelerator’ programs, perhaps less than 1 percent of the applicants will be admitted to the program (Miller & Bound, 2011). This process is compared with the musical talent show, American Idol:

‘’Just as Idol contestants audition their skills before a panel of judges, start-ups wanting the benefits accelerators provide compete for slots on the accelerator’s “team.” The business idea typically is less important than the individuals. In VC speak, the jockey is more important than the horse. Accelerators believe that by assembling groups of potential entrepreneurial superstars, they will hatch more and better ideas than if they fund a series of them in isolation. Further, accelerators appear to be concentrating on specific industries or sectors, since it often takes a critical mass of people with similar educational and business backgrounds to come up with cutting-edge commercially successful advances’’ (Fishback et al., 2007).

This is a truly different approach than in all the different generations of business incubators, as these all seem to lack proper and competitive admission and selection criteria (Bruneel et al., 2012). Additionally, the organization of incubating the start-up firms is totally different in a ‘business accelerator’, as firms are able to apply and be admitted to incubators generally throughout the whole year and the firms are thus not entering and graduating at the same time. As the positive influence on firm performance of these careful and clear admission procedures has been showed several times (Aerts et al., 2007; Commission, 2002; Ratinho, 2011), the ‘business accelerator’ approach might be of positive influence on efficiency, speed and quality

of new business development (Aerts et al., 2007; Bruneel et al., 2012; Miller & Bound, 2011; St. Jean, 2009).

7. Sub-question 2: What are the most crucial elements through which a 'business accelerator' program adds value to start-up firms?

The final step in answering the research question, is to observe how the 'Business Accelerator' adds most value to the start-up firms participating. Thereafter, the results will be compared with findings about value-added contributions of other business incubators to start-up firms. In case there is a clear difference in the way in which 'Business Accelerator' programs add value to start-up firms, relative to findings about other business incubators, this contributes to the conclusion of this research. To achieve this purpose, 8 structured interviews have been pulled off with start-up firm members and managers of 3 different 'Business Accelerator' programs. Furthermore, questionnaires have been filled out by 18 start-up firm members and managers of 'Business Accelerator' programs. Additionally, a structured interview with Professor in Innovative Entrepreneurship at Twente University, and director of Venturelab Twente (a 'third generation' business incubator), Aard Groen has been done. In looking at the views on value addition to start-up firms, the emphasis will be put on the perspective of tenant start-up firms, since most past literature has been focusing on interviewing incubator managers only (Bøllingtoft, 2012). However, some of the interviewees will also be management members of 'business accelerator' programs. Prior research has focused on descriptive studies, where it is automatically assumed that service portfolio and overall business incubator impact on start-up firms is positive. However, the start-up firms are rarely questioned about their perceived importance of each value-added element of the incubator's value proposition (Ratinho, Harms, & Groen, 2010). In this approach, it assumed that proper adjustment of the offerings of the 'business incubator' to the specific needs of the start-up firms, has a positive effect on incubator's performance. Furthermore, looking at value-added contributions of a business incubator to start-up firms, is a correct way of distinguishing different sorts of business incubators (Autio & Klofsten, 1998; Bruneel et al., 2012; Dilts & Hackett, 2004; Ratinho, 2011).

7.1 Value-added elements in a 'Business Accelerator' program: previous findings and empirical results

As mentioned in previous sections, there is a small amount of documentation (scientific or non-scientific) about the 'Business Accelerator' model. With the available material, an overview will be given of the elements in which this model adds crucial value to the start-up firms. (Christiansen, 2009) has surveyed over 100 participants of 'business accelerator' programs and firms that were contemplating participation. Five aspects have been identified as the major elements, which add-value to the start-up firms in a 'business accelerator' program. These aspects have been surveyed on a scale from 1-10, where 1 signifies ''doesn't matter at all'' and 10 ''the single most important value-adding element for the start-up firm''.

- Financial support and initial funding (4,14)
- Product support (7,13)
- Business support (7,42)
- Brand reputation (7,83)
- Connections to future capital (8,51)

Complementing and testing the legitimacy of these findings, a structured interview (appendix 2) has been performed by questioning 4 start-up firm members, 4 management team members (of 3 different programs), in detail about the most important value-added elements in a 'Business Accelerator' program. Each of the elements have been first mentioned and briefly explained, before asking the interviewee about the perceived importance in value-added of the specific element. This has been done in order to account for the relative perceived importance of each element.

Financial Support and Initial Funding

The element of 'financial support and initial funding' has been rated with **4.14**. Founders regard the amount of funding as a crucial aspect, but it is not primary, as it should be sufficient to be able to cover daily living expenses. In this way, one can focus solely on operating the start-up firm (Christiansen, 2009). These findings are confirmed by all of the interviewees. From a start-up members' perspective, the funding and the office space provision is not a critical determinant for entering into the program. Apart from the fact that it allows the firms to have an economically

advantageous office space, there are cases where it can add crucial value, illustrated by the following quote of one of the entrepreneurs:

''The initial funding enabled us to hire another team employee''

However, the strongest sentiment amongst the interviewees is that the practical aspect of office space provision and funding doesn't count as a crucial determinant in adding value to the business. The following statement of an entrepreneur underlines this:

''If it would have only been for the office space and the amount of initial funding, for which we have to give away a percentage equity of our start-up firm, I would not have applied for the accelerator.''

Product Support

Then (Christiansen, 2009) has separated the category 'product support' as one of the value-adding aspects of a 'business accelerator' program, which is rated with **7.13**. As many of the teams in an accelerator are not experienced and in an early stage of their career, there is a great opportunity of value-addition in receiving support on product development from experienced entrepreneurs and specialists from the 'business accelerator' network. The quality and number of advisors and their feedback, associated with 'business accelerator' programs, is hard to replicate outside such a program and is therefore regarded as a significant value-added element for start-up firms (Miller & Bound, 2011).

