Corporate accelerators and Open Innovation: The Role of Absorptive Capacity

An Exploratory Case Study of the "Techstars Energy Accelerator in Partnership with Equinor"

Ola Thorud Jacobsen

Master's Thesis
Centre for Technology, Innovation and Culture
Faculty of Social Sciences

UNIVERSITY OF OSLO

October 2019

II

Corporate Accelerators and Open Innovation: The Role of Absorptive Capacity

An Exploratory Case Study of the "Techstars Energy Accelerator in Partnership with Equinor"

Abstract

Incumbent firms are in general not likely to pursue disruptive business concepts and are often exposed to strong near-term pressures that discourage investments in new growth initiatives. Start-ups, however, exist naturally at the forefront of technology and new ways of working. Incumbents have realized the need to engage with start-ups if they want to absorb the start-ups' knowledge. The emergence of corporate accelerators has provided incumbent firms with a new way of engaging with start-ups, which can prove to be an important source of external knowledge.

Accelerators have some key features that distinguish them from other similar concepts, whereas the limited duration seems to be the one standing out the most. Furthermore, the corporate accelerators and accelerators share many of the same criteria, such as the application process, being fixed term and cohort based, as well as offering intensive mentoring, and stipends to the startups. This opens up for the opportunity to use literature on accelerators in the context of corporate accelerators.

Furthermore, it seems that it exists a research gap in the theoretical foundations of corporate accelerators. Hence, that the existing studies on corporate accelerators do not use a consistent theoretical lens. In this thesis I have decided to use a conceptual framework based on the Open Innovation theory, complemented with the perspective of Absorptive Capacity. The thesis uses a case study design as the focus is on a single accelerator program and *how* incumbents absorb knowledge from start-ups. The aim of the study is to extensively explore and understand how incumbents absorb knowledge from start-ups. Furthermore, the thesis uses multiple sources of evidence such as semi-structured interviews with mentors and employees and secondary data from surveys to explore the research question.

The thesis identifies 'geographical proximity' and using 'mentors as gatekeepers' as crucial ways for the incumbent firms' capability to absorb knowledge from the start-ups through a corporate accelerator. Furthermore, the mentors' ability to translate the technical information so that is understandable to the employees was identified as crucial in order to expand the pool of potential gatekeepers for the company's absorptive capacity.

VI

Acknowledgments

As I now have completed this thesis, there are several people I would like to thank.

I would first like to thank my thesis advisor Nhat Strøm-Andersen at the University of Oslo. Strøm-Andersen has been a great support in the process of writing this thesis, and I am very grateful for all her advice and guidance throughout this process.

I would also like to single out Jørgen Bollingmo. His role as a student counsellor has been valuable to me, answering all my practical questions regarding the thesis.

A special thanks also goes to all of the employees in Equinor that set aside time to answer my questions and be part of my case study. My year as an intern in Equinor has been a great experience, and I have learned a lot that I will carry with me the rest of my career.

I also want to thank Emilie for being by my side throughout the year. Your encouragement and support throughout this thesis have been of great value, and this accomplishment would not have been possible without you. Thank you for buying Polarbrød and Urge when I needed it the most.

Lastly, I want to thank my family and friends for all the good times we have had during the year. It gave me the energy I needed to sit long hours in 'Eilert Sundts Hus' to work on my thesis.

Thank you.

Ola Thorud Jacobsen

Oslo, 26.10.2019

Table of Contents

1 Introduction

Innovation in general is dependent on the integration of diverse knowledge sets (Arrow, 1974). Dushnitsky and Lenox (2005) argue that to the degree there are limitations on the creation and sharing of knowledge within a sole organization, incumbent firms may identify that they do not possess the knowledge necessary to innovate. Cohen and Levinthal (1990) argues that in order to face the challenges regarding the firms' innovative capabilities, it is crucial to have the ability to exploit external knowledge. These external sources of knowledge can potentially be through government and academic labs (see Cohen et al., 2002), other incumbent firms through alliances or mergers and acquisitions (see Ahuja and Katila, 2001; Capron et al., 1998; Gulati, 1995; Hagedoorn and Schakenraad, 1994; Powell et al., 1996), and regional networks of firms and employees (see Almeida and Kogut, 1999; Saxenian, 1990;). In the beginning of the 21st century, scholars started to advance the idea that start-ups are likely to be the source of highly valuable and innovative ideas (Dushnitsky and Lenox, 2005; Kortum and Lerner, 2000; Zingales, 2000). The last years, corporate accelerators have had their wind in their sails and emerged as a new way for incumbent firms to collaborate with start-ups (Kupp, 2018). Furthermore, according to the "Global Accelerator Report" (Gust, 2016) $207 billion dollars were injected in 11,305 start-ups in 2016 ($192 in 8,836 start-ups in 2015) by 579 accelerator programs (387 in 2015). Furthermore, 67.2% (66.8% in Europe) of all accelerator programs aim to generate revenues by selling their services to incumbent firms (Kupp, 2018). Hence, the industry of accelerators is maturing. As a result of this there is an increasing collaboration between accelerators and incumbents, as indicated by a study by Heinemann (2015, p. 39):
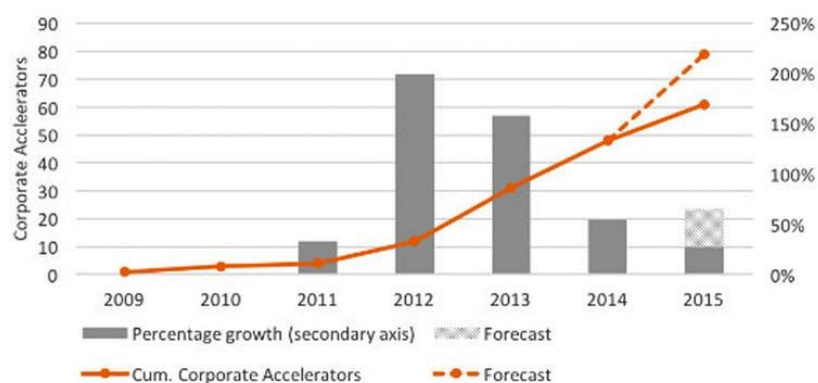

Figure 1: Collaboration between accelerators and corporations

Corporate accelerator programs can clearly fulfil a purpose for both the start-ups and the incumbents, but it's not that simple. Incumbent firms and start-ups are two vastly different types of organizations, and collaboration between the two can pose a variety of issues (Weiblen and Chesbrough, 2015). However, if carried out in a suitable manner, corporate accelerator programs can provide the incumbent firms with new knowledge, and thus create innovative benefits (Weiblen and Chesbrough, 2015). Based on this I propose the following research question:

To what extent are the incumbent firms able to absorb the start-ups' knowledge through a corporate accelerator?

Previous research on corporate accelerators has not used a consistent theoretical lens. The research has been focused on applying scientific theories such as the Institutional Theory, the Resource Based View of the firm, or the Open Innovation Theory. Most researchers in the field of open innovation have focused on the partnerships between established firms (Das and He, 2006). However, a few studies (see e.g., Bogers et al., 2017; Fischer and Reuber, 2004; Gassmann et al., 2010; Hogenhuis et al., 2016) have examined the collaboration between incumbent firms and start-ups. Hogenhuis et al. (2016) argue that the different motives for entering into an alliance, as well as the asymmetry between incumbent firms and start-ups, opens up for more challenges and risks to cooperation than partnerships between incumbent firms. Hence, there is still room to apply more elaborated theories in the research context of accelerators. Cohen and Levinthal (1990) argue that a firm's ability to *"... recognize the value of new, external information, assimilate it and apply it to commercial ends"* (p.128) is critical for its innovative capabilities. This capability is labelled as a firm's absorptive capacity and it is suggested to be largely a function of its level of prior related knowledge (Cohen and Levinthal, 1990, p.128). Hence, I this thesis I will augment the theory of open innovation with the perspective of absorptive capacity within the research context of corporate accelerators (cf. Bauer et al., 2016).

Furthermore, in my research I used the Norwegian energy company Equinor[1] and the Techstars Energy Accelerator[2] as a case study. I believe that this case study is very interesting as Equinor is Norway's largest company and competes with other giants on

---

[1] See section 5.2 in this thesis for more information about the company.
[2] See section 5.3 in this thesis for more information about the accelerator.

the global markets. Equinor could thus be a be a role model for other companies in Norway in terms of utilizing corporate accelerators as an external source of knowledge. Furthermore, Equinor has recently changed their name from Statoil, and expanded their focus from oil and gas to also include renewable energy. Hence, the need for new knowledge, ideas and innovative capabilities may be even more critical than ever before. As Anders Hegna Hærland, former director of Innovation in Equinor, stated (Equinor, 2019c: translated from Norwegian to English):

> *"There are 20.000 employees working in Equinor, but there are 7 billion people in the world. That means that we can't exclude that some of the people that can help us to shape the future of energy are working outside our company"*

2   Literature review

When I started to conduct research for this case study, I noticed that it was a discordant in the definition of accelerators in today's literature. Subsequently, it existed confusion in the media, amongst researchers, and policy makers around what an accelerator are. Hence, accelerators are often mistaken by the more established institutions such as incubators and angel investors. Therefore, I decided that I needed to conduct a literature review in order to create a 'fundament' for my further research. I outlined several objectives for my literature review, which I believed to be important for the further case study:

1. Establish the key defining characteristics of accelerators
2. Distinguish accelerators from the more established phenomena incubators and angel investors
3. Establish the key defining characteristics of corporate accelerators
4. Explore if accelerators and corporate accelerators share the same criteria
5. Explore if there are different models of corporate accelerators
6. Explore the potential benefits of a corporate accelerator from the corporate point of view
7. Explore if it exists a suitable conceptual framework for my qualitative case study
8. Develop hypothesis' that can help me answer the proposed research question
9. Identify possible areas for future research

For this literature review I decided to follow the methodological guidelines as proposed by Webster and Watson (2002). In line with my first objective, I started to define the research area around 'accelerator(s)'. I quickly found that the first accelerator was founded in 2005, which led me to narrow the research scope to use scientific literature within the timeframe of 2005 to 2019. Subsequently the keywords 'incubator(s)', 'business incubator(s)', 'angel investor(s)', 'corporate accelerator(s)', and 'business accelerator(s)' were used to find academic literature in the two different databases ScienceDirect[3] and Google scholar[4]. I selected these two databases because both

---

[3] Science direct: http://www.sciencedirect.com
[4] Google Scholar: https://scholar.google.com

databases index most significant journals and conferences within the scope of this thesis. The first step in my literature review was to manually screen all relevant articles. Subsequently I excluded all articles that were not relevant to the case study topic, by a screening the articles for insights on accelerators, incubators, angel investors and corporate accelerators. In the following sections I present the findings from my literature review.

2.1 Accelerators

In line with the first objective of this literature review, I will in this section of the paper outline the key defining characteristics of accelerators.

The era of accelerators started in Cambridge, Massachusetts back in 2005 when Paul Graham founded the first accelerator, Y Combinator, with the idea of investing small amounts of money into a cohort of early stage startups. With the goal of long-term investment gains, the start-ups would through the Y Combinator accelerator receive extensive support throughout a three-month period (Heinemann, 2015). Two years later Y Combinator was followed by Techstars, and the following years 100s of similar programs was established around the world (Hochberg, 2015). According to the Global Accelerator Report in 2016, a total of nearly $207 million was invested into 11,305 startups via 579 accelerator programs during its first decade (Gust, 2016). The flourishing of accelerators continues, and the basic principles for accelerator programs have largely remained the same since 2005. However, research has shown that accelerators initially were more generalists than the programs existing today (Cohen & Hochberg, 2014). Hence, the first accelerator programs were taking on start-ups whose businesses where directed towards a variety of different industry verticals, while today's accelerators also specialize in programs focused on a specific industry such as energy (e.g. Surge & Techstars), healthcare (e.g. Healthbox & Rock Health), education (e.g. Kaplan EdTech) and so forth (Cohen & Hochberg, 2014).

Despite bearing some similarities to phenomena like business incubators and angel investors, such as funding and helping early stage start-ups, Cohen & Hochberg (2014, p.4) state that accelerators have a lot of features that clearly differentiates them from the likes of incubators and angel investors, and argue that:

".. perhaps the most fundamental difference is the limited duration of accelerator programs compared to the continuous nature of incubators and angel investments. This one small difference leads to many other differences".

Hence, they argue that the defining characteristics for accelerators is that they are time limited programs (about three months) that help start-ups to define and build their initial products, identify promising customer segments, and secure resources (e.g. capital and employees) (Cohen & Hochberg, 2014). Furthermore, in their study Cohen and Hochberg (2014) found that the start-ups in an accelerator often get support in the likes of educational opportunities, mentoring (both internal and external), and access to a large network. In an accelerator the start-ups enter into the program in groups, referred to as cohorts, and they typically receive a stipend and access to an office space during the program (Cohen & Hochberg, 2014). It is a big variation between the capital, or stipend, provided to the startups between the different programs, ranging from $0 to $150,000 (Hochberg, 2015). In return the accelerator companies (e.g. Y Combinator, Techstars) will typically take an equity stake in all the start-ups that enter into the program. The equity stake is purposely below a controlling stake, and ranges between 5 and 7 percent (Hochberg, 2015; Cohen and Hochberg 2014; Hoffman and Radojevich-Kelley, 2012) At the end of the program the start-ups pitch their business to a large audience of potential investors. Based on this Cohen & Hochberg (2014) propose the definition of an accelerator to be as follows:

"A fixed-term, cohort-based program, including mentorship and educational

components, that culminates in a public pitch event or demo-day" (p.4).

Furthermore, the authors state that the programs may be affiliated with corporations, others with venture capital firms or angel investors, and some with universities or local governments or non-governmental organizations (Cohen & Hochberg, 2014). However, Dempwolf et al. (2014) argues in their study that Cohen and Hochberg's (2014) definition lacks the often-ignored topic in the discussion of accelerators, being that in almost all cases the accelerators are businesses themselves with the goal of being self-sustaining. Hence, in order to give a complete definition of an accelerator it is important to separate the accelerator's short-term goal (i.e. support the startups), from the long-term goal (i.e. profiting from that partnership) (Heinemann, 2015). Considering this,

Dempwolf et al. (2014) argues that rather than looking at an accelerator as a program, you should consider it as a business model. Hence, Dempwolf et.al (2014, p.26) suggests that the definition proposed by Cohen and Hochberg (2014, p.4) needs to be amended, and propose a definition of accelerators to be as follows:

> *"Business entities that make seed-stage investments in promising companies*
>
> *in exchange for equity as part of a fixed-term, cohort-based program, including*
>
> *mentorship and educational components, that culminates in a public pitch event*
>
> *or a demo day".*

Taking this into account, it becomes evident that one of the most important parts of an accelerator is to establish the connection between the startups and the investors as this can help the startups to find their next-stage source of funding. Hence, successfully establishing these connections will be fundamental in order to achieve the previously mentioned short-term goal of an accelerator to help the startups in the program to accelerate their growth, and the long-term goal of the accelerators as this in turn will increase the returns for the accelerator companies (Dempwolf et al. 2014; Heinemann, 2015). Considering this, it becomes clear why it is common that accelerator programs set aside a lot of time and resources on the preparation (i.e. pitching training) for the demo-day, as this is typically the day the start-ups establish connections to potential investors.

As previously stated in this chapter, scholars argue that one of the key characteristics for an accelerator is the programs time constraint. The limited and focused time frame that accelerator programs offer can indeed yield the startups with a lot of benefits. Both accelerators and start-ups pride themselves with statements like getting x-amount of years of work done in 3 months. The limited duration of the programs encourages fast development cycles, forces an early feedback from the market about the viability of the idea, and limits the amount of co-dependence between the start-ups and the accelerator programs (Cohen, 2013; Heinemann, 2015). However, when looking at accelerators from a business model perspective and the value proposition offered to start-ups, Dempwolf et al. (2014, p. 27) argue that the reasoning for why the accelerator program has a limited duration is not *"driven solely or even primarily by the accelerator*

founder's altruistic concern for the well-being of the startup". Even though the start-ups might feel that these concerns are genuine, the short timeframe is also a function of business model economics (Dempwolf et al., 2014). Hence, the authors further argue that having an accelerator run for a short period of time is essential to increase the number of startups in the accelerator's portfolio and control the cost of the programs. This will in turn increase the expected profit of the accelerator program by increasing the probability of one or more high value exits into the market (Dempwolf et.al, 2014). However, I argue that we should not limit the definition of an accelerator to a program that is mainly focused on financial returns, as previously conducted research have found that some accelerators also have a broader philanthropic goal they strive to achieve during the program (Baird et al., 2013). Hence, I agree with Dempwolf et al. (2014) that when corporations and start-ups are trying to decide whether or not to engage in an accelerator program, an understanding of both the programmatic and organizational definitions are important.

2.2 Distinguishing Accelerators from Angel Investors and Business Incubators

As previously stated in this thesis, it exists some confusion today among researchers, policy makers, and the media about the differences between accelerators, angel investors and business incubators. Thus, in line with the second objective of this literature review, this chapter focuses on giving a brief introduction to angel investors and business incubators, to highlight the key characteristics that differentiate them from an accelerator program. I argue that it is important for the quality of this paper to differentiate these phenomena from each other in order to conduct the case study in the most suitable manner.

2.2.1 Angel Investors

Angel investors are individual investors, or groups of individuals, with a substantial net worth who aim to help fledging ventures primarily through financial investments (Morrisette, 2007; Cohen & Hochberg, 2014). The use of the word *investor* is quite obvious in this sense. However, the use of the word *angel* might be more confusing. Morrisette (2007) states that the term derives from its use to describe financial backers

for theatrical productions, also called theatre angels. Landström and Mason (2016, p.2) state that these 'angels' (often the royal family) mainly invested in these productions to rub shoulders with their favourite actors. Furthermore, these investments were high-risk as the angels lost their money if the production was a fiasco but shared in the profits if it was successful (Benjamin and Margulis, 2001). The last couple of years the term angel investor has become increasingly common in the literature and the everyday speech. However, the notion of angel investors is not new. Wealthy individuals have throughout the history been backing new ventures with funding and sponsoring. One of the most outstanding examples might be from the 15th century when Christopher Columbus got funding for his voyage from Queen Isabella of Spain, which can be regarded as a highly profitable investment for Spain (Landström & Mason, 2016). Moreover, groups of private investors were during the industrial revolution in the 19th and early 20th century responsible for funding the development of several industries in the USA, such as railroads, steel, petroleum and glass (Landström & Mason, 2016). Similar examples can also be found in many other countries (Rind, 1981, Benjamin and Margulis, 2001; Gompers and Lerner, 2003).

Today angel investors often have entrepreneurial backgrounds and want to help the next generation of entrepreneurs (Prowse, 1998; Cohen & Hochberg, 2014). The investors provide the start-ups with seed capital investments as well as a varying amount of assistance and sharing of knowledge and experience (70-80% of angel investors are hands-on) (Morrisette, 2007; Cohen & Hochberg, 2014). Furthermore, the primary motivation for angel investors is, similar to other investors, the return of investment (ROI). In economic theory, the idea of utility would define return to include both financial and non-financial benefits (Fama and Miller, 1972). Furthermore, several scholars have found in their studies that angel investors do not only invest in start-ups for direct financial return on investment. Sullivan and Miller (1990) found in their study of angel investors non-financial motivations for investing in companies, that a large percentage of angel investors would accept a lower financial return of investment in exchange for non-financial benefits such as;

- Socially beneficial product (83%)
- Fun to be part of the company (66%)
- Creation of local jobs (65%)

- Firm nearby vs. 300 miles away (63%)

- Interacting with highly regarded investors (61%)

- Company committed to social ideals you support (59%)

- Exciting investment (47%)

Similar to Sullivan and Miller (1990), Freear et al. (1995) found in their research that 50% of all angel investors accept a lower financial return on investments because part of their return is *psychic income,* such as the satisfaction of helping an entrepreneur succeed or the creation of jobs in the community. Furthermore, Linde and Prasad (2000, p. 81) observed in their studies that angel investors *"invest in early stage companies because they love the excitement of new venture start-ups. The insights, skills and funds they bring to emerging ventures are invaluable resources".* Hill and Power (2002) also found in their research of angel investors that, in addition to the rate of return, they are mainly driven by two things: the thrill of helping a company launch and succeed, and the psychic compensation. In their study they cited investors stating that the investment is *"more of a trophy to put on a shelf than a way of increasing personal wealth",* and that they invest in these companies because they like to tell their friends that *"I am part of the 'club' that is making investments"* (Hill and Power, 2002, pp. 33-40). One could go as far saying that today's angel investors are not so different from the previously mentioned 'theatre angels'. Hence, instead of the royal family rubbing shoulders with their favourite actors, angel investors are today wealthy individuals that invest in companies in order to rub shoulders with exciting entrepreneurs. However, Sullivan and Miller (1996) took it a bit further, and in their research, they divided angel investors in to three different segments: Economic investor, hedonistic investor, and altruistic investor.

Angel Investor Segments
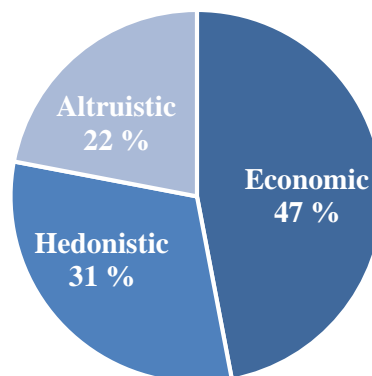
Figure 2: Angel investor segments as proposed by Sullivan and Miller (1996).

Economic Investor

- Largest segment (47% of total)
- Only financial motivations are important
- Highest return of investment expectations (30%)
- Perceives more risk than other segments (2-3x)
- Largest average investment

Hedonistic investor:

- Mid-sized segment (31% of total)
- Emphasis on enjoyment aspects of investing.
- Lowest return of investment expectations (21%)
- More likely to invest with a group
- Slightly older compared to the other segments

Altruistic Investor:

- Smallest segment (22% of total)
- See value in supporting new business and/or socially beneficial product
- More patient investors (longest holding period – 7 years)
- Average investment is smaller compared to the two other segments

It is important to emphasize that even though the three mentioned segments are different, they all share the fact that economic benefits remain the highest factor, and that all of them average about 2.5 investments (Morrisette, 2007). Furthermore, several other scholars have researched and found segments, or clusters, of angel investors sharing similar characteristics among the mentioned variables above (Gaston, 1989; Hill and Power, 2002; Benjamin and Margulis, 1986; Morrisette, 2007). Throughout this chapter it has become evident that angel investors do not only invest in start-ups for the potential financial benefits it can provide, but also do it for the psychic income. The excitement and enjoyment of helping start-ups, and the challenge of a new venture process is appealing to angel investors. The investors are for the most part (80%) successful entrepreneurs themselves, which provide valuable capital (averaging about two to three deals of $75,000 per deal) and hands-on assistance (70%-80%) to start-ups close to their community (70%-80% within 50 miles of home) (Morrisette, 2007).

2.2.2 Dimensions that differentiates accelerators from angel investors

In a study conducted by Cohen and Hochberg (2014) they found when interviewing accelerator founders, that while nearly all were active angel investors, none of them had any prior experience of running incubators. Furthermore, the authors' research showed that while nearly all the entrepreneurs tried or planned to raise seed capital from angel investors, none of them considered applying to incubators (Cohen and Hochberg, 2014). Suggesting that angel investors might be quite similar to accelerators, or at least more similar than incubators. According to the study conducted by Cohen and Hochberg (2014) there are three key ways that accelerator differ from angel investors:

Duration

As previously established in this thesis, the duration of the accelerator is one of the key characteristics, regardless of the limited time being most beneficial to the start-ups or accelerator programs. The fact that the accelerators only have an interaction with the start-ups during the three months the program is running, you would think they had limited amount of influence on the portfolio firms. However, Cohen and Hochberg (2014) argue that, paradoxically, this increases the influence they have on the start-ups.

By making investments in bundles, with a duration of three months, the accelerators can be more focused and spend more time with the ventures compared to other early stage investors. This intense and close collaboration also makes the accelerator able to influence the direction of the start-ups while they are still capable of change (Cohen and Hochberg, 2014). As an example, Cohen (2013) found in her study when speaking to an accelerator director who had been making angel investments before he started his accelerator, that *"the limited contact and influence he had with ventures, often seeing founders only at quarterly board meetings"* was frustrating (p.23). Hence, he started an accelerator *"to put structure around"* the way he helped nascent ventures (Cohen, 2013, p.23). Furthermore, the limited duration of the program makes it easier to convince external mentors and investors to commit to the program (e.g. attend the demo day). Cohen and Hochberg (2014, p.13) argue that it is quite *"unlikely that individual angel investors could assemble such impressive groups or attract the same level of media attention".* In conclusion the accelerators' social norms and time constrained programs urges a frequent dialog between the accelerator directors and participating portfolio ventures, as well as encouraging the ventures to learn and adapt during the three-month program (Cohen and Hochberg, 2014).

Business Model and Selection

The selection of the ventures from groups of early-stage companies that show the most promise is one of the most difficult aspects for angel investors (and venture capital investors) (Cohen and Hochberg, 2014, p14). Accelerators use extensive time and resources to identify ventures that show the most promise and invite them to join the accelerator in cohorts. The start-ups are also selected on the basis if they match the partner and investors requirements (Gilhuly-Mandel, 2018). Accelerators also combine the funds of many investors, which enables them to spread the risk across more start-ups. Hence, the investors don't need to put all their money on 'one horse'. The accelerator format also enables the investors to invest a small amount in the outset of the program, and then the investors can opt to increase their investment in the most promising firm's after the accelerator program is over (Cohen and Hochberg, 2014). Hence, the investors get a lot of knowledge about the ventures during the accelerator program and are thus serving as a deal aggregator where the investors can take a larger financial stake in the companies they believe in (Cohen and Hochberg, 2014).

Education, Mentoring, and Colocation

As stated in the section on 'duration', by working closely alongside the startups the accelerators are able to influence the direction of the start-ups by connecting them with certain mentors, including investors and active or former entrepreneurs (Cohen and Hochberg, 2014). The angel investors, however, might only have sporadic meetings with the portfolio firms for mentoring purposes, and may have a seat on the board, but they do not usually co-locate with the portfolio companies (Cohen and Hochberg, 2014). Hence, making it much more challenging to influence the strategic direction of the start-up companies. Furthermore, when multiple investors invest in a venture, getting all parties to agree on strategic change of direction might also pose some challenges (Cohen and Hochberg, 2014). In contrast the accelerator model provides the portfolio firms with an extensive amount of mentoring, advice, and education during the program, as well as encourage and accepts change (Cohen and Hochberg, 2014).

