Exploring the interplay of the entrepreneurial process and the incubation process

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Abstract

Entrepreneurship and start-ups are important factors for economic growth and development. As the surrounding innovation ecosystem is becoming increasingly complex, it gets more difficult for entrepreneurs to find the right path. Incubators are important when it comes to facilitating and supporting new ventures. In this research, we conducted 19 semi-structured interviews of which five were held with public incubators, four with private incubators, nine with incubatees and one with Vinnova (a government authority that plays a huge part within the existence of public incubators) in order to gain an understanding of the interplay of the incubation process and the entrepreneurial process. As for analyzing the collected data we used a thematic analysis with an inductive approach. Throughout the coding process, we extracted the following three main topics: role of an incubator, incubation process and interplay. However, a distinction between public and private incubators was approved as applicable that determines the incubators’ purpose, objectives and operations. Our findings suggest that incubators play an important role in supporting and guiding the start-ups by transferring knowledge and asking the right questions as a fundament for the further entrepreneurial process. Continuous communication and expectation management are shown as crucial throughout the interplay of the two processes. Lastly, the disconnection from the incubatees should be done carefully, e.g. through a non-proactive aftercare.

Keywords: entrepreneurship, start-ups, incubators, incubation process, entrepreneurial process, interplay, innovation ecosystem

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1. Introduction

1.1. Background

New ventures are known to be important for an economy, its growth and innovation. Shih and Aaboen (2017) express that the start-ups’ importance is well established in the academic literature. However, businesses have to evolve and innovate in an ecosystem that is becoming increasingly complex, which often discourages new ventures from bringing their ideas to the market (Battistella, De Tobi and Perrot, 2018; Khalil and Olafsen, 2010). For an entrepreneur it is crucial to understand this ecosystem. In order to improve a country’s economic and social wealth as well as the competitiveness, an ecosystem should support an environment where entrepreneurship is coupled with innovation, knowledge and technology (Khalil and Olafsen, 2010). Innovation ecosystems are not only about innovation activities but increasingly about the interaction among an ecosystem’s actors (Bandera and Thomas, 2018). Collaborations between those actors can be seen as open innovation activities, which Chesbrough (2006) defines as an opening of firm boundaries in order to find new pathways to a market as well as advancing an innovation’s technology. Incubators are such ecosystem actors that have a key role as innovation intermediaries for new ventures (Battistella et al., 2018). Moreover, by incubating new ventures they encourage entrepreneurship (Aerts, MatthysSENS and Vadenbempt, 2007; AlBort-Morant and Oghazi, 2016).

The field of incubation is widely researched already. An increasing number of scholars, practitioners and policymakers pay more and more attention to accelerating and seeding entrepreneurship and technological innovation through different mechanisms. Those create the umbrella term of technological business incubators (TBI) which is defined as a field of study (Aernoudt, 2004; Barbero, Casillas, Ramos and Guitar, 2012). Al-Mubarak and Busler (2013) describe the incubator concept like a program for new ventures. However, in this thesis, the definition used for incubators will be the one presented by Peters, Rice and Sundararajan (2004) who describe an incubator as a supportive environment for entrepreneurs and start-ups. Hence, it is a more broad and general description that is not limiting incubators to be just “programs”. This is also aligned with the development of the focus of the recent literature on incubators (Diez-Vial and Montoro-Sanchez, 2017).

When it comes to creating a viable and profitable new venture within an entrepreneurial process, start-ups face a lot of obstacles and challenges. Examples for those challenges are
accessing the right network, getting finance or the further development of their idea (Aernoudt, 2004; Porter, 1979). Lougui and Nyström (2014) outline that entrepreneurs need support with a variety of those issues. Incubators offer a wide range of services that support start-ups to deal with or overcome these obstacles and barriers (Albort-Morant and Oghazi, 2016; Gerlach and Brem, 2015).

Reviewing the increasing literature of incubators within the field of entrepreneurship and innovation, there is more to learn about the way how incubators intend to guide start-ups through the incubation process to further develop their ideas to later become viable companies. While there is research on incubation processes as well as entrepreneurial processes in general, only little is known on how these two processes relate (e.g. Albort-Morant and Oghazi, 2016; Shih and Aaboen, 2017; Van Weele, van Rijnsoever and Nauta, 2017). More specific, while we know different characteristics of each process presented in the literature, we do not know when incubators do or aim to enter respectively leave the entrepreneurial process. Moreover, the existing literature lacks a reality check whether the aimed procedure and support are aligned with the entrepreneurs’ needs and expectations (Van Weele et al., 2017).

1.2. Research question

The purpose of this paper is to look at this interplay of the entrepreneurial and the incubation process. Therefore, the research question of the thesis is as follows:

How do the entrepreneurial process and the incubation process interplay?

To further develop this research question we will also look at the following complementary subquestions:

In which phase do incubators aim to enter and leave the entrepreneurial process?

How do incubators aim to support start-ups during the incubation process?

How well is that aligned with the perception of the entrepreneurs on what they get?
1.3. Contribution

Our thesis contributes to the existing literature of entrepreneurial processes and incubation by researching the processes of incubators in the Swedish innovation ecosystem and how they are related to the entrepreneurial processes and expectations of their incubatees.

We chose Sweden as it is ranked highest in a survey of the Global Entrepreneurship Monitor in terms of entrepreneurial opportunities. The survey showed that three of four Swedish adult citizens believe that Sweden offers good opportunities and makes it relatively easy to start a business (Bosma and Kelley, 2019). However, it ranks relatively low in the survey when it comes to solo entrepreneurial activities. Strong corporate entrepreneurial activities were named as one of the reasons for that. Nevertheless, Sweden’s incubators are known to play a crucial role in the growth of new start-ups, which is aligned with their main mission to promote growth according to a national rapport of the impact of incubators in Sweden (Tillväxtanalys, 2018a).

We start by interviewing several Swedish incubators about their purposes, objectives and processes when it comes to developing and exploiting ideas. By comparing the incubators’ perspective with the needs and perceptions of their entrepreneurs we create a framework for the interplay. The lack of entrepreneurship and the underdevelopment of seed financing and business angels networks has been observed as two of the biggest barriers to the development of incubators (Aernoudt, 2004). Therefore, strengthening the incubators’ role in an innovation ecosystem with a framework will help to solve this lack.

To further contribute to the existing literature, we will use data triangulation by carrying out personal qualitative interviews as well as looking at secondary data sources. These secondary data came from the material of the incubators and entrepreneurs that they either sent to us or which was publicly available. Further, we collected secondary data through annual reports of the incubator’s owners or industry reports.
2. Theory

The number of articles on business incubators appearing in major journals of entrepreneurship, technology management, and innovation is increasing (Diez-Vial and Montoro-Sanchez, 2017). However, little is known about the interplay of the incubation process and the entrepreneurial process (e.g. Albort-Morant and Oghazi, 2016; Shih and Aaboen, 2017; Van Weele et al., 2017).

2.1. Innovation ecosystem

Pellikka and Ali-Vehmas (2016) state that the ecosystem view has often been neglected in the traditional strategy literature. They define an innovation ecosystem as a network of several interconnected organizations that focus on developing new values through innovation. Hence, the different actors are supporting and facilitating innovation within this ecosystem. Martínez-Fierro, Biedma-Ferrer and Ruiz-Navarro (2016) point out different key factors that are needed to be or become innovation-driven:

- Knowledge transfer
- Research and development transfer
- Infrastructure access
- Entrepreneurial education
- Previous experiences
- Access to finance

However, the importance of knowledge assets and innovation processes for companies is even higher in dynamic markets with high competition. Moreover, due to digitalization, innovation ecosystems become increasingly knowledge-intense and more dynamic, including also shorter product lifecycles and intense competition (Pellikka and Ali-Vehmas, 2016). Especially support networks within an ecosystem can help start-ups to further develop their entrepreneurial process (Tötterman and Sten, 2005). Leyden and Link (2015, p.476) state that “the conceptualization of the innovation process begins with an entrepreneur who has a social network in place”.

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A firm’s performance and the ability to capture innovation values are more and more dependent on the ability to understand the various strategy perspectives of an innovation ecosystem (Pellikka and Ali-Vehmas, 2016). The Ministry of Enterprise and Innovation (2014) mentions specifically the incubator as one of the ecosystem’s actors as a supporter of new ventures. In this ecosystem, the incubator helps to develop the business model, legitimize the company and aid in the process of funding. According to the Ministry of Enterprise and Innovation (2014), incubators have the largest potential to create development and value in new knowledge-intensive companies with large international potential.

In an ecosystem, incubators are often mentioned as drivers for innovation for new ventures (Aerts et al., 2007; Harper-Anderson and Lewis, 2018). They often have innovation management tools or projects that they provide their incubatees (Gerlach and Brem, 2015). Besides that, they are also becoming more important for already existing corporations when it comes to the need of being and becoming more innovative (Berger and Brem, 2017). Kohler (2016) references to how corporations can use incubators and competitions to explore and use start-ups for their own innovation. According to Chesbrough (2003), start-ups are a good source to drive innovation, and for a large part through open innovation. Established firms could use some of these ideas to incorporate and use the innovation power from start-ups via corporate venture capital programs for innovation (Dushnitsky and Lenox, 2005). This can be underlined with the fact that increased opportunities lead to an increase in new businesses and therefore, new innovations within an ecosystem (Martínez-Fierro et al., 2016).

### 2.2. Entrepreneurial process

McMullen and Dimov (2013) outline that entrepreneurship is a process. However, entrepreneurship literature often discusses whether entrepreneurship processes are more based on creation or discovery. De Jong and Marsili (2015) summarize that recent studies suggest differing between these categories can help to understand entrepreneurial processes.

The creation approach is most notably associated with Joseph Schumpeter (1934) who outlined the importance of entrepreneurship as essential for economic development. To become an entrepreneur, specific types of characteristics are needed. Rajan (2012) suggests that to succeed as a new venture the entrepreneur needs to go against the stream, make decisions from its intuition and challenge established norms. In his later work, Schumpeter still sets the personality of an entrepreneur into the focus of the entrepreneurial process (De
Jong and Marsili, 2015). However, he argues that the needed ability to be an entrepreneur can change when putting an entrepreneurial process into practice (Schumpeter, 1983). As a result, it is not a lasting condition. Additionally, creation can emerge not only from the entrepreneur itself but also from economic or social relationships (De Jong and Marsili, 2015).

The discovery approach is most notably associated with Israel Kirzner (1973) where an entrepreneur does not need to have specific characteristics. It is rather about the alertness of entrepreneurs in order to discover and combine different existing resources. Furthermore, they have to be able to deal with the unknown and unpredictable of an entrepreneurial process. In his later work, Kirzner describes the entrepreneurs as innovators (De Jong and Marsili, 2015). Supporting Kirzner’s discovery theory, Shane and Venkataraman (2000) add that entrepreneurs go through three phases when discovering an idea: First, opportunities need to exist. Second, the entrepreneur needs to see and recognize an opportunity. Third, the entrepreneur has to explore the opportunity. Shane (2000) supplements that this process is highly dependent on personal traits, pre-existing knowledge and information about the opportunity.

However, more recently some researchers argue that entrepreneurship processes nowadays are represented by both creation and discovery (De Jong and Marsili, 2015; Leyden and Link, 2015). Furthermore, De Jong and Marsili (2015) highlight that those two perspectives are not antithetic but contrary, that they can coexist simultaneously.

Bygrave and Hofer (1992) emphasize the shifting away from characteristics of an entrepreneur, up to those of an entrepreneurial process. This seems to be still valid in more recent literature. Garud and Gehmann (2016) describe the entrepreneurial process as performative. A process is on the one hand influenced by an entrepreneur’s aims and previous experience; on the other hand, it is affected by the business model itself. Moreover, external and internal surroundings, e.g. several networks have a huge influence on the entrepreneurial process (Baker et al., 2005; Wry, Lounsbury and Glynn, 2011).