The results from the interviews closely correspond to these findings. It became evident that accelerator programs add the most value in defining the target market, the value proposition and the choice of product features. This is believed to be essential for the development of the start-up firms. This result is underlined by the following quotes of entrepreneurs from 'Business Accelerator' programs:

''The value proposition of the product, the focus of what the market reach is and which product features to use, is essentially improved by participating in an accelerator, because you speak to such a large amount of knowledgeable and relevant mentors.''

''Product support was critical for us in helping to define our company's mission and vision, how we differentiate from the competition and to help us keep a clear view on what we are doing.''

Important to emphasize, is that the amount of added-value for start-up firms, embedded in 'product support', is highly dependent on the stage of development, the team composition of each individual start-up firm and the quality of the knowledge of different mentors involved. If the start-up firm members are very experienced in the specific product group, they will only gain value from receiving support from very specialized mentors. Additionally, a start-up firm with a technical background, will not need much support on the technical development.

Business Support

The next separate category of added-value aspects in a 'business accelerator' program is 'business support', rated with **7.42**. Most of the start-up firms joining an accelerator, are inexperienced and can profit from legal and financial coaching in establishing the company. Next to these issues, start-up firms receive mentoring on topics of hiring, PR, marketing, the business model and strategic matters. For both inexperienced as more experienced participants, this element is seen as another important value-added aspect of being in a 'business accelerator' program (Christiansen, 2009).

From the interviews, it became evident that financial knowledge about venture capital and follow-up investment negotiations, is a very critical element for most of the start-up firms in an accelerator and adds large value. Although this knowledge can be obtained from studying, only notifying the start-up firms about the importance attached, adds major value. Also, related skills, such as negotiation, presentation and sales skills were highly demanded, and regarded as an important value addition. The reason for this is that most teams seem to have technical backgrounds and a critical lack in business skills. The following quote illustrates this:

'' Presenting and sales skills are very essential added-value aspect in an accelerator, because the accelerator's network gave us the opportunity to find testing customers and practice our presentation, negotiation and sales skills. ''

In particular, the management members of 'Business Accelerator' programs emphasized the importance of defining and optimalizing the business model of the start-up firms. Through 'business support' the accelerator program adds critical value in reaching this goal. The 'Business Accelerator' plays the main role in connecting the start-up businesses to the right people in the industry, from which the entrepreneurs can receive adequate support.

Brand Reputation

The fourth element identified by (Christiansen, 2009) as being a major value-adding component in a 'business accelerator' program, is 'brand reputation', ranked with **7.83**. 'Business Accelerators' incorporate a network with successful entrepreneurs, investors, specialists and media connections. When participants are admitted to a program, they are affiliated with these connections. These are leveraged in marketing activities and attempts to raise funding, by the start-up firms. The extent to which this effect of 'brand reputation' adds value, is related to the reputation and publicity of the particular program. Although, it is argued that this effect does not count on its own, as customers are the only people who will possibly ensure long-term success of the start-up business (Miller & Bound, 2011).

The results of (Christiansen, 2009) closely correspond to the results from the interviews. Most of the interviewees emphasized the possible relevance and benefits from the 'brand reputation' and 'credibility' effect of being in an accelerator program. It is important to emphasize, that this effect only counts under a certain condition: the people who the start-up business is dealing with, should be familiar with the business accelerator and its functions. It is argued, that the Accelerator ''stamp of approval'' counts when presenting the start-up firm to possible investors and fellow entrepreneurs. However, 'brand reputation' does not significantly seem to benefit new customer acquisition for the start-up firms. The following quote by one of the participating entrepreneurs emphasizes these results:

''Possible investors are more approachable, if your firm has been through an accelerator, because the risk of investment goes down massively for the investor.''

Connections to Future Capital

The last element, that is said to add the most value to the start-up firms in a 'business accelerator' program, is 'connections to future capital', ranked with **8.51** (Christiansen, 2009)**.** Start-up firms have mostly finished their first product, after the 'business accelerator' program ends. In most cases, a substantial amount of funding is needed for the firm to continue operation and expand the start-up business. The high quality 'Business Accelerator' programs provide a significant number of contacts in the venture capital industry. Either in an unstructured way throughout meetings and advice sessions during the program, or on a 'Demo Day', which is specifically organized for the start-up firms to present their products to a substantial amount of investors at once. This is a great opportunity for both the entrepreneurs and the investors, as a great number of potentially interesting investors/start-up firms are in one place at the same time (Miller & Bound, 2011). Most of the participants in 'Business Accelerator' programs are primarily concerned with the long-term perspective of their business, and therefore perceive 'connections to future capital' as the most crucial value-added element of the program.

The observation, that 'connections to future capital' is on top of value-added elements of an accelerator, is clearly confirmed by the empirical interview results. The following quote of the operational manager of an accelerator program underlines the argument:

''Connections with investors throughout the program is essential to receiving funding, as knowing the right people means everything. This goes hand-in-hand with the main purpose of a business accelerator, which is guiding the start-up firms to receiving a follow-up investment and expand internationally.''

The accelerator is said to add value, in the sense that outside of the program, it's very difficult to get connected to as many investors and other business connections, as a start-up firm gets within the program. However, an important result from the interviews is that there should be a distinction made between direct impact and indirect impact of the 'business accelerator', with regard to future capital. Several interviewees have put the added-value into perspective, arguing that ''most of the start-up firms did not actually get funded during or shortly after the end of the program''. Notwithstanding the possible lack of direct impact in providing the start-up

firms with follow-up investment, the indirect impact seems to be significant, by providing the businesses with a large number of investor contacts.

