Business incubator, a solution for startup’s challenges

A qualitative look at business incubator’s support for startups to overcome the liability of newness and smallness

Seyed Pedram Mireftekhari

Master thesis
Center for Entrepreneurship
The Faculty of Mathematics and Natural Sciences
UNIVERSITY OF OSLO

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Abstract

Purpose - This thesis aims to study how business incubators support new ventures and how they help their tenants handle the liability of newness and smallness. Specific metrics have chosen to examine the external and internal liability of newness and smallness of new ventures.

Design/methodology/approach - After presenting earlier theoretical findings related to incubators, liability of newness and smallness, networking and social capital, this thesis uses a qualitative approach in order to obtain a two-dimensional perspective of incubator supports. This is done by evaluating three incubators from three cities in Norway. The manager/director of each incubator were interviewed as well as six entrepreneurs who still have their companies at the premises of the incubators.

Findings - Our findings show that the incubated firms studied suffer from both the liability of newness and smallness. The external liability of newness was found to be more of an issue than internal. This implies that incubators need to help entrepreneurs convince external stakeholders about the potential of the new venture and overcome their lack of a track record and legitimacy. Incubators in this study have been moderately successful in helping startups overcome the liability of newness and smallness. Technical and business assistance, recruitment, networking services had more of an effect than other services in respect to LoN and LoS. We suggest that this can be improved by providing networking services, creating specialist incubator that focuses on specific industry, and using experienced, competent and connector team at incubator staff.

Research limitations/implications - The findings provide a better understanding of incubator’s services regarding helping entrepreneurs to overcome liability of newness and smallness.

Originality/value - Prior research has suggested that a strong financial position, possession of a bootstrapping approach, partnerships with other organizations (alliance), high level of communication skills, previous start-up experience, virtual organization and embeddedness, entrepreneurship education, supporting entrepreneurial processes and giving them the access to essential resources may lead to help entrepreneurs to overcome liability of newness and smallness. The present study advances these suggestions by showing how incubators as a public or private organization can contribute to this process and decrease mortality rate of new ventures to let them to have a chance to realize their potential.

Key words Business and Technology Incubators, Liability of Newness, Liability of Smallness, Entrepreneurs, Networking
Acknowledges

In the name of God, the Merciful, the Compassionate

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1. **Introduction**

High-tech entrepreneurs typically encounter the ‘liability of newness’ and the ‘information asymmetry problem’ (Patton and Marlow, 2011) and they need to have skills to deal with the liability of newness (LoN) and the liability of smallness (LoS) in order to survive. There is some evidence to suggest that business incubators may have contributed to the decrease in effect of LoN and LoS but this connection has understudied. In general, this requires better understanding of both concepts –LoN and LoS, and Business Incubators.

LoN explains why organizations face the highest mortality rates within the earliest stages of their life cycle. Studies have identified the reasons behind the increased risk of new venture failures, which include but are not limited to the lack of strong ties with their customers and the lack of track a record and legitimacy (Stinchcombe, 1965, Aldrich, 1999, Shepherd et al., 2000). Moreover, LoS states that new ventures fail because of its limited resources such as financial, physical and human resources.

On the other hand, business incubators have been established to support new ventures in overcoming these liabilities and provide an environment to cultivate new companies, helping them to survive and grow during their early phases of venture development when they are most vulnerable. Incubators are nowadays more than a supportive environment for start-up and fledgling companies.

They are implemented by public and private initiatives as a tool to not only to prepare new ventures but also for promoting economic development, innovativeness and emergence of new technology-based growth firms (Bergek and Norrman, 2008). The goal of incubators are to produce and assist successful new ventures to leave the incubation in financially viable and self-standing position and to enhance economic development and/or reduce unemployment. Whether or not their goals have been achieved, new incubating facilities have been established around the world to fulfill common challenges of new ventures.

1.1. **Problem statement, research aims and objectives and research questions**

Despite many studies regarding incubators on the one hand, and an equal number of studies on LoN and LoS on the other hand, far too little attention has been paid to business incubator’s approach to tackle the issue of LoN and LoS of new ventures (Hackett and Dilts, 2004b, Stokan et
al., 2015). In addition, business incubation are still a relatively new phenomenon. Existing incubators are still very young, and many topics in entrepreneurship are rarely addressed. This led us to study this relationship and to ask how business incubators can assist entrepreneurs to deal with difficulties arising from LoN and LoS.

Some recent studies have investigated how different parties can help to decrease LoN such as Patton and Marlow (2011), Ulvenblad et al. (2013), Reuer et al. (2011), Zott and Huy (2007) and Wiklund et al. (2010), however they are very limited to their research context and do not directly specified the role of business incubators.

The aim of this research is to understand how business incubators can provide an environment to for new ventures that will help them survive the early phase of their establishments and deal with the different liabilities that new ventures usually face.

The objectives of this research are:
- To determine the existence of the liability of newness and smallness and other challenges faced by new ventures in business incubators.
- Identify the best practices and strategies that business incubators use to help their tenant to overcome the LoN and the LoS.

In this regard the research questions are:
- Do incubated startups have experience the common effect of LoN and LoS?
- How incubators decrease the effect of LoN and LoS?

LoN and LoS issues were chosen based on previous studies. Liability of newness challenges can be categorized as either external or internal. External LoN challenges are convincing external stakeholders about the potential of the new venture, uncertainty regarding the market potential for the product or service, lack of stable relationships with key stakeholders and lack of a track record and legitimacy. Internal LoN challenges are lack of informal structures in the organization (for example implicit norms and routines that are important for carrying out business operations but that there are no formal decisions about), and uncertainty regarding roles and functions in the organization that a new venture would require.

Liability of smallness issues are a lack of financial resources, difficulty to attract skilled workforce, difficulty to meet high interest rate payment and handle administration costs and lack of strong managerial skills. As unexpected result of this research, other interactive aspects of
entrepreneurship, such as social capital and networking and other institutional processes are also discussed.

In this research, I have used a qualitative case study design using both primary data collection (semi-structured interviews with startups’ founders and incubator’s directors) and secondary data collection (archival data from each company’s website). Three different incubators and six startups located on those incubators were chosen based on certain criteria. The chosen incubators are Startup Lab in Oslo, Nyskapingsparken in Bergen and Leiv Eiriksson Nyskaping (LEN) in Trondheim. The chosen startups are within different sectors such as real estate, electronic, social media and oil and gas. In total nine interviews have conducted either face to face or by using an online video service.

1.2. The order of information in the thesis

For this study, we started with background definition and literature review of important and relevant topics. It starts with a review of the literature related to the LoN and LoS followed by reviewing previous studies regarding business and university incubators and incubator services. In the next step, we will review the literature on both the effect of incubators on incubatee and how to decrease LoN and LoS. In addition, the social capital and network literature is also reviewed in brief under one of the services of incubators because of its importance in this study. The reason that incubators and their services have been reviewed is to find if they can be a solution for new venture to overcome LoN and LoS.

After reviewing the literature, we have defined the research context and methodology of this thesis, continuing with summarizing and defining the results. The two last sections we have discussed, explained and interpreted this thesis result in addition to propose some suggestions for incubators and decision makers.

1.3. The importance of this research

Rigorous literature review indicates the paucity of information and researches regarding the effect of business incubators on their tenants’ ability to overcome LoN and LoS. Based on a qualitative analysis, this paper will shed more light on the incubator-incubatee dyad and what incubators do to help new venture founders deal with LoN and LoS. The main goal of this research is to help incubators as well as their tenants to deal with different challenges and decrease the mortality rate of new ventures. This research would provide a better understanding for governmental bodies who would decide regarding incubators.
2. Theoretical framework and frame of reference

2.1. Liability of newness and smallness

Liability is a well-known term in financial subject, used normally in right side of the balanced sheet. Liability refers to the company's financial debt or obligations that are settled over time through the transfer of economic benefits including money, goods, or services. Nevertheless, in this study we focused on the patterns that have been found by organizational ecologists that indicates the relationship between an organization's risk of mortality relates to the novelty and smallness of that organization. This has been examined extensively and specified different patterns such as liability of newness, liability of adolescence, liabilities of aging, liability of foreignness, and liability of smallness.

The reason behind discussing these liabilities is that, entrepreneurs needs to have skills to deal with this liability (Politis, 2008) because high-tech entrepreneurs typically encounter the ‘liability of newness’ and the ‘information asymmetry problem’ (Patton and Marlow, 2011, Zhang and Wong, 2008) and they are frequently used to explain why small and new companies fail. Therefore, the first portion of the thesis is devoted to review the available studies regarding the two important and main liabilities, LoN and LoS.

2.1.1. Liability of Newness

Usually organizational ecologists use the term “liability of newness” (Stinchcombe, 1965, Shepherd et al., 2000) to describe the probability of new firm failure when new venture confronting challenges by entering their market during very beginning years of their establishment. It is because they do not have enough necessary resource-set that they require to survive (Bruderl and Schussler, 1990, Freeman et al., 1983, Hannan and Freeman, 1984).

This hypothesis has been confirmed by different studies. As an illustration, Watson; and Everett (1996) found that new and younger ventures consists higher percentages of failed firms. Also Nucci (1999) discovered that business closure decreases with age regardless of industry, size grouping or region. Many researches including but not limited to Carroll (1983), Phillips and Kirchhoff (1989), Watson and Everett (1996), Wiklund et al. (2010), and Nucci (1999) have confirmed the principle of a liability of newness. Along the same line, Stinchcombe (1965) provided an expression for this term for the first time, and mentioned that the reasons that new ventures are more likely to fail are:
• New roles that are needed to be learned
• Lack of standard procedures to solve challenges and uncertainty in market
• Lack relationships of trust/social relations
• Lack of credibility to convince external stakeholder about the new venture
• Not a strong tie with their customer

The liability of newness hypothesis claims that lack of key resources and capabilities in new ventures can cause them to fail. Such a key resources that typically startups do not possess, are stable business relationships (with customers or suppliers), reputation and legitimacy in the market and proof of being reliable and trustworthy (Schwartz, 2010). Because legitimacy is difficult to gain when an organization is new. And it is something that can be gained by time and age, then an organization will always be associated with liability of newness when it first opens (Chinta et al., 2015).