2.3. Incubators

As the topic of business incubators got more and more attention during the last years, the number of articles in this field increased in major journals of entrepreneurship, innovation and technology management (Albort-Morant and Oghazi, 2016). The existing literature provides not one general but a lot of similar definitions of incubators. While Peters et al. (2004) see
them as a supportive environment for entrepreneurs and start-ups, Al-Mubarak and Busler (2013) describe the incubator concept more as a program for new ventures. Additionally, Gerlach and Brem (2015) found out that incubators were frequently described as a transformation medium to turn inputs into outputs. Several authors see the process of turning start-ups into viable and successful companies as the main goal of incubators (e.g. Aernoudt, 2004; Bergek and Norrman, 2008).

Although it is known that the number of incubators has increased over the last years, measuring their success remains quite difficult. When it comes to key performance indicators within incubators, Barbero et al. (2012) refer to the differences in the incubators’ purposes and objectives. Nonetheless, both Aernoudt (2004) and Bergek and Norrman (2008) describe the measurement of success as the number of start-ups that turn into profitable companies. However, some researchers agree that a venture’s success or survival is not necessarily related to the incubation and is still relatively debated (Peters et al., 2004; Schwartz, 2013; Tamásy, 2007; Tillväxtanalys, 2018b).

Besides, it has to be considered that each incubator differs from another as they might have different focuses and interests or multiple goals (Bergek and Norrman, 2008). Furthermore, Aernoudt (2004) points out several gaps that incubators might focus on and deal with: business, regional or local disparity as well as entrepreneurial, social and discovery gaps.

2.3.1. Types of incubators

Grimaldi and Grandi (2005) describe four different types of incubators, which overall can be categorized into two entities: public and private. On the one side, the public entities are university business incubators (UBI) and business innovation centers (BIC) which are typically not commercial. On the other side, the private or often called commercial entities are corporate incubators (CPI) and isolated incubators (IPI). As for assigning incubators in those two categories, the most important guidance is to look at the ownership. Whereas BICs and UBIs are non-profit, started by government authorities or universities with the main purpose of promoting regional development, IPIs and CPIs are profit-oriented, initialized by private actors, e.g. private individuals or companies (Grimaldi and Grandi, 2005).

Further, the formal connection to the owners has an influence on the idea creation that differs in terms of whether the incubator has a more internal or external focus (Grimaldi and Grandi, 2005). For CPIs and UBIs with formal owners such as corporations and universities, idea
creation is more inward-looking based on the institutional mission. A focus is set on exploring knowledge within the parent organization to create both corporate spin-offs and academic spin-offs. Contrary, BICs and IPIs are more focused on external idea creation. Based on their unaffiliated nature, they are more outward looking for new ideas.

A key aspect of understanding an incubation process, and how incubators operate, is to look at their mission and who they aim to support (Chan and Lau, 2005; McAdam and McAdam, 2008). Kuratko and Lafollette (1987) summarize the early differentiation between public and private incubators in terms of how they select start-ups, governance, exit policy and what kind of services they provide based on their ownership structure and profit versus non-profit mission. Von Zedtwitz (2003) argues that private incubators usually select start-ups based on extensive criteria that are similar to venture capitalists’ investment decisions. As a result, private incubators will focus on selecting more mature start-ups as they usually have a shorter time frame to go to the market in comparison to government funded and university incubators (Mrkajic, 2017). Aerts et al. (2007) looked specifically at selection and screening profiles, but could not find a significant difference between private and public incubators. Looking at the start-ups’ perspective, they regularly look at the characteristics of incubators. They base their decision of applying to a program based on what the incubator’s alumni look like and which types of incubatees are already enrolled in the program (Ruping and Von Zedtwitz, 2001).

Additionally, Bergek and Normman (2008) point to the incubators’ mission when defining their choice of process and operation. Incubators of the different categories will have diverse objectives and incentive mechanisms (Barbero et al., 2012). One one hand, the core of a public incubator is to lower the cost associated with starting up a business for entrepreneurs and providing logistical services. Incubators associated with universities have the main purpose to commercialize research. This is mainly done through services like education and providing networking opportunities (Barbero et al., 2012). On the other hand, private incubators have different purposes and objectives, where profit is more prioritized. Moreover, they are described to have a more professional character than the public ones (Barbero et al., 2012). This impacts the strategy of the incubator when it comes to selecting incubatees and the incubation process itself. Grimaldi and Grandi (2005) suggest evidence for a more engaged partnership between private incubators and their incubatees. Within this partnership, the incubator usually receives profit through either equity in the start-up, a certain percentage of its revenue, or payments in regards to offered services. Their main objective is to find ideas and start-ups with a scaling potential to quickly get the product or services to the market.
Based on the different objectives, variances in profit versus non-profit focuses and ownership structures, analyzed by Grimaldi and Grandi (2005), there will be implications of the incubator process and therefore important not to bundle all incubators together.

2.3.2. Public incubators

As stated above, the main purpose of public incubators according to Grimaldi and Grandi (2005) is lowering the cost of business by providing incubatees with services such as office space, infrastructure and consulting. However, the authors state that the nature of offered services can vary and become more customized in order to reflect the needs of their own base of incubatees. More complex services could include e.g. assistance in management, help with the business plan development, and technical expertise.

In terms of how public incubators are able to provide entrepreneurs with these kinds of services, Grimaldi and Grandi (2005) discovered by screening the existing literature, that the funding usually comes from public institutions. However, incubators can make a profit when getting fees from their incubatees. Moreover, the authors outline the common denominator for the public incubators, that they are created from the initiative by governmental authorities with the main purpose and goal to support regional development.

According to Grimaldi and Grandi (2005), the concept of BICs is the first incubator model brought to Europe, with the first one opened in Europe in 1984. The purpose of the BIC was to offer space, communication channels and infrastructure for the start-ups and entrepreneurs. In addition, the incubatees should receive visibility, information about financing opportunities and marketing through the incubator.

UBIs are initialized by the university and have the main goal of entrepreneurial education and spreading knowledge of technology and science (Jones-Evans and Klofsten, 1998). However, except for this priority, their incubation process is similar to the BIC. Furthermore, Grimaldi and Grandi (2005) mention that UBIs act as an improver for the regional and national economy with the university lending resources, time and talent from faculty members of the university. This is aligned with the research from Mian (1996) who also states that university incubators provide aid within the development of new ventures and a nurturing environment. Moreover, the author outlines that UBIs add value to the incubatees in terms of growth and survival.
The research conducted by Heydebreck, Klofsten, and Maier (2000) states that UBIs provide an important possibility to link capital, technology, and knowledge with the process of connecting it to talents. Moreover, it fastens the process of commercialization. However, Rothaermel and Thursby (2005) question the UBI’s contribution to university and industry interaction, which is stated as one of the positive upsides for a university to initialize an incubator. Nonetheless, they suggest that the proximity between incubators and universities is an important factor and their relationship is in some cases a way of transferring both, knowledge and technology. The authors show a connection between university knowledge and the incubatees’ competitive advantage.

2.3.3. Private incubators

As mentioned above, private incubators are defined as profit-oriented and initialized by either private individuals or organizations (Grimaldi and Grandi, 2005). Some examples of profit-generating activities according to the authors are: service fees, taking equity or charging a revenue percentage from the incubatees. Moreover, Hansen, Berger and Nohria (2000) state that the purpose is to, in a fast way, create new companies and to take a stake in their equity as fees. The incubators provide support for their incubatees with several early stage investments. Further, they offer them various types of services ranging from connection to their network to broader business guidance. Additionally, they support their incubatees in terms of connecting them with external partners to receive resources and competence (Grimaldi and Grandi, 2005).

IPIs are defined as incubators owned and set up by one individual or a group of individuals which may or may not be companies. Their intention according to Grimaldi and Grandi (2005) is to help entrepreneurs to create, grow and further develop their own business. An IPI invests its own money and usually holds an equity stake in the venture. According to the authors, the main support is that they offer help during the launch phase of the business and when the venture needs specific help in terms of capital or knowledge.

CPIs are, compared to IPIs, set up by larger corporations. In many cases, they follow the mission to emerge new business units or corporate spin-offs (Grimaldi and Grandi, 2005). Many of the projects originate from research projects. Often, the corporation has control over the new ventures by taking an equity stake. Nevertheless, it is not only this type of intrapreneurship and the mission to create new business units within the corporation, but CPIs can also host external and more generic start-ups. CPIs traditionally support start-ups in an
early stage, e.g. in the process of conceptualizing their business idea. Furthermore, corporate incubators as large established companies often use the incubator form to foster innovation and to encourage their own employees to come with ideas which later on can become new business units or corporate spin-offs (Hausberg and Korreck, 2018).

2.4. Incubation process

Gerlach and Brem (2015) analyzed different business studies and as a result, name three different incubation-phases that define an incubation process: pre-, main- and after-incubation. Complementary, Bergek and Norrman (2008) also distinguish three steps of an incubation process within their study: selection, mediation and graduation. Both classifications are quite similar. However, in this thesis, we use the terminology of Gerlach and Brem (2015).

As most incubators take on start-ups and entrepreneurs in an early stage, the pre-incubation phase is described as a process where incubators analyze their potential incubatees’ business ideas via different criteria. Incubatees can be solo entrepreneurs as well as start-ups. Based on chosen criteria, incubators will decide which venture they will either reject or accept to entry (Bergek and Norrman, 2008; Gerlach and Brem, 2015). Beyond that, incubators can also encourage young entrepreneurs to start their own business (Aernoudt, 2004). However, Bruneel, Ratinho, Clarysse and Groen (2012) mention that there can be a lack of the selection criteria which might lead to mismatches. In terms of selection criteria, Bergek and Norman (2008) differentiate between the idea focus and the viability of an idea, and the entrepreneur focus that centers on characteristics of the team or the entrepreneur. Furthermore, the authors distinguish between flexible criteria and more openness to selection by applying a survival of the fittest logic, and having very strict criteria to just prioritize a few ventures.

During the main-incubation phase incubators provide different resources, services and support to help their chosen incubatees to grow, develop and survive during the start-up period (Gerlach and Brem, 2015; Harper-Anderson and Lewis, 2018; Peters et al., 2004). A visual exemplification of incubators is the simile of incubators as an umbrella (Aernoudt, 2004). Summarizing the study results of different papers (Aernoudt, 2004; Bergek and Norrman, 2008; Gerlach and Brem, 2015), the main tasks of incubators include providing:

- Knowledge, coaching, professional business support, hands-on management
- Internal and external networking
- Access to new markets
- Affordable physical spaces such as shared offices
- Financial access and support
- Legal advice
- Marketing assistance
- Dynamic business development and innovation support
- Opportunity to lower costs by offering resources and shared support

Comparing these tasks with the key factors that are needed to be innovation driven (see subchapter 2.1.), it can be seen that there is a link between innovation and the incubation processes. However, Becker and Gassmann (2006) outline the importance of a constant exchange between the incubator and its incubatees within the incubation process to ensure a permanent knowledge flow. Besides, Schwartz (2009) mentions that a monitoring system for start-ups and entrepreneurs is needed to decrease their rate of failure.

The third and last phase is the after-incubation. Gerlach and Brem (2015) mention that this phase has often been neglected in former literature. Research shows that the average incubation period is about three to six years (Aernoudt, 2004; Bergek and Norrman, 2008). However, Cohen and Hochberg (2014) suggest a period of one to five years. Within this time period, the incubatees will fulfill the incubator’s exit criteria and therefore, graduate as a company. Nevertheless, a lot of companies are most vulnerable right after leaving the incubator and might need aftercare within this period. Besides, the graduated companies can function as affiliates for new incubatees in order to share their experiences (Bergek and Norrman, 2008; Gerlach and Brem, 2015).