2.2.3 Incubators

Incubators first became widespread in the 1980s as mainly providers of office space, hence grouping companies under the same roof (Bruneel et al., 2012; Adkins, 2002; Lalkaka and Bishop, 1996). During that decade the value proposition of incubators quickly evolved, as it became evident that the lack of business expertise was an important barrier for new firm's success (Bruneel et al., 2012). Hence, during the 1990's the incubators expanded their value proposition to include in-house business support services aimed at accelerating the start-ups learning process (Lalkaka and Bishop, 1996). The value that these networks brought to the firms triggered a new type of incubators that included preferred access to networks as part of their value proposition (Bruneel et al., 2012; Hansen et al., 2000).

Incubators have today become a well-known phenomenon in many parts of the world and are now considered to be relatively mature both as a practice and as a research field (Bruneel et al., 2012; Bergek and Norrman, 2008). Bergek and Norrman (2008) and several other scholars (see Chan and Lau, 2005; Lindholm-Dahlstrand and Klofsten, 2002; Lyons and LI, 2003) argue that "incubator" as a concept is usually used as *"an overall denomination for organizations that constitute or create a supportive environment that is conducive to the "hatching" and development of new firms"*

14

(Bergek and Norrman, 2008, p.20). Policy makers have, on both national and local level, come to view incubators as a tool to promote innovativeness, economic development, and the emergence of new technology-based growth firms (Bergek and Norrman, 2008).

In the incubator literature, many attempts have been made to define what an incubator is. Peters et al. (2004, p.83) argue that an incubator, in general, can be viewed as a *"support environment for start-up and fledgling companies"*. Several other scholars have through previous research proposed definitions along the same lines (see Hackett and Dilts, 2004:a for a detailed overview). Through this research there are especially four components that have received the majority of attention (see Aernoudt, 2004; Allen and McCluskey, 1990; Bergek and Norrmann, 2008; Bollingtoft and Ulhoi, 2005; Brooks, 1986; Chan and Lau, 2005; Clarysse et al., 2005; Collinson and Gregson, 2003; Colombo and Delmastro, 2002; Hackett and Dilts, 2004:a; Hackett and Dilts, 2004:b; Hansen et al., 2000; Hsu et al., 2003; Lyons and Li, 2003; Mian, 1996; Nolan, 2003; Peters et al., 2004; Phillips, 2002; Rice, 2002; Rothschild and Darr, 2005; Smilor, 1987; von Zedwitz, 2003):

1. **Co-location**: The start-ups accepted to an incubator share an office space with a below market office space rent
2. **Support services**: The incubatees share support services to reduce the overhead costs
3. **Business support:** The incubators provide the start-ups with professional business support or advice ("coaching")
4. **Network**: Provision of access to the incubator network.

As previously stated in this chapter, the focus on incubators was in the early years on the two first components (i.e. the provision of facilities and administrative services). In more recent literature on incubators the emphasis has been more on the importance of business support (Peters et al., 2004). I agree with Bergek and Norrman (2008) that the latter is more important for the further development of the start-ups in the incubator. Hence, an incubator that does not offer more than an office space and some support services could be better described as a "hotel" rather than an incubator (Bergek and Norrman, 2008). It is, however, in my opinion an important aspect of an incubator that the start-ups share office space in addition to the business support they receive. In line

with Bergek and Norrman (2008) and Lewis (2001), I argue that sitting alongside like-minded entrepreneurs is valuable as it can open up for knowledge transfer and experience sharing amongst the start-ups, which can prove to be a crucial factor for the start-ups in order to succeed with their venture.

Despite the similarities between the different scholars' definition of incubators, it seems to exist a discordant between incubators in theory and practice. There are mainly two disagreements with regards to incubators. Firstly, it is a discussion of whether incubators should be considered to be an organization or a more general entrepreneurial environment (Bergek and Norrman, 2008). As stated by Phan et al. (2005) it is a recurring problem that the definitions of incubators and science parks *"... can encompass almost anything from distinct organizations to amorphous regions"* (p. 168). In this thesis I will limit the concept of an incubator to an organization that is dedicated to support emerging ventures (cf. Bergek and Norrman, 2008). Secondly, the literature on incubators is to some degree ambiguous on which part of the venture development process that should be considered (Bergek and Norrman, 2008). However, even though some researches argue that the incubators should be distinguished based on the development stage of their incubatees (i.e. start-ups, business development or maturity) (Bhabra-Remedios and Cornelius, 2003), most of scholars today acknowledge that incubators are related to nascent ventures (see e.g. Aernoudt, 2004; Bergek and Norrman, 2008; Bhabra-Remedios and Cornelius, 2003; Grimaldi and Grandi, 2005; Hackett and Dilts, 2004:b; Lindelöf and Löfsten, 2004). In line with this, I will in this thesis refer to incubators who take on ventures in early stages with immature ideas and help them to develop into viable businesses (cf. Bergek and Norrman, 2008; Klofsten, 2005). Furthermore, Brooks (1986) conclude that incubators role is to bridge or close the gap that exist between the new venture idea and the "attempt stage". Hence, organizations such technology and science parks, which are generally designed for the support of more developed firms, should not be considered as an incubator. Thus, in this thesis the concept of incubators is narrowed down to organizations that offer early stage ventures a shared location, support services, business support and provision to networks (cf. Bergek and Norrman, 2008).

2.2.4 Dimensions that differentiates accelerators from incubators

Based on the sections about accelerators and incubators previously in this thesis, I will in this section of the paper discuss the dimensions that differentiate accelerators from incubators. Cohen and Hochberg (2014) argue that incubators are designed to nurture early stage ventures by 'sheltering' them from the environment. Hence, providing them room to grow in a space sheltered from the market forces. Accelerators are on the other hand geared towards speeding up the interactions between the nascent ventures and the market, helping the early stage ventures to learn and adapt more quickly. Furthermore, Cohen and Hochberg (2014) argues that there are mainly four dimensions that accelerators differ from incubators:

Duration

In contrast to the mentioned limited duration of accelerators, the firms in incubators generally graduate anywhere from one to five years after they have started (Amezcua, 2011; Cohen and Hochberg, 2014). This is an important characteristic, as the incubators focus more on sheltering the early-stage ventures from the environment they can use more time to develop their product in 'peace and quiet'. Accelerators established timelines, usually three months, gives a sense of urgency and the nascent ventures are encouraged to interact with the market as much as possible to learn and change if necessary. Furthermore, since the nascent firms have so close interactions with the market, they get a good indication of whether their business is feasible or not. Hence, the accelerator program may speed up the venture cycle, leading to quicker growth or quicker failure (Cohen and Hochberg, 2014). The benefit from a startup failing quick is that the entrepreneurs don't use unnecessary resources on keeping their ventures alive. The entrepreneurs can thus move on to a higher value opportunity and help to grow other ventures and the overall economy (Cohen and Hochberg, 2014). Furthermore, because of the sense of urgency, due to the accelerators' limited duration, the founders often work seven days a week, doing little else but work and sleep (Cohen and Hochberg, 2014). This unsustainable pace of working couldn't be applied to firms in incubators as they have a much longer period to work.

Cohorts

As previously mentioned, the accelerators accept and graduate nascent ventures in cohorts, while incubators generally have an ongoing onboarding. Cohen and Hochberg (2014) argues that while the entrepreneurs in an incubator also might develop a relationship with the other founders in the incubator, the experience the founders get from starting the accelerator program simultaneously *"fosters uncommonly strong bonds and communal identity between the founders in the same accelerator cohort"* (p.10-11). Moreover, accepting the nascent ventures in cohorts also makes it easier for the accelerators to focus the marketing and outreach around key dates (Cohen and Hochberg, 2014).

Incentives

Incubators are for the most part established through public-private collaborations among the industry, universities and all levels of government (Etzkowitz, 2002; Mian et al., 2016). Moreover, they do not on a general basis have their own investment funds (Allen and McCluskey, 1990; Cohen and Hochberg, 2014, Hackett and Dilts, 2004). Many accelerators, on the other hand, are privately owned and take an equity stake in the start-ups participating in the programs. Based on this, Cohen and Hochberg (2014. p.11) argue that the accelerators directors' incentives often are *"more closely aligned with the ventures than are those of professional incubator managers".* Hence, accelerators are incentivized to seek growth that leads to a positive exit, while incubators, on the other hand, might seek a slower growth to prolong the start-ups tenant status (Cohen and Hochberg, 2014). The authors further argue that accelerator owners may have an extensive experience as angel investors or entrepreneurs, which give them a first-hand experience that could be needed to assist the ventures with various tasks, such as customer development, fundraising and hiring (Cohen and Hochberg, 2014).

Education, Mentorship & Network development

Regarding educational offerings, research on incubators conducted by Hackett and Dilts (2004) show that incubators offer mentorship and education through fee-based professional services, e.g. lawyers and accountants (Cohen, 2013). However, research on incubators suggest that the incubator tenants seldom take full advantage of the

18

available advice (Hackett and Dilts, 2004). For accelerators, education is much more integrated as part of the program. During the three months the program is running the nascent ventures typically receive intense education and mentorship and is often the main reasons for why start-ups choose to participate in the program (Cohen and Hochberg, 2014). The education offered is often seminars on a wide range of topics within entrepreneurship, including search engine optimization, term sheet negotiation, and unit economics (Cohen and Hochberg, 2014). During these sessions the nascent ventures' 'weaknesses' are identified, and the accelerators connect them with experts that could help within these fields (Cohen, 2013). In the accelerator literature the value of mentoring is frequently cited (see e.g. Cohen, 2013; Cohen and Hochberg, 2014; Dempwolf et al., 2014; Hochberg, 2015, Gilhuly-Mandel, 2018; Kupp, 2018; Kupp et al., 2017; Weiblen & Chesbrough, 2015). However, the extent of mentorship varies quite substantially among the different programs; from some programs organizing 75 formal mentor meetings their first month, to other programs only handing the founders a list of preselected mentors or make introductions on an as-needed basis (Cohen, 2013). The former option where the ventures meet four or five mentors a day can delay the development of the new venture as it is quite time consuming. However, it provides the ventures with a unique opportunity to build their network and learn about new and alternate strategies (Cohen, 2013). Finally, the directors of the accelerator programs support the ventures throughout the program, helping them absorb and apply the knowledge they are receiving through seminars, mentor meetings and other means (Cohen, 2013).

2.2.5 Summary: How accelerators differ from angel investors and incubators

In line with the first two objectives of this literature review, I have in this chapter explained the three different terms accelerators, angel investors and incubators, as well as the key differences between them, to create a common ground for the latter part of the thesis. Throughout the last sections it has become evident that accelerators do in fact have much in common with angel investors and incubators, and it is as such no wonder why the terms get used interchangeably in the literature, media and amongst policy makers. However, accelerators have certain characteristics that differentiate them from the two other terms. The accelerator programs' limited duration seems to be the

characteristic that most clearly stands out from angel investors and incubators. The consequence of having a cyclical program run for a strict three months, is that the firms start and graduate in cohorts and as well create a sense of urgency. Moreover, this focuses the attention of the entrepreneurs, mentors and accelerator directors on the early-stage start-ups throughout the duration of the programs (Cohen, 2013). Another key distinguishing characteristic for accelerators compared to angel investors and incubators, is the periodic graduations marked by demo days where the nascent ventures get to pitch to a group of investors. Having one predefined day where the investors can come, makes it a lot easier to attract the right investors as they do not have to commit a great amount of time. In conclusion, the accelerator program is a relatively new model of assistance for start-up founders that combine a vast number of features that in the past were typically provided separately (Cohen and Hochberg, 2014). The key characteristics that distinguish accelerators from angel investors and incubators are summarized in the table below:

	Accelerators	Angel Investors	Incubators
Business model	Investment: Non-profit	Investment	Rent; non-profit
Selection frequency	Competitive, cyclical	Competitive, ongoing	Non-competitive
Duration	3 months	Ongoing	1-5 years
Cohorts	Yes	No	No
Venture stage	Early	Early	Early, or late
Education offered	Seminars	None	Ad hoc, HR/Legal
Venture location	Usually on-site	Off-site	On-site
Mentorship	Intense, by self and others	As needed, by investors	Minimal, tactical

Table 1: Key differences between Accelerators, Angel investors and Incubators as suggested by Cohen and Hochberg (2014, p.9).

2.3 The Emergence of Corporate Accelerators

In the previous chapter I have outlined and defined the term accelerators, and what key features that distinguishes them from other similar and more established concepts. Based on this I will in this chapter define the more specific term of corporate accelerators, in line with the third objective outlined for this literature review. Furthermore, I will explore if accelerators and corporate accelerators share some of the same criteria (objective four), as well if there are different models of corporate accelerators (objective five). Lastly, I will explore the benefits of a corporate accelerator from the point of view of the sponsoring corporation (objective six).

In her paper Hochberg (2015) state that due to the emergence of the Internet economy and open innovation policies, i.e. the paradigm that assumes that corporations should use external and internal ideas and internal and external paths to market (Chesbrough, 2013:a), we saw a growth in corporate venture capital arms during the 1990s. Hence, corporations all over the world expanded their business development departments to include venture capital arms with either a financial or strategic goal (Hochberg, 2015). However, because of the collapse of the Internet bubble in the early 2000s a lot of these efforts were shut down, before remerging during the recent decade (Hochberg, 2015). One of the reasons for having a corporate venture arm, i.e. adapting the notion of open innovation, is that the knowledge necessary to generate innovations is increasingly residing outside the confines of the modern corporation's (Chesbrough, 2003:b; von Hippel, 2005). As previously mentioned, corporations have for a long time sought out ways to become more innovative by adopting (and often later abandoning) models such as internal corporate incubators, joint ventures, corporate venture capital and strategic alliances (Weiblen and Chesbrough, 2015). Today, startups are recognized as key drivers of major innovations that are replacing existing business models and incumbent technologies (Kohler, 2016). Weiblen and Chesbrough (2015) argues that instead of looking at start-ups as simply agents of disruption, companies are now instead trying to collaborate with start-ups to *"transform them into engines of corporate innovation"* (p.68). Through their study, Weiblen and Chesbrough (2015) found that companies are nowadays utilizing more lightweight models to engage with startups. And in the recent years two new models of how to engage with start-ups have emerged, often referred to as *startup programs* (Weiblen and Chesbrough, 2015, p. 72);

- **Outside-in Startup Programs:** Making existing start-ups' technology or product accessible and useful for the sponsoring/parent firm
- **Inside-out Startup Programs:** Open innovation to promote and establish the use of the corporation's technical platform by other businesses.

One of the characteristics for these models, that distinguishes them from the previously mentioned more traditional models, is that corporate ownership is not typically involved in these programs (Weiblen and Chesbrough, 2015). Moreover, these startup programs are specifically set up to enable corporations to engage with a larger number of startups, at the expense of a narrower scope and standardized approach than for any single engagement. As stated above, the outside-in model focuses on making existing startups products or technologies available to the parent firm by enabling them to elaborate and deliver on their ideas (Weiblen and Chesbrough, 2015). In return the sponsoring corporation get a detailed insight into the newest technologies and work methods. This can give the corporation a head start over its competitors in the market and can extend their existing business into "hot" areas by taking advantage of external innovations (Weiblen and Chesbrough, 2015). Furthermore, the outside-in startup program approach allows the sponsoring corporation to follow and go after several interesting approaches in parallel via each of the different startups the program incubates (Weiblen and Chesbrough, 2015). In sum, the outside-in startup programs are trying to capture and utilize new technology for the sponsoring corporation's benefit and put the startup into the role of a supplier (Weiblen and Chesbrough, 2015). The inside-out startup program, however, reverses this logic by trying to enable the startups to build their products "on top" of the already existing technology of the corporation (e.g. start-ups making 'apps' for Apple Inc. to put on their platform 'App Store'). Hence, giving the inside-out startup program the name *platform model* (Weiblen and Chesbrough, 2015, p.77). The platform innovation takes place when an ecosystem of firms produces complementary innovations, hence strengthening the shared platform (Gawer and Cusumano, 2014; Weiblen and Chesbrough, 2015). In the table below it is illustrated how the startup programs differ from each other, as well from the more traditional models corporate venturing and corporate incubation (Weiblen and Chesbrough, 2015, p.81):

Direction of Innovation Flow

	Outside-in	Inside-out
Equity involved	*Corporate Venturing* Participate in the success of external innovation and gain strategic insights into non-core markets	*Corporate Incubation* Provide a viable path to market for promising corporate non-core innovations.
Equity not involved	*Startup Program (Outside-In)* Insource external innovation to stimulate and generate corporate innovation.	*Startup Program (Platform)* Spur complementary external innovation to push an existing corporate innovation (the platform)

Table 2: The goals behind the four models along the two dimensions direction of innovation flow and equity stake as suggested by Weiblen and Chesbrough (2015, p.81).

Weiblen and Chesbrough (2015) argue that corporate accelerators are a subdivision of the outside-in startup program. Corporations are now building these structured programs in order to harness the entrepreneurial power residing in startups and explore new ideas for their corporate innovation efforts (Horn, 2014; Kohler, 2016; Mocker, 2015). In line with the outside-in startup program approach, Dempwolf et al. (2014) argues that the reasoning for the corporate parent to initiate a corporate accelerator is to *"grow and manage portfolios of complementary startups to accelerate innovation and gain a competitive advantage"* (p.22). Hence, that the corporate accelerator programs (i.e. insourcing external innovation) are driven by the parent company's ambition to improve their visibility on upcoming technologies and to increase their corporate innovation capabilities (Hochberg, 2015).

2.3.1 Defining Corporate Accelerators

The phenomenon of corporate accelerators emerged in 2010, five years after the emergence of the first accelerator. Enterprises such as Microsoft, Citrix and Telefonica are recognized as being among the first companies to offer such programs (although these have been discontinued) (Salager, 2018). Since then a lot of corporations have chosen to launch a corporate accelerator, and the latest update is that there are 71 active corporate accelerators today (Corporate-accelerators, 2016)[5]. Corporate accelerators emerged at a time when corporations were holding on to record amounts of cash (Sánchez and Yurdagul, 2013), and were looking for low-risk growth opportunities in the aftermath of the Great Recession (The Economist, 2011). Through a corporate accelerator program, the corporations can investigate startups that are closely aligned with their strategy while providing minimal amounts of capital, as well as leveraging their current workforce (Stringfellow, 2019). These factors, in combination with the increasing interest in innovation among CEOs (Percival and Shelton, 2013), created a fertile ground in which corporate accelerators thrived (Stringfellow, 2019).

So, the question becomes, what is a corporate accelerator? In her paper, Hochberg (2015) describes corporate accelerators as a specific type of accelerator, which are corporate-initiated programs that often are similar to regular accelerators in structure. Kohler (2016) defines corporate accelerators more specifically than the one proposed by Hochberg, and argues that:

> *"Corporate accelerators are company-supported programs of limited duration*
>
> *that support cohorts of startups during the new venture process via mentoring,*
>
> *education, and company-specific resources"* (p.348).

In line with Hochberg's (2015) statement regarding corporate accelerators being similar to non-corporate accelerators, the definition proposed by Kohler (2016, p.348) above share a lot of similarities to the definition of non-corporate accelerators proposed by Cohen and Hochberg (2014, p.4) and later amended by Dempwolf et al (2014, p.26) previously mentioned in this thesis:

---

[5] Last update in the Corporate Accelerator database was the 20th of December 2016. Today the number of active corporate accelerators is most likely higher. E.g. Techstars Energy Accelerator in Partnership with Equinor is not on the list.

"Business entities that make seed-stage investments in promising companies

in exchange for equity as part of a fixed-term, cohort-based program, including

mentorship and educational components, that culminates in a public pitch event

or a demo day".

It becomes evident that the two programs share similarities in terms of being cohort-based and supporting the startups via mentoring and offering education during the program. Furthermore, both of them are run for a limited time, previously established as one the key distinguishing characteristics for non-corporate accelerators. The two definitions do, however, differ in some way: Kohler's (2016) definition lacks to mention the fact that also corporate accelerators culminate in a public pitch event or a demo day. However, this could easily be added to Kohler's definition. Lastly, Kohler's definition describes that corporate accelerators offers the new ventures "*company specific resources*" during the program. However, this is not relevant in regard to non-corporate accelerators, as they do not collaborate with a specific corporation. Hence, the question becomes if it is necessary to distinguish corporate and non-corporate accelerators. In his study of several corporate accelerators, Heinemann (2015) observed that, in line with other scholars (see Bauer et al., 2016; Cohen, 2013; Cohen and Hochberg, 2014; Hochberg, 2015; Kohler, 2016; Miller and Bound, 2011; Weiblen and Chesbrough, 2015), corporate accelerators and accelerators share the same criteria such as:

- **The application process:** Both corporate accelerators and accelerators generally have an open and highly competitive application process.
- **Fixed term:** Heinemann found in his study that 80% of all programs had a limited duration, with the majority of the programs running between two and six months.
- **Support offered to the startups:** During the program the startups get a time-limited support comprising at least intensive mentoring and connections to potential investors. Furthermore, a lot of accelerators offer additional support including help with human resources, finances, or legal support. Some parent companies in corporate accelerators

- **Cohort-based**: Both non-corporate accelerators and corporate accelerators accept cohorts of startups rather than individual companies on a rolling basis. Furthermore, the programs are not constantly run with a third of all programs accepting startups on a yearly basis.
- **Equity:** While not mandatory it is typical for both types of accelerators to provide the startups with a pre-seed investment, usually in exchange for equity amounting to less than or equal to 10%. Hence fulfilling the criterion of a non-controlling equity stake.
- **Stipends:** Similar to Equity, the provision of stipends is not mandatory. However, a majority of accelerators provide stipends of varying amounts, ranging from reimbursement of travel expenses, to flexible stipends, to fixed stipends.
- **Management objectives:** The majority of parent companies have certain goals and objectives they want to achieve by initiating corporate accelerators.

Some scholars (see Kohler, 2016; Miller and Bound, 2011) also argue that a characteristic for corporate accelerators is that they focus on small teams, rather than individual founders. However, this could easily be argued to also apply for non-corporate accelerators, and do not change the fact that the corporate accelerators program and the non-corporate accelerator programs share the same characteristics as shown above. Based on this, Heinemann (2015) suggests that *"corporate accelerators, as implemented in practice, fulfil the definition of non-corporate accelerators"* (p. 36). Hence, that corporate accelerators can be viewed as a subdivision of accelerators. In line with Heinemann (2015) I agree that this conclusion further opens up for the opportunity to apply the more extensive research results and best practices about the non-corporate accelerators to the corporate accelerators, including the benchmarks about accelerators' performance. This can provide the sponsoring corporation and its managers in corporate accelerators with a guideline when setting their goals and a reference base for assessing their own results (Heinemann, 2015). Furthermore, since the majority of programs have the same structure, they are suitable for a direct comparison, hence allowing the

managers to utilize the database of corporate accelerators to the fullest extent (Heinemann, 2015). Based on the section above, I will in this thesis use an amended definition of the one proposed by Kohler (2016, p.348). Hence, I propose to use the following definition of corporate accelerators in this thesis:

> *"Corporate accelerators are company-supported programs of limited duration that support cohorts of startups during the new venture process via mentoring, education, and company-specific resources, that culminates in a public pitch event or a demo day".*

However, even though corporate accelerators and accelerators share the same characteristics, I argue that they have different objectives due to the obvious difference: corporate accelerators have an important stakeholder that have certain goals they want to achieve at the end of the program: namely the sponsoring corporation. In line with this, Heinemann (2015) argue that even though corporate accelerators fulfil the definition of accelerators it does not necessarily mean that the opposite is true. He further argues that the difference between the two programs becomes evident when looking at the two different accelerators on the program level, as shown in the table 3 (Heinemann, 2015, p. 65). The ownership structure is one of the key distinguishing characteristics between the two accelerator programs. Whereas corporate accelerators primarily are financed by and accountable to the sponsoring corporation, the non-corporate accelerators finance themselves by getting returns on their investments (ROI) (Crichton, 2014; Heinemann, 2015). Hence, the non-corporate accelerators are incentivized to achieve positive outcomes for their portfolio firms. These different objectives between the two programs have, at least, three implications (Heinemann, 2015):

- Corporate accelerators are less dependent on taking equity. Heinemann (2015) found that as much as 60% of sponsoring corporations do not take equity at all, while in many cases still provide the new ventures with stipends during the program.
- Corporate accelerators have a wider span of interests due to the diversity of firms sponsoring the programs. As a consequence, a lot of companies choose to

set up corporate accelerator programs in unusual places or aim for portfolio ventures in niche markets. Non-corporate accelerators, on the other hand, will due to the importance of ROI focus more on locations and domains that promise the highest and fastest returns.

- The different objectives of corporate and non-corporate accelerators also encourage different outcomes. Whereas regular accelerators for the most part emphasize high follow-on investments as their main measure of success, many corporate accelerators show a more willingness to try creative approaches to achieve strategic results for both the sponsoring firm and the startups.

There are little research studies on what is most beneficial for the startups, or what the startups prefer. However, the acceptance rates at the best non-corporate and corporate accelerator programs give an indication that the startups value the benefits similarly (Heinemann, 2015).

Indicator	Accelerators		Corporate Accelerators
		Macro-level	
Emerged in	2005	>	2010
Programs	300	>	60
Growth	Slow/Stalled	<	Strong, but slowing down
Locations	Worldwide, however predominantly in the U.S	≠	Developed world, some emerging countries
HQ	Not relevant	≠	Mostly Europe and the U.S
		Program-level	
Objectives	Mostly financial	≠	Mostly strategic
Source of objectives	Accelerator	≠	Sponsoring company
Ownership	Mostly private (e.g. partnerships)	≠	Corporations. Bias towards large, information firms
Areas of interest	Mostly technology, but also healthcare, finance, energy, education, and life sciences	≈	Mostly technology, but also media, commerce, finance, healthcare, and education
Industry of interest	Most programs are generalists. Some specialized ones	≠	Information, transport, retail, finance, services, healthcare and others
		Process-level	
Acceptance	Selective (some below 2%)	=	Selective (some below 2%)
Startups	Seed stage	≤	Seed / growth stage
Offers	Mentorship, workshops, and investor relations	≤	Often add specialized, corporate resources
Fixed term	Yes	=	Yes
Cohort-based	Yes	=	Yes
Stipends	All of the top ten programs	>	63% of all programs
Equity	Critical part of business model for most programs	>	40% of all programs
Demo days	Yes	≥	Sometimes internally only

Table 3: Corporate Accelerators vs Non-corporate Accelerators as proposed by Heinemann (2015, p. 65).