Other studies also have researched the reasons behind increase risk of new venture failure. Among them are cost of learning new tasks (Stinchcombe, 1965, Singh et al., 1986), the characteristics of the new product (Alrich and Auster, 1986), the strength of conflicts regarding new organizational roles (Stinchcombe, 1965, Singh et al., 1986), the presence or absence of informal organizational structures (Stinchcombe, 1965), the stability of links with key stakeholders (Stinchcombe, 1965, Singh et al., 1986), the degree of organizational stability/inertia (Hannan and Freeman, 1984), and lack of track record and legitimacy (Aldrich, 1999, Aldrich and Auster, 1986, Aldrich and Fiol, 1994, Shepherd et al., 2000, Kale and Arditi, 1998). In addition, it can be because new founders have limited access to entrepreneurial networks (Shepherd et al., 2000, Singh et al., 1986, Cohen and Levinthal, 1990).

These liabilities are related to the organization of people and resources in the new venture, the uncertainty in estimating the potential value of a new product or service in the market, problems with securing long-term external finance, and difficulties in attracting competent personnel to the new organization (Politis, 2008). Related disputes regarding liability of newness can take place both internally and externally:
• Internally:
  o Lack administrative routines and systems (e.g. for operations and bookkeeping) and limitations as regards attracting qualified employees (Aldrich and Auster, 1986)
• Uncertainty as to what functions and positions will be needed to run the business (Aldrich and Auster, 1986)

- Externally:
  - Lack of a track record and recognizable brand to convince potential customers or credibility (Aldrich and Auster, 1986, Politis, 2008, Kale and Arditi, 1998) means all the achievements or failures that the firm has had in the past.
  - New businesses are assumed to be disadvantaged relative to old businesses, because of limited possibilities to exploit returns to scale (Ulvenblad et al., 2013)
  - Not familiar with laws and regulations (e.g. product and worker safety, tax laws, etc.) and may fail to fulfill them (Aldrich and Auster, 1986, Ulvenblad et al., 2013)
  - Not secure inputs and material comparing to establish firm and their relation with suppliers (Aldrich and Auster, 1986, Ulvenblad et al., 2013)
  - In addition, new firms may expos to illegitimate acts by competitors, such as price agreements and cartels (Ulvenblad et al., 2013).
  - Lack of experience and learning, comparing the old businesses (Ulvenblad et al., 2013).

Singh et al. (1986) claimed that external liability of newness have more effect on the probability of survival of new businesses than internal liabilities and most internal organizational changes do not correspond to an increase in the death rate. Which result in that it is more important to launch exchange relations with customers, suppliers and financiers than to establish an organization consisting of clarified roles and functions (Ulvenblad et al., 2013). This is in line with Delmar and Shane (2004) findings that by generating legitimacy with external stakeholders, new business managers can significantly reduce problems in handling start-up activities.

In contrast to previous studies regarding the LoN, Shepherd et al. (2000) proposed a more micro-level perspective to explain new venture failure as they consider LoN as a macro-level perspective of new venture mortality. They argue that the LoN is largely dependent on the degree of novelty (ignorance) associated with a new venture and they suggests that novelty on three dimensions can lead to high mortality risk. These three separate dimensions are regarding the firm novelty to the market, novelty to production, and novelty to management.
2.1.2. Liability of Smallness

While liability of newness is about the probability of the new firm failure when new venture confronting challenges by entering their market, liability of smallness is about difficulty of new venture may cause because of its limited resources such as financial, physical and human resources. The small size of new firms in early stages of the development process is another disadvantage of startups, comparing to well-established companies (Witt, 2004).

One outcome of the LoS is the difficulty of small firms in attracting skilled and qualified workforce, compared to large organizations whose structures and employment contracts are perceived as more reliable (Kale and Arditi, 1998). LoS could be a serious liability that could contribute to the failure of a company (Kale and Arditi, 1998).

As up to now, we carefully reviewed literature regarding LoN and LoS as one of the main reason that new venture fails, later I look at theories regarding business incubators as one of the possible solution for helping new venture to overcome LoN and LoS.

2.2. Business Incubators

Despite the fact that United States is more advanced and matured in business incubators than Europe, the root of the word “incubator” goes back to Greek. Derived from the Latin verb incubare¹, which refers to the ancient times when someone wished to have a visionary dream, that person would lay down on a newly sacrificed animal hide² in the temple. One of the most advanced reasons for practicing the incubatio was to obtain a vision on how to overcome one or another disease. Gradually the word “incubator” has used in medicine where an incubator is a device used to maintain environmental conditions suitable for a newborn baby. These conditions should help newborn babies to survive, grow and develop once they have left the incubator (Aernoudt, 2004). Gradually the word find its way to business world, as an organization to nurture new ventures and let them grow during their early phases of venture development. The reason for investigating LoN and LoS is because incubator organizations, theoretically established to respond to the liability of newness of new ventures (Schwartz, 2010).

In 1959, the first business incubator, a privately owned for profit firm was started in New York (Brown et al., 2000), thereafter the number and various type of incubators have emerged, from 200 in 80th to over 3000 in 2000 shows its rapid growth (Europe, 2000). The concept of

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¹ in- 'upon' + cubare 'to lie'
² animal skin treated for human use
incubators and its function has been created a long discussion among researcher in the entrepreneurship and economic field.

Incubators have the mission to link technology, resources and know-how to entrepreneurial talent for the purposes of accelerating the development of new companies, and thus speeding up the commercialization of technology (Minshall and Wicksteed, 2005, Markman et al., 2008, Peters et al., 2004)

Different terms such as technology/business incubators, innovation/technology centers, science/research/technology parks, and business/seed accelerators exists within this subject. Grimaldi and Grandi (2005) identified four different types of incubators and these differences are because of their institutional mission/strategy, scope of function, industrial sector, location, market, origin of ideas, phase of intervention, incubation period, sources of revenue, services offered and management teams (Mian et al., 2016, Grimaldi and Grandi, 2005). These four types and other scholars’ definition of incubators are merged to the following table to see a holistic view over the incubation definition. Aernoudt (2004) presented typology of business incubators in brief (see Error! Reference source not found. in Appendix).
<table>
<thead>
<tr>
<th>Incubator</th>
<th>An overall denomination for organizations that constitute or create a supportive environment that is conducive to the ‘‘hatching’’ and development of new firms (Bergek and Norrman, 2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A support environment for start-up and fledgling companies (Peters et al., 2004)</td>
</tr>
<tr>
<td></td>
<td>An entrepreneurial firm that performs a bridging function by sourcing and ‘‘macro-managing’’ the innovation process within emerging, weak-but-promising intermediate potential organizations, infusing them with resources at various developmental stage-gates while containing the cost of their potential failure (Hackett and Dilts, 2004a). And producer of business assistance programs (Rice, 2002)</td>
</tr>
<tr>
<td></td>
<td>Seeks to link effectively talent, technology, capital and know-how to leverage entrepreneurial talent, accelerate the development of new companies, and thus speed the commercialization of technology (Smilor and Gill, 1986)</td>
</tr>
<tr>
<td></td>
<td>The incubation concept seeks an effective means to link technology, capital and know-how in order to leverage entrepreneurial talent, accelerate the development of new companies, and thus speed the exploitation of technology (Grimaldi and Grandi, 2005).</td>
</tr>
<tr>
<td>Business incubator/innovation centers</td>
<td>Is a shared office-space facility that seeks to provide its incubates (i.e. ‘‘portfolio-’’ or ‘‘client-’’ or ‘‘tenant-companies’’) with a strategic, value-adding intervention system (i.e. business incubation) of monitoring and business assistance (Hackett and Dilts, 2004a)</td>
</tr>
<tr>
<td></td>
<td>Is an economic development tool primarily designed to help create and grow new business in community (Sherman and Chappell, 1998)</td>
</tr>
<tr>
<td></td>
<td>The incubating activity of (Business innovation centers) BICs consists in offering a set of basic services to tenant companies, including the provision of space, infrastructure, communication channels, and information about external financing opportunities, visibility, etc (Grimaldi and Grandi, 2005).</td>
</tr>
<tr>
<td>Technology business incubation</td>
<td>Promising policy tools that support innovation and technology-oriented entrepreneurial growth. TBIs are generally established through public-private collaborations among universities, industry, and all levels of government. The purpose of TBIs is promoting technology transfer and diffusion of products, thereby developing local innovative firms (Etzkowitz, 2002) (EU, 2010)</td>
</tr>
<tr>
<td></td>
<td>They function as a mechanism for commercializing science- and technology-oriented applications (Kitagawa and Robertson, 2012) and they can bridge the gap between science base and industry (Frenz and Oughton, 2005). And they create network and social capital for firms’ learning experiences</td>
</tr>
<tr>
<td>University technology (business) incubator</td>
<td>Modern enterprise development tool employed by some entrepreneurial universities to provide support for nurturing new technology based firms (Mian, 1994)</td>
</tr>
<tr>
<td></td>
<td>Are institutions that provide support and services to new knowledge-based ventures; they are similar to traditional Business Innovation Centres but they place more emphasis on the transfer of scientific and technological knowledge from universities to companies (Grimaldi and Grandi, 2005).</td>
</tr>
<tr>
<td></td>
<td>They are intended to provide a training ground for emerging entrepreneurs to be found within and outside of the university community. Because often times nascent entrepreneurs often have limited experience of business and its context (Kitagawa and Robertson, 2012).</td>
</tr>
<tr>
<td>Independent Private Incubators (IPIs) or accelerators</td>
<td>Set up by single individuals or by groups of individuals (companies may be among their founding partners), who intend to help rising entrepreneurs to create and grow their business (Grimaldi and Grandi, 2005)</td>
</tr>
<tr>
<td>Corporate Private Incubators (CPIs) or corporate spin-offs</td>
<td>Owned and set up by large companies with the aim of supporting the emergence of new independent business units (Grimaldi and Grandi, 2005)</td>
</tr>
</tbody>
</table>

After all incubators have been seen as an essential vitamin to the entrepreneurship concept to stimulate new firms development (Bergek and Norrman, 2008). This thinking also considered
In economy as incubator can be viewed as a tool for promoting economic development, innovativeness and emergence of new technology-based growth firms (Bergek and Norrman, 2008). While others described it as a shared office which has a goal to facilitate its incubatees with different type of supports (Hackett and Dilts, 2004b). Moreover, Hackett and Dilts (2004b) mentioned that incubator is more than just a share office rather a network of individuals and organizations (including the incubator manager and staff, incubator advisory board, incubate companies and employees, local universities and university community members, industry contacts, and professional services providers such as lawyers, accountants, consultants, marketing specialists, venture capitalists, angel investors, and volunteers).