The exit of the incubator and the ending of the incubation process is researched by Schwartz (2009), where findings reveal that the exit or ending up might have a negative effect in terms of survivability. This implies a paradoxical situation with one of the incubators main mission: to raise the rates of survival for new ventures. The main impact after graduation is the cancellation of services offered by the incubator, such as office space, networks and coaching. Therefore, Schwartz (2009) implies that the support within the liability of newness might be reduced within the graduation and exit of the incubator.
2.5. Takeaways from the theory

The innovation ecosystem is a network of multiple connected organizations with a focus on developing new values through innovation. For start-ups as conceptualizers of innovation, it is crucial to understand this ecosystem. Due to digitalization, this ecosystem is rapidly changing (Pellikka and Ali-Vehmas, 2016). Especially support networks can help to further develop entrepreneurial processes within this ecosystem which are influenced by numerous factors (Baker et al., 2005; Tötterman and Sten, 2005; Wry et al., 2011). Even though that the correlation of a venture’s success and the incubation is still relatively debated (e.g. Schwartz 2013, Tamasy 2007), incubators are described as supportive environments for entrepreneurs and start-ups (Peters et al., 2004). They can be divided into two categories: public and private (Grimaldi and Grandi, 2005). This classification, the type of ownership and different purposes and objectives have an impact on the incubation process (Chan and Lau, 2005; McAdam and McAdam, 2008). The incubation process can be divided into time aspects (from selection up to aftercare) and provided services (e.g. Aernoudt, 2004; Bergek and Norrman, 2008; Gerlach and Brem, 2015; Von Zedtwitz, 2003). Becker and Gassmann (2006) outline especially the importance of a constant exchange between the incubator and its incubatees within the incubation process to ensure a permanent knowledge flow. However, the interplay of the incubation process and the entrepreneurial process is in need of further investigation (e.g. Albo-Morant and Oghazi, 2016; Shih and Aaboen, 2017; Van Weele et al., 2017). Summarizing, five factors have been derived from the literature review as essential to further investigate our research and as a fundament for the operationalization process (chapter 3.4.): innovation ecosystem, entrepreneurial process, incubation process, types of services and the interplay of the actors.
3. Methodology

The aim of this chapter is to describe how the research was conducted and to give a further understanding of the whole research process.

3.1. Research design

Initializing the research process, a literature review was carried out to explore the existing literature in the field of entrepreneurship and incubators. A lot of research could be found on entrepreneurial processes and incubation processes. However, the interplay of those two processes looked like a valid research topic for us as it seemed to be underrepresented in the existing literature. Thus, the assembling of hypotheses about how these processes are linked to each other did not seem viable and most suited for our study (Saunders, Lewis and Tornhill, 2009). Instead, we were aiming for an explorative inductive reasoning approach (De Vaus, 2001). Especially due to the time available to conduct this thesis, the exploration in its clear form of induction as shown by Corbin and Strauss (1990) was evaluated as too extensive. Thus, we targeted to be descriptive while still focusing on contributing to the existing literature. The literature used for this study functioned as guidance. It permitted enough flexibility when dealing with the unexplored context while still facilitating the research purposefully. Moreover, we aimed to follow the approach of Dubois and Gadde (2002) to acknowledge the interconnectedness of research fundamentals in order to find navigation between empirical and theoretical components. Relying strongly on theory enables the inductive reasoning approach to become more focalized. The objective of this study is not a theory generation but rather the development of it (Dubois and Gadde, 2002).

In order to address the main research question, we intended to begin our research process by looking at theoretical descriptions of these two processes. Further, we aimed to connect these findings to our empirical research. To accomplish this purpose, the research design was based on qualitative cases. They are seen as a good way to combine existing theory with collected data (Ragin, 2001). Moreover, case studies are seen as a good method to generate novelty within a field. Using this strategy of multiple cases also facilitates the improvement of enabling replicability and comparison across the findings (Yin, 2013). Lastly, the fact that it stresses the question of the importance of the context of several cases, seemed to fit with our purpose (Dubois and Gadde, 2002).
As Eisenhardt (1989) points out, triangulation affects a study by strengthening its substance. Therefore, various methods for data collection were exploited. Next, to our primary data sources from the interviews, secondary data were used to complement those (Bryman and Bell, 2011). Secondary data sources were the incubators’ and entrepreneurs’ material as well as annual reports of the incubator’s owners and industry reports.

Saunders et al. (2009) emphasize that the manner of interaction as well as the interview questions will have an impact on the collected data. Furthermore, to be able to retain a certain degree of objectivity, it was important to take the approach of social constructionism from the interpretive philosophy into account. As a result, we tried to constantly question and understand the interviewee’s perspectives and motivations to explore their impact on our data collection and analysis (Saunders et al., 2009).

3.2. Data collection and sampling

The choice of a specific research method to examine a particular problem is seen as essential. Furthermore, every author has to critically evaluate the disadvantages and advantages of the possible methods in order to pick the one that is most fitting (Ghauri and Grønhaug, 2010).

Regarding the explorative nature of our thesis, we decided to collect qualitative data through semi-structured interviews. They seemed to be the most applicable option for our research approach and the aim to contribute to a broader understanding of the interplay of the two processes. Semi-structured interviews enable to discuss interesting questions and contents that might just occur during the conversation. Hence, they provide more flexibility than structured interviews. Furthermore, they allow the interviewee to use their own phrases and words (Saunders et al., 2009).

In terms of finding interviewees, and for accessibility reasons, we mainly looked at partner organizations to the government initiative Hack for Sweden (innovation contest), and our personal networks to find suited incubators. Before ending an interview we asked the respondents if they had recommendations of people or companies we could or should interview regarding our research. We used our first sample to establish contact with the interviewee’s recommendations of other candidates (Bryman and Bell, 2011). However, this may lead to limitations in terms of generalization. As a result, this possible lack of representativeness may lead to follow just one specific type of network and people.
The data collection and interviews were conducted in May 2019. Our first perspective focuses on incubators. We contacted a number of 25 incubators around Sweden from our judgmental sample to ask for an interview. Their responding time differed from one day up to ten days. While seven of them did not answer, nine answered that they, unfortunately, do not have time or cannot do an interview for other reasons. Hence, we eventually could arrange to interview nine Swedish incubators. Five of those were categorized as public incubators, four were categorized as private incubators. The incubators were located in or around Stockholm, Malmö, Göteborg, Umeå, Linköping and Helsingborg. At the end of each interview, we asked the incubator to reference start-ups that have been recently incubated by them. For our second perspective, we then contacted former incubatees of each incubator and mentioned the incubator as a reference. Finding start-ups that were willing to give us an interview was quite challenging as a lot of them either did not reply or refused our request by stating that they currently do not have the time capacity. Nonetheless, we could interview nine start-ups (one incubatee per incubator). These start-ups were located all around Sweden, mostly in the same city as their incubator. Most of them have finished the incubation process within the last two years while one start-up was still part but nearly at the end of the process. However, two of the start-ups finished the incubation process four or five years ago. Besides that, we interviewed Vinnova, a government authority that plays a huge role within the existence of public incubators by funding those and also initiates some further developments of the incubation processes in Sweden.

The interviewees were either head of an incubator, CEO or founder, marketing and communication manager or project manager. Even though our first aim was to conduct the interviews in physical presence, we had to hold the interviews via telephone call or video call due to the time constraint and physical distances. Within qualitative research, interviews held via the telephone is not a widely used concept. Nonetheless, within qualitative data collection Bryman and Bell (2011) state that data collection via telephone might offer some benefits in comparison to face to face interviews – especially when it comes to simplifying scheduling interviews with what they call hard-to-reach groups. While we could interpret the body language of the interviewees via video call, this was not possible for those interviews held via telephone. Nevertheless, Bryman and Bell (2011) mention that this might lead to more openness and effectiveness when the interviewer is physically absent.

16 of the interviews were conducted via telephone call (thereof seven incubators and nine start-ups) while two interviews were held via video call (both with incubators). In cases of the
incubator, the interviews had a length of 30 to 45 minutes. The interviews with the start-ups had a length from 15 to 30 minutes while the interview with Vinnova was held via phone and took 15 minutes. All interviews were held in English.

In a consensual agreement with the interview subjects, we recorded the interviews. To facilitate our data analysis and in order to be able to use exact quotations, we transcribed the interviews shortly after holding them. All of the interviewees agreed on being quoted anonymously in this paper whereas Vinnova agreed on being mentioned non-anonymously.

When taking interviews, Bryman and Bell (2011) outline the importance of being aware that biases from both the interviewer and the interviewee might influence the interview and thus, the data collection. One interviewer bias was that one of us knew some of the interviewees in person. To minimize this bias we always participated in the interviews together, so that the other one took care that we keep the neutral perspective. Bryman and Bell (2011) further mention that there will be a bias when interviewers do not transcribe exactly what the interviewees tell them. By transcribing each interview shortly after holding it, we avoided this bias. Saunders et al. (2009) mention that even though respondents are willing to participate in semi-structured interviews, they might be still sensitive about answering some questions when it comes to an unstructured exploration of the different questions. To mitigate this interviewee bias and enable them to speak more freely, we assured them anonymity in order to reach a higher quality of the collected data. By asking rather broad and open questions we avoided another interviewee bias as we did not guide them not into just one specific direction.

3.3. Respondents

We categorized the incubators into two types, either public or private. Table 2 gives an overview of the interviewed incubators whereas table 3 shows the interviewed start-ups. Further, entrepreneur one is an incubatee of incubator one and so forth. All of the interviewees are anonymized.
<table>
<thead>
<tr>
<th>Incubator (anonymized)</th>
<th>Type</th>
<th>Ownership</th>
<th>Incubatees</th>
<th>Interviewee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incubator 1</td>
<td>Private</td>
<td>Corporation</td>
<td>Employees, external start-ups and entrepreneurs</td>
<td>Director of global innovation</td>
</tr>
<tr>
<td>Incubator 2</td>
<td>Private</td>
<td>Subsidiary investment company</td>
<td>External start-ups and entrepreneurs</td>
<td>CEO</td>
</tr>
<tr>
<td>Incubator 3</td>
<td>Private</td>
<td>Corporation</td>
<td>External start-ups and entrepreneurs</td>
<td>Head of the incubator</td>
</tr>
<tr>
<td>Incubator 4</td>
<td>Private</td>
<td>Private</td>
<td>External start-ups and entrepreneurs</td>
<td>CEO</td>
</tr>
<tr>
<td>Incubator 5</td>
<td>Public</td>
<td>University</td>
<td>Technology focused start-ups</td>
<td>Marketing and communication manager</td>
</tr>
<tr>
<td>Incubator 6</td>
<td>Public</td>
<td>University</td>
<td>Students and alumni (at least 1 per group)</td>
<td>Head of the incubator</td>
</tr>
<tr>
<td>Incubator 7</td>
<td>Public</td>
<td>Government</td>
<td>External start-ups and entrepreneurs</td>
<td>Head of the incubator</td>
</tr>
<tr>
<td>Incubator 8</td>
<td>Public</td>
<td>Public actors, mainly university</td>
<td>External start-ups and entrepreneurs, (research-based)</td>
<td>Head of the incubator</td>
</tr>
<tr>
<td>Incubator 9</td>
<td>Public</td>
<td>Municipality</td>
<td>External start-ups and entrepreneurs</td>
<td>Head of the incubator</td>
</tr>
</tbody>
</table>

Table 1: Overview of case incubators

<table>
<thead>
<tr>
<th>Start-up (anonymized)</th>
<th>Founded</th>
<th>Industry</th>
<th>Time in the incubator</th>
<th>Interviewee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start-up 1</td>
<td>2016</td>
<td>Project Management</td>
<td>7 months</td>
<td>Founder/CEO</td>
</tr>
<tr>
<td>Start-up 2</td>
<td>2018</td>
<td>Food</td>
<td>6 months</td>
<td>Founder/CEO</td>
</tr>
<tr>
<td>Start-up 3</td>
<td>2016</td>
<td>Machine Learning</td>
<td>12 months</td>
<td>Founder/CEO</td>
</tr>
<tr>
<td>Start-up 4</td>
<td>2014</td>
<td>Sport</td>
<td>12 months</td>
<td>Founder/CEO</td>
</tr>
<tr>
<td>Start-up 5</td>
<td>2015</td>
<td>Energy</td>
<td>2.5 years</td>
<td>CEO</td>
</tr>
<tr>
<td>Start-up 6</td>
<td>2017</td>
<td>Virtual Reality</td>
<td>3 months</td>
<td>Founder/CEO</td>
</tr>
<tr>
<td>Start-up 7</td>
<td>2013</td>
<td>Consulting</td>
<td>6 months</td>
<td>Founder/CEO</td>
</tr>
<tr>
<td>Start-up 8</td>
<td>-</td>
<td>Life Science</td>
<td>3 years</td>
<td>Project leader</td>
</tr>
<tr>
<td>Start-up 9</td>
<td>2016</td>
<td>Furniture</td>
<td>3 years</td>
<td>Founder/CEO</td>
</tr>
</tbody>
</table>