2.3.2 Different Models of Corporate Accelerators

In line with the fifth objective outlined for this literature review, I wanted to explore if there existed different models of corporate accelerators. Cohen and Hochberg (2014) argue that in general, there are two different models of corporate accelerators, namely the generic and the specific accelerator. Whereas the generic accelerator programs are targeting different kinds of startups across a variety of industries (i.e. a horizontal approach), the specific accelerator programs are focusing on particular technologies and industries (i.e. a vertical approach) (Bauer et al., 2016). Kohler (2016) argue that corporate accelerators are for the most part focusing on specific verticals. In the vertical approach the selected teams work on related problems and technologies. This is a major benefit as the ventures can benefit from sharing their knowledge and expertise with each other (Kohler, 2016). In addition, similar teams in the same cohort can facilitate collaborations with partners and investors that are active in the specific sector (Kohler, 2016). The generic approach, with a horizontal approach, are likely to suffer from a lack of synergies between the teams selected (Kohler, 2016). In general, the relationship between the different agents in a corporate accelerator can be summarized like in figure 3 (Bauer et al., 2016, p.3):
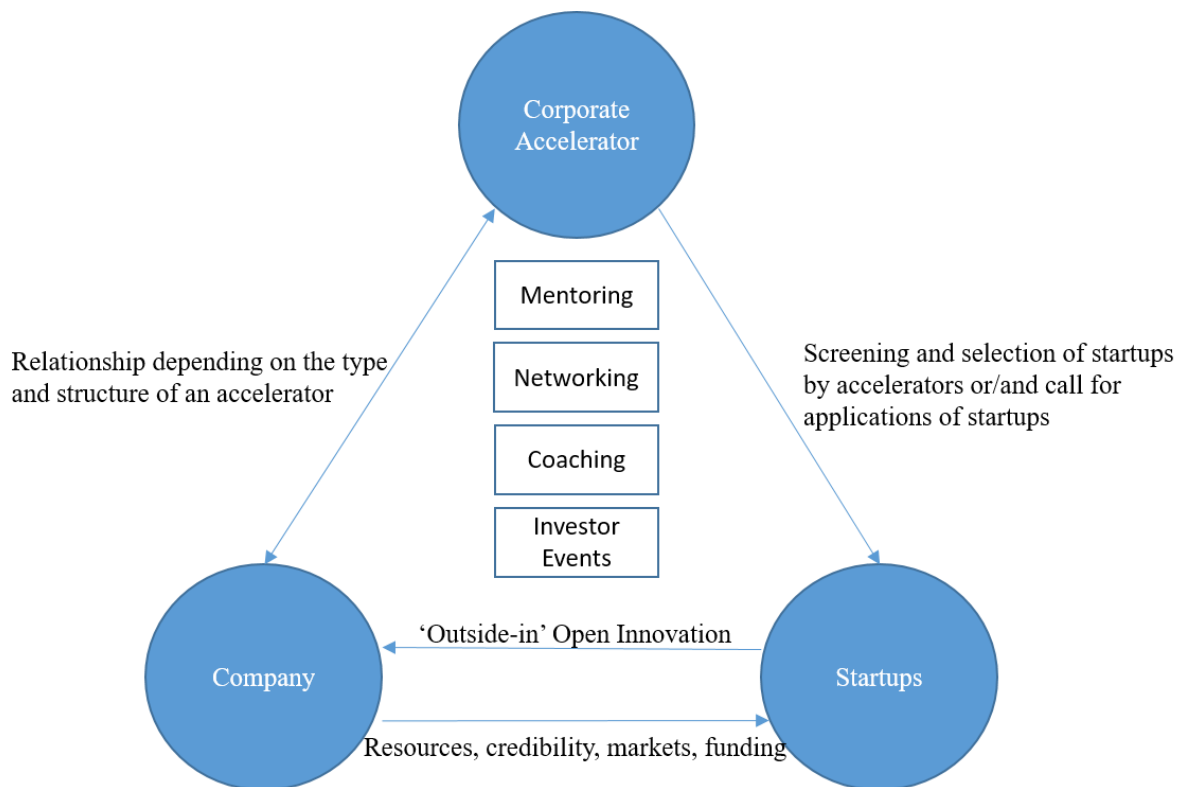

Figure 3: Relationship of Agents within a Corporate Accelerator as proposed by Bauer et al. (2016, p.3).

30

However, not all corporate accelerators are set up the same way, and there are many ways for corporations to involve themselves in accelerator activities (Hochberg, 2015). In her paper Hochberg (2015) identified that it exists five different subtype models of corporate accelerators:

- **Mentor/Investor**: The corporations and their executives can involve themselves in accelerators by joining existing private accelerators as mentors or investors.
- **Outsourced**: The corporations can contract with an independent organization to run an accelerator. The parent company outsource services such as program creation, recruiting, back office services, marketing, management and staffing to a third party with experience within the field of corporate accelerators (Heinemann, 2015). The third party may also provide a physical space for the duration of the accelerator, if requested by the parent company. These programs are often referred to as "Powered by", and today Techstars is recognized as one of the most prominent organization providing this service. (E.g. Barclays Accelerator powered by Techstars, Western Union Accelerator powered by Techstars, Disney Accelerator powered by Techstars).
- **In-house managed:** In contrast to the "Powered by" model, the third subtype of corporate accelerators is the in-house managed accelerator. In this model the corporations set up their own internally run and led accelerator with external applicants (i.e. startups). Some of the most famous cases for this model is Microsoft and Telefonica.
- **Consortium:** In this model the corporation chooses to partner with other corporations to create a jointly run dual or multiple partnership accelerator. This consortium model is usually focused around an industry (Stringfellow, 2019).
- **Internal:** In the fifth model the focus of the accelerator is completely on internal projects. Hence, the corporations create a program that aim to accelerate their internal teams.

Furthermore, setting up a formalized corporate accelerator can enhance the efficiency and cost effectiveness of the collaboration between the corporation and the start-ups (Kohler, 2016). There are several ways a corporation can chose to work with the start-ups after the end of the accelerator cycle as summarized in the table below (Kohler, 2016, p.349):

31

Type of Collaboration	How
Support pilot project	*"The sponsoring corporation supports a pilot project. Funding the development of innovative solutions and products by startups rather than attempting to do so internally affords corporations the opportunity to explore innovation prospects at a lower cost, in a shorter timeframe, and with fewer risks in relation to the core business. Corporations may develop new products together with startups, explore market opportunities through startups, or solve business challenges via start-ups' technology or talent.*
Start-up customer	*The sponsoring corporation becomes startup customer. Interaction with multiple startups during an accelerator program allows corporations to learn about different solutions to their business challenges. Mutual benefits result if the startup wins the company as a high-profile customer, and the corporation finds a solution to its pain points. Working with a large corporation can be an important step for startups to test their product-market fit and scale their operations.*
Distribution partner	*The sponsoring corporation becomes distribution partner: Channel partnerships can be mutually beneficial in that they provide a joint solution for both the corporation and the startup. Rather than build out their own distribution networks, startups can thus offer their products through the companies.*
Invest in start-up	*The sponsoring corporation invests in startup: Backing and sup- porting startups is beneficial for corporations as this provides them - at lower capital requirement and higher speed compared to internal R&D - with access to new markets and capabilities. At the same time, startups benefit from favourable terms relative to traditional sources of venture capital.*
Acquire start-up	*The sponsoring corporation acquires startup: Acquiring startups is a quick and impactful way to solve specific business problems and enter new markets (Harrison et al., 2001). Rather than time-consuming scouting for individual startups, corporate accelerators allow for the rapid exploration of many startups that could be a target for acquisitions. For startups, acquisition is an appealing exit strategy." (Kohler, 2016, p.349).*

Table 4: Types of collaboration between corporations and start-ups as a result of a corporate accelerator (Kohler 2016, p.349).

2.3.3 The potential benefits of corporate accelerators

In line with my sixth objective for this literature review I will in this section outline some potential benefits of a corporate accelerator from the corporate point of view.

Start-ups and large corporations are distinctly different types of organizations, whereas one has what the other one lacks (Kohler, 2016). Large corporations possess resources that start-ups can only dream of, while start-ups have an edge over large corporations in regard to agility (Weiblen and Chesbrough, 2015). Hence, the combination of corporate ability with entrepreneurial activity can be a perfect match, although it may be difficult to achieve (Weiblen and Chesbrough, 2015). Some of the reasons for this is that start-ups have a hard time approaching the corporations. Hence, that the corporations and start-ups have different organizational clock speeds (i.e. that 3 months can be life or death for a start-up, whereas for a corporation this is considered to be a short amount of time), and that the cultural differences between them can lead to misunderstandings (Weiblen and Chesbrough, 2015). The promise of corporate accelerators lies in bridging this gap between the start-ups and the corporations, providing a unique platform for corporate renewal and long-term growth (Kohler, 2016). Corporate accelerators can offer a number of potential benefits for the sponsoring firm. However, before engaging in a corporate accelerator the corporations need to clarify their strategic intent. Looking from the point of view of the corporations, the expectations and goals for a corporate accelerator fall into the following categories (Kohler, 2016; Ream and Schatsky, 2016; Stringfellow, 2019; Weiblen and Chesbrough, 2013; Weisfeld, 2016):

Attract and retain talent

Many firms engage in corporate accelerators to tap into the pool of entrepreneurial innovation and talent (Kohler, 2016). The start-up teams can be a source of high-calibre talent for the sponsoring corporation. Through an accelerator program, a corporation is able to observe start-up teams in action and upon completion of the cycle potentially bring team members on board, either through an acquisition or by targeting specific team members from the start-ups that ultimately restructure or dissolve (Ream and Schatsky, 2016; Stringfellow, 2019). Furthermore, a corporate accelerator can also be helpful for the corporation in retaining the existing entrepreneurial talent within the organization. In this objective branding and PR plays a particular role (Kohler, 2016).

Proximity and insight into emerging technologies and trends

Existing business units in corporations are in general not likely to pursue disruptive business concepts and are often exposed to strong near-term pressures that discourage investments in new growth initiatives (Kohler, 2016). Start-ups, however, exist naturally at the cutting edge of technology, and corporations have realized that they need to engage with these nascent ventures if they want to be exposed to advances in technologies and new methodologies (Weisfeld, 2016). Hence, by immersing themselves in the start-up ecosystem, the sponsoring corporations can gain insights into new technologies and business models that can be applicable to other business segments (Stringfellow, 2019). Hence, avoiding the Kodak moment. Therefore, by employing accelerators the sponsoring corporations get help to fill the innovation gaps in the current business by providing the necessary coordination for ideas that fall outside the scope of the existing business units (Kohler, 2016). Furthermore, the process of reviewing applications, conducting due diligence of the start-ups, and selecting the nascent ventures for an accelerator program can be a beneficial discovery process for the parent corporations; They get insights into a broad scope of business ventures and may thus be able to identify new opportunities or areas in which its business may be at risk for disruption (Ream and Schatsky, 2016).

Creating a culture for innovation

Engaging in corporate accelerators can support the corporation's efforts to enhance its culture. By publicly committing to support innovation through a corporate accelerator sends a strong signal to the existing internal staff and external partners (Kohler, 2016, 351). Furthermore, during the program the entrepreneurial spirit and mind-set of the start-ups can rub off on the corporation's culture and make it more innovative (Stringfellow, 2019). The general manager of Microsoft's corporate accelerator, Zack Weisfeld, argues in an article published in Forbes that one of the most prominent effects the corporate accelerators have on the sponsoring corporation is the shift in culture. He underlines this by stating that;

> *"… whether it's through mentoring or attending classes at the accelerator,*
>
> *employees and executives are exposed to the startup culture. They*

discover new methodologies, like building a minimum viable product,

and learn about customer development and agile project management,

and as a result, start using these tools in their everyday work." (Weisfeld, 2013)

Hence, connecting the internal workforce with the new talent and ideas can inspire innovative thinking, and can result in employees becoming effective change agents (Kohler, 2016).

Solve business challenge

A major incentive for corporate accelerators is to encourage start-up activity around a certain product platform and convince them to build their products on top of the sponsoring company's platform (Kohler, 2016). This can be misconceived to be a start-up platform model (inside-out innovation) as previously mentioned in this thesis. However, to shed some light on the differences I will use the example of the Nike Accelerator: In 2013, Nike initiated the Nike + accelerator program. The goal of the program was to produce innovative apps for the new range of Nike+ gadgets. Ten start-ups were chosen to work on this for a 90-day period (Weiblen and Chesbrough, 2013). Nike later decided not to continue with their efforts in sports hardware and did not set up a new edition of the accelerator in 2014. However, Nike continues to reach out to nascent ventures that want to develop apps based on their new Nike Fuel software platform – hence there is potentially a platform start-up program under way (Weiblen and Chesbrough, 2013).

Expand to new markets

Collaborating with start-ups that have the agility and capability to compete in newly emerging markets can provide the sponsoring corporation with new opportunities (Kohler, 2016). Being exposed to the cutting edge of technology has the potential to accelerate the parent corporation's pursuit of new market opportunities (Kohler, 2016).

Rapid, cost-efficient R&D

Corporate accelerators provide a venue for numerous industry-specific experiments (Stringfellow, 2019). Because accelerator programs usually accommodate 5–10 start-up teams per cohort, corporations can quickly acquire a diverse set of experimentation projects and observe how new ideas succeed or fail without the typical launch costs of internal R&D initiatives (Ream and Schatsky, 2016; Stringfellow, 2019). Similarly, to venture capital, comparatively few of the nascent ventures in a corporate accelerator are likely to produce *big wins* for the sponsoring corporation. Hence, the more bets (i.e. start-ups), the greater the odds of discovering new opportunities for growth (Ream and Schatsky, 2016).

Economic returns

While the main goal of corporate accelerators is to drive innovation for the sponsoring corporation, sponsors that chooses to take equity stakes in the participating start-ups do have the opportunity to generate substantial returns if a start-up is acquired or have rapid growth. (Ream and Schatsky, 2016; Stringfellow, 2019)

New Partnerships

Engaging in a corporate accelerator can open up for more collaborations and partnerships, as corporations within the industry often seek guidance or partnerships with corporate acceleration leaders (Stringfellow, 2019; Weisfeld, 2016).

2.3.4 Towards a conceptual framework of corporate accelerators

It seems that it exists a research gap in the theoretical foundations of corporate accelerators. Hence, that the existing studies on corporate accelerators do not use a consistent theoretical lens. In the recent years there have been multiple scientific theories applied to the research on accelerators, such as the Institutional Theory (see Clarysse and Yusubova, 2014), the Resource Based View of the Firm (see Radojevich-Kelley and Hoffmann, 2012), and the Open Innovation Theory (Weiblen and Chesbrough, 2015). While these established theories are valuable for explaining accelerators as a phenomenon, I agree with Bauer et.al (2016) that there is still room for

applying more elaborated theories in the research context of accelerators. For example, the Resource Based View of the Firm has received criticism for inadequately explaining competitive advantages in market environments that are volatile (see Teece et al., 1997). Hence, the Resource Based View might benefit from being extended with the concept of Dynamic Capabilities (see Teece et al., 1997), which focuses on the dynamic aspects of configuration and exploitation of resources (Bauer et al., 2016). The concept of dynamic capabilities can thus be understood as an enhancement of the resource-based view (Selig et al., 2018), as it follows the premise of firms that are capable of implementing processes and/or routines supporting a continuous reconfiguration of the firm's resources and capabilities, are more successful in highly volatile markets (Selig et al., 2018; Teece and Pisano, 1994).

Furthermore, as previously mentioned in this thesis, corporate accelerators are categorized as outside-in innovation within the theory of Open Innovation (Weiblen and Chesbrough, 2015). However, Bauer et al. (2016) argues that *"an in-depth analysis of the process of the intake of the innovation by the incumbent company"* (p.9), has long been neglected. Hence, the sponsoring corporation needs to outline a set of procedures and routines to be able to absorb the innovations created during the program (Bauer et al., 2016). Cohen and Levinthal (1990) argue that a firm's ability to *"... recognize the value of new, external information, assimilate it and apply it to commercial ends"* (p.128) is critical for its innovative capabilities. This capability is labelled as a firm's Absorptive Capacity and it is suggested to be largely a function of its level of prior related knowledge (Cohen and Levinthal, 1990). Hence, I suggest that it would be beneficial to augment the theory of open innovation with the perspective of absorptive capacity within the research context of corporate accelerators (cf. Bauer et al., 2016)

In their research, Bauer et al. (2016) found that the research on corporate accelerators have until now defined the successful outcomes of accelerators as acquisitions, and unsuccessful outcomes as firm failures (see Radojevich-Kelley and Hoffman, 2012; Wise and Valliere, 2014) Hence, they suggest that research on corporate accelerators will benefit from establishing clear measurements to benchmark and evaluate the success of accelerators, such as taking the incumbent firm's goals of initiating a corporate accelerator program into account (Bauer et al. 2016). A corporation might have several goals for running a corporate accelerator, such as rejuvenating the

corporate culture or attracting and retaining talent. However, Weiblen and Chesbrough (2015) argue that the sponsoring firm's main goal is to identify innovation from the startups and take advantage of their flexibility in the open innovation process.

2.4 Summary

Through this literature review I have achieved to fulfil the objectives I outlined at the outset. Accelerators have some key features that distinguish them from other similar concepts, whereas the limited duration seems to be the one standing out the most. Similarly, the corporate accelerators have characteristics that clearly define the program itself. Furthermore, the corporate accelerators and accelerators seem to share many of the same criteria, such as the application process, being fixed term and cohort based, as well as offering pre-seed investments, support, and stipends to the startups. Some scholars argue that corporate accelerators focus on a startups consisting of small teams rather than individual entrepreneurs. In the literature assessed in this review it does not confirm, nor reject, whether or not this is true also for non-corporate accelerators. However, due to the fact that non-corporate and corporate accelerator share so many of the same characteristics, it opens up for the opportunity to make use of a lot of the literature on accelerators when researching corporate accelerators. However, it is important to note that even though corporate accelerators fulfil the definition of accelerators it does not necessarily mean that the opposite is true. This is mainly due to the differences in the ownership structure of the corporate and non-corporate accelerators, which again leads them to have different incentives for initiating the program. Furthermore, through the literature review it has become evident that there exist two types of corporate accelerator models, as well as several subtypes.

2.4.1 Identifying a conceptual framework

Before the literature review, I set out an objective to explore if it existed a suitable conceptual framework for my case study. Based on section 2.3.4 in this thesis I have decided that the Open Innovation theory, complemented with the perspective of Absorptive Capacity, is the conceptual framework that is most fruitful for this thesis. Hence, I will use this conceptual framework as a lens through which I will evaluate the proposed research question.

2.4.2 Identifying case study hypotheses

In line with my objective number eighth for conducting this literature review, I have been able to identify several hypotheses that are of relevance in regard to the proposed research question:

> *To what extent are the incumbent firms able to absorb the start-ups' knowledge through a corporate accelerator?*

Firstly, it became evident in the literature review that accelerators most often are located on-site. However, from the literature it is hard to conclude what *on-site* entails. In regard to a corporate accelerator, this could entail that the start-ups should be located at the offices of the accelerator company (such as Techstars) throughout the program, or to be in the offices of the sponsoring firm. In regard to this case study, Equinor and Techstars have chosen to have the start-ups sit at the Equinor office at Fornebu. Hence, as a result of being in the local environment (i.e. the same office), it opens up for the opportunity for exchanging and recombining knowledge through common interactions such as meeting in person on a regularly basis. As to my knowledge this has never been studied before in regard to corporate accelerators, and I believe it can prove to be an interesting hypothesis. Hence, I propose the following hypothesis:

> **H1:** *The geographical proximity between actors in a corporate accelerator enables knowledge spillovers to the incumbent firms' employees*

Secondly, in the literature review I noticed the focus on the role of the mentors in the accelerators. As the mentors are working close with the start-ups throughout the limited the entire program, they could thus prove to thus be important as a knowledge gatherer for the incumbent firm. Hence, I propose the following hypothesis:

> **H2**: *In a corporate accelerator the mentors are crucial for the incumbent firm's ability to absorb knowledge from the start-ups.*

Lastly, in the theory of absorptive capacity it is argued that the internal R&D and the technical training of the employees are important activities to maintain and increase the absorptive capacity level in the firm (Cohen and Levinthal, 1990). Furthermore, it can be argued that the employees in Equinor with the highest technical training, and thus the highest accumulated knowledge base, are the people in R&D. Hence it is important to

involve them as much as possible. Based on this I propose the last hypothesis for this thesis to be:

> **H3**: *The incumbent firm's R&D department is heavily involved in the corporate accelerator in order to absorb the knowledge from the start-ups*

The hypotheses cannot be fully falsified or confirmed through this research as I am conducting an explorative research paper. However, the hypotheses will be used to direct and focus the research throughout this paper. For all intents and purposes the research is aimed at exploring the hypotheses I have presented, and I do not intent or propose to offer any final or conclusive solutions. There are several other hypotheses and further researched that could be identified based on the literature review I have conducted. I will come back to this later in this thesis in the chapter 'Future Research'. However, due to the limited time and capacity, I have chosen to focus on the hypotheses outlined above in my case study of the "Techstars Energy Accelerator in Partnership with Equinor".

3   Theoretical framework

As discussed in section 2.3.4 in this thesis, I will use a conceptual framework consisting of Open Innovation theory complemented with the theory of Absorptive Capacity as a lens to evaluate my research question. In this section of the paper I give a thorough introduction to the two concepts, and how they can be utilized in the research on corporate accelerators.

3.1 Open Innovation

Internal research and development (R&D) have been regarded as an important strategic asset for companies for a long time, and in many markets, it has even been considered to be a formidable barrier to entry by their competitors (Chesbrough, 2003). One of the explanations for this is due to the considerable amount of resources needed to succeed with R&D, and only large companies such as AT&T, DuPont and IBM were able to compete by doing the most R&D in their particular industries (Chesbrough, 2003). The thought of only relying on your own company's R&D operations to generate, develop and commercialize its own ideas was the dominating philosophy of many leading industrial corporations for the better part of the 20th century (Chesbrough, 2003). The idea that you need control over innovation in order to be successful is today better known as the Closed Innovation Model.
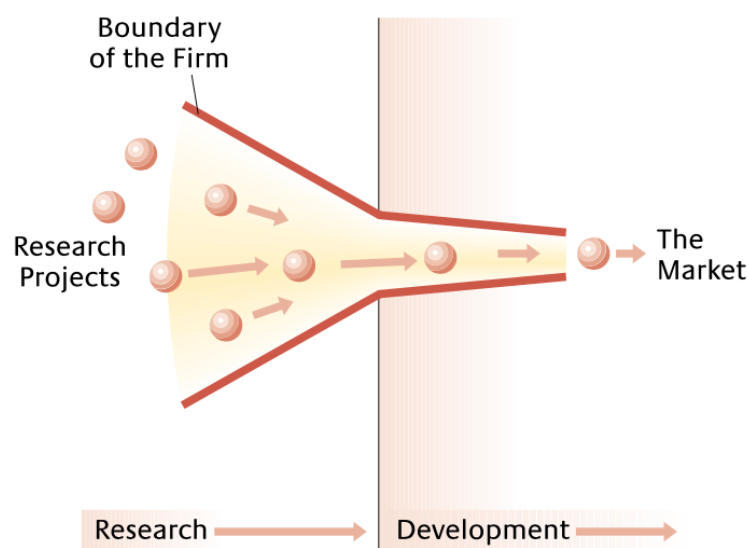
Figure 4: Illustration of the Closed Innovation Model (Chesbrough, 2003, p.36).

In the late 20th century, however, the former big corporate leaders were increasingly starting to encounter a notable strong competition from many new companies, which surprisingly conducted very little, if any at all, basic research on their own (Chesbrough, 2003, p. 35). Instead, these novice companies got their new ideas to the market through a different process: the open innovation model. The open innovation model is

> *"… a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology"* (Chesbrough, 2003, p.35).

Hence, in this model the companies commercialize external and internal ideas by deploying outside, as well as in-house, pathways to the market they operate in (Chesbrough, 2003). Thus, by adopting the open innovation approach, companies can generate value by using for example start-ups as a way of commercializing internal ideas through channels that is usually outside of the company's current business (Chesbrough, 2003). Furthermore, the firm's may also commercialize ideas that originated outside their own labs. Hence, the open innovation model enables innovation to move more easily between the firm and its surrounding environment, as the boundaries between them are not as strict as in the closed innovation model (Chesbrough, 2003)
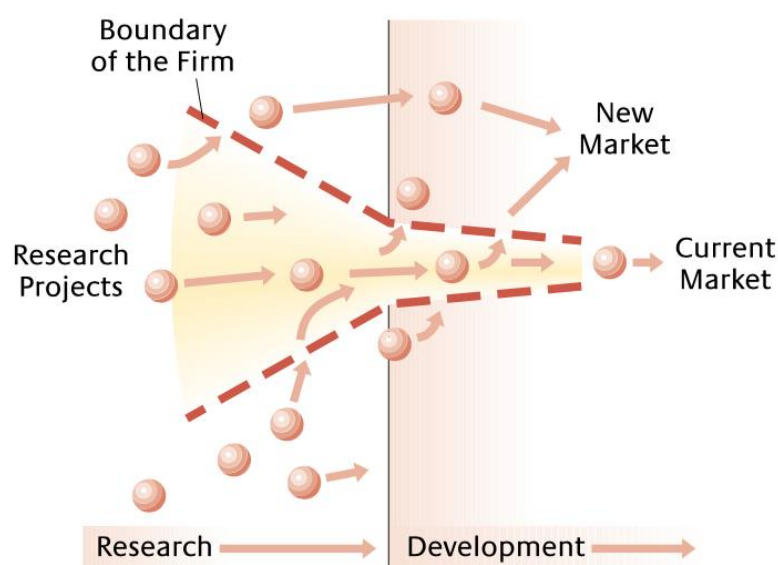

Figure 5: Illustration of the Open Innovation Model (Chesbrough, 2003, p.37).

42

The open innovation model is thus an interesting approach when looking more closely at corporate accelerators, and the relationship between the incumbent firms and start-ups. The models relevance in regard to the research on corporate accelerators become even more evident when looking at the principles for open innovation, and how the key characteristics for the model differ from the ones in the closed innovation model (Chesbrough, 2003, p.38):

The principle of	Open Innovation	Closed Innovation
People and Knowledge	Not all the smart people work in the same organization. Need to identify and tap into external knowledge and expertise of smart individuals	The smart people within the company's field work for them
Research and Development	External R&D can create significant value; internal R&D is important to claim some portion of that value	The company must discover, develop and deliver the R&D themselves in order to profit from it
Origination of ideas	The research does not have to originate from the company in order to profit from it	If the company discovers an idea first, they will also be first to market
Business model	It is more important to build a better business model than getting to market first	If the company commercialize an idea first, they will win
Sourcing of ideas	The winners will be the ones who are able to utilize both internal and external ideas	If the company create the most and best ideas in the industry, they will win
Intellectual property (IP)	The company should profit from others' use of their IP, and buy other's IP whenever it advances their own business model	The company should control their own IP, so that their competitors don't profit on their ideas.