In total, we can come to this conclusion that incubator is (Mian et al., 2016, Sherman and Chappell, 1998):

1. Shared office space, which is rented under more or less favorable conditions to incubatees: flexible space, shared equipment and administrative services.
2. A pool of shared support services to reduce overhead costs and obtaining capital
3. Professional business support or advice (‘coaching’)
4. Network provision, internal and/or external such as building management team

Needs to mention that there is differences in definition that whether an incubator is an organization or a general entrepreneurial environment and most of researches considered it as an organization and it is also what we would follow in this research.

Regardless of the incubators being profit or nonprofit there are two main goals that have been recognized among them:

A. Enhancing economic development and/or reduce unemployment in a region by facilitating the start-up of new companies, increasing their survival rate and growth and, more generally, by training entrepreneurs (Bergek and Norrman, 2008).

B. Stimulating firms involved in emerging technologies or the commercialization (or transfer) of research done in universities, research institutes and firms (Bergek and Norrman, 2008)

This thesis focuses on business incubators, it means an organization with shared office-space facility that seeks to provide its incubates with a strategic, value-adding intervention system of monitoring and business assistance, which have the purpose to the growth and survival of their tenants making it a viable system for nurturing new technology and non-technology-based firms.
Business incubators, in general, are distinct from industrial, business, and science parks. They tend to focus more on comprehensive business assistance to firms, whereas parks tend to focus on broader community development and diffusion of particular ideas within their boundaries (Stokan et al., 2015).

### 2.2.1. Incubators services

Many researchers have tried to find the service and facilities that need to be utilized by incubators in order to increase the success rate of their tenants. Incubators provide various range of services and despite the fact that incubated firms receive five times as many business services as their non-incubated firms (Stokan et al., 2015), it is still unknown which services have more impact than another, specifically regarding LoN and LoS. Services are termed as the value added in the incubator industry which means to those specific strategies that an incubator program enhances the ability of its tenants to survive and grow in business (Allen et al., 1990).

Regarding the services that incubators provide, the following are among many that are depicted in literature: strategic, value-adding intervention system (i.e. business incubation) of monitoring and business assistance (Hackett and Dilts, 2004a). Researchers have identified three main group of elements, which seeks to provide the infrastructure for supporting the development of new technology-based firms, which are business, technical and social inputs. Usually incubators provides shared office services, business assistance including affordable rent and fostering connections with inside the incubator and in the local economy (Mian, 1996a). These value added contributions has been summarized by Mian (1996a) in Table 2.

**Table 2 - Summary of studies about UTBI services (Mian, 1996a)**

<table>
<thead>
<tr>
<th>Typical incubator services</th>
<th>University related services</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Shared office services</td>
<td>• Faculty consultants</td>
</tr>
<tr>
<td>• Business assistance</td>
<td>• Student employees</td>
</tr>
<tr>
<td>• Access to capital</td>
<td>• University image</td>
</tr>
<tr>
<td>• Business networks</td>
<td>• Library services</td>
</tr>
<tr>
<td>• Rent breaks</td>
<td>• Labs and workshops</td>
</tr>
<tr>
<td></td>
<td>• Mainframe computers</td>
</tr>
<tr>
<td></td>
<td>• Related R&amp;D activity</td>
</tr>
<tr>
<td></td>
<td>• Technology transfer programs</td>
</tr>
<tr>
<td></td>
<td>• Employee education and training</td>
</tr>
<tr>
<td></td>
<td>• Sports and social activity</td>
</tr>
</tbody>
</table>
Mian (1996a) found that university image, labs/workshops and equipment, student employees, faculty consultants and library resources have the most value added for the incubatees in UTBIs. Schwartz (2010) summarize the basic tangible and intangible ingredients of incubation (Table 3.)

Table 3 - basic tangible and intangible ingredients of incubation (Schwartz, 2010)

<table>
<thead>
<tr>
<th>Main elements of incubation</th>
<th>Definition and examples</th>
<th>Benefits on Incubatees</th>
</tr>
</thead>
<tbody>
<tr>
<td>subsidized rental space</td>
<td>offices, laboratories, and small production space</td>
<td>helps to reduce early-stage fixed costs through co-location and shared utilization (Aerts et al., 2005, Chan and Lau, 2005, McAdam and McAdam, 2008)</td>
</tr>
<tr>
<td>collectively shared facilities and services</td>
<td>secretarial support, laboratory equipment, communication infrastructure, etc.</td>
<td>small firms or one-man businesses as well as firms from R&amp;D-intensive sectors, can face serious challenges if they have not access to such expensive and important facilities (Schwartz, 2010)</td>
</tr>
<tr>
<td>Business assistance services</td>
<td>marketing, accounting, human resources</td>
<td>These services assist the incubated firms in areas where they do not possess the relevant knowledge and expertise (McAdam and McAdam, 2008, Commission, 2002)</td>
</tr>
<tr>
<td>Credibility</td>
<td>firm’s image, its reputation and legitimacy in the market</td>
<td>Obtaining the benefits of an image associated with an incubator location and acquiring credibility is another important mechanism of incubation (McAdam and McAdam, 2008, Ferguson and Olofsson, 2004, McAdam, 2007)</td>
</tr>
<tr>
<td>Networking</td>
<td>Potential customers and suppliers, a wide network of specialized service providers (e.g. lawyers, tax accountants), financial institutions (e.g. banks, venture capitalists), public and private research facilities and political institutions (e.g. local development agencies, funding agencies) and linkages to academic institutions (Schwartz, 2010)</td>
<td>fosters co-operative, formal contract agreements as well as informal interactions between the incubatees is seen as decisive for a successful incubation process (McAdam and McAdam, 2008, Bollingtoft and Uhløi, 2005) Social networks among entrepreneurs are seen as a critical strategic resource (Granovetter, 1985)</td>
</tr>
</tbody>
</table>

Hansen et al. (2000) study of nearly 170 incubators, provided statistics over each different service that is provided by incubators. Based on their study, the vast majority of business incubators offer office space, coaching, funding, and various basic services. Only 26%, however, provide organized networking that enables start-ups to obtain resources and collaborate with others quickly. Another study by Aerts et al. (2007) based on survey of 140 European business incubators concluded in different statistics.
2.2.2. Social capital and social networks

Even Hansen et al. (2000) claimed that so called “networked incubator” is likely to be more successful than the others. These incubators exploit networking by providing fledgling companies with preferential access to potential partners and advisers. They have organized and active networking among portfolio companies and strategic partners. This led us to dig into literature regarding networking and see if this can also be a solution to LoN and LoS.

Social capital studies which are concerned with how social structure facilitates the actions of actors within that structure (Coleman, 1988), is rather a broad concept and social networks are a key aspect of social capital (Ebbers, 2014). In this section we only discuss about social networks, because they can be important as they can offer actors with access to crucial resources, new opportunities, legitimacy, and status (Brass et al., 2004). Also networking, nowadays is among one of the services that incubators provide. It may be essential part of incubation process but it has not received enough attention among incubators as it should (Hansen et al., 2000).

Networking in this study is described as the access available to the tenants of the incubator, to managers, administrative, management, financial, legal, insurance consultants as well as to scientists, academicians, other startups at same incubator and prospective external stakeholders (e.g. customers, suppliers users etc) either for a fee or free of charge and either formal or informal.
While many studies within the field of entrepreneurship focus on the content of network relationships, governance mechanisms, and network structure (Hoang and Antoncic, 2003), few have been discussed its relation with incubation process or if networking affected LoN and LoS. Among the studies that featured the later topic is Peters et al. (2004) who mentioned that by coaching programs and formation of networks, incubator’s tenants can gain competitive advantage as well as success of incubators. Also there are good and bad networks for entrepreneurial success (Peters et al., 2004).

Also there are studies which have focused on entrepreneurial networks and their effect on a start-up’s success (Aldrich and Zimmer, 1986, Birley, 1985, Johannisson, 1988) or so called ‘network success hypothesis’(Brüderl and Preisendörfer, 1998). This hypothesis means that entrepreneurs who have larger and more diverse networks of private and business contacts can acquire resources and information that they would not (or not as cheaply and fast) be able to acquire on markets thus are more successful than entrepreneurs with smaller networks or less support from their network (Witt, 2004). Many researchers have examined this arguable hypothesis (because of difference in definition, methodology and various dependent and independent variables in studies) across globe. Some studies are in favor of network success hypothesis (Brüderl and Preisendörfer, 1998, Ostgaard and Birley, 1996, Hansen, 1995, Aldrich et al., 1987) while some have not found any significant correlation between networking and startup success (Littunen, 2000, Aldrich and Reese, 1993).

Regarding relation between networking and incubators, a study by Tötterman and Sten (2005) shows that entrepreneurs who have received substantial support for the creation of business networks are more satisfied with the services provided by the business incubators than those who have not attained such support.

Overall, it shows that there is no consensus about the effect of networking on success of startups as well as lack of research about if networking have had effect on LoN and LoS.

2.3. Overcoming LoN and LoS and the impact of business incubators

The most important topics in this study have been discussed and important literature around them have been reviewed. However, it is essential to look at the relation between these two topics. Hence, the question is “how can business incubators help entrepreneurs to overcome liability of newness and smallness?”
It is common that the effect of incubator are measured by their performance. Researches have focused on if an incubator is successful or not and how it can be measured. Usually researchers analyze the performance of incubators by the failure or survival of their tenants. Although other metrics have introduced by scholars like occupancy, jobs created, firm graduated, tenant revenues, number of patent applications per firm, number of discontinued businesses (Phillips, 2002) management policies, effectiveness and value added (Mian, 1996a, Mian, 1996b, Mian, 1997).

In general because most incubators are supported wholly or partly publicly funded, and they need to attract public funds, many incubators need to constantly demonstrate ‘success’, which can lead to over-reporting successes and under-reporting failures especially when self-reporting (Hackett and Dilts, 2004b). In addition, there are numerous studies assessing the performance of incubators but in this study, it is important to see if they have been successful in increasing the survivor of new ventures. This is because it may show that incubators could be a solution to overcome LoN and LoS of small and new companies and incubators attempt to mitigate well-known problems of smallness and newness (Stokan et al., 2015). Other measurements such as job creation statistics and number of assisted startups are not considered to be reviewed here because it may not show the direct influence of incubators on startups’ challenges.

While different studies have reached the result in favor of incubation successfulness for long-term survivor of new ventures, successful new business venturing and business networking (e.g. (Lyons, 2000, Lyons, 2002, Servon, 1998, Stokan et al., 2015), Schwartz (2010) analysis have not found any significant higher survival for the firms that are incubated comparing to non-incubated firms.