Concluding, it is worth mentioning that several entrepreneurs and managers doubted the impact of Demo Day on actual funding practices. However, Demo Day seems to have another function in adding value to the start-up firms:

''Demo Day serves as a focus point or a milestone for the start-ups. In the mind of the start-up members, the Demo Day is the major day in their program. This causes the entrepreneurs to get a lot of work done, in a short time. It accelerates the development process and the efficiency.''

Other Relevant Added-Value Aspects

Concluding this section, (Miller & Bound, 2011) have identified two other elements which play an important role in adding value to the start-up firms in 'business accelerator' programs. These are not included in the framework of (Christiansen, 2009). Those two elements are the 'internal network' and an amount of 'pressure and discipline'. Furthermore, the results from the interviews have revealed that 'the management' and the 'number and quality of mentors involved' are significantly important in determining value-added contribution of a 'Business Accelerator'.

The added value of **internal network** interactions in a 'Business Accelerator' program tends to vary significantly. According to one of the entrepreneurs, there is a small amount of added value for the start-up firm, coming from interactions with the fellow entrepreneurs or the management in the program. It was said, that the sole contribution would be that by looking at the fellow start-up firms, critical thinking about the business might be sharpened. Except for informal contact, the synergy between different firms tends to relatively low, as most of the start-up firms have an individual attitude in operating their business. Feedback does not often come directly from fellow firms. Reasons for this are suggested to be differences in stage of firm development, the products of the start-up firms, different cultures and difference in experience of team members.

On the other hand, the majority of the interviewees holds a different opinion on the added-value of the internal network interactions. It is said that internal network interactions often serve as useful way to share knowledge, which is confirmed in

(Miller & Bound, 2011). However, important to note is that it is recognized that this value is larger for the more inexperienced and younger entrepreneurs. Furthermore, it is argued by several entrepreneurs and a member of the management in an accelerator program, that there is an important indirect value coming from the internal network. This can best be described using the following quote:

''The value that you get from the people around you is not direct. What you get from people around you is motivation and determination, because you see these people make steps in their start-up. You need to be in an environment where people move, and where people struggle with the same things of being an entrepreneur, as where you struggle with.''

There seems to be controversy about the true added-value of internal network interactions between start-up firms. It is likely to dependent on a large number of personal, cultural and situational factors. It can be concluded that the internal network is not part of the top value-added components within a 'Business Accelerator' program, though future research could contribute to finding clearer evidence on the conditions for successful internal networking in an accelerator.

The next result from (Miller & Bound, 2011), which also resulted from the structured interviews, was the added-value of a certain amount of **'pressure and discipline'** in a 'Business Accelerator' program. The accelerator program, with its average duration period of between 3 to 6 months, serves as a ''forced framework with a deadline'' in the form of the program end, usually Demo Day. This has a positive effect on the start-up firms, because it keeps them motivated to achieve a maximum result in business development, in a short period of time. The management member of an accelerator program even commented on this issue, by suggesting the following:

''The program period should not be longer, as start-up firms need the amount of pressure as some kind of motivation. If this period would be extended, the start-up firms wouldn't proportionally achieve more in terms of business progress. This implies that it is efficient to take a period between 3 and 6 months.''

Interesting about this result is that, contrasting third-generation business incubators (average incubation time of 1,7 years, refer to section 5), the 'Business Accelerator' seems to achieve an efficient result in a very short time period. Namely, start-up firms

should go from early stage product development to a finished product (including customers and a possible follow-up investment), in a maximum of 6 months. Further research would be needed to verify for which kind of start-up firms this approach would fit.

Thirdly, **the management** of a 'Business Accelerator' program is said to add positive value to the start-up firm's development. Several interviewees commented on the importance of the management in planning, providing the start-up firms with necessary basic knowledge on business development and facilitating internal/external networking interactions. The capability of the management to organize events, matching of the right mentors with start-up firms and supporting the start-firms in business planning is regarded as very important. Three entrepreneurs who were interviewed regarded this aspect as one of the two core success factors of an accelerator. The following quote illustrates the possible value-added impact of the management on start-up firm members:

''We have learned a lot from the management team on specific sales skills, presenting skills, financial skills.''

One of the interviewed management members defined the possible added value as follows:

''It is the task of the management team, to make sure that as many of the valuable interactions that could take place between specific start-up teams and people from the network, are actually taking place. These network interactions shouldn't be left to coincidence, but should be carefully organized by the management for the start-ups.''

The last result from the empirical research, was that **'the number and quality of mentors involved'** is a very important value-added contribution to the start-up firms. This is confirmed in previous findings by (Christiansen, 2009; Maltby & Needleman, 2012; Miller & Bound, 2011), as it is suggested that this variable largely determines the success and reputation of the specific programs. It is suggested that 'Y Combinator', the pioneer of business accelerators, receives its high number of applicants as a result of their extensive business network, consisting of the most well-known and high profile entrepreneurs and investors. This result consistently returns in the interviews. All the interviewees argued that the scale of mentor network and

the specific expertise and background of these mentors, adds a large value to the start-up firms. Although, important to add is that ‘’matching’’ the right mentors to specific start-up firms, plays a significant role in the value the mentoring adds to the start-ups. One of the entrepreneurs deliberately noted:

‘’Added value is very much dependent on the ability of the accelerator to meet the needs of specific start-up firms.’’

Furthermore, it was recognized by all the interviewees that the size and relevance of the mentors in the network, positively influences the speed of the feedback process and development of the start-up firms. An entrepreneur confirmed this in the interview:

‘’Through the large amount of mentors, we received a shotgun blast of feedback on our business.’’

It can be observed that the size and the quality of the network of the ‘Business Accelerator’ can be considered as the most important value-added component for start-up firms. This is a consistent result throughout the literature, as well as in the empirical findings. Categories of ‘Product Support’, ‘Business Support’, ‘Brand Reputation’, ‘Connections to Future Capital’ are closely connected to this. The following statement from one of the entrepreneurs was confirmed by all interviewees, and clearly illustrates the main conclusion of this section:

‘’This scale of a business network, is something we could have never built from home. It adds unique value to our business.’’