Table 5: 'Contrasting principles of Open and Closed Innovation' as proposed by Chesbrough (2003, p.38).

Lastly, Chesbrough (2003) argue that the open innovation perspectives are based on the notion of *"a landscape of abundant knowledge, which must be used readily if it is to provide value for the company that created it"* (p.37).

3.1.1 Open Innovation: Resource acquisition

Following the definition of open innovation, and as shown in table 5, the logic of open innovation makes the assumption that not all abilities, resources, and ideas for developing and commercializing innovation is confined within the boundaries of the company (Moschner and Herstatt, 2017). Based on the direction of knowledge flow, the collaboration with external companies and/or individuals opens up for three specific open innovation processes: the outside-in process, the inside-out process, and a coupled innovation mode that links the two former approaches together (Moschner and Herstatt, 2017; Gassmann and Enkel, 2004). As previously established in this paper, corporate accelerators are a subtype of the outside-in process. This process is a way for the company to enhance its knowledge base by sourcing external knowledge, and thus increases the company's innovativeness (Moschner and Herstatt, 2017).

3.1.2 Open Innovation: Collaboration between incumbents and start-ups

Most researchers in the field of open innovation have focused on the partnerships between established firms (Das and He, 2006). However, a few studies (see e.g., Bogers et al., 2017; Fischer and Reuber, 2004; Gassmann et al., 2010; Hogenhuis et al., 2016) have examined the collaboration between incumbent firms and start-ups, mainly from the viewpoint of the incumbent (Usman and Vanhaverbeke, 2017). Hogenhuis et al. (2016) argues that the different motives for entering into an alliance, as well as the asymmetry between established organizations and start-ups, opens up for more challenges and risks to cooperation than partnerships between incumbent firms.

For start-ups the sourcing of external knowledge allows them to identify new ideas and market opportunities (Gruber et al., 2012; van de Vrande et al., 2009). Moreover, for the start-ups it can be critical to collaborate with external partners to develop and commercialize their ideas, as they don't have mainly tangible resources due to their liabilities of smallness and newness (Gans and Stern, 2003; Groote and Backmann,

44

2019; Moschner and Herstatt, 2017; Partanen et al., 2014; van de Vrande et al., 2009). The liability of newness refers to the start-up's lack of legitimacy within a market, while the smallness liability refers to the lack of resources such as financial or personnel resources (Hoang and Antoncic, 2003; Stuart, 2000). Hence, cooperating with incumbents can help startups overcome these liabilities and thus increase their chances for survival (Ahlstrom and Bruton, 2001). Furthermore, institutional theory states that start-ups have to prove that they engage in legitimate activities, as they seldom have a long track record of former performance (Bruton et al., 2010). Hence, the collaboration with the established companies may give credibility to the start-ups so they gain acceptability from different parties in the markets they operate in (Groote and Backmann, 2019).

Incumbents, on the other hand, benefit from getting insight on new technologies and market opportunities. The established firms are for the most part interested in exploiting a certain innovation or technology and applying it to their own startups, hence they use start-ups as fuel to keep their innovation engines running (Groote and Backmann, 2019; Spender et al., 2017). These insights can prove to be of especially high value at the fuzzy front end of the innovation process (Chesbrough, 2003; Vanhaverbeke et al., 2008). Moreover, Dushnitsky and Lenox (2005) argue that incumbents that have been able to develop a high level of absorptive capacity have a more beneficial collaboration with start-ups. I will elaborate more on this topic in section 4.2 in this paper.

3.1.3 Open innovation: Corporate accelerators

Based on the structural perspective of open innovation (Gassmann et al., 2010), it can be argued that both the incumbent firm and the start-ups in a corporate accelerator enter into a voluntary agreement to accelerate the further development of the start-up's product (Moschner and Herstatt, 2017). Hence, the type of cooperation in a corporate accelerator resembles a non-equity, dyadic, inter-organizational collaboration mode (Bianchi et al., 2011; Gulati, 1998). Thus, the partnership between the incumbent firm and the start-ups in a corporate accelerator falls between the two modes of hierarchy and market (Powell, 1987) and, subsequently, allows the company and the start-ups for exchanging and recombining knowledge through common interaction (e.g. project-based working groups)(Felin and Zenger, 2014; Hagedorn, 2002; Hagedorn, 1993;

Moschner and Herstatt, 2017; Powell et al., 1996). Previous research has shown that inter-organizational collaborations are for the most part motivated by strategic, cost-economizing, or inter-woven motives (Hagedorn, 1993). Even though Kanbach and Stubner (2016) follow the assumption that the primary goals of such collaboration are strategic and financial, they also criticize that the companies' different motives and objectives often are unclear.

Lastly, Moschner and Herstatt (2017) argue that the collaboration between incumbent firms and start-ups in corporate accelerators are not self-evident because of the competitive and ontological contradictions. This is mainly due to the fact that collaboration in corporate accelerators has challenges such as cultural differences, power imbalances, divergent modes of operation, as well as conflicting interests in resources (Jackson and Richer, 2017; Moschner and Herstatt, 2017; Weiblen and Chesbrough, 2015).

3.2 Absorptive capacity

As previously stated in this thesis, Cohen and Levinthal (1990) argue that a firm's innovative capabilities are heavily dependent on its absorptive capacity. The absorptive capacity of a firm is its ability to acknowledge the value of new, external information, assimilate it, and then apply it to the commercial side of the company (Cohen and Levinthal, 1990). Hence, a company's competitiveness and development are dependent on their access to knowledge and sufficient absorptive capacity (Fagerberg and Srholec, 2007). Furthermore, Cohen and Levinthal (1990) argue that technical training of the employees, as well as internal R&D, is important activities to maintain and increase the level of absorptive capacity in the company. The theory of absorptive capacity builds on the notion of accumulative knowledge, i.e. that knowledge builds on existing knowledge (Cohen and Levinthal, 1990). Hence, that if a firm has a prior base of knowledge, it enhances its ability to acquire knowledge from external sources (Bower and Hilgard, 1981; Cohen and Levinthal, 1990). Furthermore, some psychologist suggest that the ability to learn are enhanced with a prior knowledge base, based on the fact that the storage of knowledge is *developed by associative learning in which events are recorded into memory by establishing linkages with pre-existing concepts* (Cohen and Levinthal, 1990, p. 129). In line with this, Bower and Hilgard (1981) suggested that

the range of categories into which previous knowledge is systemized, the differentiation of those categories, and lastly the connections across them permit individuals to make sense of new knowledge, and thus enabling them to acquire it (c.f. Cohen and Levinthal, 1990). Lindsay and Norman (1977) illustrated this with how an individual learns a new language. They suggested that the difficulties when trying to learn new words is not related to the lack of exposure to them, but rather that

> *"... to understand complex phrases, much more is needed than exposure to the words. A large body of knowledge must first be accumulated. After all, a word is simply a label for a set of structures within the memory system, so the structures must exist before the word can be considered learned"* (Lindsay and Normann, 1977, p. 517).

Similarly, it can be argued that this applies to the incumbent companies when working with start-ups in a corporate accelerator. To understand the complex technologies the start-ups are using and developing; much more is needed for the incumbent firm than just being exposed to it. They would first need a large body of knowledge to be accumulated. If an employee in the incumbent firm is exposed to a new technology from the start-ups, but do not already possess the appropriate contextual knowledge necessary to make the new knowledge fully comprehensible, the knowledge may be acquired nominally but not well utilized (Cohen and Levinthal, 1990; Lindsay and Normann, 1977).

The firm's innovative capabilities and adaption to new challenges can also be generated through pragmatic and practical approaches (Von Tunzelmann and Acha, 2005). The competitiveness and success of a firm are often based on who can mobilize their technological skills and knowledge (Tidd and Bessant, 2009). However, the acquisition of knowledge does not necessarily need to be dependent on internal R&D activities (Zahra and George, 2002). If a company have an existing pool of synthetic knowledge, it would be sufficient to bestow them enough absorptive capacity to understand how they can increase their knowledge base further through external knowledge bases (Guttormsen, 2012). It is, however, still important to be exposed to external sources of knowledge in order to absorb it, as an external combined with an internal line of communication is crucial (Cohen and Levinthal, 1990). Lastly, Pavitt (2005) argues that

the competitive advantage of a company may lie in this accumulated firm-specific experience.

3.2.1 Gatekeepers

In a big corporation the employees do most likely have a broad variety of specializations and knowledge, and some of them might have to take the role as a *gatekeeper* (Guttormsen, 2012). Several scholars suggest that the role of gatekeeping is especially important when the expertise of most of the employees within the organization considerably differ from that of external actors (e.g. start-ups) (Allen, 1977; Tushman, 1977). For instance, if there are technical information that is difficult for the employees in the incumbent firm to assimilate, a gatekeeper's role is to both monitor the environment and translate the technical information into a form understandable to the employees (Cohen and Levinthal, 1990). Hence, the roles of the gatekeeper are to make it easier for the employees to implement the knowledge through the tasks of understanding the external knowledge it is being exposed to and subsequently diffuse it into the company (Cohen and Levinthal, 1990). However, although a gatekeeper is important, the gatekeeper's absorptive capacity does not constitute the absorptive capacity of his or her unit within the firm. Hence, the gatekeepers' capabilities are not the only function that determines the absorptive capacity of the organization (Cohen and Levinthal, 1990). The expertise of those individuals receiving the information from the gatekeeper is also determining the ease, or difficulty, of the internal communication process (Cohen and Levinthal, 1990). Hence, it may not be sufficient for the incumbent firms to only rely on a small set of gatekeepers to make sure that the new information is assimilated in the company. The external knowledge bases can be so dispersed and act in such an unpredictable way, that the small set of gatekeepers might not always be able to absorb all the knowledge they are being exposed to (Cohen and Levinthal, 1990; Guttormsen, 2012). Hence, it is crucial to have gatekeepers with a wide arrange of knowledge and extensive relationships with both internal and external actors and companies, as it can prove to be a key factor affecting the organization's overall absorptive capacity (Cohen and Levinthal, 1990; Guttormsen, 2012; Von Hippel, 2005).

3.2.2 Knowledge

Knowledge is central in regard to the theory on absorptive capacity. In this section I will outline how I view knowledge in this thesis, and why it can prove to be so crucial for a company's competitiveness.

Rather than viewing knowledge as an absolute, static truth, Nonaka (1994) suggests that we should look at knowledge from the viewpoint of a "… *dynamic human process where the process of justifying personal belief's as a part of an aspiration for the "truth"* (p.15). As an extension on the resource-based view of the firm (Barney, 1991), knowledge is considered to be a strategic asset and a vital resource (Grant, 1991), that can be regarded as an economic good (Nonaka, 1994). Although knowledge itself is important, it is, however, the integration and configuration of it that can provide a company with a sustainable competitive advantage (De Luca and Atuahene-Gima, 2007; Kogut and Zander, 1993). Hence, *knowledge management* is a key-determining factor for maintaining and creating a competitive advantage, especially when the competition is becoming increasingly knowledge intensive (Prahalad and Hamel, 1990; Prusak, 1996; Winter, 1987). Knowledge management is how a company creates, acquires, interprets, retains, and transfers knowledge, and subsequently modify their behaviour consciously based on the new knowledge to improve their performance (Dayasindhu, 2001).

Knowledge is in general divided into two different groups; explicit and tacit knowledge (Schreiber et al., 2011), which can be held collectively in groups, or by individuals (Dayasindhu, 2001). The explicit type of knowledge can be shared and transferred in a systematic manner, as it is easily codified and articulated (Minbaeva, 2007). Explicit knowledge, also known as codified knowledge, is typically information that is easily accessible, such as information found in encyclopaedias, manuals, patents etc. Tacit knowledge is on the other hand much more difficult to successfully transfer, as this is non-verbalized and non-articulated knowledge such as the employees personal experience gained through years in a company (Minbaeva, 2007). And as Polanyi (1966 p.4), who coined the term tacit knowledge, stated: *"We know more than we can tell".* Although knowledge can be divided into two different groups, Nonaka and Takeuchi (1995) argue that tacit and explicit knowledge should not be viewed as mutually exclusive, but rather as complementary entities. In order to make knowledge transfer

more uncomplicated, and subsequently not so reliant on individuals, companies should strive to transform the tacit knowledge to explicit knowledge (Nonaka and Takeuchi, 1995). Furthermore, Daysindhu (2002) posit that the knowledge creating process is a dynamic spiral that shifts from the *"individual to organization and inter-organization dimensions"* (p.553). Moreover, this dynamic Socialization-Externalization-Combination-Internalization (SECI) spiral consists of four sequences (Dayasindhu, 2002, p. 553):

- **Socialization (Tacit to Tacit):** In this sequence the knowledge is transferred through imitation, observation, and practice from one individual to another. Daysasindhu (2002) further argue that socialization is a limited form of creation of knowledge as no systematic insight into the knowledge is obtained. As the knowledge remains tacit, it cannot be leveraged by the organization or industry as it's not explicit.

- **Externalization (Tacit to Explicit):** Externalization is the sequence where tacit knowledge is transformed into explicit knowledge and can thus be communicated to other members of the organization or industry (Dayasindhu, 2002). Hence, the knowledge can be leveraged.

- **Combination (Explicit to Explicit):** In this sequence the different parts of the explicit knowledge are combined into new explicit knowledge.

- **Internalization (Explicit to Tacit):** In the sequence of internalization the explicit knowledge is transformed into tacit knowledge. Hence, e.g. the members of a firm enrich their own tacit knowledge base by applying the new explicit knowledge (Dayasindhu, 2002).

50
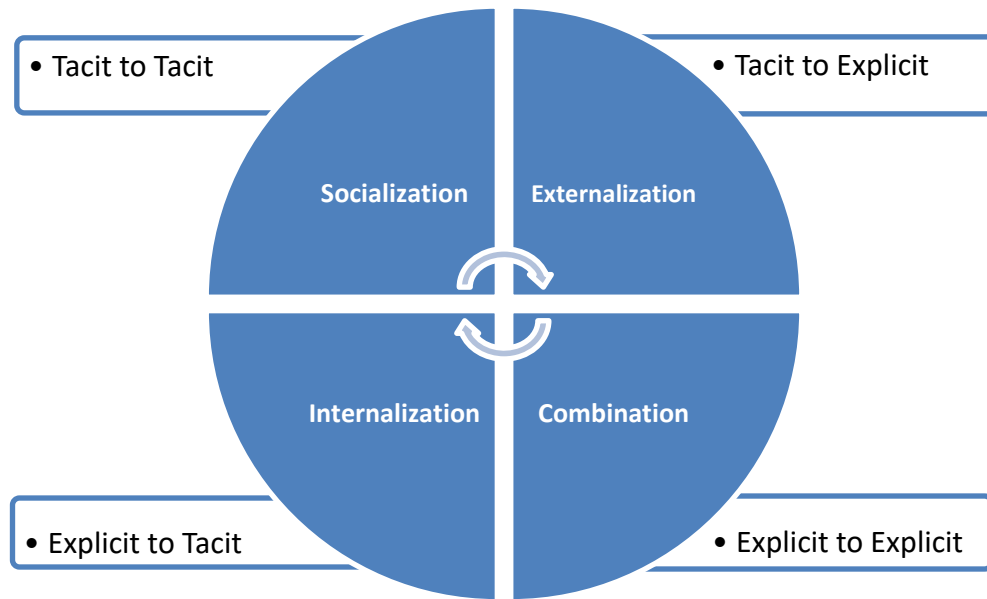
Figure 6: Overview of the four sequences in the knowledge creating process

The sequences of externalization and internalization are the two most critical steps in the knowledge creating process, as they address the ability to translate tacit knowledge to explicit knowledge, and then using that knowledge to extend the individuals own knowledge base (Dayasindhu, 2002). The SECI sequences start all over again, and thus constitute the knowledge-creating spiral (Dayasindhu, 2002).

3.2.3 Knowledge transfer

In the previous section I have outlined the concept of the dynamic knowledge-creating spiral. A close observation of the mentioned spiral reveals that the creation of knowledge takes place through transfer and can thus the theory can be applied to the study of knowledge transfer as well (Dayasindhu, 2002). In line with the theory of absorptive capacity, Cohen and Levinthal (1990) posit that the receivers' capability to absorb new knowledge is a function of its current level of knowledge and cannot be separated from its creation. Further, Szulanski (1996) found in his research that most problems associated with the transfer of tacit knowledge, is a result of the receivers' lack of experience to make effective use of the new ideas and arduous relationships (i.e. distant and laborious) between the source and the receiver.

Moreover, to fully grasp the extent of knowledge transfer, it is important to define the term *transfer*. In its strictest sense the term of transfer entails a physical process where the resource, or the control of it, is passed from one actor to another (Forsman and Solitander, 2003; Håkansson and Johanson, 1992; Grønhaug et al., 1999). For example, in technology transfer, it can only be concluded as fully transferred when the capability to apply it has been transferred from one individual to another (Grønhaug, 1999). Hence, in this context the technology posits to be the embodiment of knowledge (Forsman and Solitander, 2003). It is furthermore important to differentiate between the transmission and the absorption of knowledge. If the recipient does not assimilate the knowledge, there have only been a transmission, and thus not transfer, of knowledge (Davenport and Prusak). Hence, that if the knowledge only is made accessible, it does not constitute as transferred knowledge (Forsman and Solitander, 2003). Knowledge can thus be transmitted (made accessible), but whether or not the transfer is successfully completed (assimilated) or not depends on the absorptive capacity of the recipient (Cohen and Levinthal, 1990; Nonaka and Teece, 2001). Lastly, there are two important factors to consider that influence the knowledge transfer, namely the cultural and social systems (Dayasindhu, 2002). Tacit knowledge is embodied in between the intersection of the individual and his culture (Polanyi, 1966). Based on his research, Hofstede (2011) argued that there are four cultural variables that influence the business context:

- **Individualism vs. Collectivism:** Whether the culture attribute describes a social framework where people for the most part care about themselves, or a tight social framework in which people are a part of a group that looks after them.

- **Power distance:** The power distance is whether or not there is a culture where it is accepted that there is an unequal distribution of power. Hence, a culture with a high power distance has a great respect for authority and gives status a lot of importance (Daysindhu, 2002).

- **Uncertainty avoidance**: This cultural variable describes to what extent a society feels threatened by ambiguous and uncertain situations and tries to avoid them (Daysindhu, 2002).

- **Masculinity vs. Femininity**: This attribute describes whether the society's values are characterized by assertiveness and materialism (Masculinity), or relationships and concern for others (Femininity) (Daysindhu, 2002).

52

Geographical proximity

Furthermore, the growth of knowledge is heavily affected by human interaction and face-to-face contact, which is a process that can be argued to be constrained by distance (Forsman and Solitander, 2003). Howells (2002) argue that there exists a various amount of acquisition barriers and scanning costs when acquiring external knowledge, which is often correlated with distance. Cairncross (1997) argued that due to the access to different modern communication technologies and faster transportation modes, distance is now irrelevant when talking about knowledge transfer. However, several scholars (e.g. Desrochers, 2001; Rallet and Torre, 1999) disagrees with this argument, and state that distance still is relevant and that close proximity remains the most effective way of communicating regardless of modern communication channels and transportation (Ensign et al., 2014). In knowledge-based theory it is argued that when trying to exchange knowledge, especially diffuse and tacit knowledge, geographical proximity between the different actors is critical for a successful transfer (Bathelt et al., 2004). Hence, the theory argues that for such subtle forms of knowledge to be exchanged, being in the same local environment and repeatedly meeting in person is key for a successful transmission of knowledge (Bathelt et al., 2004). The geographical proximity between companies opens up the opportunity for the participants to have a greater social interaction and personal relationships, which is crucial for transferring tacit knowledge (Bathelt et al., 2004; Ensign, 2014). Hence, that it creates the opportunity for co-operations through heightened awareness, trust, and commitment (Eisenhardt and Schoonhoven, 1996; Forsman and Solitander, 2003). In a similar vein, the theory of open innovation argues that the type of cooperation between the different actors in a corporate accelerator resembles a non-equity, dyadic, inter-organizational collaboration mode (Bianchi et al., 2011; Gulati, 1998). Thus, the partnership between the incumbent firm and the start-ups in a corporate accelerator can be viewed as falling between the two modes of hierarchy and market (Powell, 1987) and, subsequently, allows the incumbent and the start-ups for exchanging and recombining knowledge through common interactions (Felin and Zenger, 2014; Hagedorn, 2002; Hagedorn, 1993; Moschner and Herstatt, 2017; Powell et al., 1996).

4 Research methodology

There are mainly two different research designs that can be utilized when conducting a research paper: quantitative and qualitative methods. In respect to the proposed research question, I believe that a qualitative research method will be the most suited methodology. This is because qualitative research has an empiricism approach as its underpinning philosophy (Kumar, 2011). Hence, that knowledge comes only or primarily from sensory experience. The main purpose of investigation in a qualitative research is to describe variation in e.g. a phenomenon, situation, issue, etc. Furthermore, qualitative research is an open and flexible methodology that focuses on description of variables as its measurement of variables, which will be of essence in this explorative paper.

4.1 Research design

When conducting a research paper, it is essential that we have a design for how we will conduct our research. The purpose of having a research design is to make sure that we achieve the goals of our research (Askheim, 2008). Furthermore, a research design, carried out correctly, will enhance the validity and reliability of the paper. As the focus in this thesis is on a single accelerator program, the research will have a case study design. According to Kumar (2011) a case study design is useful when exploring an area where you want to have a holistic understanding of the situation, phenomenon, episode, site, group or community. Case studies are also of immense relevance when the focus of study is on extensively exploring and understanding rather than confirming and quantifying (Kumar, 2011). Hence, case studies have the ability to explain why and how things happened, which will be of essence in this case study of the Techstars Energy Accelerator program (Levy, 2008). Furthermore, the case study will take an idiographic approach, as I will aim to provide an in-depth elucidation of the unique features of this particular accelerator program (Bryman and Bell, 2015).

4.2 Data collection

Case studies do not need to be limited to a single source of evidence (Yin, 2014). Hence, I chose to follow the "Four Principles of Data Collection" proposed by Yin (2014, p.118) in the data collection for this thesis. The four principles are as follows;

1) *Use Multiple Sources of Evidence*
2) *Create a Case Study Database*
3) *Maintain a Chain of Evidence*
4) *Exercise Care When Using Data from Electronic Sources*

It is important to note that following Yin's (2014) principles of data collection did not prohibit my ability to be insightful and inventive in the collection of data. I followed these principles in order to make the process as explicit as possible, so that the results would reflect a concern for construct validity and reliability. Thus, becoming worthy of further analysis (Yin, 2014).

4.2.1 Use multiple sources of evidence

One of the major strengths in the data collection for a case study is the opportunity to use several different sources of evidence (Yin, 2014). By using multiple sources of evidence in the study of the Techstars Energy Accelerator, I will be able to address a broader range of behavioural and historical issues. Furthermore, Yin (2014, p. 120) argues that the most important advantage of using many different sources of evidence is *"the development of converging lines of inquiry, a process of triangulation and corroboration"*. Hence, by following a corroboratory mode the findings in the case study is more likely to be accurate and convincing since they are based on multiple sources of information (Yin, 2014). Thus, this triangulation of data aims at collecting information from several different sources but aimed at supporting or confirming the same fact or phenomenon. Yin (2014) further argue that we can distinguish between two conditions; whether you have triangulated the data (i.e. convergence of evidence), or used different sources as part of the same study to analyse different facts (non-convergence of evidence):

Convergence of Evidence

(Single study)
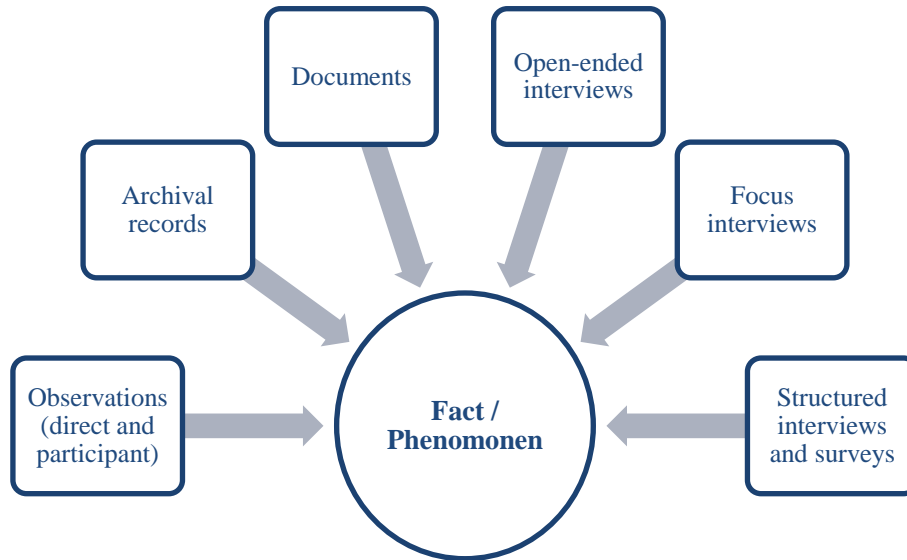
Non-Convergence of Evidence

(Separate sub studies)

Figure 7: Convergence and Non-convergence of Multiple Sources of Evidence as proposed by Yin (2014, p. 121).

Furthermore, analysis of case study methodology have found that the case studies using several different sources of evidence are rated higher in terms of their overall quality, compared to the case studies that only relied on one single source of information (see COSMOS Corporation, 1983; Yin, 2014).

4.2.2 Create a Case Study Database

In this thesis, I will also follow the second principle of data collection, and thus create a case study database. This principle has to do with the documenting and organizing of the data collected for case studies (Yin, 2014, p. 123). In other fields of research, the documentation commonly consists of two separate collections:

1. The data or evidentiary base
2. The report of the investigator (e.g. article, report, book).

However, Yin (2014) argues that the distinction between the case study report and a separate database has not yet become a common practice within the field of case studies. In case studies the data collected are, too often, synonymous with the report presented (Yin, 2014). Hence, the reader has no way of checking the raw data that led to the case study's conclusions. Subsequently, the case study is difficult to use for further research as other investigators are limited to the written case study reports (Yin, 2014). In this thesis, I will strive to create a good case study database including tabular materials, my own field notes, case study documents, and new narrative compilations, and thus increase the reliability of the entire case study of the Techstars Energy Accelerator (Yin, 2014).