Different studies have indicated that UTBIs\(^1\) are critical support mechanisms for encouraging the growth and development of early-stage high-technology firms (NESTA, 2008, Fang et al., 2010, Lee and Osteryoung, 2004, Rice, 2002). Chen (2009) study of Taiwanese incubators found no direct effect on new venture performance as a result of incubation, however Rothaermel and Thursby (2005) showed incubated firms were significantly less likely to experience complete failure. Lindelöf and Löfsten (2002) discovered no difference in profitability between on- and off-park firms, but the off-park sample had significantly lower growth in

\(^1\) university technology business incubators
employment and sales turnover. And Mian (1996a) concluded that UTBI in the USA does contribute to the growth and survival of their tenants making it a viable system for nurturing new technology-based firms (NTBFs).

Simple and straightforward question of “do incubators have a positive impact?” has not resulted in a rigid answer and there is no consensus regarding the positive impact of business incubators. Moreover, while there many studies that are discussing the issue of performance or the incubation effectiveness, limited studies have been found regarding how and in which way incubators can decrease the effect of LoN and LoS.

Instead, mostly researchers have been focused on how entrepreneurs themselves can overcome LoN and LoS. These studies can also be related to this thesis because it can reinforce and propose the initiatives that can be done by incubators to help entrepreneurs overcome LoN and LoS.

The studies that have tried to understand the solutions or strategies in order to answer to how to overcome the LoN and LoS issue are as follows. One study shows that strong financial position can reduce liability of newness (Wiklund et al., 2010) however they make no attempt to specify on which issue of LoN. Winborg (2015) findings of new businesses located in Swedish university incubators, shows that the possession of a bootstrapping approach lowers the perceived problems of the external liability of newness. Reuer et al. (2011) suggests that partnerships with other organizations (alliance) can directly and indirectly help to shrink entrepreneurial firms’ liability of newness. Zott and Huy (2007) shows that for overcoming the liability of newness of a new business, there is a need for high level of communication skills. In addition several studies shows that previous start-up experience may reduce problems with handling liability of newness (Delmar and Shane, 2006, Politis, 2005, Politis, 2008, Shane and Khurana, 2003), however this finding have been challenged by Aspelund et al. (2005) which have found the contrary in their investigation.

Morse et al. (2007) argues that by using virtual organization and embeddedness, effect of liability of newness can be mitigated. Ulvenblad et al. (2013) findings show that entrepreneurs with entrepreneurship education can be able to handle some kinds of activities related to liability of newness, such as handling laws and regulations and dealing with the lack of structures, Shepherd et al. (2000) study also suggest the same. (Singh et al., 1986) suggests that the acquisition of external legitimacy corresponds to a significant reduction in the hazard of death.
Some researchers also suggest that entrepreneurs should first identify or create a promising market opportunity; second, they must integrate and transform resources in a way that creates an organizational capability that enables them to pursue that opportunity (Venkataraman, 1997, Shane, 2000, Eckhardt and Shane, 2003, Shane and Venkataraman, 2000, Zhang and White, 2016).

In addition Zhang and White (2016) talk about broader help from government that can have a role in creating an environment that enables entrepreneurship by actively facilitate the administrative process by which entrepreneurs may establish new firms and new organizational forms. And, the government should invest in supporting infrastructure and human capital domestically and create an environment that attracts human capital from abroad (whether returnees or foreigners).

Patton and Marlow (2011) mentioned that while new start-up firms have limited access to entrepreneurial networks and lack credibility with external stakeholders, incubators could help overcome such liabilities by supporting entrepreneurial processes such as the acquisition of business contacts, business skill sets, financial resources, and so on. Patton and Marlow (2011) mentioned that one suggested benefit of incubators is that by giving them the access to essential resources, novice entrepreneurs are able to overcome the liability of newness.

Stokan et al. (2015) research resulted that start-up firms will tend to be more successful when they receive technical business assistance from entities such as business incubators, as these enhance their business networks and help them obtain needed services. But their study was not focused on LoN and LoS.

Chan and Lau (2005) study of technology incubators shows that cost advantages, pooling resources, geographic proximity of relevant resource and relationship with university and technology startup have positive affect on incubator tenants. However, this theory does not fully explain incubator effect on the LoN and LoS and their findings are limited to science-parks. Their research also found that startups do not gain any benefits from networking and clustering. Moreover, good public image of science parks does not provide credibility for young startups (Chan and Lau, 2005). Another study by Aerts et al. (2007) mentioned that it is advantageous for an incubator to concentrate on a limited number of sectors in order to be successful.

2.4. Literature review conclusion

Business incubation, success and failure factors of new companies have studied by scholars and some of the main works have reviewed in previous sections. Hackett and Dilts (2004b) define
at least five systematic research orientations regarding business incubators, including incubator and incubated firm development studies, incubator configuration studies, studies that theorize about incubators-incubation, and impact studies. Similar to (Hackett and Dilts, 2004b, Stokan et al., 2015), this thesis’s literature review has also found limited research regarding “impact studies” as well as lack of research about how incubator can contribute to the entrepreneurs’ efforts to address associated LoN and LoS. As Stokan et al. (2015) mentioned:

*Impact studies have neither adopted a uniform methodology nor rendered a verdict on the economic impact of business incubators.*

But despite limited researches, few researchers have identified how different parties can provide assistant in order to overcome LoN and LoS. A detailed review of these researches have provided earlier. To summarize, the methods that entrepreneurs, incubators or policy makers can use to overcome LoN and LoS of new ventures, are depicted here.

**By entrepreneurs:**
- Strong financial position
- Possession of a bootstrapping approach
- Partnerships with other organizations (alliance)
- High level of communication skills
- Previous start-up experience
- Virtual organization and embeddedness
- Entrepreneurship education
- Acquisition of external legitimacy
- Identify or create a promising market opportunity, then integrate and transform resources in a way that creates an organizational capability
- To be willing and able to engage with the support offered by the incubator.

**By policy makers:**
- Actively facilitate the administrative process regarding new venture development
- Invest in supporting infrastructure and human capital domestically and create an environment that attracts human capital from abroad.

**By incubators:**
- Giving them the access to essential resources
• Providing cost advantages, pooling resources, geographic proximity of relevant resource and relationship with university and technology startup
• Supporting entrepreneurial processes such as the acquisition of business contacts, business skill sets and financial resources
• Providing technical business assistance

Patton and Marlow (2011) and Stokan et al. (2015) were the only literatures that I found regarding what incubators can do in relation to LoN and LoS, however Patton and Marlow (2011) is limited to university technology business incubators and entrepreneurial learning. So we need to identify,

Do incubated firms are challenged by LoN and LoS?
Do the existing services of business incubators help them to overcome LoN and LoS?
What else can be done by business incubators, to overcome LoN and LoS?
3. Research context and methodology

3.1. Research methodology and design

The previous section has shown literature and theories regarding the effect of business incubators on LoN and LoS. As explained earlier there is a gap in literature regarding how business incubators can help startups to overcome these liabilities. In order to understand and solve the gap, I used both inductive and deductive research.

By taking an inductive approach and collecting data, we were able to observe the relationship between incubator and startup and generate insight into how incubators help companies to overcome their LoN and LoS.

In addition, this research is using deductive approach, as I used related theories and previous research regarding LoN, LoS, business incubators and networking to understand the relation between incubator and incubatee and create interview guide. Previous studies that can be found in articles, books and reports that are accessible and reliable through valid sources and journals such as Technovation, Journal of Business Venturing, The Journal of Technology Transfer, Economic Development Quarterly, Small Business Economics and Journal of Small Business and Enterprise Development etc.

Various research design options are available to researcher such as action research, case study, experimental, longitudinal and cross-sectional (Wilson, 2010). Nevertheless, based on the nature of this research, case study research design was chosen. This research is using multiple case design and embedded analysis since it provides an in-depth analysis of a specific problem (Wilson, 2010).

Cases: selected case incubators’ staff and tenant entrepreneurs:

A multiple case study was chosen to build more robust research outcomes. Due to time limitations and many unsuccessful attempts contact over five incubators in Norway, we narrowed our number of cases down three. The interviews with incubator’s staff gave an overview of the given incubator’s services and background, while interviews with new ventures within the incubator gave their views of the offered services.

Unit of analysis: the incubator-incubatee dyad:

The unit of analysis for this research is the incubator-incubatee dyad. As the incubator consists of two main elements, incubator staff as the leader of the incubator organization and the respective tenants who have received the permission from the staff to work in the incubator. Their
relationship and how they work together in order to deal with LoN and LoS is the unit of analysis of this study. This is based on the research question of this thesis to see if the relationship between these two entities (incubator-incubatee) help incubatees overcome LoN and LoS.

3.2. Reliability and Validity

Reliability is concerned with whether or not the measurement of a phenomenon provides stable and consistent results (Carmines and Zeller, 1979). While validity is concerned with the relationship between a construct and its indicator (Wilson, 2010). In order to make sure that result of this research is reliable and valid, the following approaches have used:

Prior to interviews, previous researches regarding business incubators and LoN and LoS were examined to develop interview guidelines and frame findings. An in-depth methodological description of this thesis were presented to allow study to be repeated.

Using multiple cases can increase reliability. By investigating more than one incubator, the result can be more reliable because using multiple sources of evidence can improve reliability (Wilson, 2010). As there was set of criteria in order to pick an appropriate incubator and startup, it can also increase the data reliability.

Burke (1997) suggests that if trustworthiness increased, then more credible and defensible result would generate. I had experience with incubators and startups as an intern and this led to development of early familiarity with culture of incubators and startups. And to increase credibility, before interviews, a brief description of background, qualifications and experience of the researcher have presented. Moreover, debriefing sessions between researcher and superior have conducted and the interview guideline and questions have been developed together with help of supervisor.

Based on the interviewee permission, transcripts of the interviews were created. In addition, the important information of each cases are provided for other investigator to review the evidence directly. Details, such as, the interviewee title and company and the firm business and background information as well as incubator information are reported later in this thesis.

Cases vary from each other. Each incubator located in one big city of Norway (Oslo, Bergen and Trondheim). Some of them are fully public but some also have private funder. They also represent various types of business incubators (technology and university incubator). In addition, the startups interviewed were chosen from different areas and industries to increase diversity.
In addition to previous criteria, in order to have valid result we chose startups that have been incubated for at least one year at the incubator. This is because they would have better understanding of the nature, services and offers of incubators. Also all of them qualify as startups as they are not more than four years old. Some of the founders have already experience as an entrepreneur while some of them can be considered as novice entrepreneur without any previous experience in founding a company.