7.2 Crucial value-added elements in other business incubators compared to the 'Business Accelerator'

In this paragraph, a brief review will be given on the research, which has been previously done on the topic of value-added elements of the business incubator to the start-up firms involved. It is important to emphasize, that the community impact of incubators will not be taken into account. This distinction is made in the past, as (Dilts & Hackett, 2004) differentiate between 'sources of value from incubator to community', 'sources of value from incubator to incubatee' and 'sources of value from incubatee to the community and the incubator'. The focus of this research will be, to look at 'sources of value from incubator to incubatee', as recent literature has emphasized that it is critically important for the success of the business incubator and the participating start-up firms, to adjust their offerings to the specific needs of these firms (see introduction of section 7).

Figure 5 sums up the most important findings from the literature review, on critical value-added components of the business incubators, from the perspective of participating start-up firms.

Critical value-added components: findings from incubator to incubatee	Source
- *Credibility of start-up firms* - *Diagnoses of business needs* - *Selection & monitoring* - *Access to capital* - *Access to network of experts/support systems* - *Faster learning/solution to problems in business*	(Autio & Klofsten, 1998; Smilor, 1987)
- *40% of respondents in UTBI's regarded 'shared office facilities' as major value-added component* - *30% of respondents regarded 'business assistance and networks' as major value-added component* - *41% of respondents regarded 'external business connections' (subcategory) as major value-added component* - *29% of respondents regarded 'internal firm connections' (subcategory) as major value-added component* - *27% of respondents regarded 'access to capital' (subcategory) as major value-added component*	(Mian, 1996)

- *Preferred network access for start-up firms* - *Economies of scale in the network of the business incubator* - *Stimulation of entrepreneurial drive of start-up firms*	(Hansen et al., 2000)
- *Start-up firm experiences significant development within business incubator* - *Internal networking interactions between start-up firms do not add major value* - *'Age' and 'human capital' of start-up firm members are negatively related to development of the firm through the incubator*	(Ratinho et al., 2010)
- *The degree of Industry specialization of incubator benefits value-addition to start-up firms* - *A balanced set of selection and admission criteria benefits added-value for start-up firms*	(Aerts et al., 2007; Hansen et al., 2000)
- *Shared, affordable office space and resources adds major value* - *Social and professional interaction amongst start-up firms internally add major value (under 2 conditions)*	(Bøllingtoft, 2012; Bøllingtoft & Ulhøi, 2005)
- *Access to capital for start-up firms* - *Provision of management know-how* - *Office space and shared resources are not the primary value-adding component*	(Almubartaki et al., 2010)
- *Connections to future capital is the major element in adding value to start-up firms* - *Strategic, operational and infrastructural services provided by external network of specialists and mentors.*	(Wiggins & Gibson, 2003)

Figure 5:

Value-added components in business incubators: a literature review summary

The majority of value-added components in figure 5 have showed up in the findings on 'Business Accelerator' programs in section 7.1. The practical facilities and the office space provision have been regarded as a relatively large value-added component by research of (Bøllingtoft & Ulhøi, 2005; Mian, 1996). However, other research has confirmed findings from 7.1, that office space and shared facilities are not a primary value-added component in business incubation (Almubartaki et al., 2010). This seems to be dependent of the stage of start-up firms' development and the other elements in the value proposition of business incubators. A remarkable finding, is that in the research of (Mian, 1996), the 'office space and shared facilities' category is valued relatively higher than 'network' elements.

This is inconsistent with our results. The reason for this might be the difference in time context, as this is more than 15 years.

In several literature sources, it is confirmed that external business and product support is an important element of value-added within business incubators (Autio & Klofsten, 1998; Mian, 1996; Smilor, 1987; Wiggins & Gibson, 2003). It is obvious that these elements are among the most important added-value components of both business incubators and accelerators.

The category of 'brand reputation' is found back in early literature, where it is widely argued that one of the major value-added elements of a business incubator is the credibility it adds to the start-up firm (Autio & Klofsten, 1998; Smilor, 1987). This finding has equally been observed at 'Business Accelerators' where brand reputation belongs to the major value-added elements for start-up firms.

The findings about added value of the 'internal network' to start-up firms varied in the literature review. This aspect also varied significantly in our findings about 'Business Accelerators'. It seems that it can be confirmed that this aspect depends highly on the composition of the start-up teams, the personality of the team members, cultural factors and experience. Nevertheless, it is remarkable that (Bøllingtoft, 2012) experienced a significant positive value-added result from the internal network aspect.

The 'connections to future capital' category can certainly be retrieved from figure 5, as being present in the literature. However, it doesn't seem to have a prominent position as value-added element in a business incubator (Mian, 1996). Nevertheless, almost all the sources in the literature review, mentioned the access to capital as an important value-added component. In the findings from 'Business Accelerator' programs, the value-added of these connections is perceived as the dominant factor. This seems to be a difference in comparison with other types of business incubation.

The category of 'pressure and discipline' is one of the unique findings from 'Business Accelerator' programs, which is not retrieved from the literature on business incubators. This element is closely related to speed of incubation and acceleration of the start-up firm's network size and learning curve. As most of the earlier incubators had an average incubation period of 1,7 years (third generation), the amount of

pressure seems to be limited. The high pressure in 'Business Accelerators' is said to accelerate the process of business development and learning. (Autio & Klofsten, 1998) argued that 'faster learning/solution to problems in business' is one major value-added component in business incubators. This finding confirms the result from accelerators, although it is proved that the accelerator takes a smaller incubation period for this purpose.