4.2.3 Maintain a Chain of Evidence

Furthermore, I will strive to maintain a chain of evidence throughout the thesis, as this is an important principle in order to increase the reliability of the information in this case study (Yin, 2014). The reasoning behind this principle is that the reader of the case study is able to follow the "*derivation of any evidence from initial research questions to ultimate case study conclusions*" (Yin, 2014, p.127). Furthermore, the reader should be able to trace the steps in either direction (i.e. from conclusions back to initial research questions or from questions to conclusions) (Yin, 2014):

```
┌─────────────────────────┐
│   Case study report     │
└─────────────────────────┘
            ↕
┌─────────────────────────┐
│   Case study database   │
└─────────────────────────┘
            ↕
┌─────────────────────────┐
│   Citations to specific │
│   evidentiary sources   │
│   in the case study     │
│   database              │
└─────────────────────────┘
            ↕
┌─────────────────────────┐
│   Case study protocol   │
│   (linking questions    │
│   to protocol topics)   │
└─────────────────────────┘
            ↕
┌─────────────────────────┐
│   Case study questions  │
└─────────────────────────┘
```
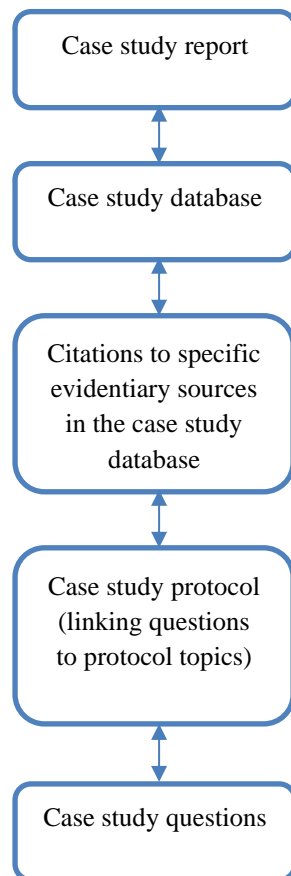
Figure 8: Maintaining a Chain of Evidence as proposed by Yin (2014, p. 128).

4.2.4 Exercise care when using data from electronic sources

Most of the sources used in research today can be represented by electronic sources in some way or another. You can for instance conduct an online chat with another person or distribute online surveys through formal arrangements made with websites such as Google Forms or SurveyMonkey (Yin, 2014). It is important to exercise great caution when using electronic sources to collect information for a case study (Yin, 2014). In short Yin (2014, p.129) argue that there are mainly four cautions to be aware of when using data from electronic sources:

1. **Set limits:** The information accessible today can be overwhelming. Set limits and a scope for the research so you don't use unnecessary time on navigating various websites.
2. **Cross-check sources:** It is important to cross-check online material with other sources to understand a potential slant, incompleteness, or interpretive bias.

3. **The use of social media:** Use the information from sites such as Twitter, YouTube, Facebook and individual blogs with a highly sceptical view as the information may not be fully accurate.

4. **Inquire about permissions:** Lastly, it is important to remember to inquire about the permission needed to use materials, such as photographs etc., in the case study.

4.3 Sources of evidence

As previously mentioned, Yin (2014) argue that it is important to use multiple sources of evidence when conducting a case study. The most commonly used sources of evidence when doing case studies are documentation, archival records, interviews, direct observations, participant-observation, and physical artefacts (Yin, 2012). None of the sources stands out as having a complete advantage over the others, and they should rather be viewed as being highly complementary (Yin, 2012). Hence, a good case study will use as many different sources as possible. In this thesis I will use the following sources of evidence in my case study; documentation, archival records, interviews, direct observation, and participant-observation. In the next paragraphs I outline to what extent I will use the listed sources in this thesis.

4.3.1 Interviews

Interviews are one of the most important sources of evidence when conducting a case study, as they most often are studies on human actions or affairs (Yin, 2014). Interviewees that are well-informed could thus provide essential insights into the actions or affairs that are subject to the research (Yin, 2014). Hence, I decided to conduct several interviews with key people in the Techstars Energy Accelerator. Some of the interviews were prolonged case study interviews, whereas others were shorter case study interviews (see table 6 for full overview). The main difference between the two is that the prolonged interviews took longer time and the interviewees were asked questions about their opinions and interpretations about events and people or their explanations, insights, and meanings linked to the Techstars Energy Accelerator (Yin, 2014). The shorter case study interviews I conducted was more focused and lasted about an hour or so and followed my case study protocol more closely (Yin, 2014). However,

I still remained open-ended and assumed a conversational manner in these interviews as well (Yin, 2014). Both interviews proved to be of immense importance as a source of evidence in this case study.

Semi-structured Interviews

In accordance with the qualitative research strategy, I decided to conduct both the prolonged and shorter interviews as semi-structured interviews. Semi-structured interviews provide a balance between flexibility and specificity that was important to the study of this accelerator program. Because if interviews are structured too rigorously, it could limit the interviewee's ability to provide valuable insights, and thus exclude vital information and limit the data material (Bryman and Bell, 2014). Hence, by conducting semi-structured interviews, I minimized this risk as it allowed the people that was interviewed to have a great deal of leeway in how to reply (Bryman and Bell 2007). However, common references are crucial in order to be able to compare and generate the total picture. Therefore, all the interviews I conducted followed the same interview guide as to ensure that the interviewees, more or less, were asked the same questions. The interview guide consisted of a list of questions on quite specific topics related to the research question and overall objective of the case study. However, in line with the flexibility of a semi-structured interview, the questions did not follow on exactly the way it was outlined in the schedule. I also asked questions that were not included in the guide as I noticed and followed up on things stated by the different interviewees (Bryman and Bell, 2014). Hence, this increased my possibility of becoming a visible knowledge-producing participant in the process itself, rather than just following a pre-set interview guide (Leavy, 2014). The idea of an interview guide is much less specific than the notion of a structured interview schedule (Bryman and Bell, 2007). However, the interview guide was constructed in line with recommendations provided by Bryman and Bell (2007, p.485) (Appendix 1). The research topics and the objectives were used to formulate the questions in a way that would help me to answer the research question. Lastly, I made sure to prepare before the interviews in line with the ten criteria of a successful interviewer proposed by Kvale (1996) (Appendix 2).

Choice of respondents

In qualitative research, a non-random sampling technique is favoured, as the researchers are guided by their judgment as to who is most likely to provide them with the 'best' information (Kumar, 2011). As I worked as an Intern in Equinor at the time I was conducting the research for this thesis, I was able to identify one key person to interview. Subsequently, I used snowball sampling to identify the next interview objects. Snowball sampling is the process of selecting a sample using networks (Kumar, 2011, p.208; See Appendix 3). This technique allowed me to start with the first interview as the base of the information gathering. I then asked this person to identify other people in the accelerator that could be of great importance to the study. The people selected then became part of the sample. This also gave me the ability to get in touch with interviewees that I did think of at the beginning of the case study research. In qualitative research, the sampling strategy and sample size do not play a substantial role in the selection of a sample. However, if selected carefully, the basis of information gathered from even one individual can be extensively and accurately enough (Kumar 2011). I also had several unstructured and informal conversations with employees in Equinor and the start-ups during events, in the cantina, the elevator, by the coffee machine etc. where I was able to ask them many relevant questions in regard to the research topics. I will elaborate more on this in the section about the participant-observation.

Some of the interviews were carried out face-to-face, and some were conducted online using the computer program 'Skype'. As most of the interviewees wished to be anonymous, the data recorded during the interviews was only in the form of notes. Furthermore, I ensured that no names or personal identification or background information was recorded in the data material (i.e. the notes) when conducting the interviews. They were also informed of the fact that they could retract certain statements, as well as their entire interview, at any time if they wished to do so. Based on my notes and memory I wrote down the interviews the same day they were collected. Since I was conducting the interviews alone, it was important to do this the same day as the interviews was conducted, to make sure that I was able to gather as much data as possible, and thus enhance the data collection. Furthermore, it could have been more beneficial to tape the interviews as this would enable me to go back and confirm certain statements, but this could also have made the participants less willing to be

controversial in their statements when I interviewed them. All the interviews were carried out after the program had ended. In the table below is a complete list over the semi-structured interviews I conducted for this case study:

Table 6: The interview objects

Interviewee	Role in Accelerator	Duration
Interviewee 1 (IN1)	Mentor	60 minutes
Interviewee 2 (IN2)	Mentor	45 minutes
Interviewee 3 (IN3)	Mentor	60 minutes
Interviewee 4 (IN4)	Mentor	40 minutes
Interviewee 5 (IN5)	N/A	60 minutes
Interviewee 6 (IN6)	N/A	60 minutes
Interviewee 7 (IN7)	Accelerator participant	45 minutes
Interviewee 8 (IN8)	Accelerator participant	30 minutes

All the interviews were carried out in the order as stated in table 6. I chose to interview the four mentors, as they would have a high degree of knowledge about the program. I also wanted to know to what degree being a mentor in the accelerator affected their everyday work. Furthermore, I interviewed two employees that did not have a specific role in the accelerator (Noted as (N/A in table 6). This was to see if the accelerator's 'reach' was beyond the employees that actively were part of the program. Furthermore, I wanted to see if geographical proximity played an essential part. Hence, I interviewed mentors and employees that were based on the same floor as the start-ups, as well as a mentor and an employee based on an external Equinor office. My rationale for conducting semi-structured interviews with the start-ups was to get a different point-of-view, and see if they shared the same insights, experiences, meanings etc. as the incumbent firm's employees.

4.3.2 Documentation

In my collection of data, I used documents as a supplement to the primary data. Documents is of particular importance for this type of research as it is a very heterogeneous group of sources (Bryman and Bell, 2015). Yin (2014) argue that, except for studies of preliterate societies, information from documents is likely to be relevant to every topic within the field of case studies. One of the most important uses of documentation in a case study is to confirm and augment evidence gathered from other sources, such as from interviews (Yin, 2014). Some of the documents I used in the research are in the public domain such as program information, administrative documents, formal studies and evaluations of similar cases, news clippings and other articles appearing in the mass media, etc. Furthermore, I have also used an extensive amount of documentation that is not in the public domain in my research, such as administrative documents, e-mails and other personal documents. Due to the overall value, the documents play an explicit role in the data collection for this case study research (Yin, 2014). Furthermore, it is important to note that during my research I have been cautious when reviewing the documents subject for analysis for this thesis, as it is important not to assume that all kinds of documents contain the unmitigated truth (Yin, 2014).

4.3.3 Archival Records

Similar to documentation, archival records can be relevant for many case studies (Yin, 2014). In this thesis I used archival records both from the public and non-public domain, such as organizational charts, external consultancy reports, internal & external correspondence, previously collected survey data, and so on. Because these types of documents can offer at least partial insights into past managerial decisions and actions, they will be a noticeable factor in this case study of the Techstars Energy Accelerator (Bryman and Bell, 2015). Two of the most prominent archival records used in this thesis is a quantitative survey conducted by McKinsey and Co of 7 of the startups in the program, and a survey conducted by Equinor of all the participating mentors.

4.3.4 Direct Observations

As the case study of the Techstars Energy Accelerator took place in the real world, I was able to use direct observations as a source of evidence in my research. Direct observations can give some relevant information about environmental and/or social conditions that might be of relevance for my case study (Yin, 2014). In my research, I tried to assess the occurrence of particular behaviour before, during and after the accelerator program. Due to my position as an 'Intern' in Corporate Innovation in Equinor at the time of the study, I was based on the same floor as the ten start-ups. E.g. this gave me the opportunity observe the interactions, or the lack of them, between the entrepreneurs and the employees in Equinor. Yin (2014) argue that evidence gathered from direct observations can be useful in providing supplementary information about the topic being researched, as it can add new dimensions for understanding either the phenomenon or the context being studied. It is important to note that one factor that might decrease the reliability of the direct observations in this case study, is that I was the only one collecting case study data through observations. Yin (2014) argues that when resources permit, multiple observers should conduct the data collection as to increase the reliability. When referring to direct observations conducted by the author, I will use the abbreviation 'DObs.' in this thesis. Furthermore, I ensured that no names or personal identification or background information was recorded in the data material (i.e. the notes) when conducting the direct observations.

4.3.5 Participant-Observation

Another observation method that will be a noticeable factor in my research is the participant-observations. This is a particular type of observation in which the researcher assumes a variety of different roles within a fieldwork situation (Yin, 2014). The participant-observation mode has been widely used in the anthropological studies but can also be used in a variety of everyday settings, such as in large organizations like Equinor (Yin, 2014). In contrast to evidence sources such as documents, archival records, and interviews, participant-observations does not assume a passive researcher. Participant-observation allows me to perceive the reality from the viewpoint of someone "inside" the accelerator program rather than external to it (Yin, 2014). Many have argued that this perspective is invaluable when trying to produce an accurate picture of a

case study phenomenon (Yin, 2014). Due to my job as an intern in Equinor at the time, I was able to collect data from participant-observation through a vast amount of various informal and formal meetings, events, presentations, and everyday interactions between the startups and employees in Equinor. Yin (2014; see also Becker, 1958) argue that there are mainly four challenges related to participant-observation;

1. *"The researcher has less ability to work as an external observer and may, at times, have to assume positions or advocacy roles contrary to the interests of good social science practice.*
2. *The participant-observer is likely to follow a commonly known phenomenon and become a supporter of the group or organization being studied, if such support did not previously exist.*
3. *The participant role may simply require too much attention relative to the observer role. Thus, the participant-observer may not have sufficient time to take notes or to raise questions about events from different perspectives, as a good observer might.*
4. *If the organization or social group being studied is physically dispersed, the participant-observer may find it difficult to be at the right place at the right time, either to participate in or to observe important events"* (p.117).

Since I made sure to be aware of these four challenges before undertaking my participant-observation fieldwork, I argue that the participant-observations were the right approach for this case study as I was able to gather an extensive amount of invaluable data. When referring to participant-observations conducted by the author, I will use the abbreviation 'PObs.' in this thesis. Lastly, I ensured that no names or personal identification or background information was recorded in the data material (i.e. the notes) when conducting the participant-observations.

In table 7 below, I have outlined the different participant-observation I conducted in my research:

Table 7: Overview of observations

What	Who	Where[6]	When
Presentation of Techstars and the ten startups	Techstars and Equinor employees	Auditorium	23.08.2018
Informal conversation	Equinor employees	Outside auditorium	23.08.2018
Informal conversation	Techstars employee	Outside auditorium	23.08.2018
Informal conversation	Equinor employee	Elevator	23.08.2018
Informal conversation	Equinor employee	Offices at the D5-floor	10.09.2018
Informal conversation	Startup employee	Cantina	16.09.2018
Informal conversation	Startup employee	Cantina	21.09.2018
'Powerlunch'[7]	Startup employees	Pitching stage in D5-floor	25.10.2018
Informal conversation	Startup employee	Pitching stage in D5-floor	25.10.2018
Meeting	Startup employees with Mentor from Equinor	Meeting room D5-floor	26.10.2018
'Powerlunch'	Startup employees	Pitching stage in D5-floor	01.11.2018
Meeting	Equinor employees	Innovation Workspace in D5-floor	10.11.2018
'Powerlunch'	Startup employees	Pitching stage in D5-floor	15.11.2018
Demo-day	Startup employees	Auditorium	06.12.2018
Informal conversation	Equinor employee	Outside auditorium	06.12.2018
Informal conversation	Techstars employee	Outside auditorium	06.12.2018
Informal conversation	Startup employee	Outside auditorium	06.12.2018
Mentor meeting:	Equinor employees	Innovation Workspace in D5-floor	15.12.2018
Mentor meeting:	Equinor employees	Innovation Workspace in D5-floor	29.03.2019

---

[6] All participant-observations took place at Equinor's offices at Fornebu. The list is specified where in the offices it took place

[7] Powerlunch: Two or three of the startups pitched their idea for Equinor employees in the Pitching area on the D5-floor.

4.4 Data analysis process

In this thesis I have chosen to use a conceptual framework through which I will use as a lens to explore my research question. A conceptual framework is defined as *"... a network, or "a plane", of interlinked concepts that together provide a comprehensive understanding of a phenomenon or phenomena"* (Jabareen, 2009, p.51). Furthermore, a conceptual framework does not provide a causal/analytical setting, but rather an interpretative approach to social reality (Jabareen, 2009). Further, Mishler (1990, p.431) argue that *"... qualitative studies ultimately aim to describe and explain a pattern of relationships, which can only be done with a set of conceptually specified categories"*. Hence, the conceptual framework suits this qualitative case study as I aim to provide an understanding of corporate accelerators, rather than to offer a theoretical explanation of it, such as quantitative models do (Jabareen, 2009). Further, Levering (2002, p.38) argue that the conceptual framework provides knowledge based on *"soft interpretation of intentions"*, rather than being based on hard facts. Hence, it does not enable me to predict an outcome, as conceptual frameworks are indeterminists in nature (i.e. that all events cannot be wholly determined by antecedent causes) (Jabareen, 2009). However, this is in line with the objective of this case study, as I focus on extensively exploring and understanding, rather than confirming and quantifying (Kumar, 2011).

5 Presentation of the case study

In this section I will introduce the companies Equinor and Techstars, as well as the 'Techstars Energy Accelerator in Partnership with Equinor' and the ten start-ups that enrolled in the program. This is to give the reader a good background information as a foundation for the analysis, as well as being important for researchers that want to conduct future research on corporate accelerators in general.

5.1 Techstars

In November of 2006, David Cohen, David Brown, Brad Feld and Jared Polis founded the seed accelerator 'Techstars', hoping to help entrepreneurs scale their businesses (Techstars, 2019a). The following summer they hosted their first accelerator program, where ten startups gave 5% of their equity in exchange for $15.000, operational support, office space and mentoring (Arrington, 2007). Today, Techstars operates several different divisions with different objectives: Techstars Startup Programs, Techstars Mentorship-Driven Accelerator Programs, and the Techstars Venture Capital Fund (Techstars, 2019; Venables, 2019). In this thesis, however, I will focus solely on the accelerator programs that Techstars offers.

To date, a total of 1599 start-ups have gone through one of the 43 accelerator programs that Techstars offer around the world (Techstars, 2019b; Techstars, 2019c). Techstars typically accepts technology-oriented companies, such as web-based or other software companies, which have a national or worldwide reach (Techstars, 2019d). An impressive 87% of all the companies since 2007 are still active or been acquired and combined they have received $6,2 billion and have a combined market cap of $17.7 billion. Every start-up that gets enrolled in one of the accelerator programs is offered the standard Techstars deal, which is a $120,000 in funding upon acceptance (Venables, 2019). $100.000 is a convertible note, whereas the remaining $20.000 is contributed by Techstars and most commonly used as a stipend to support the living expenses for the start-up during the program (Techstars, 2019d). In return, Techstars receive 6% equity of the start-up (on a fully diluted basis, issued as a common stock) until the start-up raises a priced equity financing of US $250.000 or more (Techstars, 2019d). In addition,

Techstars state that the start-ups also receive these benefits when joining an accelerator program (Techstars, 2019d):

- *"Access to Techstars resources for life*
- *Acceleration in a 90-day Techstars mentor-based Accelerator program with personal mentorship and office space to accelerate your business*
- *Lifetime access to the Techstars worldwide network of entrepreneurs including more than 10.000 mentors, 2700 investors, 1200 alumni companies and 180 staff members.*
- *Access to over $300.000 of cash equivalent hosting, accounting and, legal support – plus other credits and perks worth more than $1.000.000.*
- *Demo Day exposure and other investor connections"*

Lastly, according to Techstars they are the only one of its kind within the industry that offers the participating company an 'equity back guarantee' if they are dissatisfied with their experience in the Techstars program (Techstars, 2019d).

5.2 Equinor

Equinor was formed in 1972 as the Norwegian State Oil Company, Statoil, and in 1974 the Statfjord field was discovered in the North Sea. The Statfjord field commenced production in 1979, and two years later Equinor was the first Norwegian company to be granted operator responsibility for a field in the North Sea (i.e. Gullfaks) (Equinor, 2019a). Throughout the 1980's and 1990's, the company continued to grow as a result of substantial investments in the development of large fields on the Norwegian Continental Shelf (NCS) and internationally (Equinor, 2019a). The company were listed on the New York and Oslo Stock Exchanges in 2001, and expanded to markets in countries such as Algeria, Azerbaijan, the Gulf of Mexico, Nigeria and Angola the same year (Equinor, 2019a). Six years later, Equinor merged with Hydro's oil and gas division, making them the largest offshore operator in the world (Equinor, 2019a).

Today, Equinor is an international energy company with over 20.000 employees present in more than 30 countries worldwide, including several of the world's most important oil and provinces (Equinor, 2019b). Despite changing their name from Statoil to

Equinor in 2018, the company still sells crude oil and are a major supplier of natural gas, with activities in processing, refining and trading. However, they state that the name change was important to show that they are now also investing actively in new energy, such as offshore wind and solar energy (Equinor, 2019a). Further, they state that this is important for the company in order to *"… expand energy production, strengthen energy security and combat adverse climate change"* (Equinor, 2019a).

Table 8: Overview of some quick facts about Equinor (Equinor, 2019b):

President and CEO	Eldar Sætre (Since October 2014)
Head office	Stavanger, Norway
Norwegian state ownership	67%
Total revenues (2018)	79,593 USD million
Total assets (2018)	112,508 USD million
Equity oil and gas production/day (2018)	2.11 million boe[8]
Renewable power generation (2018)	1.25 TWh

5.3 Case study: The Techstars Energy Accelerator in partnership with Equinor

The 19th of February of 2018, Techstars announced the opening of the applications for the first Nordic accelerator program:" Techstars Energy Accelerator in Partnership with Equinor"[9] (Techstars, 2019e). The Techstars Energy program wanted to invest in companies that developed energy platforms for the future, and thus roamed the world looking for start-ups that were working on scalable solutions within four broad areas (Techstars, 2019e; Techstars, 2019g):

- **Oil and gas technologies:** "*Getting hydrocarbons out of the ground more efficiently with less environmental impact*

---

[8] Boe: Barrel of oil equivalent (See https://www.investopedia.com/terms/b/boed.asp) for more information)

[9] The program was first released as 'Techstars Energy Accelerator in Partnership with Statoil', but subsequently changed the name of the program when Statoil changed name to Equinor.

- **New business models:** *Technology that can help build energy platforms for the future*
- **Digitalization:** *Enabling technology that makes an energy company more efficient and enables new ways of working*
- **Renewables:** *I.e. Wind power, battery and storage solutions, distributed power, energy efficiency solutions etc."*

The 10th of September the program was kick-offed and the Techstars class 148 was welcomed at the Equinor offices in Oslo, Norway (Techstars, 2019f). For three months the ten start-ups would sit shoulder to shoulder with Equinor employees, before the program commenced with a demo-day on December 6th. In addition to being able to tap into a global network of experts from Techstars and Equinor, the ten start-ups that were accepted to the program also got access to the partnering companies Kongsberg and McKinsey & Company (Venables, 2019).

Furthermore, the Techstars energy accelerator program was divided into three phases; mentorship, traction, and storytelling. The first phase, mentorship, was during the first month of the program. In the mentorship-phase the start-ups went through what was later nicknamed the 'mentor-madness'; all the start-ups met 100+ mentors from Equinor, Techstars, Kongsberg and McKinsey & company, to listen to their expertise and experience (Techstars, 2019h). Furthermore, and maybe most importantly, the goal was also to identify lead mentor(s) that could provide the start-ups with help and guidance throughout the program phases (and possibly after the end of the program). Secondly, the second month of the program (week 5-8) the traction phase was kicked off. In this phase it was all about building traction and partnerships (Techstars, 2019h). With the help of Techstars and the mentors, the start-ups identified people within the networks of Equinor, Kongsberg or McKinsey & company that could help them get their business growing (Techstars, 2019h). In this phase some of the key points is rapid iteration, exploring pilots in partner organizations, and access other parts of the corporate partner (Techstars, 2019h). Lastly, during the last month of the program the start-ups moved into the storytelling phase. In this phase it was all about getting the start-ups ready to tell their company's story, and thus be prepared to present on demo-day. A brief overview over the ten start-ups enrolled in the Techstars Energy

Accelerator can be found in table 9. The ten start-ups raised a total funding of $13,270,000 (Techstars, 2019j), and on demo day the 6th of December, 8 of the start-ups could proudly announce that they were exploring potential solutions with external the partners, whereas six of them were with Equinor (Techstars, 2019i)[10]:

Ampaire:

Ampaire received introductions to some of the most influential leaders in aviation in Norway most influential leaders in aviation and intends to fly commercial electric planes on Norway's lifeline routes. Furthermore, as a result of the Techstars Energy accelerator program, they are working on a number of potential partnerships (Techstars, 2019k).

Crux OCM

On demo day Crux OCM announced they had contracted with Equinor's LNG facility in Hammerfest for an initial installation of Crux OCM software. In addition, they also announced that they would develop Crux's application for offshore platforms in partnership with Kongsberg Digital (Techstars, 2019k).

DeepStream

During the Techstars Energy Accelerator, DeepStream contracted with Aker Energy to be their end to end supply chain solution (Techstars, 2019k).

Interface fluids

The start-up completed a project with Equinor's R&D Group and signed a commitment for fluid testing with Equinor, which is co-funded by the Equinor Technology Ventures (ETV) LOOP Program. Furthermore, they also received interest from the Equinor Norwegian Continental Shelf Southern Operating Group to build toward running tests on offshore platforms (Techstars, 2019k).

Opus 12

During the three months, Opus 12 was able to establish relationships across the Equinor organization and visit specific assets where their technology potentially could be

---

[10] Techstars Energy Demo Day 2018 can also be viewed in its entirety by following this link (27.05.2019): https://youtu.be/pSe5fOKiiEk

deployed to recycle CO2 emissions. With continued success, the start-up announced that they could envision opening an *Opus 12 AS* in Norway to deploy projects there (Techstars, 2019k).

RatedPower

RatedPower have sold annual subscriptions of their software pvDesign to both Equinor and Scatec Solar. Furthermore, Rated Power is also trying to close a pilot project with Equinor (Techstars, 2019k).

SafEx

During the three months, SafEx was able to secure partnerships with both Kongsberg and DNV-GL (Techstars, 2019k).

Sensytec

Sensytec has together with Kongsberg Digital, received commitments from Equinor U.S onshore to pilot Sensytec's 'Smart Cement' in 2019. Furthermore, they also have commitments form AF Gruppen to perform a commercial pilot in 2019 (Techstars, 2019k).