Since interviews are conducted not only with incubator’s staff but also with entrepreneurs at the incubator, data about the incubation process will represent perspectives from both side of this phenomenon. This is called methodological triangulation (Wilson, 2010), and can lead to finding patterns of convergence in data to develop or substantiate an overall interpretation. By using methodological triangulation we were able to improve validity when conducting qualitative research (Mays and Pope, 2000).

In addition to interviews as primary data collection method, I have used secondary data in order to improve the quality of the result. The secondary data are from the incubator and startups websites and other related reports that were available to me. I have used these data to supplement to the interview data and check for example the services of incubators or other institutions and networks that have mentioned in the interviews.

3.3. Research method

These thesis findings are drawn from a qualitative method using both primary data collection method -semi-structured interview with startups’ founder and incubator’s director in Norway- and secondary data, which are available on the company websites. The choice of qualitative research design implies that collected data cannot be statistically analyzed, but provides a deep analysis of case studies related to each business incubator. The reason behind using qualitative research is the limited and uneven view of business incubators and incubator tenants. We used qualitative approach because business incubation is still a relatively new phenomenon and existing incubators are still very young (the oldest incubator in this study founded in 2001). Saunders et al. (2009) mentioned that a quantitative study would not enable differentiate between the various types of incubator programmes and the outcome would not give reliable results. In addition, it is suggested that many issues in entrepreneurship are rarely addressed, and that many of the important questions in entrepreneurship can only be asked through qualitative methods and approaches (Gartner and Birley, 2002).
The interviews were conducted between January to May 2017. Interviews were conducted face to face or by using an online video service. The interviews were all recorded with approval from interviewee. Some of the companies asked to stay anonymous because their competitors or customers may use this data. In order to analyze the data, interviews were transcribed and categorized. Different themes and patterns based on research question were identified.

Semi-structured interview were conducted because the interviewer can combine a pre-determined set of open questions (questions that prompt discussion) with the opportunity for the interviewer to explore particular themes or responses further. Interview guides for both incubator director and startup founders can be found in the appendix.

Based on the results of face-to-face interviews with the incubator director and the founders of the firms located in the incubator, we examine firms’ interactions and strategies to overcome liability of newness and smallness and identify distinctive forms and processes incubators use to assist new ventures in this regard. The interviews with incubator and companies were supplemented with publicly available information such as company brochures or online data.

**Startup selection criteria**

The criteria for choosing specific startups was that, the firm have been incubated for at least a year in that specific incubator, this criteria was also used in similar research by Tötterman and Sten (2005). The startup should not be more than four years old. In addition, as this study is about startups, we need to have their opinions, not the opinions of mature firms who have been in the market for a while and may have not the same challenges as new ventures usually have. There was not any criteria regarding the industry the startups were from. The startups founder or co-founder were selected for interviews as they usually have most knowledge about day-to-day routines of their startups and incubator services. The chosen startups, who did not ask for anonymity are presented in Result and analysis section.

**Incubator selection criteria**

Incubators are located in different part of Norway to ensure a regional disparity. There was no criteria regarding their public (in our case SIVA) or private support. In addition there was no criteria regarding the type of incubators (meaning no criteria if they are technology, non-technology or university incubator but it should a business incubator), this is to have a diverse sample of incubators in our sample; however, they all have strong relationships with universities and centers in their city. Another criteria for incubators was that they would provide their tenants
with at least some of the basic services: space, office routines, managerial assistance and access to networks to ensure that they actually have been in contact with their tenants and they have the basic services of incubators.

Based on the criteria, the following incubator have chosen:

- **Startup Lab**: Launched in 2012, have supported more than 150 technology startups, and currently they are working with 70 active members. They provide workshops, mentors, investors, data science labs (AI/IoT etc), social events, office and meeting room facilities. It is a technology incubator. It has both private and public funds and are supported by SIVA\(^1\).

- **Nyskapingsparken incubator**: owned by Bergen Teknologioverføring AS (BTO), started 2007 by Høgskulen på Vestlandet and it is the one of few incubator in Bergen area. Financed by Høgskulen på Vestlandet, Norges Handelshøyskole (NHH), Bergen Hospital Trust, Hordaland Fylkeskommune, Bergen Kommune, Universitetet i Bergen, Institute of Marine Research. SIVA also support and finance them. There are 26 startups in incubation but 48 more startups in pre-incubation process. Since beginning, they have hosted 207 new ventures. Recently they have started a new incubation area for media sector called Media City Bergen.

- **Leiv Eiriksson Nyskaping (LEN)**: started back in 2001 in Norwegian University of Science and Technology (NTNU) in Trondheim but now it is a private incubator with some public fund available for them. They can be called technology incubators but they accept also startups from other fields as well. Since 2001, 192 startups have been incubated at LEN incubator and 153 of them have had a turnover of 2.3 billion Norwegian Kroner and making 1314 FTEs\(^2\) with wage costs of 865 million Norwegian Kroner. Nowadays they host 20 companies.

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\(^1\) Industrial Development Corporation of Norway: it is a Norwegian state enterprise responsible for government investment in incubators, science parks, industrial parks and real estate through partial ownership of other companies.

\(^2\) Full-time equivalent (FTE)
4. Results and analysis

Based on the mentioned criteria in Research method section, six startups at three incubators have chosen. Table 4 summaries the startups and their incubator. In order to identify the existence of liability of newness and smallness, the following metrics have been presented to the startup founders in order to identify if they have experienced challenge related to LoN or LoS or not and how the incubator staff have assisted them in overcoming those challenges. These effects of LoN and LoS are based on the literature review of previous work by different researchers such as (Aldrich and Auster, 1986, Politis, 2008, Ulvenblad et al., 2013, Kale and Arditi, 1998).

These effects have presented to both incubator staff and entrepreneurs to reflect over them. Incubator staff could base on their experience say if their tenants have experienced these challenges and how they have supported them. Entrepreneurs on the other hand would say if they have experienced these obstacles, how they handled them, and if they have received support from incubator.

Liability of newness obstacles

External
- Convincing external stakeholders about the new venture
- Uncertainty regarding the market potential for the product or service
- Lack of stable relationships with key stakeholders
- Lack of track record and legitimacy

Internal
- Lack of informal structures in the organization (for example implicit norms and routines that are important for carrying out business operations but that there are no formal decisions about).
- Uncertainty regarding roles and functions in the organization that a new venture would require

Liability of smallness obstacles:
- Lack of financial resources
- Difficulty to attract skilled workforce
- Difficulty to meet high interest rate payment and handle administration costs
### Table 4 - Overview of chosen startups and incubators

<table>
<thead>
<tr>
<th>Chosen Incubator</th>
<th>Startups</th>
<th>Field of work</th>
<th>Duration of incubation</th>
<th>Foundation year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Startup Lab</strong></td>
<td>Adepto AS</td>
<td>Electronic acquisition protocol in real estate sector</td>
<td>Late 2014</td>
<td>2014</td>
</tr>
<tr>
<td></td>
<td>Listen AS</td>
<td>hearing assistant software/hardware</td>
<td>2016</td>
<td>2014</td>
</tr>
<tr>
<td><strong>Nyskapingsparken</strong></td>
<td>Asked to stay anonymous</td>
<td>Kept Confidential</td>
<td>Kept Confidential</td>
<td>Kept Confidential</td>
</tr>
<tr>
<td></td>
<td>Asked to stay anonymous</td>
<td>Kept Confidential</td>
<td>Kept Confidential</td>
<td>Kept Confidential</td>
</tr>
<tr>
<td><strong>Leiv Eiriksson</strong></td>
<td>Adtube</td>
<td>Automated digital announcing/advertising system</td>
<td>2016</td>
<td>2016</td>
</tr>
<tr>
<td><strong>Nyskaping</strong></td>
<td>Minmemoria</td>
<td>Digital memory book and a platform for social communication</td>
<td>2016</td>
<td>2016</td>
</tr>
</tbody>
</table>

### 4.1. Liability of newness and smallness

Moving on now to interviews’ results regarding liability of newness and smallness. Each bullet point provides explain and discuss each issue of LoN and LoS based on the interview results. Table 5 – 7 have the summary of results.

- Convincing external stakeholders about the new venture.

All except one startup’s founder, clearly had difficulty convincing external stakeholders about the new venture. While the majority had problems with investors, some also had problem with suppliers and customers as well. The challenge of convincing customers was that their customers are big corporations and usually do not trust startups. The incubators’ directors also agree that most of them have this challenge as Kjetil Holmefjord from Startup Lab stated that:

> That is the most important thing. If you cannot convince your customer then you do not have the product, then you have the idea or at least if you do not have the product itself.

Regarding the way that incubator helped them, the majority of startups felt that they have done most on their own and the incubator staff mostly guided them by advice and exchanging information and knowledge through organized meetings. One startup founder mentioned that because the nature of their business field, the incubator could not help more.

While what incubator staff claimed to have done was to motivate the startups to go out of building and they mean that they should do it themselves. In addition, incubators provide a big
network of investors. *Nyskapingsparken* connection with “Connect Vest-Norge” and “Norsk Innovasjonskapital AS” are an example of it. In addition Startup Lab have an event so called “Meet Corporates” where startups can apply to have a short meeting with representatives of pre-determine public or private firms.

In addition, one startup had problem to expand overseas. This can categorize in this section. They have the difficulty about how to manage the expansion outside their origin country. They have used network of the incubator staff in that country to find a representative who can open the market for them.

- Uncertainty regarding the market potential for the product or service.

Not all new ventures have faced this as a challenging issue. Half of them claimed that based on their previous experience in the same field they have enough knowledge about the market potential. In addition, the other half have faced this challenge more in the early phase than in their current state. The incubator has also guided them how to conduct interview, questionnaire and focus group interviews also by consulting them. Incubators claims that they have helped them by motivating them convince their customer first and then build the product and service. Kjetil Holmejord from Startup Lab suggested that:

> "The sooner they talk to their potential customers less uncertainty it is"

- Lack of stable relationships with key stakeholders.

Half of them have considered this a challenge. One mentioned that because the complexity of their market and conflict of interest of stakeholders they have felt to be either cooperate or compete with customer/supplier. They have mentioned that Startup Lab event “Meet Corporates” helped them with this issue as they got the chance to discuss their position with one of their customer/supplier. Incubator staff also claimed that this as a challenging issue for their tenant and they can help them with their network, workshop and advice.

Another startup had problem with their accountant company and they blame the incubator over it, as they have not introduced a reliable accountant. In addition, other startups had problem with their customer in public sector; it is because public sector appear to be slow in their process and limited in their budget.