The 'number and quality of the mentors involved' has revealed to be at the top of major value-added components in accelerators. In business incubator literature, the value of external business support and other connections has become evident, but the emphasis on quantity and quality of these people has been found particularly in business accelerators. Nevertheless, it has been previously emphasized that 'networked incubators', with a large, organized business network, have larger chances of adding real value to their start-up firms (Hansen et al., 2000). The fact that this aspect of incubation seems to be dominant in business accelerators, could be the result of the specific needs of start-up firms the industry (ICT related), which is mostly served by accelerators. These firms work on software/hardware products, which take relatively short to develop and expand worldwide. Connections to industry specialists and capital investors are a major resource needed to achieve this purpose. These network assets can't simply be generated from home, as the empirical findings in section 7.1 underlined.

Added-value contributions of business incubators and accelerators can't be easily compared, as the stage of start-up firm's development, industry sector of operation of firms, entrepreneurial experience and time context varies significantly between different sources of literature. However, it has been shown that 'Business Accelerators' to a large extent add value on the same areas as other types of business incubators. According to findings from this research, the 'pressure and discipline' (speed of incubation) and 'number and quality of mentors involved' categories seem to be the most particular value-added components for 'Business Accelerators'.

8. Conclusion

We set out to research whether the 'Business Accelerator' is a distinct model of business incubation. Gaining insight into this topic is highly relevant, as there has been a significant growth of programs with the label 'business accelerator', since the year 2005. A clear definition of a 'Business Accelerator' hasn't been found in scientific literature so far. Additionally, public policy makers benefit from having a clear view of the different alternatives for supporting businesses and stimulating entrepreneurship together with economic development. In the theoretical framework of this research, it has been shown that different 'generations' of business incubators have evolved. The 'Business Accelerator' has subsequently been defined in this context. There are significant differences between business incubators throughout these 'generations'. Thus, a business incubator has become an ''overarching word, to refer to a heterogeneous reality'' (Bøllingtoft & Ulhøi, 2005). This statement is strongly supported by one of the interviewed entrepreneurs in a 'Business Accelerator':

''Everybody has a different perception of what an incubator or an accelerator is, and where it consists of.''

It can be concluded that the 'Business Accelerator' should be defined as a distinct model of business incubation. By comparing the ''main characterizing variables'' (Grimaldi & Grandi, 2005) of the business accelerator with these variables of the 'third generation' of business incubators (Allen & McCluskey, 1990), we have observed two significant differences: the 'selection and admission criteria' and the 'incubation period' of 'Business Accelerator' programs. Despite for the fact that the main value-added components observed in business accelerators are largely similar to the findings in business incubators, we have found interesting differences in the empirical part of the research. The 'size and quality of the mentoring network' and the amount of 'pressure and discipline' embedded in business accelerator programs, have proved to add major value to start-up firms' development. Additionally, 'Business Accelerator' programs provide major value to the start-up firms in facilitating access to future capital, as one of the main value propositions. These 3 elements are remarkable, since these weren't observed as top value-added components in previous incubator literature. The latter result underlines our

statement, that the ‘Business Accelerator’ should be defined as a distinct model of business incubation.

9. Recommendations and future research

This research should serve as a departure point for researchers and policy makers to evaluate the 'Business Accelerator' model. This model currently lacks financial support from public sources and it is a very interesting question, if accelerators should actually be supported using public money. Although more proof of success is required, there are certainly signs that this model succeeds efficiently in creating new businesses and jobs (Miller & Bound, 2011). There has been a certain amount of practical research, verifying the validity and possible success of the model (Geron, 2012; Gilani, 2011; St. Jean, 2009). Nevertheless, the model has also been criticized for several reasons (Miller & Bound, 2011).

It has been shown that business incubators of the 'third generation', are most comparable to the 'Business Accelerator'. (Bruneel et al., 2012) draw a number of important conclusions with respect to policy decisions of allocating funds to incubators. Policy makers should be aware of the extent to which business incubation initiatives add value to start-up firms. It is said that the latest generation of business incubators succeeds the most in adding value to nascent start-up firms, contrasting the first two generations. If it can be verified by policy makers, that a specific business accelerator program does add value to tenant firms, shifting funds from business incubators which provide less value to a business accelerator, might be a positive alternative. Furthermore, as 'Business Accelerator' programs support start-up firms which are in an early stage of development, without fully developed business models and small revenues, these programs require a larger amount of funding to be sustainable. This is relative to first and second generation business incubators. Public authorities could in the future, contribute to this need for funding.

The costs to society per job created through a business incubator, is around €4383. This measure is said to be a highly accurate measure to compare cost-effectiveness of different policies (Commission, 2002). Future research could reveal the same measure for 'Business Accelerator' programs, to be able to make a comparison in the actual effectiveness. Furthermore, future research could contribute to collection of more and reliable performance data on 'Business Accelerator' programs.

Concluding, in defining the 'Business Accelerator' model, there is a lot more work to be done. Further research should be focused at creating a larger and more complete

dataset of ‘Business Accelerator’ programs, which conform to the definition provided in this research. Furthermore, distinction should be made between the extent to which the main value-added elements from this research are successfully fulfilled, in the different programs of analysis. As a result, this database will serve as an even stronger base for comparison with other models of incubation.

10. Limitations

This research has succeeded in defining the 'Business Accelerator' as a distinct model by defining its main characteristics, differences with other 'third generation' business incubators and its unique value-added contributions to start-up firms. However, some limitations should also be considered when evaluating this paper.

In the theoretical framework of this research, different models of business incubation have been analyzed. However, this research doesn't involve all the different varieties of incubators as the scope for this is too limited. More accurate comparison of different business incubator models could have been provided, by including more models and performing a more thorough analysis of their specific characteristics.