Versor

Versor was able to hit all of its milestones for the year: finishing their minimum viable product (MVP), doing a live demo and closing their pre-seed round. The next step for Versor is to test the "future vision" of drones already before summer 2019 (Techstars, 2019k).

Voyager

Voyager was able to get an agreement in place with the digital supply chain team in Equinor. The plan is to start scoping pilot opportunities together. Furthermore, they will also explore opportunities in digitalizing the maritime value chain together with Kongsberg Digital (Techstars, 2019k).

Company name	Description	Traction and Milestones	Active
Ampaire	Ampaire is making flying accessible to more people from more airports by building electric aircraft that are greener, quieter, and less costly to operate.	• Raised $3.75M • Has letters of interest from eight airlines (150 aircrafts) • Named the top aerospace start-up at the 'Hello Tomorrow Global Summit'.	✓
Crux OCM	Crux OCM utilizes AI and real-time optimization to enable autonomous operation of pipelines, reducing the risk of operation and increasing volumetric throughput up to 4%.	• Winner of the Energy New Ventures Pitch competition, Canada 2018 • In discussion for initial trials with three Canadian Midstream companies • Both founders bring deep domain experience in pipeline operations	✓
DeepStream	A secure cloud-based procurement network for buyers and suppliers of equipment and services, particularly in the oil and gas and energy infrastructure markets.	• 160 active companies and 244 active users • Already started generating revenue • ~$50MM of tender value traded in July and August 2018	✓
Interface Fluidics	Interface Fluidics' proprietary nanofluidic platform provides rapid lab testing that empowers the energy industry to understand how their chemicals perform, 100x faster	• Raised $1M • Gross Sales > $1MM un under 2 years • 2017 – Alberta's Top Technology Start-up as selected by the A100 and ASTech "Outstanding Technology Start-up"	✓
Opus 12	Converting CO2 into fuel and valuable products. The technology will have the CO2 converting power of 37.000 trees, but in the volume of a suitcase.	• Funding Awards: U.S. DOE, NASA, NSF, CEC • Rolling Stone's 25 People Shaping the Next 50 Years • MIT Innovators Under 35 • Forbes 30 Under 30, Energy	✓

Table 9: Overview of the ten start-ups

RatedPower	RatedPower provides pvDesign, a cloud-based software to design large-scale solar power plants worldwide in just a few minutes.	• 20+ big corporation customers in 1,5 years • pvDesign is used in 50+ countries • Named as one of the world top energy innovators by the World Energy Council and German Energy Agency	✓
SafEx	SafeEx's software digitizes inspection and maintenance, which saves their customers 25-40% on manpower.	• $1M in revenue • 20+ global oil and gas customers	✓
Sensytec	Sensytec has developed Smart Cement™, a technology to help oil and gas operators enhance cement integrity by monitoring cement conditions in real time through the lifetime of an oil well.	• Received $2.5M research grant from U.S Department of Energy • Won 5 Global Business Plan Competitions and raised over 100K dollars • Received $50K National Science Foundation I-Corp grant funding	✓
Versor	Versor makes drone autonomy software for end-to-end infrastructure inspections, enabling AI-driven data capture and automatic fault detection across industrial applications.	• Executed a fully autonomous mapping mission in a GPS-denied environment in March (MVP) • Helped demonstrate an end-to-end fully autonomous power line inspection in April (Live Demo)	✓
Voyager	Voyager is a cloud-based data hub helping the commodity shipping industry enhance decision making, automate processes and connect systems.	• Raised $300K in seed funding, grants and awards • Currently piloting with leading companies in target sector • 30+ companies in pipeline with five late stage	✓

Source: *(Techstars, 2019k)*

6 Empirical findings

In this chapter of the paper I will present the empirical findings from my semi-structured interviews, participant-observations, direct observations, as well as data gathered through secondary documents and archival records (see section 3.3 for further information on sources of evidence). I will present my empirical findings in light of the conceptual framework presented in chapter 4.

6.1 Geographical proximity

In my literature review I found that accelerators, and thus corporate accelerators as they are a subdivision of accelerators, are located for the most part *on-site*. However, in my opinion there are still some unanswered questions in regard to this; how does a multi-location company choose which location/city/office that should host the corporate accelerator, and what does on-site actually mean? For some corporate accelerators, companies like Techstars have their own offices they rent out, whereas other accelerators chose to have the start-ups sit in the offices of the sponsoring firm.

So why was Oslo chosen as the location to host the Techstars Energy accelerator program? One could argue that having the accelerator at Equinor's offices in Oslo was not the most obvious choice, at least looking from the outside. They could have chosen to run the accelerator in their offices in locations such as (Dobs, 2019):

- **Stavanger, Norway:** Equinor has their headquarters in Stavanger, and it could thus be the obvious choice. Furthermore, the density of experts, partners, stakeholders, suppliers etc. within the oil and gas sector are quite high in Stavanger.

- **Houston, US:** Has a well-established environment for startups within the energy sector. Six of the start-ups in the Techstars Energy Accelerator were also based in North America. The entrepreneurial culture is arguably stronger in the US compared to Norway.

- **London, UK:** Half of the Corporate Innovation team in Equinor is based out of London. Furthermore, the city has a big and established start-up environment. It is 'closer' to a lot of the potential energy markets.

However, in my interview with interviewee 1 it became clear that one of the reasons for choosing Oslo was that it was people dependent;

> *"The CEO of Techstars Energy accelerator, Audun Abelsnes, was based in Oslo, so if we had chosen a different location, Techstars would have had to find a different person to run it"* (IN1, 2019).

Furthermore, a lot of the key stakeholders in Equinor, such as Ragnhild Ulvik, the Vice President of Corporate Innovation, and Jens Festervoll, the corporate liaison between the start-ups and Equinor, were also based in Oslo (IN2, 2019). The second reason for why Equinor chose to have the accelerator run in Oslo, was because of its entrepreneurial eco-system within the energy sector:

> *"If you are going to do something like this in Norway, which was sort of the point, then Oslo is the place to do it. Stavanger might have a lot of expertise on oil and gas, but in Oslo you have a bigger start-up, entrepreneurial, and venture ecosystem within the energy sector, and that's why Oslo was the right place to host it"* (IN1, 2019).

In the case of Techstars Energy Accelerator, they chose to have the start-ups sit at the Equinor's office in Fornebu at the D5-floor. In my interview with IN1 (2019) it became clear that it was a continuous dialogue between Equinor and Techstars whether they should host the accelerator in Equinor's offices, or if the start-ups should be located at a separate location in Oslo. For Equinor it was important to have the start-ups located at Fornebu to get the most out of the program:

> *"Techstars was a bit reluctant to have them sit at our (editor's note: Equinor's.) offices at Fornebu, because they weren't sure if any start-ups would come out to a, to be fair, quite remote location like it is. However, we were convinced that to get the most out of the accelerator program, we needed to have the start-ups in-house"* (IN1, 2019).

When Techstars saw the office space that Equinor could offer the start-ups they agreed to have them sit at Fornebu (IN, 2019). Furthermore, in my direct observations I saw that the start-ups spent a lot of time at Fornebu, which can indicate that they were more

than satisfied with the offices. This could, however, also be a result of the extreme workload the start-ups are conducting during the limited duration of the program. However, it became evident in the literature review in this thesis that proximity to the start-ups is important to the incumbent firms. By immersing themselves in the start-up ecosystem the incumbent firm may gain insight into emerging business models and technologies they would not gain otherwise. In the survey conducted by Equinor on the mentors' experience, one of the mentors stated that the key learning from the having Techstars Energy at Fornebu was that *"geographical location matters"*. In my interview with IN1 and IN2 it was further supported that the geographical proximity between the start-ups and the employees in Equinor was crucial for the success of the accelerator program:

> *"I think it was really important for us to have the accelerator in-house as it lowered the barrier for people to engage with the start-ups"* (IN1, 2019)

> *"If the start-ups had been sitting in at a separate location, we would never have been able to achieve the things we did during the program. It was crucial to have them sitting in our offices as it provided the start-ups with a unique access to our employees. We were able to get a lot of employees in Equinor to attend the power lunches, to conduct meetings with the leaders in Equinor, and all the other interactions and events that happened during the program"* (IN2, 2019*).*

Furthermore, having the start-ups so close opened up the opportunity for the mentors to engage with the start-ups on a regular basis. In my interview with interviewee 4 the geographical proximity to the start-ups were identified as key for the mentor's ability to learn from the start-ups:

> *"I think it was important for the mentors, at least it was for me, to just be around the start-ups. We had formal meetings, I attended the PowerLunches, as well as other events that happened during the program. However, the most impactful for me, and when I learned the most during the program, was just being around them in D5. This would be much more difficult if they were based at a different location"*

6.1.1 Sense of ownership

Furthermore, it was important for Equinor to have the start-ups sit in the offices in order to give a sense of ownership of the program. Equinor sponsor a lot of innovation activities, such as Oslo Innovation Lab, without anyone taking advantage of it (PObs, 2019). Hence by having them in-house it gave the sense of being more integrated as a part of Equinor, and something that the employees should be engaging in. As IN1 (2019) stated:

> "If the start-ups had been sitting in an office located in the city centre of Oslo, it would be much easier for e.g. McKinsey & company to be there, compared to Equinor. Hence, having the start-ups sit at Fornebu gave Equinor a sense of ownership of the accelerator program"

Interviewee 2 further stated that:

> "I think it was very important to have the start-ups in-house to create a sense of ownership. We are a very project focused company. Everything has to be a project, or an activity within a limited timeframe. By having the start-ups in-house, it thus became a lot 'closer' to what we do as a company".

Although it was critical for the success of the accelerator, having the start-ups in Equinor's offices is not as uncomplicated as it might seem. Similar to other companies, Equinor have a lot of different departments that work with very sensitive information on a daily basis. Hence, it was important for Equinor to make sure that none of these departments were sitting at the same floor as the start-ups when they chose to have the start-ups in-house at Fornebu. Since Corporate Innovation was the department in Equinor that initiated the accelerator together with Techstars, it was important for them to sit close to the start-ups during the program. The corporate innovation team was previously located at the D6-floor but moved to D5 for two main reasons: Firstly, D5 had enough space to have Equinor's corporate innovation team, as well all the startups sitting together. Secondly, they needed to have the start-ups sitting together with Equinor employees that could have externals on the same floor (IN2, 2019). Hence, they ended up hosting it at D5 where there were departments that was used to working with externals, such as Corporate Innovation, Digital Centre of Excellence and Equinor Technology Venture. Furthermore, the corporate innovation team had very little funding

(IN3, 2019) to change up the offices before the start-ups moved in, but they did however manage to create a 'pitching stage' in D5. The pitching stage area consisted of a tribune for +/- 45 people as well as a big presentation screen. During the program, all employees in Equinor were invited to this area to listen to the start-ups presenting their companies at the (i.e. 'Powerlunches'). Employees from McKinsey & Company, Kongsberg, and other interested stakeholders also attended the different 'Powerlunches' (DObs, 2019). This was a great opportunity for the start-ups to showcase themselves, as well as train for the big demo day.

Although the start-ups were sitting in the same building as the employees in Equinor, they still were relatively secluded. As I had my desk by the entrance to the D5-floor I had the opportunity to observe if employees walked into the offices of the start-ups. Not counting the mentors, employees working in D5, or people coming in to attend the power lunches, I seldom observed additional employees coming in to interact with the start-ups (Dobs, 2019). Occasionally some employees would come in, but by observing their behaviour I notice that they were more interested in just peeking their heads in to get a glimpse of the office space and the employees in the start-ups, rather than actually interacting with the start-ups. Hence, it could be argued that the start-ups should be located at a more available location in the office at Fornebu, in order to facilitate more frequent interactions, and thus more knowledge spillovers. However, in my interview with interviewee 1 it became clear that this could hinder the start-ups progress:

> *"I don't think it is beneficial to put the start-ups more on display than they were this year. It's not a zoo where our employees can come and look at them, the start-ups are actual business, and they work 24/7. But there is a balance there. So, I think it is better that employees are engaging with the start-ups as mentors, or as some sort of contributor after the program"* (IN1, 2019).

Furthermore, one of the mentors suggested that to increase the interactions between the employees in Equinor and the start-ups, a possible solution is to find even more arenas or locations where the employees in Equinor feel that they are *"more welcome"* (IN2, 2019). Interviewee 2 further stated that:

> *"I think that, at least before the powerlunches started, it was a distance between the employees and the start-ups. I think it is important to not underestimate how*

"scary" it can be for many of the employees to engage with the start-ups. I think it's because they are so different, and different can be scary".

6.1.2 Rejuvenating the corporate culture

As stated in the literature review (see section 2.3.3), scholars argue that one of the effects with a corporate accelerator is that the incumbent firms' corporate culture may get rejuvenated as a result of working closely with start-ups. Some argue that it is in fact the most prominent effect of a corporate accelerator. Building further on the importance of having the start-ups in-house at their offices in Equinor, IN3 (2019) stated that:

> *"Having the start-ups at Fornebu created a buzz within the company. Not just for the mentors or other people that were directly involved in the program, but also for the "other" employees as well. It was something different happening, and people noticed the people wearing green lanyards[11]"*.

Hence, in line with the theory, being exposed to the start-ups, their energy and the entrepreneurial spirit and mind-set rubbed off on the employees in Equinor. This became further evident in my direct observations of the cultural shift after the program ended. Before the program, meetings and presentations in Equinor was for the most part conducted in different closed meeting rooms. As a result of building the previously mentioned pitching stage area and inviting all employees to the 'PowerLunches', the employees in Equinor were exposed to a different way of conducting meetings, presenting projects, and pitching their ideas. Hence, the power lunches seem to be the activity during the program that had the biggest effect on the employees that did not have a formal role in the program. Almost every 'PowerLunch' was completely full, with approximately 50-60 people every time (PObs, 2019). By being exposed to the how the start-ups used the pitching area, employees in Equinor started to do the same:

> *" I noticed that a lot of people I met during the different powerlunches, later booked the pitching stage themselves to conduct workshops, team meetings etc. themselves. They were triggered by the fact that the start-ups worked differently, and that is kind of cool"* (IN7, 2019).

---

[11] All employees in Equinor wear black lanyards. The startups wore 'Techstars' green lanyards (DObs, 2019)

And the geographical proximity was the critical factor for why so many employees attended the powerlunches:

> *"If the start-ups had been sitting in a separate location, such as Oslo Innovation Lab at Forskningsparken, none of the employees in Equinor would attend the powerlunches. Maybe some would attend maximum one of them if the start-ups that presented was very close to their interest"* (IN1, 2019).

So although the pitching area was intended for the start-ups a lot of the employees in Equinor started to use the area to conduct team meetings, internal and external project presentations, as well as using it for pitching training for the internal ideas as part of their internal Equinor Intrapreneurship Program (further referred to as EIP) (DObs, 2019). The EIP itself was also heavily influenced by the corporate accelerator (IN2, 2019):

> *"By engaging Techstars for the corporate accelerator, it opened up the possibility to use them for the EIP. Techstars know how to run an effective accelerator, which we applied to our own intrapreneurship program. Techstars also provided us with some mentors that followed the different internal ideas during the course of the program. For example, they taught the different teams a lot about how to pitch their ideas to a board of possible investors, which in this case was different executive vice presidents and other leaders in Equinor"* (IN2, 2019).

Hence, by involving themselves in a corporate accelerator, Equinor got access to key personnel in Techstars that helped them develop and carry out their own internal accelerator program in the best possible manner. Over 250 employees from Equinor offices in London, Oslo, Trondheim, Bergen, Stavanger and Houston were a part of the program (PObs, 2019), which can prove to give the company a lot of different benefits. Equinor thus accomplished to gather a wide range of the most creative and innovative people across the whole company. Just by having them in the same room, collaborating on different tasks, giving each other feedback on their ideas and so on, can prove to be of immense value for Equinor as this can inspire further innovative thinking. Hence, in line with theory (see section 2.3.3), these people could be identified as the change agents in the company, and if actively used they can further help to shift the corporate

culture in Equinor to be more innovative and agile. In line with the theory, having a corporate accelerator combined with the intrapreneurship program sends a strong signal to the internal work staff and external partners that Equinor is taking innovation seriously.

6.2 New partnerships

As stated in the literature review, engaging in a corporate accelerator can open up for more collaborations and partnerships. One of the reasons for why Equinor chose to run this accelerator, besides being one of the best in the world to do so, was the fact that Equinor wanted to improve their ability to work with partners (IN1, 2019);

> *"I think one thing that we need to be better at as a company, is partnership with externals. By having this huge project in partnership with Techstars, Kongsberg and Mckinsey & Company, we send a signal that we are capable of doing something in partnership with other potential partners as well"* (IN1, 2019).

Hence, the Techstars Energy accelerator can further open up for the possibility of Equinor to increase their collaborations with externals, which is in line with the open innovation approach. As IN2 (2019) stated: *"Working with externals is a key part of our innovation efforts"*.

6.3 Mentors as gatekeepers

In the literature on absorptive capacity, gatekeepers are identified as key for a company's ability to absorb new knowledge. Furthermore, the role of a gatekeeper becomes even more important when the expertise of most of the employees in the incumbent firm differ from the start-ups. Choosing the right mentors can thus be crucial as it can have a great effect on Equinor's absorptive capacity. In the Techstars Energy accelerator, the CEO of Techstars Energy, Audun Abelsnes had the responsibility for gathering the external mentors from partners such as Kongsberg (IN1, 2019). For Equinor, HR nominated some internal leaders they thought could be a good fit for the start-ups, as well as serving as a beneficial training for the leaders. The leaders nominated by HR *"... proved to be fantastic mentors"* (IN1, 2019). However, the

internal mentors were for the most part, approximately 2/3, identified and picked out by the corporate liaison Jens Festervoll (IN1, 2019). In my interview with IN2 (2019) it became evident that the mentors were picked on the basis of their seniority and their mindset towards innovation:

> *"The mentors in the program was a group of quite senior leaders in the company, I think the mentors that were chosen by Jens Festervoll was the employees and leaders in Equinor that already have started the "journey" on having a more creative and innovative mindset"* (IN2, 2019).

Hence, since a lot of the mentors was senior leaders in Equinor, it can be argued that the mentors (i.e. the gatekeepers) that were chosen for the Techstars Energy accelerator had a wide arrange of knowledge, making them able to absorb an extensive part of the knowledge they were exposed to during the program. The mentors also received training from Techstars prior to the program in order to increase their mentoring capabilities. The mentors were educated on topics such as the importance of networking, guidance on how to introduce companies in an effective manner, and examples of issues that can come along the way and how to address those issues. Approximately 80% of the mentors that attended the mentor training found it to be informative and interesting, whereas the remaining 20% of those who attended were neutral. Furthermore, over 90% of the mentors found the training to be valuable as a preparation for the engagements they had during the accelerator program (Equinor Survey, 2019).

6.3.1 Learning and changing

In the survey conducted by Equinor, the mentors answered questions on what their key learning from being a mentor was. Some of the mentors focused on the different organizational clock speeds, and stated such as:

> *"We can learn from their fast pace"*

> *"Drive and speed of progress was impressive"*

> *"We are sometimes too slow on our response (especially when we engage other parts of the organization"*

This was also supported in my interview with interviewee 4, which stated that:

"It may be quite obvious, but the start-ups work in very different timelines compared to Equinor, and this is fundamental for the approach the start-ups take and the differences we see in the corporate life in Equinor, or most of other large corporations"

Other mentors focused more on the learning they did by being exposed to how start-ups are running their business and using technology:

"Commercial support could be provided earlier"

"We need more risk willingness to embrace new ideas"

"An understanding of market and business from start is important (This is missing in our internal projects"

"Interesting to learn new technology and technology development"

This was further supported in my interview with interviewee 4, which stated that:

""The key point for me, and where I learned a lot from start-ups, was their thinking around the commercial edge of their companies. They are really driven by understanding where the value is, what is the scale of it, and how fast can they get into it. This clear commercial focus was the key learning for me".

Furthermore, working closely with the start-ups through the Techstars Energy Accelerator was for some of the mentors an eye-opener in regard to Equinor's innovation efforts and how they source knowledge for it. Hence, they stated that their key learning from being a mentor in the accelerator program was that:

"We have a long way to go on innovation"

"Learnt how innovation works in practice"

"Diversity of input from a wide range of sources is key"

Furthermore, the 'mentor madness' was a way to ensure that the right mentors were paired with the right start-ups, and vice versa (IN2, 2019). A good indication of the success of the selection of mentors and pairing them with the start-ups (i.e. the mentor

madness), becomes evident in the survey of the mentors conducted by Equinor; as much as 80% of the mentors answered that they will change the way they work and conduct leadership as a result of working closely with the start-ups. A lot of the ways the mentors will change how they work, and lead is related to project management, and thus for instance working more agile. The mentors stated that they would:

"Continue having prototypes and pilots before investing big"

"Don't seek perfection all of the time. It takes too long and nothing lasts for eternity anyway"

"Being able to take on smaller projects faster and not having all the answers at hand. Something we struggle with, but need to tackle if we are to replicate this model"

"Apply digital technologies at scale, and be much more aware of when to make or buy software"

"Introduce the incubator – mentor madness concept to development-, innovation-, and R&D-projects"

"Become more aware of our own processes and how they can hinder development and innovation"

These finding was further supported in my interviews with the mentors, as they all stated that they would take decisions faster, try and fail more often, and in general *"stick their heads out more"* (IN4, 2019). Further, one of the mentors I interviewed also stated that:

"After working as a mentor, I have learned that it can be beneficial to look outside the company when looking for solutions to my problems. We have a lot of smart people that work in Equinor, but not all smart people are employed here" (IN2, 2019).

Hence, to have a group of senior leaders in the company stating they will change how they lead their employees, as well as how they work on a daily basis, can prove to be of immense importance for Equinor's innovation efforts moving forward. These

gatekeepers could thus be the change agents that Equinor need to be more innovative in the future.

6.3.2 Not a clear strategy

In my interviews with the mentors I asked them if they thought that it was a clear strategy from Equinor to use the mentors as gatekeepers during the program, and as one of them stated that:

> *"I don't think it was a clear strategy from Equinor's side to use us (i.e. the mentors) as a way of gathering knowledge. In fact, our mandate was to give first, meaning that we should share all our knowledge, ideas, and expertise, but not expect anything back from the start-ups"* (IN2, 2019).

Furthermore, one of the interviewee's identified clarity around the roles as a potential improvement in the briefing of the mentors before the program starts:

> *"I don't think it was a clear strategy on us (editor's note: mentors) gathering knowledge, but it was great that it happened. However, I think that for next time the briefing of the mentors should include some sort of information about what kind of roles we can take as mentors. For instance, should we be mentors looking from the customer side, or are we mentoring on their leadership abilities? I think making this clearer, can enhance the mentor's ability to both help the start-ups, and also to gather more valuable knowledge for Equinor"* (IN2, 2019).

Furthermore, to get a different perspective than from the mentors themselves, it can be useful to see what the start-ups thought of the work that the mentors did. Their perception of the work done by the mentors, i.e. their ability to help the start-ups, says something about their accumulative knowledge. As their ability to help will be closely linked to prior knowledge base. In the survey conducted by McKinsey & Company (2019), the start-ups were asked what the best part of working with Equinor was, and the replies from some of the start-ups were related to their expertise and mentors:

> *"Their expertise in the industry and willingness to help from the mentors".*

> *"The amazing mentors – best people ever".*

"Some of the mentors being genuinely helpful".

Hence, even though Equinor did not have a clear strategy for the mentors they were, based on the feedback from the start-ups, able to help the start-ups during the accelerator program.

6.3.3 Expanding the pool of potential gatekeepers

In my research I also found evidence of the mentors expanding the pool of gatekeepers within Equinor. In the survey conducted by Equinor on their mentors, every one of the mentors answered that they made between 5-10 introductions to other people within Equinor. This is also supported by the survey conducted by McKinsey & Company (2019) where the start-ups stated that they received help from the mentors to get connections with the Equinor management. That means that at least 150 people in Equinor were exposed to some of the start-ups during the program. Hence, the mentors were also vital in terms of identifying key personnel in Equinor. As IN3 (2019) stated:

> *" I have been working in Equinor for a long time, and I have a good idea on what type of knowledge and expertise several people have in the company. So, when the start-up that I mentored explained what they needed help with, I was able to identify the right person in Equinor and introduce them to each other. I think this one of the areas were we as mentors really gave value to the accelerator program"* (IN3, 2019).

When asked about the most important role as a mentor, interviewee 4 further stated that:

> *"I think it was important that we worked as an advocate for the start-ups primarily in Equinor, but also external companies mainly in the Oslo area. But personally, I also connected them to my network both in Houston and London"*

If the start-ups were left to do this task by their own, they could have used the entire three months on just navigating and networking with the entire Equinor ecosystem. So, the mentors' ability to identify further key personnel within the organization, as well as external partners, and introduce the start-ups to them, indeed gave a lot of value to the start-ups in the Techstars Energy accelerator. This ability is, however, also important in respect to the absorptive capacity of Equinor, as a lot of more internal employees got

exposed to the start-ups, and thus increased the possibility of absorbing their knowledge. These employees were most likely highly knowledgeable within the field of the start-ups, or at least the problems the start-ups were facing, since the mentors' identified them as key personnel for the start-ups to talk to in order to move forward with their business. Hence, when being exposed to the start-ups, these employees are thus likely to have the knowledge necessary to identify the potential for the new knowledge created by the start-ups.

Even though it was important that the mentors introduced the start-ups to other employees and networks, it is more essential to find the *right* people and networks (Equinor Survey, 2019). Because, although the people identified by the mentors were knowledgeable and helpful, it also occurred on several occasions that they were not able to help (IN7, 2019). This was due to several factors such as too hectic schedule, no mandate to make decisions, or that they did not take the start-ups seriously (IN7, 2019). This resulted in the start-ups being sent around in circles in Equinor's ecosystem, and sometimes ending up being referred back the mentor that started to introduce them to other employees in the first place (IN8, 2019) In an informal conversation (Pobs, 2019), one of the start-up's employees told me that they often got told that:

> *"I can't help you because of reason X, but you can try to contact person Y, and he/she might be able to do so".*

This is also supported the survey conducted by McKinsey & Company (2019). In the survey, one of the start-ups identified some of the employees in Equinor's knowledge about start-ups as one of the problems:

> *"The general Equinor population could have been better educated as to what the "start-ups" were. Sometimes it felt like they thought we were high school students and not businesses, which may have contributed to why they would continually refer us to other people"* (McKinsey & Company, 2019).