Table 2: Overview of case start-ups
3.4. Operationalization

The conducted literature review acted as guidance for the direction of the empirical data collection. In order to better understand the derived five factors (see chapter 2.5.), they were broken down into different indicators regarding common themes that kept coming up within the literature of each factor, theoretical arguments and previous operationalizations. Further, the indicators were used in parts to guide questions. Table 3 shows the different factors, their indicators, the main underlying literature and the formulated questions of the questionnaires used for incubators and start-ups that can be found in Appendix A and B.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Indicator</th>
<th>Research</th>
<th>Question(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interviews with incubator</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovation Ecosystem</td>
<td>- Characteristics</td>
<td>- Martínez-Fierro et al. (2016)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>- Development</td>
<td>- Pellika and Ali-Vehmas (2016)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Role of incubators</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incubation Process</td>
<td>- Selection</td>
<td>- Bergek and Normman (2008)</td>
<td>2, 3, 5, 7</td>
</tr>
<tr>
<td></td>
<td>- Duration</td>
<td>- Gerlach and Brem (2015)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Exit Strategy</td>
<td>- Grimaldi and Grandi (2005)</td>
<td></td>
</tr>
<tr>
<td>Type of services</td>
<td>- How do they aim to help?</td>
<td>- Aernoudt (2004)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>- Services</td>
<td>- Gerlach and Brem (2015)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Competencies</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Networking</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Physical spaces</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Aftercare</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interplay of the actors</td>
<td>- Communication and Feedback</td>
<td>- Albort-Morant and Oghazi (2016)</td>
<td>6, 7</td>
</tr>
<tr>
<td></td>
<td>- Value Proposition</td>
<td>- Shih and Aaboen (2017)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Possible gaps in the interplay</td>
<td>- Van Weele et al. (2017)</td>
<td></td>
</tr>
<tr>
<td><strong>Interviews with start-ups</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entrepreneurial Process</td>
<td>- Process steps</td>
<td>- De Jong and Marsili (2015)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>- Experiences</td>
<td>- Garud and Gehman (2016)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Communication</td>
<td>- Kirzner (1973)</td>
<td></td>
</tr>
</tbody>
</table>
Table 3: Operationalization


### 3.5. Interview guide

As mentioned before, our interview questions were derived from the earlier presented analysis of the literature and the problem formulation. By using the chosen questions, we aimed to gain a deeper understanding of the interplay of the entrepreneurial and the incubation process.

For the questionnaires, we used open questions to get as much information as possible. Bryman and Bell (2011) stated that when using open questions, the interviewer and the respondent are more likely to engage with each other during the conversation. Moreover, open questions enable the respondents to formulate freer and also establish confidence with the interviewer (Patel and Davidson, 2011; Saunders et al., 2009). While most of the follow-up questions were also formulated as open questions, some of them were asked to proof if we have understood certain things right in order to avoid misinterpretations in the analyzing process later on. As for establishing our credibility and gaining the interviewee’s trust, we started the interviews with broader questions and then, asked questions with a more specific focus as Saunders et al. (2009) advise. However, we did some research on the respondents prior to each interview and adapted some questions in order to adjust them to each respondent.

Each interview with the incubators was initialized with a question on the interviewee’s subjective opinion about the general role of incubators in the (Swedish) innovation ecosystem. Starting off with a wide ranged question gave the interviewee a choice to focus on what they think are the most interesting aspects in this field. After that, we focused on the interplay of the two processes. To gain a better understanding of how incubators work, several questions about their strategy were asked. We finally asked questions about the relationship to their incubatees when working together.
Thereafter, we interviewed the start-ups in order to get a full perspective of the interplay of the processes. The main focus of the questionnaire for the start-ups was their interpretation of the incubation progress and the alignment of their perceptions with what they actually received from the incubator.

Lastly, when talking to a program manager of Vinnova, we wanted to gain a better understanding of the Swedish innovation ecosystem and the different actors from an “outside view”. We also asked them about the competition aspect between incubators.

3.6. Data analysis

As for analyzing the data, a process of thematic analysis with coding was followed which is described as a foundational analysis when dealing with qualitative data analysis (Braun and Clarke, 2006). To apply this process and narrow down the amount of collected data, the raw data of transcripted interviews were examined to identify major themes and ideas that afterward can be analyzed (Matthews and Ross, 2010). Themes can be created when the answers are patterned across the collected data and can be correlated to a theory or to other interviews from the same data collection series (Braun and Clarke, 2006).

In order to be able to find these themes without the influence of biases, we followed an inductive approach. Therefore, we tried to not fit the collected data into pre-existing frames or literature and not get driven by our theoretical interest. Instead, we aimed to find a connection in the data itself throughout the process e.g. by searching keywords that were used repetitively by the respondents. Nevertheless, some of our clusters and themes were influenced by the literature as the theoretical input was the base for developing our questionnaire.

As a first step, we first familiarized ourselves with the data throughout the transcription process as we recapitulated the interviews throughout this process. After that, we coded the transcribed interviews manually by generating initial codes through e.g. the search for repetitive keywords or recurrent phrases. We also paid attention to linguistic connectors like “but” or “because”. The chosen codes were transferred into a single common spreadsheet afterward. Hereafter, they were grouped and organized into different thematic categories. Throughout the coding process, we were eventually reviewing, re-coding and re-categorizing our themes once the focus became more distinct. As this process was more iterative, we followed the process recommended by Eisenhardt (1989). We allocated the themes with different colors and marked the fitting parts of the interviews in this color. In the end, we
could create two documents – one for incubators and one for start-ups – where we summarized all important information of the interviews, that were sorted by the chosen categories and sub-categories. To be able to keep affiliation, each pair (incubator and its start-up) got its own specific color. Throughout the whole process, we selected and therefore reduced the data. Finally, we came out with the following main themes that were used as a structure for the upcoming sections of findings and analysis: role of the incubator, incubation process, interplay. Example excerpts for the coding and the subthemes can be seen in Appendix C.

3.7. Validity and reliability

According to Bryman and Bell (2011), external validity is about how general the findings are and to what extent a generalization beyond our specific context of research can be made. Internal validity shows the degree of how correct the research is and if it keeps what it is promising when comparing theoretical ideas with the observations of the researcher. Subsequently, it is an indicator of the quality of the research. Reliability is about the ability of the repetition of research and its stability (Saunders et al., 2009). Thus, it shows if the research can provide consistent findings. The reader should be able to follow the questions and be able to replicate the findings from the study. Are the results of the study not repeatable, then – according to Bryman and Bell (2011) – it might lose parts of its reliability.

To increase the research validity, an important step of presenting clarification was to further explain questions to the respondents. Follow-up questions to further explore and build upon the questions with more in-depth is another method used in the research as a way of working with validity (Saunders et al., 2009). A critical aspect in the research validity is the analysis and choice of interview subjects as they all might have different experiences. However, we looked for incubators and start-ups that were relevant to our purpose and research question. Interviewing one start-up from each incubator gave us more of a 360 degrees perspective. We are aware that asking just one start-up from each incubator might lack generalizability due to individual experiences. Moreover, most of the interviewed start-ups graduated successfully from the incubator. That might cause a survivor bias as entrepreneurs who failed or ended up the incubation process earlier likely would have different perspectives (Mangel and Samaniego, 1984). Nonetheless, this offered us to explore best practices. However, all respondents provided insights that were valuable to our purpose. Besides that, secondary quantitative data like the incubators’ and entrepreneurs’ material as well as annual reports of
the incubators’ owners and industry reports were used in a data triangularization process to ensure an even higher degree of validity (Eisenhardt, 1989; Saunders et al., 2009). Triangularization is part of the mixed method where data from both quantitative and qualitative characters are used to look at patterns in the research.

Based on the character of the semi-structured interviews the reliability is lowered based on a lack of standardization compared to structured interview questions (Ghauri and Grønhaug, 2010). Based on subjective interpretation and biases from earlier experience we are aware that this has a substantial impact on the reliability. To counterbalance this issue, we aim to create a better understanding of our research process by showing transparency about the methodological choices presented in this chapter and providing the interview guide in the Appendix.

We acknowledge the possibility of alternative explanations and inferences that could be gained from our findings. These could vary from the subjective reasonings of our interview subjects. Nevertheless, by formulating the interview questions more open and also promising the respondents’ anonymity, we aimed to avoid biases of the interview subjects to ensure a higher quality of the collected data.
4. Findings

The interviewed private incubators were owned either by a larger corporation or an investment company. While three of the public incubators were (mainly) owned by a university, the other two incubators were owned by either a municipality or the government itself. Eight of the nine interviewed start-ups still exist. However, a few of them pivoted their original business idea or company focus on a new direction. Merely one start-up that was done as a project without being registered could not reach the next step of the incubation process and therefore, was ended up earlier. The structure of this chapter follows the thematic classification from the coding process.

4.1. Role of an incubator

Talking about incubators within the innovation ecosystem, all respondents agree that it is difficult to describe all incubators at once. Often it was mentioned that each incubator has its own benefits and purposes. One aspect that came up by one private incubator is that large corporations run incubators to stay relevant as active players within the ecosystem which distinguish them to most public incubators:

“*We need it to survive as a company. When it comes to other incubators that are not owned by big corporations, they mostly do it because they want to help start-ups, the labor force, the market and Sweden to grow.*” (Incubator 1)

Another private incubator sees itself as a first touching point between the big company and the start-ups. Additionally, it was said that their role is to connect start-ups to the right people and function as gate openers for them. Two public incubators mentioned that as well and added that incubators can lower the barriers for people that might not otherwise dare to become entrepreneurs. Hence, they should create a community feeling. The chemistry and environment within an incubator were mentioned as important in this context.

Besides, a private incubator owned by a subsidiary investment company stated that they want entrepreneurs to stay in their city instead of moving to other cities or even countries to get the help and knowledge they need. The respondent outlined that start-ups face differences in terms of regional conditions when they want to start a business. As a result, incubators should have the ambition to reduce those gaps. Regarding this, another incubator also said that they want to support the development of their city.
When talking about the different types, all respondents seemed to divide between public and private incubators. Just one incubatee differed more strongly between public incubators in general and those that are owned by or strongly connected to a university. Although the ownership differs, one incubator believed that the process of how they work with companies is quite similar. The fact that there exist different types was mentioned as a benefit by one start-up. It offers the opportunity to find the most fitting one.

However, one start-up highlighted the Swedish innovation ecosystem as a very supportive one when comparing it to some other countries like the UK, where the entrepreneur of this start-up has lived and worked before. This respondent felt that Sweden is investing very much in developing people which he felt was really refreshing and motivating. Interestingly, one public incubator mentioned that there are pros and cons:

“The spreading of the incubators and accelerators in the ecosystem probably has lowered the bias a little bit too much. Now we have an extremely incentivized system for citizens to become entrepreneurs, which has pros and cons.” (Incubator 6)

Lastly, three incubators raised awareness on the fact that there is not necessarily a correlation between incubation and a venture’s success. They mentioned that especially early-stage start-ups that incubators work with never have a 100 percent success rate. Therefore, start-ups that fail respectively succeed would have also failed respectively succeeded without the incubators. Nevertheless, the incubators were sure that they contribute to the knowledge, mindset and personal growth of their incubatees. This seemed to be aligned with the perceptions of the interviewed start-ups.

4.2. Incubation process

Comparing the different answers, the incubation process can be mainly divided into the categories “finding, selection and entering”, “duration and after-incubation” and “execution”.