The available data about 'Business Accelerator' programs is limited, as scientists have not defined this model in previous research. With more complete data about program characteristics, number of 'business accelerator' programs worldwide and their performance indicators, a better founded statement could have been made on the potential success of the model.

Concluding, the empirical research questionnaire and the 8 interviews conducted, can be argued to be a relatively small sample, to look at value-added contributions of 'business accelerator' programs. To see a more significant trend in these contributions and to thus be able to draw better founded conclusions, more start-up firm members and more management teams of 'business accelerator' programs should be interviewed and surveyed.

Bibliography

Aerts, K., Matthyssens, P., & Vandenbempt, K. (2007). Critical role and screening practices of European business incubators. *Technovation*, *27*(5), 254-267. Retrieved from http://linkinghub.elsevier.com/retrieve/pii/S0166497206001209

Allen, D. N., & McCluskey, R. (1990). Structure, Policy, Services, and Performance in the Business Incubator Industry. *Entrepreneurship: Theory and Practice*, (Winter), 61-78.

Almubartaki, H. M., Al-karaghouli, W., & Busler, M. (2010). THE CREATION OF BUSINESS INCUBATORS IN SUPPORTING ECONOMIC DEVELOPMENTS. *European, Mediterranean & Middle Eastern Conference on Information Systems 2010* (Vol. 2010, pp. 1-13).

Autio, E., & Klofsten, M. (1998). A comparative study of two European business incubators. *Journal of Small Business Management*, *36*(1), 30-43.

Bruneel, J., Ratinho, T., Clarysse, B., & Groen, A. (2012). The Evolution of Business Incubators: Comparing demand and supply of business incubation services across different incubator generations. *Technovation*, *32*(2), 110-121. Elsevier. Retrieved from http://linkinghub.elsevier.com/retrieve/pii/S0166497211001659

Butcher, M. (2011). Seedcamp named top European Accelerator, with Startupbootcamp closing in. *TechCrunch Europe, Hot topics*. Retrieved from http://techcrunch.com/2011/06/20/seedcamp-named-top-european-accelerator-with-startupbootcamp-closing-in/

Bøllingtoft, A. (2012). The bottom-up business incubator: Leverage to networking and cooperation practices in a self-generated, entrepreneurial-enabled environment. *Technovation*, *32*(5), 304-315. Elsevier. doi:10.1016/j.technovation.2011.11.005

Bøllingtoft, A., & Ulhøi, J. P. (2005). The networked business incubator—leveraging entrepreneurial agency? *Journal of Business Venturing*, *20*(2), 265-290. Retrieved from http://linkinghub.elsevier.com/retrieve/pii/S0883902603001241

Chinsonboon, O. M. (2000). *Incubators In The New Economy*. *New Economy*. MIT, Sloan School of Management. Retrieved from http://chinsomboon.com/incubator/incubator_06-2000.pdf

Christiansen, J. D. (2009). *A Framework For Developing Seed Accelerator Programmes*. *Cambridge Master Thesis*. Cambride University.

Commission, E. (2002). Benchmarking of Business Incubators. *Personnel*, (February).

Dilts, D. M., & Hackett, S. M. (2004). A Systematic Review of Business Incubation. *Journal of Technology Transfer*, *29*, 55-82.

Fishback, B., Gulbranson, C. A., Litan, R. E., Mitchell, L., & Porzig, M. (2007). Finding Business " Idols ": A New Model to Accelerate Start-Ups Finding Business " Idols ": A

New Model to Accelerate Start-Ups. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1001926

Geron, T. (2012, April 30). Top Startup Incubators And Accelerators: Y Combinator Tops With $7.8 Billion In Value. *Forbes, Tech*, p. 2. Retrieved from http://www.forbes.com/sites/tomiogeron/2012/04/30/top-tech-incubators-as-ranked-by-forbes-y-combinator-tops-with-7-billion-in-value/

Ghasemizad, A., Kazemi, M., & Abbasi, A. (2011). Improvement of technology business incubators effectiveness: An explanatory model. *African Journal of Business Management*, *5*(22), 9278-9285.

Gilani, A. (2011). *Incubators in US and Europe*. Retrieved from http://www.slideshare.net/dgiluz/accellerators-in-us-and-europe

Grimaldi, R., & Grandi, A. (2005). Business incubators and new venture creation: an assessment of incubating models. *Technovation*, *25*(2), 111-121. Retrieved from http://linkinghub.elsevier.com/retrieve/pii/S0166497203000762

Hansen, M. T., Chesbrough, H. W., Nohria, N., & Sull, D. N. (2000). Networked incubators. Hothouses of the new economy. *Harvard business review*, *78*(5), 74-84, 199.

Maltby, E., & Needleman, S. E. (2012). Start-Ups Crowd "Accelerators." *Wall Street Journal, Financing*, p. 2. Retrieved from http://online.wsj.com/article/SB10001424052702304065704577422131523831456.html

Mian, S. A. (1996). Assessing value-added contributions of university technology business incubators to tenant firms. *Research Policy*, *25*, 325-335.

Miller, P., & Bound, K. (2011). *The Startup Factories* (pp. 1-39). Retrieved from http://www.nesta.org.uk/publications/assets/features/the_startup_factories_report_feature

Ratinho, T. (2011). *ARE THEY HELPING□? - An Examination of Business Incubators' Impact on Tenant Firms* (pp. 1-221). Twente: University of Twente.

Ratinho, T., Harms, R., & Groen, A. (2010). Are Business Incubators helping□? The role of BIs in facilitating tenants ' development. *Methodology*. Enschede.

Rong, W. (2009). Business Incubators in China. *Asia Pacific Journal of Innovation and Entrepreneurship*, *3*, 54-62.

Smilor, R. W. (1987). Managing the Incubator System: Critical Success Factors to Accelerate New Company Development. *IEEE Transactions on Engineering Management*, *34*(3), 146-155.