During one of my interviews with the mentors from Equinor, one of them stated that it sometimes was a challenge to refer the start-ups to the right people due to the different organizational clock speeds:

> *"To connect the start-ups to the right departments in Equinor was a challenge because we are so used to have much more time than the start-ups had in this case. To get the people from a department I work a lot with, which I identified as important for the start-ups, to come to Oslo to engage with the start-ups took almost 8 weeks. And when the program is 13 weeks, it says everything about the fact that we don't have the same sense of urgency in regard to time as the start-ups"* (IN2, 2019).

Even though the start-ups sometimes were sent around in circles in the organization, the mentors also were able to mitigate this to some degree. In the survey conducted by McKinsey & Company, one of the start-ups answered that:

> *"The Equinor mentors and Jens Festervoll was amazing at holding people accountable in our behalf. If we didn't have 3 to 4 people pushing for us this would not have been possible"* (McKinsey & Company, 2019).

Hence, it seems to be more of an organizational issue in regard to innovation culture, knowledge about start-ups, and available time, rather than the mentors not being able to assimilate the knowledge or refer the start-ups to other people in the organization that could.

6.4 R&D Involvement

R&T[12] was denied access to the program due to the risk of contamination (IN1, 2019), so they were not part of the mentor madness. However, the mentors in the program often referred the start-ups to a lot of people that worked in R&T because the questions they had was for example highly technical (IN1, 2019). Hence, people in R&T was often helping the start-ups answering questions regarding the technical feasibility of different ideas and solutions they had during the accelerator program.

Furthermore, R&T was heavily involved in the screening of the start-ups that should be accepted to the program or not. Equinor got sent a list of 40 companies that Techstars had identified as possible candidates for the accelerator program, and R&T helped both

---

[12] Research and Technology – Equinor's name for their R&D Unit (Research and Development).

from an intellectual property rights perspective and on questions regarding the technical feasibility:

> *"When we sat down to look at the list of the 40 companies, people in R&T could easily identify a lot of the companies that should be removed from the list right away as they were too close to our proprietary intellectual property, or at least where we wish to do our own research and development"* (IN1, 2019).

However, Equinor has identified that R&T has to be even more involved next year:

> *"Next year the people from R&T are going to be more involved in a structured way than this year. We have already been in touch with chief engineers and asked them to set aside some time to interact with the startups. They are however, still not allowed to be mentors in the program"* (IN1, 2019).

7 Discussion

In this chapter of the paper I will discuss my empirical findings in relation to what the established theories presented in the conceptual framework proposes (see section 3). This chapter consists of three sections, where I discuss the three different hypotheses in chronological order. The objective of this chapter is to give a basis for my conclusion on the proposed research question outlined in this thesis.

7.1 Discussion of Hypothesis 1

In this section I will discuss the first hypothesis I presented in section 2.4.2 of this paper:

The geographical proximity between the incumbent and the start-ups in a corporate accelerator facilitates knowledge transfer.

The reasoning behind this hypothesis was based on the fact that corporate accelerators usually are located on-site (Cohen and Hochberg, 2014). However, on-site does not necessarily mean that the start-ups are located in-house. The Techstars Energy Accelerator is an outsourced model of corporate accelerator, where companies such as Techstars often provide the physical space (Hochberg, 2015). However, in the case of Techstars Energy Accelerator the start-ups were located within the offices of Equinor. Hence, the question arose, if the geographical proximity between the actors could facilitate knowledge transfer.

Furthermore, collaboration between incumbent firms and start-ups in corporate accelerators are not self-evident because of the competitive and ontological contradictions (Moschner and Herstatt, 2017). This is mainly due to the fact that collaboration in corporate accelerators has challenges such as cultural differences, power imbalances, divergent modes of operation, as well as conflicting interests in resources (Jackson and Richer, 2017; Moschner and Herstatt, 2017; Weiblen and Chesbrough, 2015). In my research of the Techstars Energy accelerator program it became evident that the employees in Equinor felt that it was important the start-ups were located at the same offices at Fornebu. By having the start-ups sitting at D5, it

lowered the barrier for the employees in Equinor to engage and collaborate with the start-ups (IN1, 2019). This was further supported by another mentor that argued that it was a distance between the employees and the start-up at the outset, and that it should not be underestimated how scary it can be for the employees in Equinor to engage with something so different (IN2, 2019). Hence, having employees attend e.g. PowerLunches was important to close this distance, and people would not have attended the different events if it were not for the geographical proximity (IN1, 2019). In knowledge-based theory it is argued that when trying to exchange knowledge, especially diffuse and tacit knowledge, geographical proximity between the different actors is critical for a successful transfer (Bathelt et al., 2004). Furthermore, as the geographical proximity opened up for more common interaction between the employees and the start-ups, which created a local buzz. Bathelt et al (2004, p. 38) refers to 'buzz' as the *"information and communication ecology created by face-to-face contacts, co-presence and co-location of people and firms within the same industry and place or region".* In line with this theory, I identified in my research that the mentors felt that they learned more from just being around the start-ups in D5, than they did during formal meetings (IN4, 2019). There is no need for particular investments to access and participate in the "*buzz*" because the information is more or less automatically received by those who are located and participating in the accelerator (Bathelt et al, 2004). This is also in line with open innovation theory, which suggests that these common activities can open up for knowledge exchanges between the start-ups and the incumbent firm. (Felin and Zenger, 2014; Hagedorn, 2002; Hagedorn, 1993; Moschner and Herstatt, 2017; Powell et al., 1996).

Furthermore, in line with theory, the entrepreneurial spirit and mind-set of the start-ups rubbed off on some of the employees during the program and made them more innovative (Stringfellow, 2019; Weisfeld, 2013). Claiming that the culture in Equinor as have changed, would be a bit of an overstatement. However, by exposing the internal workforce with the new talent and ideas inspired innovative thinking. E.g. several of the people that attended the 'PowerLunches' got exposed to new ways of working, and subsequently changed the way the conducted team meetings, presentations and hosting of externals. This can prove to be important for Equinor, as it can result in these employees becoming effective change agents in the future (Kohler, 2016). The tacit

knowledge is embodied in between the intersection of the individual and his culture (Polanyi, 1966).

Based on the discussion of my empirical findings in light of the theory presented above, I argue that the hypothesis about geographic proximity facilitating knowledge transfer between the incumbent and the start-ups in a corporate accelerator is upheld. Hence, I believe that the hypothesis can be subject to further research as it can prove to be an important factor for incumbent firms when deciding on their corporate accelerator model.

7.2 Discussion of Hypothesis 2

In this section I will discuss the second hypothesis I presented in section 2.4.2 of this paper:

In a corporate accelerator the mentors are crucial for the incumbent firm's ability to absorb knowledge from the start-ups.

The mentors have a central role in the theory of corporate accelerators and are consistently mentioned when defining the concept (see e.g. Cohen and Hochberg, 2014; Dempwolf et al., 2014). Further, the support offered to the start-ups in a corporate accelerator always includes at least intensive mentoring (see e.g. Bauer et al., 2016; Cohen, 2013; Cohen and Hochberg, 2014; Heinemann, 2015; Hochberg, 2015; Kohler, 2016; Miller and Bound, 2011; Weiblen and Chesbrough, 2015). Taking into account the mentors' central role, and the fact that they are working close with the start-ups throughout the entire program, they could thus prove to be important as a knowledge gatherer for the incumbent firm. Hence, being a gatekeeper for the absorptive capacity of the firm.

The role of the gatekeeper is important in a big corporation as Equinor, as it is a company where the employees have a broad variety of specializations and knowledge (Guttormsen, 2012). Furthermore, the start-ups in the Techstars Energy accelerator had a lot of the expertise, such as the technology and ways of working, which differed from most of the employees within Equinor. When that is the case, the role of the gatekeeper becomes even more important (Allen 1977; Tushman, 1977). The mentors from Equinor

in the Techstars Energy Accelerator were, for the most part, handpicked senior leaders in the company (IN1, 2019). In line with the theory of absorptive capacity this is crucial for their ability to absorb all the knowledge they are being exposed to (Cohen and Levinthal, 1990; Guttormsen, 2012). Hence, by being senior leaders they would most likely have a wide arrange of accumulated knowledge and an extensive network both internal in Equinor and to external actors (Cohen and Levinthal, 1990; Guttormsen, 2012; Von Hippel, 2005). In order to increase their capabilities as gatekeepers, the mentors also received mentor training prior to the program start (Equinor survey, 2019). It can be argued that one of the strongest indications of the mentors' absorptive capacity, i.e. their ability to absorb and assimilate new knowledge, was the fact that 80% of them stated they would change the way they work and lead as a result of being exposed to the start-ups (Equinor survey, 2019). The fact that approximately 24 senior leaders in Equinor have been able to acknowledge the value of new, external information, and assimilate it, can be crucial for Equinor innovative capabilities in the future (Cohen and Levinthal, 1990). However, in my interviews it also became evident that the it did not seem like Equinor had a clear strategy of using their mentors as gatekeepers. The mentors expressed that they wanted a more clear strategy around what type of role they should take towards the start-ups, as this could increase their ability to both help the start-ups and gather more valuable knowledge for Equinor. Hence, having a clear strategy for the mentors prior to the program can enhance Equinor's absorptive capacity as it enables the mentors to accumulate more knowledge.

However, 24 employees, senior leaders or not, is not a huge number when taking into account that Equinor is a company constituting of more than 20.000 employees worldwide. In line with the theory, the gatekeeper's absorptive capacity does not constitute the absorptive capacity of the firm (Cohen and Levinthal, 1990). As aforementioned, it is thus important that the gatekeepers also have an extensive network both internally and externally. This stems from the fact that the external knowledge bases within a corporate accelerator might be so dispersed that the small set of gatekeepers might not always be able to absorb all the knowledge they are being exposed to (Cohen and Levinthal, 1990; Guttormsen; 2012). In line with this, the mentors from Equinor stated that they had referred the start-ups to at least 5-10 other employees, and thus extended the pool of potential gatekeepers for Equinor. Although the start-ups stated that they for the most part were very happy with the mentors' ability

to support them, they also stated that they were sent around in circles between employees in Equinor (IN7, 2019). Hence, the employees identified by the mentors stated that they were not able to help, and thus referred the start-ups to a different employee. This can give an indication of a lot of things, such as the employees don't having the time to help or that they are simply not willing to help. However, one of the start-ups stated that this might be due to the general employee in Equinor having a low knowledge on start-ups (McKinsey & Company, 2019). In line with this, Szulanski (1996) found in his research that most issues associated with the knowledge transfer, is a result of the receivers' lack of experience to make effective use of the new ideas and arduous relationships (i.e. distant and laborious) between the source and the receiver. So even though the mentors received training on how to introduce companies in an effective manner, it seems that some of the mentors occasionally 'dropped the ball' in regard to this. One of the main roles of a gatekeeper is to its accumulated knowledge to translate the technical information so that is understandable to the employees in the incumbent firm (Cohen and Levinthal, 1990). Hence, this issue is important for Equinor to address before the next corporate accelerator, as it can increase their overall absorptive capacity (Cohen and Levinthal, 1990; Guttormsen, 2012; Von Hippel, 2005).

Based on my empirical findings in light of the theory presented, I argue that the mentors were critical gatekeepers for the absorptive capacity of Equinor in the Techstars Energy Accelerator. Hence, that hypothesis 2 is upheld and can thus be subject to further research as it can prove to be an important factor to consider when assessing how incumbents absorb knowledge in a corporate accelerator. However, it is important to note that the selection process of the mentors is important, as their accumulated knowledge base and their existing network can be crucial for the absorptive capacity of the incumbent.

7.3 Discussion of Hypothesis 3

In this section I will discuss the third, and last, hypothesis I presented in section 2.4.2 of this paper. The hypothesis is changed from R&D to R&T as this is what Equinor calls it:

The incumbent firm's R&T department is heavily involved in the corporate accelerator in order to absorb the knowledge from the start-ups.

Following the theory of absorptive capacity, it is argued that the internal R&T and the technical training of the employees are important activities to maintain and increase the absorptive capacity level in the firm (Cohen and Levinthal, 1990). The theory of absorptive capacity builds further on the notion of accumulative knowledge, i.e. that knowledge builds on existing knowledge (Cohen and Levinthal, 1990). Hence, a firm's ability to acquire knowledge from external sources is considerably enhanced if they have a prior base of knowledge (Bower and Hilgard, 1981; Cohen and Levinthal, 1990). It can be argued that the employees in Equinor with the highest technical training, and thus the highest accumulated knowledge base, are the people in R&T. However, in my research I found that the R&T unit was not allowed to be part of the accelerator program as mentors. This was due to the risk of contamination (IN1, 2019). However, the possibility of employees in R&T becoming gatekeepers was not lost, as the mentors often referred the start-ups to employees in R&T (IN7, 2019). Hence, people in R&T was often helping the start-ups answering questions regarding the technical feasibility of different ideas and solutions they had during the accelerator program (IN7, 2019). Hence, these common interactions between the employees in R&T and the start-ups might have opened up for knowledge exchanges between them. Assuming that the employees in R&T have a high degree of absorptive capacity due to their accumulative knowledge might prove to be of immense value for Equinor as it can improve their innovation capabilities.

8 Conclusion

As previously established in this paper, corporate accelerators are a subtype of the outside-in process. Hence, they are a way for the incumbent to enhance its knowledge base by sourcing knowledge from external actors, and thus increase its innovativeness. However, the ability to absorb this knowledge is not an easy task, as incumbent firms and start-ups are two vastly different organizations, which can pose a variety of issues. Hence, in this explorative study I have tried to find an answer to the following research question:

To what extent are the incumbent firms able to absorb the start-ups' knowledge through a corporate accelerator?

Through my literature review I identified three hypotheses that could help me answer the research question outlined above. I proposed that geographical proximity, using mentors as gatekeepers, and involving the R&T department could be crucial for the incumbent's absorptive capacity, and thus enable them to absorb the knowledge created by the start-ups in the Techstars Energy Accelerator. Through my empirical findings and discussions, it became apparent that Equinor have been able to absorb a lot of knowledge from the start-ups during the 13 weeks of the accelerator. In light of hypothesis 1 and 2, it became clear that both the close geographical proximity to the start-ups and the tirelessly work of the mentors was crucial for the possibility of absorption of knowledge (i.e. their absorptive capacity). The geographical proximity of having the start-ups in-house decreased the barriers for employees to interact with the start-ups, and subsequently facilitated more common interactions between the actors. In line with theory, these interactions enabled employees in Equinor to absorb knowledge from the start-ups. Furthermore, I identified that the mentors had a prior knowledge base which was crucial for their absorptive capacity. This enabled the mentors to acknowledge and assimilate the knowledge shared by the start-ups. Hence, the mentors were identified as crucial gatekeepers for the absorptive capacity of Equinor. Furthermore, the mentors' ability to translate the technical information so that is understandable to the employees was identified as crucial in order to expand the pool of potential gatekeepers. In the theory of absorptive capacity, R&T employees are identified as crucial due to their assumed accumulative knowledge. In this case study

these employees were not involved in the accelerator program as mentors due to potential contamination issues. However, as the mentors referred the start-ups to the R&T unit, it opened up for the potential of them becoming gatekeepers. For Equinor, and companies alike, it can be beneficial to further investigate how they can involve the R&T employees in a more structured manner in order to secure their involvement. Due to their technical training and accumulated knowledge, they can prove to be of immense importance for the company's overall absorptive capacity.

8.1 Limitations

For the research there are some limitations that are important to highlight. Firstly, it is important to mention that the data collected from the interviews are based 8 people. To increase the reliability of the thesis, one could argue that it would be beneficial to conduct more interviews of mentors, start-up employees and employees in different positions in Equinor. However, due to the timeframe of the thesis and the extensive data collected from the interviewees, I believe that I have collected sufficient data to serve the purpose of the study. Furthermore, I have collected secondary data through surveys, and other research reports to back up different claims. However, relevant secondary data may have been left out due to bias from the author. There is always a possibility of applying more extensive research and collecting more data, however given the timeframe I believe that I have covered a broad range of information and data collection.

Another issue comes from the way of collecting data. It's important to acknowledge the fact that there is a chance of bias amongst the interviewees. The participants were allowed to express their own opinion about the accelerator program, which may not be in line with the company's view in itself. The same limitation would apply to me as researcher, as I could be biased during the analysis.

8.2 Further research

Through my literature review I identified several hypotheses that could be interesting for further research. Based on the proposed benefits for the sponsoring firms in corporate accelerators, I believe that the following hypothesis can be subject for further analysis:

> **H1**: *A majority of sponsoring firms initiate corporate accelerators to solve a specific business challenge.*

> **H2**: *A majority of sponsoring firms initiate corporate accelerators to accelerate their pursuit of new market opportunities.*

> **H3:** *A majority of sponsoring firms initiate corporate accelerators to open up for more collaborations and partnerships within the industry.*

Furthermore, as previously stated in the thesis, I believe that it can be fruitful to apply more elaborated theories in the research context of corporate accelerators (cf. Bauer et al., 2006). For example, the Resource Based View of the Firm has received criticism for inadequately explaining competitive advantages in market environments that are volatile (see Teece et al., 1997). Hence, the Resource Based View might benefit from being extended with the concept of Dynamic Capabilities (see Teece et al., 1997), which focuses on the dynamic aspects of configuration and exploitation of resources (Bauer et al., 2016). The concept of dynamic capabilities can thus be understood as an enhancement of the resource-based view (Selig et al., 2018), as it follows the premise of firms that are capable of implementing processes and/or routines supporting a continuous reconfiguration of the firm's resources and capabilities, are more successful in highly volatile markets (Selig et al., 2018; Teece and Pisano, 1994).

Lastly, as this thesis has an explorative approach, it can serve as a basis for more conclusive research. In a study of a different corporate accelerator, this study can also serve as a basis for a comparable research on several corporate accelerators.

Appendix

**Appendix 1 – Formulating Questions for An Interview Guide**

Source: Bryman and Bell, 2007, p. 485: Figure 18.1.

Appendix 2 – Ten Criteria of a Successful Interviewer

Knowledgeable:	is thoroughly familiar with the focus of the interview; pilot interviews of the kind used in survey interviewing can be useful here.
Structuring:	gives purpose for interview; rounds it off; asks whether interviewee has questions
Clear:	asks simple, easy, short questions; no jargon.
Gentle:	lets people finish; gives them time to think; tolerates pauses
Sensitive:	listens attentively to what is said and how it is said; is empathetic in dealing with the interviewee.
Open:	responds to what is important to interviewee and is flexible
Steering:	knows what he or she wants to find out
Critical:	Is prepared to challenge what is said, for example, dealing with inconsistencies in interviewee's replies.
Remembering:	relates what is said to what has previously been said
Interpreting:	Clarifies and extends meanings of interviewees' statements, but without imposing meaning on them

Source: Kvale, S. (1996).

Appendix 3 – Selecting a sample with snowball sampling
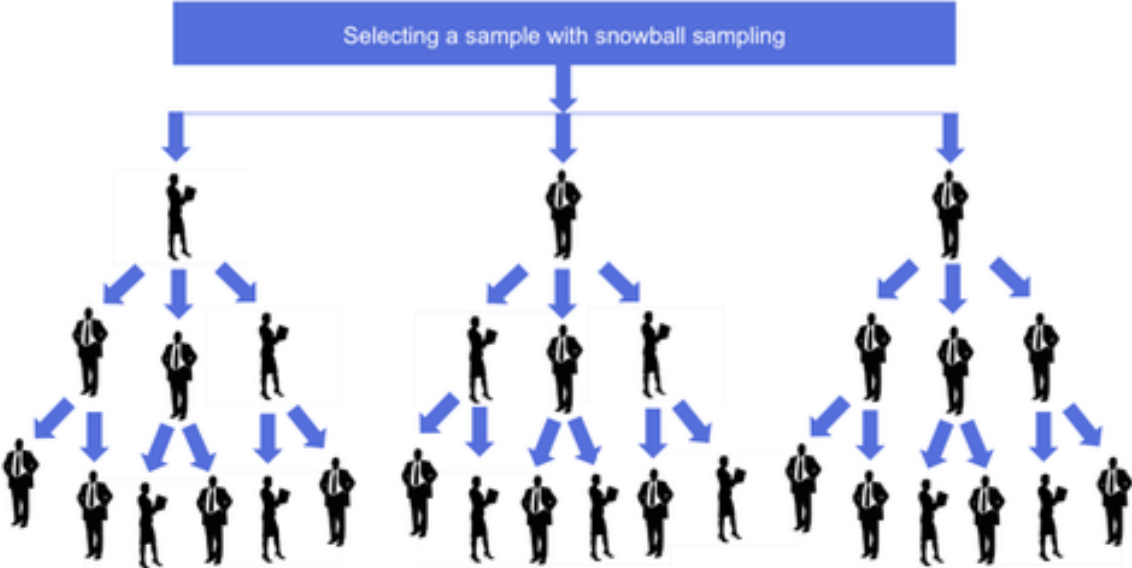
Source: Kumar, 2011, p.208: Figure 12.7.

Bibliography

Adkins, D. (2002). *Explaining incubators using firm analogy.* Technovation, Vol: 29:10, pp. 657-670.

Aernoudt, R. (2004). *Incubators: tool for entrepreneurship?.* Small Business Economics, Vol. 23, pp.127–135.

Ahlstrom, D and Bruton, G.D. (2001). *Learning from successful local private firms in China: Establishing legitimacy.* Academy of Management Perspectives, 15, 72–83.

Ahuja, G., Katila, R. (2001). *Technological acquisitions and the innovation performance of acquiring firms: a longitudinal study*. Strategic Management Journal 21, 197–220.

Allen, T.J. (1977). *Managing the Flow of Technology*. Cambridge, MA: MIT Press

Allen, D.N. and McCluskey, R. (1990). *Structure, policy, services, and performance in the business incubator industry*. Entrepreneurship: Theory and Practice, Vol. 15:2, pp. 61–77.

Almeida, P., Kogut, B., (1999). *Localization of knowledge and the mobility of engineers in regional networks*. Management Science 45 (7), 905–917.

Amezcua, A.S. (2011). *Boon or Boondoggle? Business Incubation as Entrepreneurship Policy.* [Unpublished paper]. Syracuse University. http://gradworks.umi.com.libproxy.lib.unc.edu/34/59/3459380.html

Arrington, M (2007). *TechStars Demo Day – Class of 2007*. Techcrunch. [Internet]. Retrieved 10.05.2019. https://techcrunch.com/2007/08/17/techstars-demo-day-class-of-2007/?guccounter=1&guce_referrer_us=aHR0cDovL2hpc3RvcnkudGVjaHN0YXJzLm NvbS8&guce_referrer_cs=Hd4EV7j2x0jJ-CLz7EObxw

Barney, J.B. (1991) *Firm Resources and Sustained Competitive Advantage*. Journal of Management, Vol.17:1, pp. 99-120.

Bauer, Stefan; Obwegeser, N., and Avdagic, Z. (2016). *Corporate Accelerators: Transferring Technology Innovation to Incumbent Companies*. MCIS. Proceedings. Vol. 57. [Internet] Retrieved 25.04.19. http://aisel.aisnet.org/mcis2016/57

104

Bathelt, H., Malmberg, A., and Maskell, P. (2004). *Clusters and Knowledge: Local buzz, Global Pipelines and the Process of Knowledge Creation.* Progress in Human Geography, vol. 28:1, pp.31-56.

Benjamin, G.A. and Magulis, J. (2001). *The Angel Investor's Handbook*. Princeton, NJ: Bloomberg Press.

Bergek, A., and Norrman, C. (2008). *Incubator best practice: A framework.* Technovation Vol 28: 1-2. PP. 20-28. https://www.sciencedirect.com/science/article/pii/S0166497207001046

Bhabra-Remedios, R.K. and Cornelius, B. (2003). C*racks in the egg: improving performance measures in business incubator research.* In: Small Enterprise Association of Australia and New Zealand 16th Annual Conference, Ballarat.

Bianchi, M., Cavaliere, A., Chiaroni, D., Frattini, F., & Chiesa, V. (2011). *Organisational modes for Open Innovation in the biopharmaceutical industry: An exploratory analysis. Technovation*, Vol.31:1, pp. 22–33.

Bogers, M., Zobel, A.-K., Afuah, A., Almirall, E.,Dahlander, L., Frederiksen, L., … The, W. (2017). *The open innovation research landscape: established perspectives and emerging themes across different levels of analysis*. Industry and Innovation, Vol. 24:1, pp. 8–40.

Bollingtoft, A. and Ulhoi, J.P. (2005). *The networked business incubator— leveraging entrepreneurial agency?* Journal of Business Venturing, Vol. 20:2, pp. 26–290.

Bower, G.H., and Hilgard, E.R. (1981). *Theories of Learning*. Engle- wood Cliffs, NJ: Prentice-Hall.

Brooks, O.J. (1986). *Economic development through entrepreneurship: incubators and the incubation process*. Economic Development Review, Vol. 4:2, pp. 24.

Bruneel, J., Ratinho, T., Clarysse, B., and Groen, A. (2012). *The Evolution of Business Incubators: Comparing demand and supply of business incubation services across different incubator generations.* Technovation Vol 32. PP. 110-121. https://www.sciencedirect.com/science/article/pii/S0166497211001659

Bruton, GD, D Ahlstrom and HL Li (2010). *Institutional theory and entrepreneurship: Where are we now and where do we need to move in the future?* Entrepreneurship Theory and Practice, Vol. 34, pp. 421–440.

Bryman, A. and Bell, E. (2015). *Business Research Methods.* Oxford University Press, UK: Glasgow. Fourth edition.

Cairncross, F. (1997). *The death of Distance.* Harvard Business School Press, Cambridge, MA.

Capron, L., Dussauge, P., Mitchell, W. (1998). *Resource deployment following horizontal acquisitions in Europe and North America.* Strategic Management Journal 19 (7), 631–661.

Chan, K.F. and Lau, T. (2005). *Assessing technology incubator programs in the science park: the good, the bad and the ugly*. Technovation 25:10, pp. 1215–1228

Chesbrough, H.W. (2003). *The Era of Open Innovation.* MIT Sloan Management Review: SloanSelect Collection Winter 2011.

Clarysse, B., Wright, M., Lockett, A., Velde, E.V.D. and Vohora, A. (2005). *Spinning out new ventures: a typology of incubation strategies from European research institutions*. Journal of Business Venturing, Vol. 20:2, pp. 183–216

Clarysse, B. and Yusubova, A. (2014). *Success factors of business accelerators*. In Technology Business Incubation Mechanisms and Sustainable Regional Development.