4.2.1. Finding, selection and entering

Throughout the interviews, there were various answers about how either incubators find start-ups or vice versa. While one of the private incubators has solely an online application process for becoming part of its incubation process, all other interviewed incubators are additionally reaching out to find start-ups themselves. This is done by attending start-up related events, sending out special scouts, or getting connections through partner organizations or Vinnova.
Furthermore, incubators also make use of their network within the innovation ecosystem to reach new incubatees. Due to their connection to universities, some public incubators find their incubatees mainly among students and alumni. Three of the private incubators mentioned that they increase awareness by using social media channels. Besides, word-of-mouth was mentioned as important by the private incubators as well as by most of the public ones. Looking at the other side, the start-ups incubated by a private incubator were very much aligned with this. They named recommendations of other people like alumni or current incubatees (word-of-mouth), start-up events, and the location of the corporation respectively its incubator near to a university as first contact points. However, one start-up was initially searching for a logistics partner and joined the incubator later on after working with it. The respondents from the start-ups of the public incubators stated that they found their incubator because of its reputation or they were contacted by them.

When selecting start-ups for their process, the interviewed incubators have different priorities and preferences regarding possible incubatees. Incubators that are strongly connected to a university, outlined the importance of the link to research. Hence, teams with at least one student, alumni or Ph.D. as a team member often have higher chances to get selected for the process. Those incubators were mainly focusing on a specific sector or industry such as technology or life science. Therefore, these incubators described that their incubation process is just for a specific set of start-ups, and not for the broad start-up community. Contrary, one public incubator that was focusing on the pre-incubation pointed out their welcoming policy:

“We tried to get as many people as possible into the pre-incubator. We did not judge the potential of the business idea. We did not really care about that but we cared about the growth potential of the individual. We wanted more individuals to be entrepreneurs.” (Incubator 6)

In this context, four of the five public incubators mentioned the large importance of an ambitious team and its commitment and motivation, while the fifth one said that for them the team is important but not crucial. Asking the private incubators about the importance of the team, one incubator said that they focus 70% on the people and 30% on ideas. However, the respondent added that this incubator distinguishes from other private ones because, from a financial point of view, they are not in need of having a really big profit out of the incubation program as they are just a small part out of a big investment corporation. Two of the other private incubators were aligned that the team has to be totally committed to the project.
Besides that, one selection process stood out because this incubator takes mainly the role of a mediator within the incubation process and is connecting the incubatees to their partner corporations. Thus, the incubatees of this incubator only get selected if they are seen as being able to add something to the value chain of the incubator and their partners. Interestingly, they take in around 40% of start-ups and around 60% of scale-ups. However, when asking start-ups about the selection of an incubator, almost all of them recommended to get in contact to the incubators, see what they offer and chose the one where they think they will get the greatest outcome and where they see the best environment of working. A few of them mentioned that it also can help to look and talk to alumni or current incubatees.

When it comes to entering an incubator, all answers had in common that start-ups enter at an early stage of their entrepreneurial process. The respondents were asked if it is possible to enter the incubation process with just an idea. Two of the four private incubators said that it is possible to enter the incubation process with a thoughtful business idea even if a lot of their former incubatees have come already further than that. One private incubator differed between the incubation for its employees and for external start-ups. While they often enter within the idea stage at their employees, the external start-ups usually have come a little bit further as they often already have their first customer or a minimum viable product. The fourth private incubator stated that it is not possible to enter at the idea stage. Instead, the start-ups need to have their e-commerce already up and running as this process often takes longer than expected. It was argued, that due to this requirement all incubatees have a similar starting point and knowledge when entering the incubation process. However, all of the public incubators responded that it is generally possible to enter within the idea stage. Nonetheless, the start-ups have to fulfill certain criteria in this context. Two of the public incubators said they focus on pre-incubation. Hence, their incubatees do not need to have a business plan but should provide a further explanation or presentation of their business idea, or a hypothesis about the solution or the problem that they want to solve. Another public incubator said that the start-ups need to have a clear vision and already spoken to potential customers about the idea. Two public incubators set the focus on research-based projects or spin-offs. One of them said that ideas need to have technical proof from research data on a certain level. For them, the focus on the idea itself is more important than the people behind it. They explained that this difference is justified in the type of industry they are working with as e.g. patents are crucial there. All start-ups mentioned that they had a meeting with the incubator before entering the incubation process.
4.2.2. Duration and after-incubation

The duration of the incubation processes differs between private and public incubators where public incubators have mostly longer incubation processes than the private ones. While the processes of the interviewed private incubators have a length between five months and one year, the processes of the public incubators are taking six months up to three and a half years. An exception was one public incubator that focused on pre-incubation who had a short term process of three months. One private incubator mentioned a reason for their short term view:

“We only accept companies for six months at once. After that, you are up for an evaluation if you will enter into the next stage. The maximum length of stay that you can have in our incubator is one year. That is because we want to have a rapid evaluation of technology.” (Incubator 3)

When asked about the end of the incubation process, all public incubators stated that they usually terminate the collaboration with the start-up when reaching the official duration end. However, the incubators with long incubation processes execute an evaluation every six months to check the milestones and decide if the start-ups can enter the next stage. Three out of four private incubators described that their process also ends up strictly by reaching the official duration end. The fourth private incubator has certain criteria that are decisive for the decision of ending up the process, e.g. a certain number of full-time employees. Some of these start-ups might even become new venture units within the corporation.

All respondents mentioned that it can happen that some start-ups do not reach the end of the incubation process if something does not work out or if they do not fulfill certain milestones or criteria. Two public incubators outlined that they allow their incubatees to fail and that in those cases, they want them to fail fast.

However, even when the incubation process is over, some start-ups stood a bit longer within the incubator. One start-up mentioned that once a start-up gets a budget, it tries to stretch it as long as possible which sometimes prolongs the incubation process. Some of the start-ups stated that they still keep contact with the incubator whilst few of them are still sitting at the incubator’s office. In this context, one public incubator gave the insight that their incubatees are allowed to stay within the incubator for a second year once the first year is finished. Though, they will not get proactive support but have to ask for help when they need it.
Public incubators as well as private ones mentioned that the after-incubation is separated and outside of the scope from the original incubation process. One private incubator said that there is a possibility that the incubator becomes an investment partner by investing money into the start-up in return for getting equity share. Ideally, they then would like to exit after five to seven years. Another option that was stated is that the incubator guides the start-ups to other incubators or business angels. A private incubator that just focuses on connecting the start-ups with its partners right from the start, outlined that its partners can decide what happens afterward as they have their own initiatives, incubators, accelerators or co-working spaces where they could transfer the start-ups to. Additionally, one private incubator is currently testing the expansion of its incubator program by adding a third stage on top of the existing two. However, this stage is only available for a few of their incubatees that have been really engaged, shared what they have learned and helped others during the first two steps. On the other side, one public incubator has several programs. Thus, a lot of their incubatees stay within this incubator but switch to another program. Besides, follow-up conversations were named by another public incubator as an after-incubation element:

“What we do afterward, is that there are typically follow-up conversations at at least monthly intervals subsequent to that as you come out of the program, but not for an infinitive number of years. It is more like for the next half year after the program. A natural follow-up that we are looking to implement now is follow up on one month, three months and then six months. But this is not formally part of the program and the idea is that the program is sort of a tool in a very early stage of development for a research-based company. It is not an ongoing support system.” (Incubator 7)

4.2.3. Execution

Asked about the different provided services during the incubation process, eight of the nine incubators responded that they work with mentors or business coaches that accompany the start-ups and impart knowledge. They will do that either within classrooms, workshops or in one-to-one sessions. Most of the incubators said that these meetings take part weekly or every two weeks which was consistent with the replies of the start-ups. However, one private incubator pointed out its difference that it focuses rather on cross-collaboration than business coaching because it takes mainly the role of a mediator within the incubation process when connecting the incubatees to their partner corporations:
“We do not really do that much of business coaching. We do not manage them that much, it is not a teaching ground for the start-ups in that sense. We work primarily aiming to work to interface between the start-ups and the large corporation. We rely heavily on the engagement of our partners. That is also one of the main differences between us and the other incubators. We make sure that the start-ups get the connection to those partners and then they, in their return, also make sure that their resources are connected to the start-ups.” (Incubator 3)

The incubatee of this incubator stated that it sees the incubator functioning as a gate opener for start-ups within the large corporation:

“If I want to get into a corporation, then there is gate A, gate B and so on. There is no way of getting through the gate unless I have a scheduled meeting. I don’t know what door I am going to knock on. The incubator is one door and this door is open because they are looking for start-ups. It is an entry point and then it is a question of how we can take that opportunity and make something out of it.” (Start-up 3)

In this context, one private incubator owned by a large corporation mentioned breaking down barriers as one of its main tasks, especially when it comes to incubating its own employees. Besides, all interviewed incubators provide either their own office space which the incubatees could use or collaborate with coworking spaces. However, they all highlighted that they have their own network to which the incubatees can connect. The networking aspect was also named as the number one outcome of the incubation process by nearly all of the interviewed incubatees, followed by knowledge transfer, coaching and education. Once a start-up needs specific knowledge that is not available within an incubator, nearly all of the incubators (public and private) use their network to connect the incubatees to someone that can help them. Nonetheless, one public incubator is teaching his incubatees how and where they can find help in such cases rather than conducting connection processes for them. Example topics for the need of specialists were named as legal, branding, human resources or financing. A red line that could be seen throughout the responses was that most of the incubators outlined the importance to ask the right questions rather than giving their start-ups concrete answers:

“They know their business best. So we want to support them by asking the right questions because after the incubator the journey has just begun and they have to ask them the right questions themselves. We don’t want to give them answers but they should find them themselves.” (Incubator 4)
An important aspect that was coming up in a lot of interviews was the customization, more specifically how the process is tailored to each of the incubatees. Both types of incubators mentioned that standardization is not the right way to go for them:

“We do not believe in standardized coaching processes. So we ask them what they need, and then we have dedicated coaches that we select for each start-up, all the start-ups, no matter if they are external or internal, will get a dedicated business coach.” (Incubator 1)

„We are a broad incubator so we work with all kinds of ideas. Also, people are in different stages and so it’s really hard to have the sales seminars for everyone at the same time, we prefer one-to-one.“ (Incubator 9)

A start-up confirmed this view when mentioning that standardized models often do not fit all of the incubatees, while another start-up pointed out the importance of customization, especially when not all of the group members are at the same stage. One public incubator added that standardization models “do not make sense at all unless the incubator is extremely set for specifications” (Incubator 6). Looking at the different responses, incubators that focus more on imparting general knowledge about entrepreneurship and the entrepreneurial process, tend to have less customization than the ones that focus strongly on the further development of the entrepreneurial process of each incubatee. When looking at the start-up perspectives, all incubatees of incubators that described themselves as customization-focused confirmed that they had either one-to-one sessions with a mentor or business coach or experienced individual help by talking to other incubatees in group workshops.

4.3. Interplay

The answers that were related to the interplay both of the processes, as well as the different actors, can be divided into the sections “communication”, “satisfaction”, “gaps” and “improvements”.

4.3.1. Communication

As asked about their communication, all interviewed incubators mentioned that they try to be clear and precise right from the beginning in a meeting with their incubatees before starting the incubation process. They want to make sure that the incubatees understand how it works. Therefore, the incubators said that they communicate what the incubatees will get in the
incubation process and also what not. However, the 360 degrees perspective showed that not all of the start-ups agreed that the incubator always manages to communicate clearly. While one start-up from a private incubator mentioned that incubators should communicate more clearly what they are looking for and their expectations, one start-up from a public incubator recommended that the incubator should better communicate its values and which range of services they can provide.

### 4.3.2. Satisfaction

Asked about the alignment of their expectations with what the incubator offered, nearly all incubatees were satisfied with what they got out of the incubator. Three of four incubatees from private incubators said that they did not have any or not high expectations when they entered the process, while the fourth one mentioned that even though they had high expectations, the incubator could exceed those. However, one start-up stated that the engagement was not as extensive as they had hoped because they felt that they already had knowledge in those areas where the incubator was most prepared to advise on. Additionally, an investment did not materialize which they felt was disappointing. Four of five incubatees from the public incubators confirmed that their experiences were well aligned with their expectations, while one also did not have clear expectations when entering the process. One of them mentioned that the expectations changed over time when they learned more about how it all works and that it takes luck as well as a good organization. They learned that they had to plan ahead a lot more than they thought before in order to try not to fall into all the traps that they can fall in along the way of their entrepreneurial process.