St. Jean, J. D. (2009). New Venture Capital Models - The Rise of Business Accelerator Seed Funds. *First Ascent Ventures - The Early Stage Investment Blog*. Retrieved June 10, 2012, from http://www.firstascentventures.com/blog/?p=30

Tozzi, J. (2011). Startup Bootcamps Seek Army of Entrepreneurs. *Bloomberg Businessweek, Smallbiz*. Retrieved May 7, 2012, from http://www.businessweek.com/smallbiz/content/mar2011/sb20110329_239744.htm

Wiggins, J., & Gibson, D. V. (2003). Overview of US incubators and the case of the Austin Technology Incubator. *Innovation*, *3*(1/2), 56-66. Retrieved from http://inderscience.metapress.com/app/home/contribution.asp?referrer=parent&backto=issue,4,13;journal,31,38;linkingpublicationresults,1:110850,1

Appendix 1: the research questionnaire

The questionnaire is performed via SurveyMonkey, to be accessed by the following link: https://www.surveymonkey.com/s/AcceleratorAndStartups

Questionnaire for Incubator Management and Start-up firms

*(For convenience, the word **incubator** will consistently be used throughout this questionnaire)*

Company Profile

Name of incubator/ start-up firm:
Name of Educational Partner Institution:
Contact person:
Phone number:
Website:
E-mail address:
Official launch date of program (for management):
Institutional mission (for management):
Industrial sector (for management):

Financing structure of incubator (for management):

- …% private investment
- …% public investment (subsidies and grants)

A. Company Details (only for management)

A1. Which of the following company description fits the incubator best?

- Specialized scientific incubator
- General scientific incubator
- Specialized commercial business incubator
- General commercial business incubator
- Specialized commercial business accelerator
- General commercial business accelerator

A2. In which sector does the incubator mainly specialize?

-

A3. How many employees does the incubator facilitate?

- Full-time employees …
- Part-time employees …
- Interns …

A4. Which legal structure does the incubator have?

- Ltd.
- LLC.
- Cooperative
- Corporation
- Sole Proprietorship

B. Practical Facilities of the Incubator (tangible assets)

B1. What is the size (in square meters) of the incubator?

… M^2

B2. Which share of the available space is used by the start-up firms?

… %

B3. Is there a meeting room available for common use?

Yes/No

B4. Is there a space for presentations, events and group meetings?

Yes/No

B5. Are office facilities, such as computers, internet connection, printers, flipovers available for common use?

Yes/No

B6. What is the quality of the practical facilities of the incubator?

- Size of the incubator, working space: (Scale 1-10)
- Additional meeting room, presentation space: (Scale 1-10)
- Office facilities: (Scale 1-10)

B7. What is the perceived importance of the practical facilities of the incubator?

- Size of the incubator, working space: (Scale 1-7)
- Additional meeting room, presentation space: (Scale 1-7)
- Office facilities: (Scale 1-7)

B8. What could be improved with respect to the practical facilities of the incubator?

- Size of the incubator, working space: (open answer)
- Additional meeting room, presentation space: (open answer)
- Office facilities: (open answer)

C. Practical Services (tangible)

C1. Are secretary services available?

Yes/No

C2. Are catering services available?

Yes/No

C3. Is service to get access to specialized equipment (such as test areas, laboratories, manufacturing facilities) available?

Yes/No

C4. Are any other practical services available?

…

C5. What is the quality of the practical services in the incubator?

- Secretary services (Scale 1-10)
- Catering services (Scale 1-10)
- Access to specialized equipment (Scale 1-10)
- Other services (Scale 1-10)

C6. What is the perceived importance of the practical services in the incubator?

- Secretary services (Scale 1-7)
- Catering services (Scale 1-7)
- Access to specialized equipment (Scale 1-7)
- Other services (Scale 1-7)

C7. What could be improved with respect to the practical services of the incubator?

- Secretary services (open answer)
- Catering services (open answer)
- Access to specialized equipment (open answer)
- Other services (open answer)

D. Mentoring and advice services (tangible)

D1. Does the incubator provide mentoring and advice on each of the following topics? (please mark Yes/No)

- Business planning (pre-incubation)
- Sales skills
- Advertisement/promotion skills
- Marketing
- Market research
- Managerial skills
- Research and product/service development
- Supply chain, product launch and distribution
- Technical skills (specific for product category)
- ICT related advice
- Protection of 'Intellectual Property Rights'
- Legal issues
- Financials and accounting
- Recruitment of personnel

D2. What is the quality of the mentoring and advice services, provided by the incubator? (please rate each, if applicable, on 1-10 scale)

- Business planning (pre-incubation)
- Sales skills
- Advertisement/promotion skills
- Marketing
- Market research
- Managerial skills
- Research and product/service development
- Supply chain, product launch and distribution
- Technical skills (specific for product category)
- ICT related advice
- Protection of 'Intellectual Property Rights'
- Legal issues
- Financials and accounting
- Recruitment of personnel

D3. What is the perceived importance of each of the mentoring and advice services of the incubator? (please rate all, on a 1-7 scale)

- Business planning (pre-incubation)
- Sales skills
- Advertisement/promotion skills

- Marketing
- Market research
- Managerial skills
- Research and product/service development
- Supply chain, product launch and distribution
- Technical skills (specific for product category)
- ICT related advice
- Protection of 'Intellectual Property Rights'
- Legal issues
- Financials and accounting
- Recruitment of personnel

D4. What could be improved with respect to the mentoring and advice services of the incubator? (please choose the most important topics)

- ….
- ….
- ….
- ….
- ….

E. Educational and knowledge transfer-related services

E1. Does the incubator provide group courses or seminars on specific business or entrepreneurship- related topics?

Yes/No

E2. Does the incubator provide the opportunity to attend external courses or seminars?