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1 Network company with pool of investor and industry actors
2 Commercial investment company
• Lack of informal structures in the organization (for example implicit norms and routines that are important for carrying out business operations but that there are no formal decisions about).

Majority were not confronted this as a challenging issue. This is in line with what the incubators’ directors mentioned that tenants might not have this issue in this phase as one of incubator staff mentioned:

In the early stage where we are, most of companies they do not have their own culture or some of them to some extent, they are part of Startup Lab culture as well, meaning that it is not that important that early it is when they become more than four years old, they have to build their own culture.

• Uncertainty regarding roles and functions in the organization that a new venture would require.

By contrast, to what literature suggest, none of startups have confronted uncertainty regarding rules and functions. Also incubator director mention that they would face after they start to grow and hire more people.

• Lack of track record and legitimacy

Nearly all of startups faced lack of record of accomplishment and legitimacy, especially in the beginning and early phase of venture development. An example of this was clearly mentioned by Anders S. Bratholm, co-founder of Adepto AS:

That is used to be a problem, because for instance XXX (A bank in Norway), they told us that we are not interesting talking with you unless you have done 10,000 transactions. And huge companies like XXX they told us that they don’t want to be the first-mover for the products like this so they want other companies to take the risk.

Among the strategies that interviewed startups have done to overcome this challenges, were by starting to sell to SMEs\(^1\) (in case of B2B\(^2\)), starting to build the customer relation, running the project or building the finished product, and promoting their product or service. As they stated some of these ideas came from incubator staff advice.

• Lack of financial resources

\(^1\) Small and medium-sized enterprises

\(^2\) business-to-business
Except one startup, all of them have had to struggle with financing their venture. More or less all of them agreed that the incubator helped them by finding investors directly or teach them how find an investor or apply for a fund. Interviewees mentioned this as the “biggest challenge/struggles”.

Incubators assist their tenants in three ways regarding this, first by investing directly in the company that they believe to be valuable. Second by helping through their network to find investors, venture capitalists, private and public funds. In addition, they guide them about how to present their firm to investors or what is important for possible public or private investors/funds.

- Difficulty to attract skilled workforce

Recruiting new people for the venture was not made that much difficulty for founders, they may need to hire people but with using their own network and incubator services they have found who they wanted. They create events such as “meet startups” or introducing by using their own network of incubator staff. One of incubators have headhunter in their team who helps startups directly by looking for skilled human resources. Or Incubators use their website to recruit for startups. This area is where they have been successful.

- Difficulty to meet high interest rate payment and handle administration costs

Nearly none of startups have trouble to pay rents, salaries or other administration costs. This is mainly because the rent of offices at incubators are very low comparing to similar offices in the city. In addition, other administration costs have also covered as part of the incubation services. Regarding salaries, some of them hired students as an intern or they all may not be paid but still reimbursed as being part of shareholders at later stage. All of them are besides that they may have already found investors to pay for various cost. For example, one startup founder stated that:

> We do not have much financial resources so we have not really struggled, we don’t pay salaries, everyone are working in our company is shareholders so they are owners of the company so they get paid not yet, but hopefully very soon, so that’s not something we have had to deal with it yet. The administrative cost is not that much right now...

1 An event where people outside of incubator can come and meet startups who may need to hire new people, especially students from nearby universities and colleagues.
This finding is in line with Chan and Lau (2005) research which explained cost advantage in the form of rental subsidies and other expenses is found the most important benefit that technology tenants derive from incubator programme. It is particularly critical for those tenants whose product technology is still in pre-mature stage or requires longer time to develop.
<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Convincing external stakeholders</th>
<th>Uncertainty regarding the market potential</th>
<th>Lack of stable relationships</th>
<th>Lack of track record and legitimacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incubator A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>With workshop and advice.</td>
</tr>
<tr>
<td></td>
<td>- motivate them to go out of building - they should do it themselves</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Startup 1</td>
<td>✓</td>
<td>×</td>
<td>✓ “Meet Corporates” event</td>
<td>No help from incubator and by attracting smaller customer to gain track record</td>
</tr>
<tr>
<td></td>
<td>No help</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Startup 2</td>
<td>✓</td>
<td>✓</td>
<td>×</td>
<td>Build finished product and promote the application</td>
</tr>
<tr>
<td></td>
<td>Convince investor</td>
<td>Talk with different stakeholders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incubator B</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“Connect Vest-Norge”, “Norsk Innovasjonsskapital AS”</td>
<td>Using their experience and working closely with them</td>
<td>Their expertise can help by consultancy and advice</td>
<td></td>
</tr>
<tr>
<td>Startup 3</td>
<td>✓</td>
<td>✓</td>
<td>×</td>
<td>Running projects, showing the technology is giving them value</td>
</tr>
<tr>
<td></td>
<td>Received help from TTO as the CEO was working at TTO</td>
<td>Received help from TTO as the CEO was working at TTO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Startup 4</td>
<td>✓</td>
<td>×</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Incubator helped a lot but because of their business subject and lack of the kind of supplier they need they could not help that much</td>
<td>Incubator taught them how to conduct interview and focus group</td>
<td>Investor may not consider them seriously because they think their sector in sceptic ways.</td>
<td>Incubator told them what problems they tackle and many basic things elaborated by them</td>
</tr>
<tr>
<td>Incubator C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Startup 5</td>
<td>×</td>
<td>×</td>
<td>-</td>
<td>No comment</td>
</tr>
<tr>
<td></td>
<td>Kind of no problem, based on their experience they know the sector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Startup 6</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Convincing customer but have not used incubator service</td>
<td>No comment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 6 - Interview results on internal LoN

<table>
<thead>
<tr>
<th></th>
<th>Internal LoN</th>
<th>Lack of informal structures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Uncertainty regarding roles and functions</td>
<td>Experienced</td>
</tr>
<tr>
<td>Incubator A</td>
<td>but after they start to grow</td>
<td>×</td>
</tr>
<tr>
<td>Start up 1</td>
<td>×</td>
<td>-</td>
</tr>
<tr>
<td>Start up 2</td>
<td>×</td>
<td>-</td>
</tr>
<tr>
<td>Incubator B</td>
<td>with some companies</td>
<td>✓</td>
</tr>
<tr>
<td>Start up 3</td>
<td>×</td>
<td>-</td>
</tr>
<tr>
<td>Start up 4</td>
<td>×</td>
<td>-</td>
</tr>
<tr>
<td>Start up 5</td>
<td>×</td>
<td>-</td>
</tr>
<tr>
<td>Start up 6</td>
<td>×</td>
<td>-</td>
</tr>
</tbody>
</table>

### Table 7 - Interview results on LoS

<table>
<thead>
<tr>
<th></th>
<th>Liability of Smallness</th>
<th>Difficulty to attract skilled workforce</th>
<th>Difficulty to meet high interest rate payment and handle administration costs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lack of financial resources</td>
<td>Experienced</td>
<td>Comments and solutions</td>
</tr>
<tr>
<td>Incubator A</td>
<td>✓ possibilities to invest directly and also suggest investors</td>
<td>✓</td>
<td>recruiting events and having headhunters</td>
</tr>
<tr>
<td>Start up 1</td>
<td>×</td>
<td>-</td>
<td>×</td>
</tr>
<tr>
<td>Start up 2</td>
<td>✓ tactics and strategies to gain more out of investor and find investors</td>
<td>✓</td>
<td>Incubator help with requirement events</td>
</tr>
<tr>
<td>Incubator B</td>
<td>✓ By formal or informal meetings</td>
<td>✓</td>
<td>Different events arranged to hire and attract people from outside incubator</td>
</tr>
<tr>
<td>Start up 3</td>
<td>✓ Events from incubators to be presenting to business angel opportunity</td>
<td>×</td>
<td>because of the outside situation suggesting candidate from incubator</td>
</tr>
<tr>
<td>Start up 4</td>
<td>✓ Biggest struggle, by finding investor, other companies at incubator help them by introducing their previous investors. The incubator, find them contact to investors but not investing directly.</td>
<td>×</td>
<td>Using incubator network and have one internship.</td>
</tr>
<tr>
<td>Start up 5</td>
<td>✓ Biggest challenge right now, help from Incubator, different ways to receive financial resources.</td>
<td>×</td>
<td>-</td>
</tr>
<tr>
<td>Start up 6</td>
<td>✓ Some tips from incubator not introducing but how present… Found their way to do it.</td>
<td>✓</td>
<td>help with recruiting process and</td>
</tr>
</tbody>
</table>
Quick summary

The result from interviews with both startup founders and incubator staff regarding LoN and LoS shows that external LoN have been more an issue than internal LoN. As data shows, they have confronted to the area of uncertainty when they reach to their customer, supplier or investor. This is in line with previous research done by researchers (Singh et al., 1986, Ulvenblad et al., 2013, Delmar and Shane, 2004). In which they have mentioned that, it is more important to launch exchange relations with customers, suppliers and financiers than to establish an organization consisting of clarified roles and functions. Among external LoN, the most important issue is to convince external stakeholder about new venture and lack of track record and legitimacy comparing to uncertainty regarding the market potential for the product or service and lack of stable relationships with key stakeholders. This logically makes sense because legitimacy is difficult to gain when an organization is new and is something that only comes with time and age (Kale and Arditi, 1998). This implies that despite efforts of incubators, startups are still struggling to convince their external stakeholders. This could be because of the type of business of one startup or the different services that incubators provide.

Lack of informal structures and uncertainty regarding roles and functions have not been a serious issue for startups. This result in the fact that internal LoN are not as important as external LoN. This may not be an issue for startups who have not grown enough but it could cause difficulties in later stage.

Regarding LoS, the most important issue was lack of financial resources, which with all effort of incubators they still have this challenge. The reason that startups had not that much strain with recruiting and paying administration costs, could be that incubator have already done their best so that startups could focus on their main tasks. In addition to that, incubator contribution by using their network and consulting about how to find investor might not be enough as they still have lack of financial resources on their list.

4.2. Joining, staying and leaving the incubator

In order to understand if entrepreneurs consider incubators as a solution to overcome their challenges, questions regarding why they joined and have stayed in the incubators were asked. Also in this relation, questions concerning why entrepreneurs leave the incubators were asked from incubator director.