Throughout the interviews, there were different kinds of benefits named that the incubatees received out of the incubation process for their further entrepreneurial process. Almost all of the incubatees agreed that the biggest benefit of working with the incubator was the access to their network and that the incubators helped them to find the right contacts. Especially the incubatees that were having one-to-one meetings or an active discussion with other incubatees said that they have learned a lot. Regarding this, one incubatee outlined that its business has grown a lot quicker than it probably would have without this incubator:

> “My business was growing much quicker than if I would have been sitting at home. My early stage mentor had a lot of people that I could reach out to and also all people that have been sitting there were creating a business in one way or another. That meant that we also could help each other a lot even though everyone was new.”
That was really helpful. Also their business advice was really good, and all the steps you need to go through because it makes you realize how important it is to be visible. Also, the energy there is really positive.” (Start-up 9)

However, the environmental aspect differed between the start-ups. Two start-ups that were incubated by public incubators emphasized that these incubators need to enlarge their emphasis on the environment. They recommended to more nurture an entrepreneurial start-up culture and “let’s conquer the world” (Start-up 6) feeling that they felt was missing during their stay in the incubator.

As mentioned before, almost all incubators felt that it is important to ask the incubatees the right questions. Start-up from each type of incubator set statements that underline the importance of asking those right questions, thinking about another perspective and thus, conveying a better understanding of the whole entrepreneurial process:

“I think it is very good to have some experienced entrepreneurs around you that don’t have your project as their baby so that they are more checking that you are doing it the right way. They will ask you the right questions to double check if you go into the right direction so that you don’t fool yourself”. (Start-up 5)

“I wouldn’t say we understood all of it but we got lots of door openers to understand what we needed to improve and what we needed to work on.” (Start-up 4)

“Even that our project was ended up, I have a much better idea of what I need to do in the future and how to get it to work – and a much better idea of how important it is to get contacts and have a good network. And also that you are really planning one or several years ahead of where you are at the moment and a really good understanding of what the market is and where your niche is.” (Start-up 8)

Another start-up from a public incubator outlined that incubators are trustworthy and reliable sources of information and provide their start-ups with a lot of knowledge. Therefore, they create a good foundation for the future path of the start-up.

4.3.3. Gaps

Talking about if the incubators have experienced a non-alignment of expectations or early drop-outs from their incubation processes, all of them were honest in admitting that this always can and does happen, even though it is not the usual case. Nearly all of them have had
start-ups leaving the incubation process earlier for different reasons such as running out of money, not reaching certain milestones or changing their directions.

Asked about gaps that either have been coming up in the past or could occur within the interplay, one private incubator mentioned that some start-ups want the incubator to have all the answers, which they say they do not have. Instead, it is a learning process where also the incubator learns as it goes. Especially when it comes to customization, this incubator pointed out that they “do everything a little bit for the first time” (Incubator 1). Another private incubator added that a lot of start-ups want specific advice of what to do, e.g. which platform to use, whilst the incubator just gives a broad overview of what would be possible in order to support a learning process. One public incubator added that there might be a gap within their execution power when start-ups have a well-designed strategy but expect or want someone else to execute it. Furthermore, start-ups might ask for other people to join and then, cannot manage them as they often do not have experience in managing people. In this regard, this incubator also mentioned that some of the incubatees expect the incubator to recruit people for them (in most cases, a developer is missing), which the incubator does not see as their task. Contrary, they want to teach them how to find these people themselves.

However, a public incubator asserted that not all start-ups know what they want or that they often do not know what they do not know. Thus, it was seen as quite challenging to guide them in the right direction. Nevertheless, this point of view was affirmed by its incubatee that was highlighting its own changing expectations throughout the process. Additionally, an important aspect mentioned by incubatees from both types of incubators was that start-ups often want and tend to do many different things at once. As a result, there is a higher risk of lacking to see the endgame and losing focus. Thus, it was stated the incubator should take care that an incubatee keeps its focus and is always going back to its goal. Moreover, it was said that the incubators should help their incubatees to stay on the right track to keep the right order of steps, to take care they do not do things the wrong way around.

When it comes to networking, a public incubator outlined that this is one of the most important, but also one of the most difficult parts within the incubation process. As some incubatees are more skilled than others to network and make use of it, the incubator feels that it cannot really coach the networking part; and this might cause gaps in the interplay as well. Looking at the other perspective, two start-ups of public incubators emphasized that the
incubators need to be sure to have the right network for the respective industries that those start-ups are working in before taking them in.

Regarding corporate incubators, a start-up incubated by a private one raised the awareness on the fact that large corporations are usually not used to work with start-ups, and that this could create several gaps. Hence, movements from both sides are needed:

“*The whole thing with start-ups and collaborations is pretty new to most of these companies. They have to work in a conscious active way to enable that they work with start-ups. Contrary, the start-ups have to really put their heart into trying to meet the requirements and also understand the conditions, and why there is a need for structure when working with the enterprises. This is necessary; it is not going to be happened by itself.*” (Start-up 3)

Another start-up that was incubated by a private incubator added that start-ups have to be really careful when working with large corporations. Further, the respondent outlined the necessity for corporate incubators to really take care of breaking down barriers:

“*Companies these days want to get into the whole start-up ecosystem but they are still big companies. Corporate incubators can be almost dangerous for start-ups to enter as you are still hitting the walls of traditional corporate limits.*” (Start-up 1)

Moreover, these two start-ups pointed out that incubators need to be cautious when selecting mentors and business coaches. They recommend that those should be people that grew and built up companies themselves. These people should bring in start-up experiences, not only corporate experiences in order to help start-ups within their early stages.

Another gap that might occur, as stated by a private incubator that functions mainly as an intermediary to connect start-ups to its partners during the incubation process, is that it cannot promise that the start-ups will create their product or enter one of the partner organizations at the end of the incubation. The respondent further outlined that within this incubator, there is a lot happening between the partner organizations and the start-ups that they as an incubator cannot influence. Hence, the partner side is more likely to fail.

Besides that, one private incubator acknowledged that a lot of start-ups are interested in having a longer partnership with them. Additionally, another private incubator noted that
some incubatees would want the incubators to invest capital in them, which they do not offer. Both aspects were aligned with some responses of the incubatees.

Finally, one incubatee of a public incubator stated that some ideas are too early and therefore, tend to fail. Especially the difference between the two worlds of research and business was described as challenging because both worlds are based on two different mindsets. Asked about a possible solution for that, the incubatee recommended providing education to let incubatees understand how the whole process works. This could be done through either an online course or a specific master program at the university. He also mentioned that it is important that an incubator rejects a project when they see that it is too early. In those cases, they should tell the potential incubatees to come back once they have come further with their research and gained a better understanding of where to go with this project.

### 4.3.4. Improvements

All interviewed incubators mentioned that they are trying to constantly improve their incubation process by gathering feedback from both their current and old incubatees. This is done through open discussions, personal meetings or evaluations and surveys during and after the program. One public incubator was also working with a net promoter score to measure if the program met the expectations of the incubatees and if they would recommend it to someone else. Furthermore, a private incubator pointed out that they execute an open dialogue with other incubators in order to examine best practices. For most of the public incubators, the guidelines and focuses of Vinnova were also mentioned as an influencing factor for the development of the process design. However, a common interval that most incubators used for analyzing checkpoints was six months. The following quotes of two public incubators sum up what all incubators agreed on:

“*You need to be innovative, to question yourself and adapt to changing surroundings.*” (Incubator 8)

“*Incubator programs can never be static. I mean, it cannot be static for more than half a year or every semester. For example, many of the incubator companies in the past did not want or raise money but now I would say that this is our strongest area where we help the companies. It has changed very fast. The companies need or focus on different things, so it’s really hard to have a program at all.*“ (Incubator 9)
Likewise, one start-up of a public incubator affirmed that and added that public incubators sometimes can be a little bit old-fashioned. Another one noticed that there are often a lot of internal processes and rules that lead them to be very slow. Both agreed that these incubators need to be faster in helping their start-ups due to the fact that especially in the early days a lot of things can happen in a short period of time.

Finally, two public incubators noticed that the whole innovation system should work more closely together. Although some incubators are already working together, they outlined that they could corporate much more than they do right now. Asked about the competition aspect in this context, a public incubator answered that there is not much competition between the incubators. There just might be one such case, when competing for money from Vinnova as they are not supporting as many incubators as they used to do in the past. Talking to Vinnova, they are aware of this competition as they always have open calls for giving out funding. These open calls give them a chance to find organizations that use the money in the best way. Nonetheless, they emphasize that it is good that incubators feel that competition in a way as it leads them looking at each other, finding best practices and getting better.
5. Discussion

Likewise, chapter four, the structure of chapter five follows the thematic classification from the coding process. It compares and discusses our findings with the theory of the existing literature. Based on that, a framework will be created that represents the interplay of the incubation process and the entrepreneurial process.

5.1. Role of an incubator

Looking at the theory carried out by Bergek and Norrman (2008) and all responses of the interviewees, there is a consensus that it is difficult to describe all incubators at once as they have different focuses, interests or goals. However, the categorization into public and private incubators mentioned by Grimaldi and Grandi (2005) seemed to be aligned with all responses. They further outline that the incubators’ ownership has an influence on the incubation process and focus. Their statement that corporate business incubators and university incubators are more inward-looking, while the other incubators are more focused on external idea creation is mostly aligned with the findings from this study. In cases of the incubators that were strongly connected to a university, the inward-looking aspect is represented by focusing on a specific sector or industry and the research foundation of the start-ups’ projects. Some of those incubators seem to be more inward-looking by searching their candidates among students, alumni or Ph.D.s. In cases of the corporate incubators, it varies in the sense of that one incubator takes in their own employees as well as external start-ups, while the other ones just take in external start-ups.

When talking about the influence of the different types of incubators on their role, a majority of the respondents stated that this role is dependent on the incubators’ motives and objectives. The data from our findings show that specifically corporate incubators use start-ups to stay relevant and create innovation and new venture units. This fact is supported by Hausberg and Korrek (2018). The authors argue that large established companies often use start-ups to foster innovation and create corporate spin-offs. Contrary, other incubators said that they aim to support economic development and regional growth. This is aligned with the research of Aernoudt (2004), where incubators focus on regional business and growth. However, only two incubators highlight the importance of helping their respective cities’ entrepreneurial community to grow. Nonetheless, an interesting finding is that just one of these incubators
was a public one, while the other one was private – as this is usually a typical characteristic of public incubators (Grimaldi and Grandi, 2005).

One primary aspect of incubators in our findings is their mission to not only connect start-ups with the right people but also teaching them how to connect themselves. Furthermore, lowering the barriers and open doors for entrepreneurs was exposed within the interviews. As these two aspects are not explicitly outlined within the existing literature, adding those points is important when talking about the role of incubators. Besides, the responses were aligned with a lot of articles from existing literature, that incubators contribute to the incubatees’ knowledge, mindset and personal growth (Gerlach and Brem, 2015; Harper-Anderson and Lewis, 2018; Peters et al., 2004). In addition, two respondents argued that incubators encourage an increasing amount of people to become entrepreneurs that otherwise might not dare to do that.

5.2. Incubation process

As for analyzing the incubation process in a structured way, this subchapter follows the structural subdivision of subchapter 4.2. where the incubation process was divided into the categories “finding, selection and entering”, “duration and after-incubation” and “execution”.

5.2.1. Finding, selection and entering

The process of finding, selecting and entering is described as the pre-incubation phase by Gerlach and Brem (2015). However, it has to be considered that the term pre-incubation has another meaning when interviewees stated that they are focusing on pre-incubation: they meant that they enter the entrepreneurial process at a really early stage and provide more general support for the personal growth of individuals rather than judging ideas.