Yes/No

E3. Does the incubator provide scientific courses on business related topics, from an educational institution (partner/ non-partner)?

Yes/No

E4. What is the quality of the courses and seminars that are being provided by the incubator? (please rate on a scale 1-10)

- Internal (group) courses:
- External (group) courses:
- Scientific (group) courses:

E5. What is the perceived importance of the courses and seminars that are (not) being provided by the incubator? (please rate on a scale 1-7)

- Internal (group) courses:
- External (group) courses:
- Scientific (group) courses:

E6. What could be improved with respect to the courses and seminars, which are (not) provided by the incubator?

….

F. Networking opportunities (intangible)

F1. Are the following connections provided through the incubator network? (please answer Yes/No for each)

- Business cooperation with other start-up firms in the incubator:
- Informal contact between start-up firms in the incubator:
- Access to venture capital and banking firms (for investment purposes):
- Access to potential customers:
- Access to supplier partners:
- Access to other business partners:
- Access to academic institutions:
- Access to media channels (for promotion, publicity purposes):
- Access to an international business network:

F2. What is the quality/effectiveness of all the different connections provided by the incubator's network (rate on a 1-10 scale, all applicable choices)?

- Business cooperation with other start-up firms in the incubator:
- Informal contact between start-up firms in the incubator:
- Access to venture capital and banking firms (for investment purposes):
- Access to potential customers:
- Access to supplier partners:
- Access to other business partners:
- Access to academic institutions:
- Access to media channels (for promotion, publicity purposes):
- Access to an international business network:

F3. What is the perceived importance of all the connections provided by the incubator network (rate on a 1-10 scale, all choices)

- Business cooperation with other start-up firms in the incubator:
- Informal contact between start-up firms in the incubator:
- Access to venture capital and banking firms (for investment purposes):
- Access to potential customers:

- Access to supplier partners:
- Access to other business partners:
- Access to academic institutions:
- Access to media channels (for promotion, publicity purposes):
- Access to an international business network:

F4. Which of the connections mentioned above could be improved, or should be established, by the incubator network? (mention connections and explain reason)

- …
- …
- …
- …
- …

G. Intra-organizational factors of incubator

(question G1, G2 and G3 are only to be answered by members of the incubator's start-up firms)

G1. What is the overall performance of the management team of the incubator (rate on scale 1-10)?

….

G2. Does the management team have sufficient management experience (rate on scale 1-10)?

…

G3. What could be improved with respect to overall management performance (open answer)?

…

G4. What is the quality of the contact and communication of the incubator with the start-up firms (rate on a 1-10 scale)?

…

G5. What is the quality of the feedback consideration and processing from start-up firms by the incubator (rate on a 1-10 scale)?

…

G6. On which of the following 3 characteristics is the 'screening procedure' of the incubator for selecting start-up firms based (rate each on a 1-10 scale, 10 if the characteristic seems very important in screening procedure)?

- Experience of the start-up firm's team:
- Financial strength of the start-up firm:
- Market and personal factors of the start-up firm:

G7. Could any of the previously mentioned intra-organizational factors of the incubator be improved, and how (open answers)?

- Yes/No
- Because, …
- Because, …

H. Organizational procedures in the incubator

H1. Are the following organizational procedures communicated by the incubator (answer Yes/No)?

- Declaring laws, regulations and procedures to start-ups in a consistent and careful manner: Yes/No
- Declaring the incubator procedures, planning and incubation stages in a proper way to the start-up firms: Yes/No

H2. What is the quality of the incubator's execution with respect to the previously mentioned organizational procedures (please rate on a 1-10 scale)?

- Declaring laws, regulations and procedures to start-ups in a consistent and careful manner: (1-10 scale)
- Declaring the incubator procedures, planning and incubation stages in a proper way to the start-up firms: (1-10 scale)

H3. What is the perceived importance of the organizational procedures, previously mentioned (rate on a 1-10 scale)?

- Declaring laws, regulations and procedures to start-ups in a consistent and careful manner: (1-10 scale)
- Declaring the incubator procedures, planning and incubation stages in a proper way to the start-up firms: (1-10 scale)

H4. What could be improved by the incubator, with respect to the organizational procedures previously mentioned (open answer)?

…

Appendix 2: the structured interview questions

Stuctured Interview questions – Management members and Start-up firm members

1.) What are the reason(s) that you have opted for a 'business accelerator' program?
2.) Are you familiar with the alternative business incubator initiatives?
3.) (if applicable) What are the reason(s) that you prefer the choice of the 'business accelerator' program?
4.) What might be disadvantages of the 'business accelerator' model?
5.) The following are the most critical elements in which a 'business accelerator' program adds value (Christiansen, 2009):

Practical and financial (ranked lowest)

- Financial support and initial funding
- Office space provision and shared practical facilities

Mentoring and network (ranked mid)

- Product support
- Business support (legal, financial, hiring, PR, marketing, strategy)
- Brand reputation (through program partners, start-up community, alumni companies, mentors affiliated to specific start-ups)
- Internal network of start-up firms (feedback, sharing resources and contacts)

Connections to future capital (ranked highest)

- The Demo Day
- Contacts with investor partners of the program (structured or unstructured)

Which of these elements do you perceive as the most important, for adding value (define) to the start-up firms (the program's start-up firm)?

6.) Does the 'business accelerator' program add ''unique'' (define) value to the start-up firms (the program's start-up firms)?

Appendix 3: list of 'business accelerator' programs (Christiansen, 2009)

http://seedaccelerators.jedchristiansen.com/home/list-of-seed-accelerators

Appendix 4:

http://www.forbes.com/sites/tomiogeron/2012/04/30/top-tech-incubators-as-ranked-by-forbes-y-combinator-tops-with-7-billion-in-value/