- Joining the incubator
Among the reasons that startups have joined the incubator are to use the services that incubators provide. Because they want to have both knowledge and experience from incubator team. Besides that, nearly all of them joined the incubator because of the social aspect of it, as renting offices for two or three person venture was not an option for them, both financially and socially. They would like to meet and talk with other people at incubator. For instance when I asked founder of one startup about what they like most about the incubator:

"Its the other entrepreneurs and free coffee, its other entrepreneurs who we are talking to, both socially and business, making good friends here and making advice and help"

Or founder of another startup mentioned:

"I think social, informal part of it, you can just ask for questions whenever want. That you see other people around; by just talking to people small ideas pop up every now and then, so I think the whole environment"

The social part of incubator has already been researched by researchers as they point out the social aspects of entrepreneurship as central for the sustainable growth and success of an enterprise (Hoang and Antoncic, 2003, Johannisson et al., 1997, Johannisson et al., 2002, Witt, 2004). One possible implication of this is that, some of them have seen incubator not a solution for their challenges before join it. They thought incubators are not more than a shared office.

- Staying differences

As I asked them what make incubation different, most of tenants believe that they could not be as successful as they are now if they were not incubated. Alternatively, they believe that it would take longer time to be at this stage. Their main point was that because the incubators network, they have gained many opportunities, which they could not probably find outside the incubator. As it is stated by founder of Adepto:

*I think we would probably not be where we are today, because they helped us with company AAA (one of their customer) that was really extremely important. We probably had not this contact with this innovation department in XXX, which we will meet later today. I think at the beginning we were motivated by other companies that was quite successful.*

Or another founder mentioned that:

*I think we would have been able to do most of the things we have done but we may spend longer time on it and even if we have been in another incubator, we could*
have spent less time if we were in another country. So I think it really hard to say, no matter what, it is just the time frame how quickly are could go, we probably should have been in different incubator which was focused around hardware industry and electronics, we would have gone a lot further where we are right now…

This an important issue and some previous studies showed that there is a positive relationship between speed-to-market and new product development success (Lynn et al., 1999, González and Palacios, 2002, Jiyao et al., 2005) and the greater speed-to-market, the greater the competitive advantage over later entrants (Kessler and Chakrabarti, 1996).

Also before joining the incubator, they had not that much believe in incubator as a support for their challenges. However, after staying, entrepreneurs found the value of it. This implies that they see incubators as an important success factors for venture development.

- Leaving the incubator

On the other side, incubator staff mentioned reasons for exiting the incubator. These reasons are not tested by startups who have left the incubator. But we can categorize them in these three group:

A. Deadline given by incubator: it is usual that most of them the have offered the possibility for temporary stay in incubators 1-3 years.

B. Limited services that can be provided for fast growing tenants such as office area.

C. Not growing tenants, who despite their stay and received help, they have not been able to successfully grow and increase their income level. This will mostly happen when both incubator and incubatee agree about it.

4.3. Interaction with Other startups

As previous studies suggested that networking and social aspects might have effect on their new venture success, questions regarding interaction between startups were asked. All of them have at least social interaction but in addition to that, there are two other level of interactions. These two levels are schedule meeting/talk to receive help in specific issue and actual formal collaboration that may consist legally binding contracts. These three levels of collaboration are based on the interviews with founder of one startup:

“...I think there are three levels, one is that you meet with people on daily basis at the coffee machine and so forth and exchange of information and it’s interesting to see how you can pick up a lot of good advice just by accident. Then you have some targeted meetings with companies in similar field to see if they can contribute to partners and contacts and technology providers that we could be interested in. And
then we have some junior people at in our staff, a designer for instance and she talks a lot to other designers on best practice, on tools and even show some of the work that she has been doing and exchange, so that is more based on college kind of basics. And then we have meeting with companies who are doing similar things, we have talked to companies that do manufacturing which we are looking into…”

Social interactions:

This consist of quick talks in “coffee breaks”, social events that are planned by incubator, and helping other people with day to day casual tasks (e.g. helping with printer). This social incident is not limited only to daily talks but also they use them to find solutions, new ideas, contacts and many other work related area.

Planned meetings/talks:

They may ask for advice, contact information, testing the product or service, suggestion, and help from other startups. It is mostly happen if they could find any related field that they can use each other network, expertise or skills.

Formal collaboration:

They may contact each other to have use their expertise. This could be collaboration for software or graphic design, marketing, accounting or depend on the field of working collaboration on using manufacturing facility etc.

On other hand, the importance of sharing information and exchange of knowledge and information is one of features that incubators promote among entrepreneurs. For instance, one of the incubators motivate their tenants to share their experience to each other, as he stated:

...because we can offer so much but if they corporate themselves they get even further.

Another important topic regarding startup cooperation is to find why they have not motivated to do so that much. One of the founders mentioned this:

I think most of the companies here they are at very early stage. So I think from our perspective it would be more interesting to see companies have some clients and they have running business and I think that is a very good reason why we have not been corporation with other companies because they have no clients, they have limited network, and they are mostly creating their products. So I think it would be more interesting to see more companies which are at later stage.

_________________________

1 The phrase also means any break from work
This can lead us to categorization of startups based on the phase in which they are in. This is in fact something that Nyskapingsparken incubator have managed to do as they have two stages of incubation. One so called “pre-incubation” where very younger startups only have access to open office and basic stuff and the “real” incubator (called by one of startups founder) where more mature startups can also receive advice from incubator staff and other additional services. Also they still have the possibility to communicate and share with each other despite which stage they are in. Concerning three level of interactions, all of them have seen it as an opportunity for startups to overcome LoN and LoS.

4.3.1. Networking

One of important and most used services that incubators in this research provides is networking. All of them have mentioned this proudly that how they provide and assist tenants with their network. For this they may even have formal connection with firms who provide them with valuable pool of network mostly investors.

For instance, Nyskapingsparken has connection with “Connect Vest-Norge” and “Norsk Innovasjonsskapital AS” to build the network that startups may need. In addition, different events by incubators have been conducted to provide the network that tenants may need. Based on the interviews, entrepreneurs have taken the advantages of this service and achieved important success by using it. For instance, one startup made a contract with an important customer just within two weeks by help incubator staff. While as they said this process could take even up to one year.

This all are besides their day-to-day networking with other entrepreneurs at incubator, which was mentioned before. As the matter of fact, it is not a service that incubator provides but it is what the nature of incubation have within itself or what we call unintentional services of incubator.

4.4. Result and analysis summary

Incubators have provided different services to help entrepreneurs to overcome LoN and LoS (see previous tables for detailed description). These results would seem to suggest that the incubators have “partially” been successful by providing different events and networking services. Moreover, incubated entrepreneurs still struggling with external LoN as well as lack of financial resources. One possible implication of this is that incubators can be used as a solution for new companies to overcome LoN and LoS but still many issues of LoN and LoS have not solved by incubators. Convincing external stakeholder, especially investors, customers and suppliers and
lack of credibility are among them. However, they have been able to support entrepreneurs find skilled people. Moreover, by referrals they helped entrepreneurs to have an access to essential resources they usually need (See also Patton and Marlow (2011) study). Three level of interaction between incubated firms, helped them in different aspects like testing the prototype and finding new designer.

Table 8 summarize incubators’ solutions to overcome LoN and LoS in this research. The incubator solution could be intentional or unintentional as shown in the table. This can be explained as some of the solutions are purposefully provided to their tenants and others solutions may have been created because of the nature of incubation. For example, tenants ask other tenants to find a designer from their network. This is not something that incubators provide but its environment makes it possible.

Table 8 –The incubators’ solutions regarding LoN and LoS

<table>
<thead>
<tr>
<th>Metrics</th>
<th>Interviewed incubator’s solutions (intentional or unintentional)</th>
</tr>
</thead>
</table>
| Convincing external stakeholders | - Guided them by advice and exchanging of information and knowledge through organized meetings  
- Connection with networking companies like “Connect Vest-Norge” and “Norsk Innovasjonskapital AS” |
| Uncertainty regarding the market potential | - Guided them by how to conduct interview, questionnaire and focus group  
- Business consultant meetings |
| Lack of stable relationships with key stakeholders | - Event to meet and contact different stakeholders like “Meet Corporates” event  
- Workshop and advice |
| Lack of track record and legitimacy | - Running the project or building the finished product  
- Promoting their product or service |
| Uncertainty regarding roles and functions in the organization | - Direct investment  
- Connection with investors, banks, network companies like “Connect Vest-Norge” and “Norsk Innovasjonskapital AS”, DNB, Innovasjon Norge1, Norsk Innovasjonskapital AS (NIK) from Televenturen2  
- Guidance about how to apply and attract public and private investors |
| Lack of informal structures in the organization | -  |
| Lack of financial resources | - Headhunter in incubator team  
- Recruiting event like “Meet startups” event  
- Announcing job openings on incubator website  
- Referral and networking among incubatees |
| Difficulty to attract skilled workforce | - Low cost of office space and other related administration costs  
- Connection with Zacco3, Steenstrup Stordrange (SANDS)4, DNB5 and similar connection with legal, Intellectual Property, banks and accountants organizations |
| Difficulty to meet high interest rate payment and handle administration costs | -  |

---

1 Norwegian government organization which meant to innovation and development of Norwegian enterprises and industry  
2 Venture capital company  
3 Intellectual property (IP) service provider  
4 Law firm  
5 A bank in Norway
5. Discussion

Various concepts have been discussed regarding the entrepreneurs and effect of business incubators in new ventures. LoN and LoS are a proven hypothesis among scholars (Freeman et al., 1983), yet not much attention has been devoted to study the influence of incubation process and how incubator can help entrepreneurs to overcome LoN or LoS. Some scholars (Hackett and Dilts, 2004b, Stokan et al., 2015) also mentioned this gap in business incubator literature. Returning to the first questions in the introduction:

- Do incubated startups have experience the common effect of LoN and LoS?

The evidence from this study suggests that, LoN and LoS exists among new ventures in the incubators but in various degrees. It also depend on their maturity and the incubator that they are located in. For example, mature startups who have running business and revenue, may be certain about market potential or do not have lack of financial resources.

External LoN such as lack of record of accomplishment and legitimacy and external stakeholder convincingness have been more an issue than the internal LoN. This finding is in line with previous studies (Singh et al., 1986).

However, it is not possible to ignore internal LoN. It seems possible that these results are due to entrepreneurs might not face problem with lack of informal structures or uncertainty regarding roles and functions yet, but they might experience more issues when they grow and have more people in the company. Another possible area of future research would be to investigate in which phase, each metrics of LoN have more effects than another.

Moreover, regarding LoS, lack of financial resources is still an issue. Despite numerous strategies that being used by entrepreneurs and the incubators to attract investors, they are still struggle with insufficient funding. Startups may not have that much problems to attract skilled workers and possible explanations for this result may be, first of all they may not need new people at the current stage, and the incubators have been successful in this regard. Startups find who they need as all the incubators in this research have recruitment services.