Within the findings, there were variations in terms of how incubators find incubatees. Every incubator, except one private one, reaches out personally to potential incubatees by attending events and using their network as techniques for getting in contact with them. Besides, some incubators additionally rely on their social media presence and word-of-mouth. Theory shows that having a continuum of applications with a high standard is a key factor for an incubator (Patton, Warren and Bream, 2009). Hence, incubators commonly engage in marketing activities (Aaboen, 2009). However, the existing literature is lacking to highlight specific tasks and activities carried out by incubators to find new potential incubatees.
While Bergek and Norman (2008) set a focus on both criteria the idea and the individual respectively team to select incubatees, the approach of the last focus is more evident in this study. Regarding those selection criteria, four out of five public incubators mentioned the team as a crucial factor. One private incubator stated that it focuses 70% on people and 30% on ideas. The importance of the entrepreneurs and their personality is aligned with Schumpeter (1934).

As for selection criteria, there is a divide between those incubators having an open policy and a non-judgmental approach to the idea versus those with specific requirements such as the necessity to be research-based by some incubators that are strongly connected to universities. However, there was no evidence in this study to support Mrkajic’s (2017) argument that private incubators focus on more mature start-ups than corporate ones. Neither can this study confirm a difference between the extensiveness of criteria between public and private actors, as suggested by Von Zedtwitz (2003).

A key aspect of selection, mentioned by one private incubator, is the need for a fit to the overall corporate strategy which is also approved by Hausberg and Korreck (2018) who remark on the specific selection of corporate incubators. While a few incubators follow a rather broad selection of their incubatees, most of the interviewed incubators had stricter criteria. This is aligned with Bergek’s and Norrman’s (2008) distinction of incubators having more flexible and open criteria by following the survival of the fittest approach versus incubators being strict with their criteria in order to prioritize just a few ventures. Consequently, this study contradicts the results from Aerts et al. (2007) who found no significant differences in establishing criteria and choosing incubatees between public versus private incubators.

Regarding the selection of incubators from the start-ups’ perspective, they all advised talking to the incubator before entering in order to see if there is a right fit and to check which services they provide and which environment can be expected. Further, a few incubatees mentioned that they also looked at or talked to alumni and currently enrolled incubatees. This is supported by Ruping’s and Von Zedtwitz’s (2001) research where entrepreneurs frequently look at both characteristics and alumni in order to decide which incubator is the most suitable.
5.2.2. Duration and after-incubation

Looking at the findings, the duration of the incubation processes differs between private and public incubators. The interviewed private incubators are operating within a time frame of five months up to a year, while the processes of the public incubators have a length of six months up to three and a half years. An exception was one public incubator who had a short term project duration of three months as it was solely focusing on pre-incubation. Comparing these findings with the existing literature, there is a disparity. The existing literature outlines an average incubation period between three to six years (Aernoudt, 2004; Bergek and Norrman, 2008) or suggests a period of one up to five years. Therefore, there seems to be a development towards shorter incubation processes.

Throughout the incubation process, some of the interviewed incubators have a clear structure of how to evaluate incubatees and their progress. Due to this, they provide targets and milestones that have to be fulfilled to reach an upcoming process stage. However, an important aspect is that all of the incubators have experienced some drop-outs of former incubatees in the past. Regarding drop-outs of failings, two public incubators clearly stated that if incubatees are to fail, they rather want them to fail fast. This is aligned with Schwartz (2009) who points out the importance of monitoring start-ups to decrease their rate of failure.

In terms of the after-incubation phase, three out of the four private incubators said that they end up the process strictly, whereas the fourth one offers an opportunity for some incubatees to enter a partnership based on traditional investment and venture capital models of decision. This type of partnership is described as usually being part of the selection criteria of the main-incubation phase rather than being part of an exit process (Von Zedtwitz, 2003). According to our findings, some of the interviewed incubators do not end the relationship with their incubatees fully when reaching the official process end. Instead, they still have regular contact with the alumni even though it was emphasized that it is not an ongoing support system. Additionally, one public incubator offers office space up to one year after the official process end – without proactive support but with the possibility for start-ups to ask for help. Some other incubatees still have their offices within the incubator’s location. Furthermore, one public incubator actively guides some alumni to business angels or other incubators. These are important factors as incubatees are most vulnerable after exiting the incubator (Bergek and Norrman, 2008; Gerlach and Brem, 2015). Moreover, the (abrupt) removal of affordable office space, networks and coaching consequently lower chances of surviving (Schwartz,
2009). However, this offers the potential for incubators to attract new start-ups when creating a platform for knowledge transfer.

5.2.3. Execution

The execution of the incubation process happens within the main-incubation phase mentioned by Gerlach and Brem (2015). In this phase, incubators provide different resources and services to help their incubatees to grow and develop within the entrepreneurial process (Gerlach and Brem, 2015; Harper-Anderson and Lewis, 2018; Peters et al., 2004). The findings reveal that this is mainly done through business coaches, mentors and different workshops. However, one incubator who does not provide specific services by itself as it works as an intermediary between its partners and the incubatees stands out when looking at the definitions of incubators in the literature. Besides, while it is stated that incubators often connect start-ups to their network, the findings show a second trend: instead of connecting them, they rather teach their incubatees how to find contacts and get connected themselves. Further, almost all interviewed incubatees designated networking as the number one outcome of the incubation process. Tötterman and Sten (2005) strengthen this by outlining the importance of support networks for start-ups through which they get help to develop their entrepreneurial process. Further, Leyden and Link (2015) draw a link between networking and the conceptualization of innovation that some incubators also mentioned within the interviews.

Besides, Schumpeter (1983) emphasizes that the ability to be and think like an entrepreneur can change when putting the entrepreneurial process into practice and therefore, is not a lasting condition. This can be related to what one of the incubatees highlighted, that working with an incubator is beneficial as start-ups might need help from an independent person or mentor that takes care of staying on the right track.

While the aspect of customization was revealed as an important factor of the incubation process within the interviews, it was rather underrepresented in the existing literature. Grimaldi and Grandi (2005) outline that the nature of offered services can vary and become more customized to achieve a better fit and reflect the needs of their incubatees. They emphasize that a newer area of incubators accentuates more on specialized services to help their incubatees speeding up the entrepreneurial process. Additionally, the entrepreneurial process described by Johannisson (2005) as a creative organizing could implement that the standardization of an incubation process might be difficult.
When comparing private and public incubators, the literature showed some differences that were just partly aligned with our findings. Grimaldi and Grandi (2005) acknowledge that within a private corporation-owned incubator, the incubation process can be executed either through intrapreneurship by incubating their employees or by hosting external start-ups. Within the sample of this thesis, there was one incubator working with both. Furthermore, Grimaldi and Grandi (2005), as well as Hausberg and Korreck (2018) state that private incubators were set up by larger corporations that, in many cases, follow the mission to emerge new business units or corporate spin-offs. This was just the case for one private incubator when incubating its employees, usually not when incubating external start-ups. Another private incubator demonstrated that the incubatees may get a partnership with, or will be implemented within the partner organizations. The other two private incubators’ and all public incubators’ incubatees remained separated from the incubator after the process. When it comes to purposes, Hansen et al. (2000) allege that the purpose of private incubators is to quickly set up new companies and taking a stake in their equity as fees. This was not aligned with our findings as any of the interviewed private incubators charged fees. Regarding equity share, just one incubator mentioned that becoming an investment partner of a start-up in return of getting equity share might happen – but just after the incubation process has been finished. Looking at public incubators, Grimaldi and Grandi (2005) mention that those offer mainly office space, communication channels and infrastructure for the start-ups. Jones-Evans and Klofsten (1998) add that they focus on entrepreneurial education and spreading knowledge of technology and science. This is aligned with the findings. Both public incubators and their incubatees agreed that incubators can build a bridge between research and business. Heydebreck, Klofsten and Meier (2000) also mentioned this aspect.

5.3. Interplay

The interplay of incubators and incubatee begins with the initialized first contact and either finishes with the end of the incubation process or continues (non-proactively) by keeping contact. This subchapter follows the structural subdivision of subchapter 4.3. and divides the interplay into the sections “communication”, “satisfaction”, “gaps” and “improvements”.

5.3.1. Communication

One aspect that stood out concerning the incubators’ purposes within communication, was being precise within the expectation management in order to create an understanding for their incubatees. Nonetheless, two start-ups from private incubators stated that proper expectation
management regarding clarifying the process was lacking. The fact that clarity in the communication is necessary within the interplay of the actors is not explicitly mentioned in existing literature but was highlighted numerous times in our findings. Furthermore, the communication of an incubator’s values and the concrete services offered was also mentioned as important.

5.3.2. Satisfaction

All incubatees responded that they were satisfied with their incubation process. Nonetheless, some of them clearly stated that they have had low expectations. However, expectations are dynamic and can change during the incubation process, as acknowledged by one incubatee. In addition, all incubators affirmed that drop-outs can happen when e.g. incubatees change their direction or run out of money. According to Schwartz (2013), these drop-outs or failures would also happen regardless of the incubator.

Furthermore, almost all start-ups agreed that the network is the primary benefit of an incubator. This is aligned with Baker et al. (2005) and Wry et al. (2011) who describe the influence of networks on the entrepreneurial process as huge. Additionally, guidance and asking the right questions were also seen as important benefits. Having an objective incubator was highlighted as helpful from a number of incubatees. Nevertheless, one start-up was dissatisfied with the competence level of the incubator based on a non-customized program.

Moreover, one incubatee denominated the incubator as a trustworthy source of knowledge. In the existing literature, the mediation of knowledge is referred to as one of the incubators’ main tasks (Aernoudt, 2004; Bergek and Norrman, 2008; Gerlach and Brem, 2015). Nonetheless, a few incubators emphasized that some start-ups are looking for specific advice in terms of what to do or want the incubator to do the execution for them e.g. recruiting people. Further, they want the incubators to have all the answers whereas the incubators cannot provide that and often just give more general advice. This is aligned with the key takeaway of Eveleens, van Rijnsoever and Niesten (2017), that incubators are not a place to solve all the start-ups’ problems.

5.3.3. Gaps

While one incubator acknowledged that incubators should provide the right knowledge within the incubation process, an incubatee recommended educational courses in cases of transferring research-based projects into businesses before actually joining the incubator. This
gap is aligned with Peters et al. (2004) who indicates that to support the incubator’s success, a coaching program and education should be based on the incubatees’ needs and should be customized regarding the feedback.

When it comes to networking, one incubator emphasized that each start-up has a different ability to network. As this is seen to be difficult to coach, it sometimes puts the incubator in a tough position. Leyden and Link (2015) highlight the importance of an entrepreneur’s social network when saying that it is the initial point of the conceptualization of an innovation process. However, two incubatees implied that the incubators need to make sure to be able to provide the right network before taking start-ups into the process.

Within more dynamic markets and the side effects of digitalization, product life cycles become shorter and competition higher (Pellikka and Ali-Vehmas, 2016). That indicates the importance of further evaluating an incubatee’s idea and fasten up processes. In this context, our findings reveal a gap as some incubators’ processes were assessed as too slow e.g. due to internal bureaucratic processes.

Looking at the environmental aspect, Aaboen (2009) highlights that incubators need to have an innovative culture in terms of operation, process and policy to successfully develop new ventures, which is aligned with the responses. Nonetheless, some incubatees determined that the right climate was missing, especially within corporate incubators. Thus, they suggested that coaches and mentors should have entrepreneurial experiences, not only experiences in a large corporation. However, the topic of culture and climate was not carried out very extensively in the existing literature but was one of the key aspects throughout the interviews.

Another gap was mentioned in terms of the duration of the relationship and the aftercare as one private incubator acknowledged that incubatees often want longer relationships. The after-incubation is often neglected in the existing literature. Nevertheless, many start-ups are most vulnerable right after leaving the incubator (Bergek and Norrman, 2008; Gerlach and Brem, 2015). Thus, a careful exit might reduce risks.

5.3.4. Improvements

Both types of incubators agreed that they cannot be static and need to improve their processes constantly. The main way how incubators work with improvements is based on the feedback they receive from their incubatees. All incubators said that they gain feedback through open discussions, personal meetings and surveys. Becker and Gassmann (2006) stress the
importance of a constant exchange between incubators and the incubatees. Using incubatees to share experiences and feedback has a useful impact on the incubation process (Bergek and Norrman, 2008; Gerlach and Brem, 2015). Besides, one incubator uses the key metric of net promoter score to check if the incubatees received what they expected and if they would recommend the program to a fellow entrepreneur. Nonetheless, Barbero et al. (2012) argue that it is difficult to find good measurements in terms of quantifying success.