Cohen, S. (2013). *What Do Accelerators Do? Insights from Incubators and Angels.* Innovations. Vol. 8:3/4. PP. 19-24. [Internet] https://www.mitpressjournals.org/doi/pdf/10.1162/INOV_a_00184

Cohen, S. and Hochberg, Y. (2014). *Accelerating Startups: The Seed Accelerator Phenomenon.* SSRN. Retrieved 31.03.2019. [Internet]. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2418000

Cohen, W.M. and Levinthal, D.A., (1990). *Absorptive capacity: a new perspective on learning and innovation.* Administrative Sciences Quarterly. Vol. 35, pp.128–152.

Cohen, W., Nelson, R., Walsh, J. (2002). *Links and impacts: The influence of public research on industrial R&D*. Management Science 48 (1), 1–23.

Collinson, S. and Gregson, G. (2003). *Knowledge networks for new technology-based firms: an international comparison of local entrepreneurship promotion*. R&D Management, Vol. 33:2, pp. 189–208.

Colombo, M.G. and Delmastro, M. (2002). *How effective are technology incubators?: Evidence from Italy.* Research Policy, Vol.31:7, pp. 1103–1122.

Corporate-acclerators (2016). *Database of Corporate Accelerators.* [Internet]. Retrieved 25.04.2019. https://corporate-accelerators.net/database/index.html

CorpVenturing (2019). *Corporate Accelerators.* [Internet]. Retrieved 25.04.2019.

http://www.corpventuring.com/services-corporate-accelerators.html

Davenport, T.H., & Prusak, L. (1998). *Working knowledge: How Organizations Manage What They Know*. Harvard Business School Press. Boston, Massachusetts.

Dayasindhu, N,. (2001). *Embeddedness, knowledge transfer, industry clusters and global competitiveness: a case study of the Indian software industry*. Technovation, Vol.22 (2002), pp. 551-560.

De Luca, L.M. & Atuahene-Gima, K. (2007). *Market Knowledge Dimensions and Cross-Functional Collaboration: Examining the Different Routes to Product Innovation Performance*. Journal of Marketing, Vol.71 (Jan), pp. 95-112.

Dempwolf, C S., Auer, J., and D'Ippolito, M. (2014). *Innovation Accelerators: Defining Characteristics Among Startup Assistance Organizations*. SBA Office of Advocacy. Retrieved 04.04.19. [Internet]. http://www.knsecure.com/Resources/Articles/Defining%20Characteristics%20Among%20Startup%20Assistance%20Organizations.pdf

Desrochers, P. (2001). *Geographical proximity and the transmission of tacit knowledge.* Review of Austrian Economics, 14 (1), pp.25-46.

DObs (2019). *Direct observation conducted by the author.* Direct Observations. See section 3.3.4 in this thesis for further explanation.

Dushnitsky, G and Lenox, MJ (2005). *When do incumbents learn from entrepreneurial ventures? Corporate venture capital and investing firm innovation rates*. Research Policy, Vol.34, pp. 615–639.

Eisenhardt, K.M. and Schoonhoven, C.B (1996). *Resource based view on strategic alliance formation*. Organization Science, 7(2): 136-50.

Ensign, P.C., Chen-Dong, L., Chreim, S., and Persaud, A. (2014). *Proximity, knowledge transfer, and innovation in technology-based mergers and acquisitions.* International Journal of Technology Management, 66 (1).

Equinor (2019a). *Our history in brief*. [Internet]. Retrieved 10.05.2019.

https://www.equinor.com/en/about-us/our-history/our-history-in-brief.html

Equinor (2019b). *About us.* [Internet]. Retrieved 10.05.2019.

https://www.equinor.com/en/about-us.html#equinor-in-brief

Equinor (2019c). *Anders thinks the key to our future could be thinking small.* [Internet]. Retrieved 13.05.2019. https://www.equinor.com/en/magazine/anders-what-will-statoil-be-like-in-2030.html

Etzkowitz, H. 2002. *Incubation of incubators: innovation as a triple helix of university-industry-government networks*. Science and Public Policy, Vol.29, pp. 115-128.

Fagerberg, J. and Srholec, M. (2007), *The Competitiveness of Nations: Why Some Countries Prosper While Others Fall Behind*. World Development, Vol. 35:10, pp.1596-1620

Fama, E.F and Miller, M.H (1972). *The Theory of Finance.* New York: Holt, Rinehart and Winston.

Fischer, E and AR Reuber (2004). Contextual antecedents and consequences of relationships between young firms and distinct types of dominant exchange partners. Journal of Business Venturing, 19, 681–706

Forsman, M., & Solitander, N. (2003) *Knowledge Transfer in Clusters and Networks*. Journal of International Business Studies.

Freear, J. and Wetzel, W. (1995). *Angels: Personal Investors in the Venture Capital Market*. Entrepreneurship & Regional Development, Vol. 7, pp. 85-94.

Gans, J. S., & Stern, S. (2003). *The product market and the market for "ideas": commercialization strategies for technology entrepreneurs*. Research Policy, Vol. 32:2, pp. 333– 350.

Gassmann, O. and Enkel, E. (2004). *Towards a theory of open innovation: three core process archetypes.* R&D Management Conference, pp. 1-18.

Gassmann, O., Enkel, E., and Chesbrough, H. (2010). *The future of open innovation*. R&D Management, Vol. 40:3, pp. 213–221.

Gaston, RJ. (1989). *Finding Private Venture Capital for Your Firm: A Complete Guide*. New York: John Wiley and Sons.

Gawer, A. and Cusumano, M.A. (2014). *Industry Platforms and Ecosystem Innovation".* Journal of Product Innovation Management. Vol. 31:3, pp.407-418.

Gilhuly-Mandel, A. (2018). *Understanding the Differences between Accelerators, Incubators, and Innovation Labs.* Hartford Insurtech Hub. Retrieved 11.04.2019. [Internet]. https://hartfordinsurtechhub.com/understanding-differences-accelerators-incubators-innovation-labs/

Gompers, P. and Lerner, J. (2003). *Handbook of Entrepreneurship Research; Equity Investing*. Dordrecht: Kluwer. Academic Publishers, pp. 267-298.

Grant, R.M. (1991). *Toward a Knowledge-based Theory of the Firm*. Strategic Management Journal, Vol. 17 (Winter Special Issue), pp. 109-122.

Grimaldi, R. and Grandi, A. (2005). *Business incubators and new venture creation: an assessment of incubating models*. Technovation, Vol. 25:2, pp. 111–121

Groote, J. K. D. And Backmann, J. (2019). *Initiating open innovation collaborations between incumbents and startups: how can David and Goliath get along?* International Journal of Innovation Management, pp. 1-33.

Gruber, M., MacMillan, I. C., & Thompson, J. D. (2012). *Escaping the prior knowledge corridor: what shapes the number and variety of market opportunities identified before market entry of technology start-ups?* Organization Science, 24(1), 280–300.

Grønhaug, K., Hauschildt, J., Priefer, S. (1999). *Technology transfer through international joint ventures: the case of gamma.* Scandinavian Journal of Management. Vol.15:3, pp. 307-320

Gulati, R., (1995). *Social structure and alliance formation Patterns: A longitudinal analysis*. Administrative Science Quarterly 40, 619–650.

Gulati, R. (1998). *Alliances and networks*. Strategic Management Journal, 19(4), 293–317.

Gust (2016). *Global accelerator report.* [Internet]. Retrieved 10.05.2019.
http://gust.com/accelerator_reports/2016/global/

Guttormsen, C.T. (2012). *Innovation and Distributed Knowledge bases in the wine industry of Bordeaux: Competitiveness and knowledge complexity in a traditional product.* Master thesis. Centre for Technology, Innovation and Culture; University of Oslo. Reprosentralen.

Hackett, S.M. and Dilts, D.M. (2004:a). *A systematic review of business incubation research*. Journal of Technology Transfer, Vol. 29:1, pp. 55–82.

Hackett, S.M. and Dilts, D.M. (2004:b). *A real options-driven theory of business incubation*. Journal of Technology Transfer, Vol. 29:1, pp. 41–54.

Hagedoorn, J. (2002*). Inter-firm R&D partnerships: an overview of major trends and patterns since 1960*. Research Policy, Vol. 31:4, pp. 477–492.

Hagedorn, J. (1993). *Understanding the rationale of strategic technology partnering: interorganisational modes of co-operation and sectorial differences*. Strategic Management Journal, Vol.14:5, pp. 371–3

Hagedoorn, J., Schakenraad, J., (1994). The effect of strategic technology alliances on company performance. Strategic Management Journal 15 (4), 291–309.

Hansen, M.T., Chesborough, H.W., Nohira, N. and Sull, D.N. (2000). *Networked incubators hothouses of the new economy*. Harvard Business Review, Vol. 78:5, pp. 74–84.

Heinemann, F (2015). *Corporate Accelerator: A study on Prevalence, Sponsorship, and Strategy.* [Master thesis]. Massachusetts, US: Massachusetts Institute of Technology.

https://dspace.mit.edu/handle/1721.1/105309

Hill, B.E. and Power, D. (2002). *Attracting Capital from Angels*. New York: John Wiley and Sons.

Hoang, H and B Antoncic (2003). *Network-based research in entrepreneurship: A critical review*. Journal of Business Venturing, 18, 165–187.

Hochberg, Y (2015). *Accelerating Entrepreneurs and Ecosystems: The Seed Accelerator Model.* Innovation Policy and the Economy. Washington, DC. Retrieved 03.04.2019. [Internet]. https://www.journals.uchicago.edu/doi/pdfplus/10.1086/684985

Hoffman, D.L. and Radojevich-Kelley, N. (2012). *Analysis of Accelerator Companies: An Exploratory Case Study of Their Programs, Processes, and Early Results.* Small Business Institute Journal Vol: 8:2. pp.54-70.

Hofstede, G. (2011). *Dimensionalizing Cultures: The Hofstede model in Context*. International Association for Cross-Cultural Psychology. Online Readings in Psychology and Culture. https://scholarworks.gvsu.edu/cgi/viewcontent.cgi?article=1014&context=orpc

Hogenhuis, BN, EA van den Hende and EJ Hultink (2016). *When should large firms collaborate with young ventures?* Research-Technology Management, 59, 39–47.

Howells, J.R.L (2002). *Tacit knowledge, innovation and economic geography*. Urban Studies, 39(5-6): 871-84.

Hsu, P., Shyu, J.Z., Yu, H., Yuo, C., and Lo, T. (2003). *Exploring the interaction between incubators and industrial clusters: the case of the itri incubator in Taiwan*. R&D Management, Vol. 33:1, pp. 79–90.

Håkansson, H and Johanson, J. (1992). *A Model of Industrial Networks*.In Easton, Geoff, editor, *Industrial Networks: A New View of Reality*. London: Routledge.

IN1 (2019). *Statement from interviewee 1.* Semi-structured interview. See section 3.3.3 in this thesis for further explanation.

IN2 (2019). *Statement from interviewee 2.* Semi-structured interview. See section 3.3.3 in this thesis for further explanation.

IN3 (2019). *Statement from interviewee 3.* Semi-structured interview. See section 3.3.3 in this thesis for further explanation.

IN4 (2019). *Statement from interviewee 4.* Semi-structured interview. See section 3.3.3 in this thesis for further explanation.

IN5 (2019). *Statement from interviewee 5.* Semi-structured interview. See section 3.3.3 in this thesis for further explanation.

IN6 (2019). *Statement from interviewee 6.* Semi-structured interview. See section 3.3.3 in this thesis for further explanation.

IN7 (2019). *Statement from interviewee 7.* Semi-structured interview. See section 3.3.3 in this thesis for further explanation.

IN8 (2019). *Statement from interviewee 8.* Semi-structured interview. See section 3.3.3 in this thesis for further explanation.

Jabareen, Y. (2009). *Building a Conceptual Framework: Philosophy, Definitions, and Procedure.* International Journal of Qualitative Methods, Vol. 8:4, pp. 49-62.

Jackson, P., and Richter, N. (2017). *Situational Logic: An Analysis of Open Innovation Using Corporate Accelerators.* International Journal of Innovation Management, 21(7), 1750062-1– 175006221.

Jaffe, A.B., Trajtenberg, M. and Henderson, R. (1993). *Geographic location and knowledge spillovers as evidenced by patent citations*. Quarterly Journal of Economics (108): 577-98.

Kanbach, D. K., and Stubner, S. (2016). Corporate Accelerators as Recent Form of Startup Engagement: The What, The Why, And The How. Journal of Applied Business Research, Vol. 32:6, pp. 1761-1776.

Klofsten, M. (2005). *New venture ideas: an analysis of their origin and early development*. Technology Analysis and Strategic Management, Vol. 17:1, pp. 105–119

Kohler, T. (2016). *Corporate Accelerators: Building bridges between corporations and startups.* Business Horizons, Vol. 59;3. pp.347-357.

Kogut, B,. & Zander, U. (1993). *Knowledge of the Firm and the Evolutionary Theory of the Multinational Corporation.* Journal of International Business Studies, 24(4), pp. 625-645.

Kortum, S., Lerner, J., (2000). *Assessing the contribution of venture capital to innovation?* The Rand Journal of Economics 31 (4), 674–692.

Kupp, M (2018). *Corporate accelerators: bringing together startups and large firms to foster innovation.* The Conversation Accessed 28.08.09. https://theconversation.com/corporate-accelerators-bringing-together-startups-and-large-firms-to-foster-innovation-93892

Kupp, M., Marval, M., & Borchers, P. (2017). *Corporate accelerators: fostering innovation while bringing together start-ups and large firms*. Journal of Business Strategy. Vol. 38, 6. PP:47-53. https://www.emeraldinsight.com/doi/abs/10.1108/JBS-12-2016-0145

Lalkaka, R., and Bishop, J. (1996). *Business Incubators in Economic Development – an initial assessment in Industrializing Countries.* United Nation Development Programme, New York.

Landström, H. and Mason, C. (2016). *Handbook of research on business angels.* Edward Elgar Publishing. Cheltenham, UK.

Levering, B. (2002). *Concept analysis as empirical method.* International Journal of Qualitative Methods, Vol. 1:1, pp. 35-48.

Levy, J.S. (2008). *Case studies: Types, Designs, and Logics of Inference.* Conflict Management and Peace Science, Vol. 25, pp. 1-18. [Internet]. Retrieved 01.05.2019.

https://is.muni.cz/el/1423/jaro2013/MVZ453/um/Levy--Case_Studies-Types_Designs_and_Logics_of_Inference.pdf

Lewis, D.A. (2001). *Does technology incubation work? A critical review*. Reviews of Economic Development Literature and Practice, US Economic Development Administration, Department of Commerce, Washington, DC

Linde, L., and Prasad, A. (2000). *Venture Support Systems Project: Angel investors*. Unpublished manuscript, MIT Entrepreneurship Centre.

Lindelöf, P. and Löfsten, H. (2004). *Teori och metoder för val av indikatorer för inkubatorer*. Institute for Management for Innovation and Technology (IMIT), Göteborg, Sweden, Vol.62.

Lindholm-Dahlstrand, A. and Klofsten, M. (2002). *Growth and Innovation Support in Swedish Science Parks and Incubators*. New Technology-Based Firms at the New Millennium. Elsevier, Oxford, pp. 31–46

Lindsay, P.H. and Norman, D.A. (1977). *Human Information Processing*. Orlando, FL: Academic Press.

Lyons, T.S. and Li, S. (2003). *The state of the Wisconsin incubation industry in 2002: an analysis of the results of the survey of membership*. Report prepared for The Wisconsin Business Incubator Association.

Malmberg, A and Maskell, P. (2002). *The elusive concept of localization economies - Towards a knowledge-based theory of spatial clustering*. Environment and Planning A., 34(3).

Mian, S., Lamine, W. and Fayolle, A. (2016). *Technology Business Incubation: An overview of the state of knowledge*. Technovation, Vol. 50, pp. 1-12.

Mian, S.A. (1996). *Assessing value-added contributions of university technology business incubators to tenant firms.* Research Policy, Vol. 25:3, pp. 325–335

Miller, P. and Bound, K. (2011). *The startup factories.* Nesta. Retrieved 17.04.2019. [Internet]. https://www.nesta.org.uk/report/the-startup-factories/

Minbaeva, D.B (2007). *Knowledge Transfer in Multinational Corporations*. Management International Review. Vol.47:4, pp.567-593.

Mishler, E.G. (1990). *Validation in inquiry-guided research: The role of exemplars in narrative studies.* Harvard Educational Review, Vol.60, pp.415-441.

Moschner, S. and Herstatt, C. (2017). *All that glitter is not gold: How motives for open innovation collaboration with startups diverge from action in corporate accelerators*

Morrissette, S. G. (2007). *A profile of angel investors.* The Journal of Private Equity, 10:3, pp. 52-66

Nolan, A. (2003). *Public policy on business incubators: an OECD perspective.* Journal of Entrepreneurship and Innovation Management, Vol. 3:1/2, pp. 22–30.

Nonaka, I. (1994). *A Dynamic Theory of Organizational Knowledge Creation.* Organization Science, Vol.5:1, pp. 625-645.

Nonaka, I., & Takeuchi, H., (1995) *The Knowledge Creating Company: How Japanese Companies Create the Dynamics of Innovation.* Oxford University Press, Oxford.

Nonaka, I., & Teece, D.J. (2001) Managing Industrial Knowledge. SAGE Publications.

Pavitt, K. (2005), *Innovation Process.* In Fagerberg, J. Mowery, D.C. & Nelson, R.R. (eds.), *The Oxford Handbook of Innovation.* Oxford University Press: New York.

Peters, L., Rice, M. and Sundararajan, M. (2004). *The role of incubators in the entrepreneurial process.* Journal of Technology Transfer, Vol. 29:1, pp. 83–91.

Phan, P.H., Siegel, D.S. and Wright, M. (2005). *Science parks and incubators: observations, synthesis and future research.* Journal of Business Venturing, Vol. 20:2, pp. 165–182.

Phillips, R.G. (2002*). Technology business incubators: how effective as technology transfer mechanisms?* Technology in Society, Vol: 24:3, pp. 299–316

PObs (2019). *Participant-observation conducted by the author.* Participant-Observations. See section 3.3.5 in this thesis for further explanation

Polanyi, M., (1966). *The Tacit Dimension.* Routledge and Keagan Paul, London

Powell, W. W., Koput, K. W., & Smith-Doerr, L. (1996). *Interorganizational collaborations and the locus of innovation: networks of learning in biotechnology.* Administrative Science Quarterly, Vol.41:1, pp. 116–145.

Prahalad, C.K., & Hamel, G. (1990). *The Core Competence of the Corporation.* Harvard Business Review. Vol.68:3, pp. 79-88.

Prowse, S. (1998). *Angel investors and the market for angel investments.* Journal of Banking & Finance. Vol. 22. PP: 785-792.

Prusak, L. (1996). *The knowledge advantage.* Strategy & Leadership. Vol.24:2, pp.6-8.

Radojevich-Kelley, N. and Hoffman, D. L. (2012). *Analysis of accelerator companies: An exploratory case study of their programs, processes, and early results.* Small Business Institute Journal, 8 (2), 54–70.

Rallet, A., and Torre, A. (1999). *Is geographical proximity necessary in the innovation networks of global economy?* GeoJournal, 49(4), pp.373-380.

Rice, M.P. (2002). *Co-production of business assistance in business incubators: an exploratory study.* Journal of Business Venturing, Vol. 17:2, pp. 163–187.

Rind, K.W. (1981). *The role of venture capital in corporate development.* Strategic Management Journal, Vol. 2:2. Pp. 169-180.

Rothschild, L. and Darr, A. (2005). *Technological incubators and the social construction of innovation networks: an Israeli case study.* Technovation, Vol. 25:1, pp. 59–67.

Salager, S. (2018). *The Rise of the Corporate Accelerator.* Entrepreneur. [Internet]. Retrieved 29.04.19. https://www.entrepreneur.com/article/321386

Saxenian, A., (1990). *Regional networks and the resurgence of Silicon Valley.* California Management Review 33, 89–113.

Schreiber, D. Vilela Junior, D.C., Vargas, L.M. & Macada, A. C. (2011). *Knowledge Transfer in Product Development: An Analysis of Brazilian Subsidiaries of Multinational Corporations.* BAR, Curitba, Vol.8:3, pp 288-304

116

Selig, C.J., Gasser, T., and Baltes, G. H. (2018). *How Corporate Accelerators foster Organizational Transformation; An internal Perspective.* International Conference of Engineering, Technology and Innovation. Retrieved 01.04.2019.

https://www.researchgate.net/publication/325853565_How_Corporate_Accelerators_Foster_Organizational_Transformation_An_Internal_Perspective

Smilor, R.W. (1987). *Commercializing technology through new business incubators*. Research Management, Vol. 30:5, pp. 36–41.

Sullivan, M.K., and Miller, A. (1990). *Applying Theory of Finance to Informal Risk Capital Research: Promise and Problems.* Frontiers of Entrepreneurship. Babson Park, MA: Babson College.

Sullivan, M.K., and Miller, A. (1996). *Segmenting the Informal Venture Capital Market: Economic, Hedonistic, and Altruistic Investors*. Journal of Business Research, Vol. 36, pp. 25-35.

Stringfellow, W. (2019). *Defining Corporate Accelerators: Distinguishing factors, history and advantages.* [Internet]. Retrieved 25.04.19. https://we.st/innovation-tools/corporate-accelerator/definition/

Stuart, TE (2000). *Interorganizational alliances and the performance of firms: A study of growth and innovation rates in a high-technology industry*. Strategic Management Journal, Vol. 21, pp. 791–811.

Szulanski, G., (1996). *Exploring internal stickiness: impediments to the transfer of best practice within the firm*. Strategic Management Journal, Vol.17 (Winter Special Issue), pp.27–44.

Techstars (2019a). *10 years of History.* [Internet]. Retrieved 10.05.2019.

http://history.techstars.com/

Techstars (2019b). *Accelerators.* [Internet]. Retrieved 10.05.2019.

https://www.techstars.com/startup-accelerator/

Techstars (2019c). *Programs.* [Internet]. Retrieved 10.05.2019.

https://www.techstars.com/programs/

Techstars (2019d). *Frequently Asked Questions.* [Internet]. Retrieved 10.05.2019.

https://www.techstars.com/faq/

Techstars (2019e). *Techstars Energy Opens Applications for First Program.* [Internet]. Retrieved 10.05.2019.

https://www.techstars.com/content/accelerators/techstars-energy-opens-applications-first-program/

Techstars (2019e). *Announcing the first class of the Techstars energy accelerator in partnership with Equinor.* [Internet]. Retrieved 10.05.2019.

https://www.techstars.com/content/accelerators/announcing-first-class-techstars-energy-accerlerator-partnership-equinor/

Techstars (2019g). *The energetic results of Techstars Energy in Partnership with Equinor.* [Internet]. Retrieved 10.05.2019.

https://www.techstars.com/content/accelerators/energetic-results-techstars-energy-partnership-equinor/

Techstars (2019h). *Webinar: Techstars Energy Accelerator in Partnership with Equinor.* [Internet]. Retrieved 10.05.2019

https://www.youtube.com/watch?v=BWGATJc_8Bo&feature=youtu.be

Techstars (2019i). *Incumbent and Insurgent: Adding Value Together.* [Internet]. Retrieved 10.05.2019.

https://www.techstars.com/content/accelerators/incumbent-insurgent-adding-value-together/

Techstars (2019j). *Companies.* [Internet]. Retrieved 10.05.2019.

https://www.techstars.com/companies/

Teece, D. J. and Pisano, G. (1994). *The Dynamic Capabilities of Firms: An Introduction*. Industrial and Corporate Change, Vol. 3: 3, pp. 537–556.

Teece, D. J., Pisano, G., Shuen, A. and others (1997). *Dynamic capabilities and strategic management.* Strategic Management Journal, Vol.18:7, 509–533.

Tidd, J. & Bessant, J. (2009), *Managing Innovation: Integrating Technological Market and Organizational Change*. 4th. Edition, John Wiley & Sons: Sussex.

Usman, M and W Vanhaverbeke (2017). How start-ups successfully organize and manage open innovation with large companies. European Journal of Innovation Manage- ment, 20, 171–186.

van de Vrande, V., de Jong, J. P. J., Vanhaverbeke, W., & de Rochemont, M. (2009). *Open innovation in SMEs: Trends, motives and management challenges*. Technovation, 29(6– 7), 423–437.

Vanhaverbeke, W., Van de Vrande, V., & Chesbrough, H. W. (2008). *Understanding the Advantages of Open Innovation Practices in Corporate Venturing in Terms of Real Options*. Creativity and Innovation Management, 17(4), 251–259.

Venables, M. (2019). *Accelerator Puts Energy Entrepreneurs on the Road to Success.* Forbes, Jan 26. [Internet]. Retrieved 10.05.2019.

https://www.forbes.com/sites/markvenables/2019/01/26/accelerates-put-energy-entrepreneurs-on-the-road-to-success/#3a7912f051b4

Von Hippel, E. (2005), *Democratizing Innovation*. The MIT Press: Cambridge.

Von Tunzelmann, N & Acha, V. (2005), *Innovation in "Low-Tech" Industries*. In Fagerberg, J., Mowery, D.C. & Nelson, R.R. (eds.), *The Oxford Handbook of Innovation*. Oxford University Press: New York.

von Zedwitz, M. (2003). *Classification and management of incubators: aligning strategic objectives and competitive scope for new business facilitation*. International Journal of Entrepreneurship and Innovation Management, Vol. 3:1/2, pp. 176–196

Weiblen, T. and Chesbrough, H.W. (2015). *Engaging with Startups to Enhance Corporate Innovation.* California Management Review, Vol. 57:2, pp. 66-90.

Weisfeld, Z. (2016). *Corporate accelerators: What's in it for the big companies?* Forbes. [Internet]. Retrieved 29.04.19.

https://www.forbes.com/sites/groupthink/2016/02/23/corporate-accelerators-whats-in-it-for-the-big-companies/#5d35eceb5f62

Winter, Sidney G. (1987). *Knowledge and Competence as Strategic Assets*. In Teece, D., editor, *The Competitive Challenge*. New York: Harper Collins.

Wise, S. and Valliere, D. (2014). *The Impact on Management Experience on the Performance of Start-Ups within Accelerators.* The Journal of Private Equity 9–19.

Yin, R.K. (2014). *Case Study Research: Design and Methods.* Fifth edition. SAGE Publications, Inc. Thousands Oaks, California, US.

Zahra, S.H. & George, G. (2002), *'Absorptive Capacity: A Review, Reconceptualization and Extension'.* The Academy of Management Review, Vol. 27: 2, pp. 185-203.

Zingales, L., (2000). *In search of new foundations.* Journal of Finance 55 (4), 1623–1653.