Aside from that, the connection of the whole incubation network was highlighted by two of the incubators as they suggested a more united force of incubators to foster further improvements and best practices in terms of incubation processes. However, this aspect is not outlined specifically in the existing literature.

5.4. Framework

Based on the analysis and due to surprisingly small differences between public and private incubators given their varying circumstances, we created one framework applicable to both types (Figure 1). It represents the interplay of the incubation process and the entrepreneurial process. The pre-incubation phase includes the finding and selection where incubators try to reach out to start-ups and vice versa. Different criteria have to be fulfilled by the start-ups for entering an incubation process. This happens in an early stage of the entrepreneurial process that, depending on the incubators’ objectives and purposes, ranges from idea-stage to first commercial experiences. The execution can be divided into two phases. First, start-ups should create a fundament by gaining general entrepreneurial knowledge and mindset. Second, a further development of their idea can be achieved by providing office space where they can work-along and exchange knowledge with other incubatees, and by having meetings with external experts, mentors or coaches. In this phase, it is crucial that the incubatees learn how to do things themselves to become more independent from the incubator in order to be prepared for the time after the incubation process. The stage of the entrepreneurial process at the time of ending up an incubation process depends on the lengths of incubation and the previous stage of the start-up when entering the incubator. Within the after-incubation phase, a non-proactive aftercare was developed as useful. Thus, mismatches can occur when there is no aftercare at all. Further, mismatches can emerge when the right entrepreneurial environment or culture is lacking, when expectation management and communication are insufficient or when the incubator does not have the right network of its incubatees’ industry. The funding aspect needs to be considered carefully as it might also cause mismatches.
Figure 1: Framework of the interplay
6. Summary and final remarks

The purpose of this paper is to answer the question of how the entrepreneurial process and the incubation process relate. As for gaining a better understanding of the interplay, the conducted 360 degrees perspective brought valuable insights.

6.1. Conclusion

Although all respondents and the existing literature agree that describing all incubators at once is difficult, a division into public and private was proved as applicable. The suggestion that the ownership influences the incubators’ purposes, missions and objectives can be confirmed within this study. However, given their varying circumstances, the differences between the incubation processes of both types were surprisingly small. Hence, a framework applicable to both types of incubators was created that pictures the interplay of the processes.

An interplay begins with the first initial contact between incubators and incubatees. The findings of this study conclude that all interviewed incubators enter at an early stage of the entrepreneurial process that ranges from the idea-stage to first commercial experiences. Nonetheless, there is a lack in the existing literature as there seems to be a development towards shorter incubation processes when comparing our findings with the durations presented in the theory. However, the suggestion that private incubators tend to work with shorter durations than public incubators could be confirmed. Besides, it was shown that the after-incubation phase is important but often neglected in the existing literature even though that new ventures are most vulnerable right after leaving the incubator. Thus, a careful exit might reduce risks.

Based on our findings, an incubation process contains two types of execution. First, start-ups acquire entrepreneurial knowledge and mindset through education in order to create a fundament for their further entrepreneurial journey. Second, incubators provide guidance and support through one-to-one meetings, mentors, coaches or external experts, and by providing office space. Aside from the importance of customization, the exchange of experiences with other incubatees was highlighted as helpful. Nonetheless, one aspect was underrepresented in the existing literature: instead of e.g. providing the network for them, start-ups have to learn how to network themselves. Hence, learning how to handle certain things independently
through unbiased people asking the right questions is a key factor where the incubation process supports the entrepreneurial process from a longterm perspective.

Examining the alignment of the incubatees’ expectations and perceptions with the incubators’ purposes and the outcome of an incubation process, it remarkably turned out that many incubatees had low or no expectations. This might raise the question if they see the incubator as a tool for development. However, their expectations changed during the incubation process. Our findings suggest that continuous communication throughout the whole process is crucial in terms of expectation management and for improving the incubation process. This study illustrates that incubators need to constantly improve their processes due to changes of external surroundings and other conditions. Within this fast-developing and increasingly complex innovation ecosystem, incubators play an important role as facilitators for start-ups by guiding and supporting them through a part of their entrepreneurial process.

Generally, this study shows that incubators lower existing barriers for start-ups, especially within the incubators of larger corporations and by encouraging people that otherwise might not dare to become entrepreneurs. Despite the fact that the relationship between the success of a start-up and its incubation is difficult to measure and often even questioned, the study shows that the incubation has a positive effect on the entrepreneurial process where the main positive effects were named as networking, knowledge transfer and education. Nevertheless, one incubator mentioned that the spreading of incubators causing an extremely incentivized system for people to become entrepreneurs has pros and cons.

6.2. Contribution

Our thesis contributes to the field of entrepreneurship literature and incubation literature by exploring and analyzing the interplay of the entrepreneurial process and the incubation process that seems to be underrepresented in the existing literature. We further explored the role of the incubators, their processes and how they see themselves within the innovation ecosystem in the context of fostering entrepreneurship. By using a data triangularization and aiming for a 360 degrees perspective, we gained new insights on the alignment of the aimed procedure and support of the incubators with the needs and expectations of the start-ups. Looking at both perspectives and perceptions provides a reality check that deepens the understanding of this interplay as the former literature widely just researched on one
We further explored gaps within the interplay that could be used to improve the interplay in the future.

6.3. Limitations and future research directions

It has to be acknowledged that this paper has some noteworthy limitations. From a methodological point of view, the chosen sample might lack generalizability and representativeness. Both the chosen Swedish incubators and incubatees do not inevitably represent the view of all incubators respectively incubatees globally, and eventually not even within Sweden. Furthermore, we interviewed just one incubatee per incubator. Their expectations, perceptions and experiences are individual and might not be aligned with those of other incubatees, especially when considering the survivor bias. Therefore, future research could make an analysis with all incubators in Sweden and a bigger sample of incubatees, including more start-ups that dropped out earlier in order to get an even clearer view on the interplay. Another suggestion would be also to develop such a study with a focus on best practices that can be found within the system.

Besides, the interviews were not conducted over a longer time horizon but at one specific time interval. Due to rapid changes in the ecosystem, it lacks in representing changes of the interplay. Analyzing changes of the interplay and the impact of changing external surroundings seem to be a viable research field for future research. Examining if the interplay differs in times of an economic crisis versus economic growth would help deepen the understanding of how external factors influence this interplay. Moreover, future research could look more detailed into the impact of different locations, e.g. how incubation processes differ in a capital or big city versus a smaller city.

Lastly, as networking was one of the main important things within the interplay, broader research on this aspect would be of interest. Those networks might differ depending on the scopes of the incubator. Thus, future studies could investigate the process of finding networks to gain new insights on the effect of collaborations on the improvements of incubation processes.
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Appendix A: Interview guide for incubator

1. How do you see the incubators role in the Swedish Innovation Ecosystem?
2. How and where do you find and select start-ups?
3. When do you usually plan to enter within the entrepreneurial process?
4. How do you aim to support start-ups during the incubation process?
5. When do you usually plan to exit and end up the incubation process?
6. Which possible gaps could occur or did already occur when comparing the incubation process and your value proposition with the entrepreneurs’ perceptions and expectations?
7. How do you work with improvements regarding the feedback of your incubatees?
Appendix B: Interview guide for start-ups

1. In which step of your entrepreneurial process did you get in contact with the incubator or enter the incubation process?
2. How long have you been part of the incubator?
3. How well were your perceptions aligned with the incubator’s value proposition and what they offered?
4. What could have been improved?
Appendix C: Coding (thematic analysis)

Excerpt example coding incubators

<table>
<thead>
<tr>
<th>INCUBATION PROCESS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ENTERING</strong></td>
</tr>
<tr>
<td>- incubator 1</td>
</tr>
<tr>
<td>- Employees: “We enter when they have an idea, so we support, when an employee come with an idea, that they have thought about a problem and they have an idea, maybe they have a prototype.”</td>
</tr>
<tr>
<td>- Start-up: “usually external startups have come a little further, so if they are an external startup, they mostly have their first customer, their MVP”</td>
</tr>
<tr>
<td>- incubator 2</td>
</tr>
<tr>
<td>- wide scope, either pure thoughtful business idea or established company that is up and running (1-2 years) almost all so far business model stage</td>
</tr>
<tr>
<td>- incubator 3</td>
</tr>
<tr>
<td>- Broader perspective: supporting process that is not end-customer critical + new technology</td>
</tr>
<tr>
<td>- Idea stage possible</td>
</tr>
<tr>
<td>- incubator 4</td>
</tr>
<tr>
<td>- Very early stage but no idea stage, they need to have their e-commerce up and running</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>FINDING</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- incubator 1</td>
</tr>
<tr>
<td>- Start-ups can apply challenges, problems</td>
</tr>
<tr>
<td>- incubator 2</td>
</tr>
<tr>
<td>- reaching out through networking + start-ups can contact them</td>
</tr>
<tr>
<td>- start-up-related events in the city + VentureCup</td>
</tr>
<tr>
<td>- Social networks (Instagram, LinkedIn)</td>
</tr>
<tr>
<td>- incubator 3</td>
</tr>
<tr>
<td>- reaching out + start-ups can apply</td>
</tr>
<tr>
<td>- Social networks (Instagram, LinkedIn) word-of-mouth</td>
</tr>
<tr>
<td>- global outreach: we try to scout for best events for us to go globally and meet promising start-ups and scale-ups</td>
</tr>
<tr>
<td>- Collaborations with i.e. venture capital firms + connections to several ecosystems</td>
</tr>
<tr>
<td>- incubator 4</td>
</tr>
<tr>
<td>- Social media + Facebook ads + Alumni group, Word-of-mouth</td>
</tr>
<tr>
<td>- incubator 5</td>
</tr>
<tr>
<td>- Professor (lectures), Ambassadors, Digital channels, Students + Alumni</td>
</tr>
<tr>
<td>- incubator 6</td>
</tr>
<tr>
<td>- Vinnova + commercialization units of the universities that have been involved in finding projects that they think they would benefit from</td>
</tr>
<tr>
<td>- More selective than application process</td>
</tr>
</tbody>
</table>

Date of Submission: 2019-06-04 | Lisa Maria Halm, Oscar Mörke
Excerpt coding start-ups

Communication

INTERPLAY

- **Start-up 1**
  - It was a new program; the incubator didn’t know exactly what they want to get out of it
  - Did not have clear expectations
  - Not aligned with the incubator’s interest → decided to leave
- **Start-up 2**
  - I had high expectations but they overcame them
  - The thing that helped me the most was their network
  - Other companies did not have these qualities
- **Start-up 3**
  - Didn’t have much expectations
  - Did expect that we get in touch with the member companies
  - They really put significant effort in putting that into a successful, active platform
- **Start-up 4**
  - We didn’t really have super high expectations, we didn’t have a specific target
  - Aligned: We wanted to learn more and we did that
  - More part of forming the future of the incubator than just benefiting from it
  - Really good and big network

- **Result**
  - Almost full aligned, we got a lot of support, the outcome was better than expected
  - Mainly to have the business coach with experience + the network
  - They gave a good communication of what the process is like/about
- **Start-up 5**
  - To be honest, I had no expectations at all
- **Start-up 6**
  - Well-developed program
  - More of education than funding
- **Start-up 7**
  - Clear communication
  - Didn’t work out: I was disappointed but not totally surprised
  - “My expectations changed a bit over the time of the incubator because I learned a lot more about how it works and that it takes a lot of luck but also good organization. You also have to plan ahead a lot more than you think in order to trying not to fall into all the traps that you can fall into along the way”
  - Personal contact was really good
- **Start-up 8**
  - Very well aligned
  - They did a great job and they were helping me a lot, asking those questions

**Result: Themes and subthemes**

1. The role of an incubator
2. The incubation process
   - Finding, selection and entering
   - Duration and after-incubation
   - Execution
3. Interplay
   - Communication
   - Satisfaction
   - Gaps
   - Improvements