Regarding our second research question:

- How incubators decrease the effect of LoN and LoS?

Incubators solutions, which summarized in Table 8, shows that they are able to intentionally or unintentionally helped startups to overcome LoN and LoS. Their services such as networking, consultancy, various meetings, recruitment services, connections, cost advantages,
accountant and legal services have helped new ventures to overcome LoN and LoS, partially. We mentioned partially because their services could not fulfill all their challengers regarding these two liabilities.

Understanding how to conduct interview, questionnaire, and focus group, helped entrepreneurs to decrease uncertainty regarding the market potential for the product or service. Incubator advice and courses, motivated and taught entrepreneurs to conduct these methods to better understand their market. This is in line with Stokan et al. (2015) study that suggested technical business assistance of business incubators can increase the survival rate of their tenants.

Providing cost advantages helped startups to handle their difficulty to meet high interest rate payment and handle administration costs. Cost advantages include both form of rental subsidies, accountant, and legal services. Same as Chan and Lau (2005) research, cost advantages is valuable assets for the incubators not only to attract new tenants, but also decrease new venture’s liability of smallness.

The data reported here appear to support the “network success hypothesis” (Brüderl and Preisendörfer, 1998) hypothesis. Similar to previous studies, we suggest that providing a networking service by business incubators can decrease the external liability of newness and smallness either directly or indirectly. In the literature, the term tends to be used to refer to provide networks with different sources such as potential customers, suppliers, service providers (e.g. lawyers, tax accountants), financial institutions (e.g. banks, venture capitalists), public and private research facilities, political institutions (e.g. local development agencies, funding agencies), and academic institutions. It is because they can fulfill the incubatees' lack of a track record, credibility, and recognizable brand to convince potential stakeholders. This can be done as it has practiced in sample incubators by creating events like “Meet Corporation”, using incubator’s network (referral) or fellow startups’ network, or agreement with network organizations that provide a pool of business networks.

Recruitment services, in form of recruiting events, referral, job announcement on incubator website, and having a recruiter/headhunter in the incubator team, helped startups to hire paid or unpaid (internship) human resources. This service decreased their difficulty to attract skilled workforce.

In our findings, also entrepreneurs look for solutions, ideas and networks not only from incubator staff but also among other incubator tenants. Therefore, if they could find people in
similar field they could find more solution or ideas. As this was an issue with one of the startups who had limited access to networks with people from electronic and manufacturing sector. In addition to that, it would be notable if entrepreneurs, especially novice entrepreneurs, have access to experienced entrepreneurs or even people who are working in established companies. This is because they can use skills of more experienced people in comparison to skills of people who have never sold their product or have never experience different challenges regarding market, production and management and more related distribution of information and knowledge. Taken together, these results suggest that specialist business incubator consisting of a blend of novice and habitual entrepreneurs can lead to better handling of LoN. Overall, this suggestion support the view that “specialist” incubator in which the incubator focuses on specific industries might be an advantages in comparison to incubators have no specific target group (Aerts et al., 2007).

As explained earlier, entrepreneurs rely on incubator’s knowledge, experience and network to overcome the LoN and LoS. They regularly meets incubator team to ask for advice and despite Chan and Lau (2005) findings this service had an important role for entrepreneurs to overcome external LoN. In general, this requires competent people who have enough knowledge, experience and network to help them. For example, having a headhunter/recruiter in the team would provide better support. It is likely that a team of experienced (especially in venture and business development field), competent, connector, and open people can lead to better service to overcome LoN and LoS. This suggestion needs to be tested in future research to see if high qualified and experienced “incubator team” have positive effect on startups ability to overcome LoN and LoS.

In addition to previous topic, providing accountant services not only help them to handle administration costs but also it can directly increase their knowledge about their financial situation, which can help entrepreneurs to overcome the LoN. Similar to Wiklund et al. (2010) paper, understanding of financial indicators (liquidity, leverage, and profitability) and the financial position serve to buffer the liabilities of newness. This implies that providing reliable accountant services would help startups to overcome both the LoN and LoS.

Various strategies have implemented by the incubators to help startups overcome lack of financial resources. Such a solutions are direct investments, connection with public and private investors, and guidance on how to attract investments. Despite these efforts, they still have financial problem. In contrast to Patton and Marlow (2011) paper, giving the access to essential resources (such as financial resources) may not create a secure way to help entrepreneurs to
overcome the LoN. A suggestion to overcome this issue is to have financial bootstrapping as creative ways of securing the use of resources without relying on long-term external finance as suggested by Winborg (2015).

As was mentioned in the previous chapter, an unexpected result of this study is that in some occasions the incubators have helped startups unintended. For instance, instead of reaching incubator staff for advice, they also contact other entrepreneurs at the incubator, regarding their challenges. This strategy helped them to recruit, test the product, and find new idea and solutions. These are in addition to other three levels of interaction that identified in previous chapter. This situation is not part of offered services of incubators but unintentionally they have created this opportunity for them.

In addition, it is important to mention that entrepreneurs themselves, believe that without begin incubated they could not be as successful as they are now or at least not as fast as they reached to this phase. We cannot conclude from this that incubators are essential for new venture development because we have not compared them to not incubated firms. And majority of them, have not experienced developing a new venture outside of the incubators.
6. Conclusion remarks

Business incubators believed to have the goal to help entrepreneurs to overcome LoN and LoS (Schwartz, 2010); however, limited studied were found in this relation. Consequently the purpose of this study was to find out how business incubators can help entrepreneurs overcome LoN and LoS. This has been replied in the form of an answer to two questions:

- Do incubated startups have experience the common effect of LoN and LoS?
- How incubators decrease the effect of LoN and LoS?

To answer these two questions, a qualitative study were conducted by interviewing three business incubator staff and six startups’ founder or co-founder. The companies tested to see if the targeted startups have experienced the effect of LoN and LoS. The result of interviews are analyzed and explained in detail. The results indicate that the startups have partially experienced the effect of LoN and lack of financial resources.

Incubators in this research have provided different service to help entrepreneurs to overcome LoN and LoS. Among them networking services have had more effect than others, while other services such recruiting services have also help new ventures to find skilled people. In addition, consultancy, referral, cost advantages, accountant and legal services improved their ability to overcome the LoN and LoS.

By analyzing the interviews and using previous researches, some suggestions were provided to improve incubators assistant to help new ventures overcome LoN and LoS. Providing networking services, having experienced, connector, open and competent incubator staff, creating specialist business incubator can help incubators to better serve the new ventures.

6.1. Limitation and Improvement

Language barrier was one of the challenges during the interviews. It might decrease the flawless communication and caused misinterpretation. The ideal solution would be to conduct the interviews in Norwegian and translate. As I am not fluent in Norwegian, it was not an option for me.

The interviews was conducted with either founder, co-founder, CEO or CTO of startup and incubator. This was also caused some challenges, as individual people may not know about all aspects of the firm. In only one case, we had the opportunity of interviewing with both founders of one startup. That was more interesting when questions could be answered by all parties who have involved in the process of venture development.
The nature of qualitative study and interviews implies that the result cannot generalize to other occasions. The research can develop new hypothesis or theories but it is not capable of generalizing the result to all sample studies. The findings are bound to particular incubators’ situation in Norway and are not generalizable to incubators in general.

Regarding metrics of liability of newness, we have found very limited researches and articles. Lack of strong managerial skills (Kale and Arditi, 1998) was another effect that could be asked from interviewees as part of LoS issues.

6.2. Future Directions

Further quantitative research may need to test the proposed suggestions with a greater sample of startups. Also in case of qualitative research, instead of having multiple cases of incubator, it could be better to interview with majority of entrepreneurs of specific incubator.

In addition, another research may investigate that in which phase of new venture development each effect of LoN and LoS have more impact than another does. Beside to LoN and LoS, other liabilities such as liability of adolescence and aging may also examine in relation to business incubators.
References


Appendix

Typology of business incubators (Aernoudt, 2004)

<table>
<thead>
<tr>
<th>Incubator Type</th>
<th>Main Philosophy: Dealing With</th>
<th>Main Objective</th>
<th>Secondary</th>
<th>Sector Involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed incubators</td>
<td>Business gap</td>
<td>Create start-ups</td>
<td>Employment creation</td>
<td>All sector</td>
</tr>
<tr>
<td>Economic development incubators</td>
<td>Regional or local disparity gap</td>
<td>Regional development</td>
<td>Business creation</td>
<td>All sector</td>
</tr>
<tr>
<td>Technology incubator</td>
<td>Entrepreneurial gap</td>
<td>Create entrepreneurship</td>
<td>Stimulate innovation, technology startups and graduates</td>
<td>Focus on technology, recently targeted, e.g. IT, speech-, biotechnology</td>
</tr>
<tr>
<td>Social incubators</td>
<td>Social gap</td>
<td>Integration of social categories</td>
<td>Employment creation</td>
<td>Nonprofit sector</td>
</tr>
<tr>
<td>Basic research incubators</td>
<td>Discovery gap</td>
<td>Blue-sky research</td>
<td>Spin-offs</td>
<td>High tech</td>
</tr>
</tbody>
</table>

Interview guide - Startup founder

Introduction

- Short presentation of myself and the purpose of study
- Permission to record
- Anonymity

Introductory questions:

1. Basic information: number of founders and employees, founder backgrounds, date of founding, main product and business model. How long have your company been in an incubator?
2. Where were you before joining? What is different? How being incubated effected the company?
3. Why did your company join this incubator?
4. What kind of services have you been received as an incubatee? Which one of the services have you used and why?
5. How do you interact with other companies here? Do you ever help each other or collaborate? If so, how? How do you view your fellow companies here?
6. What would your company be doing if you were not incubated?

LoN and LoS

7. Overall, if you think about these challenges, have they been important challenges for your firm?
   - Convincing external stakeholders about the new venture.
     i. How are you working to overcome these challenges?
ii. Any help from the incubator staff? Can you give examples?
iii. Any help from fellow incubates? Can you give examples?

- Uncertainty regarding the market potential for the product or service.
  i. How are you working to overcome these challenge?
  ii. Any help from the incubator staff? Can you give examples?
  iii. Any help from fellow incubates? Can you give examples?

- Lack of stable relationships with key stakeholders.
  i. How are you working to overcome these challenge?
  ii. Any help from the incubator staff? Can you give examples?
  iii. Any help from fellow incubates? Can you give examples?

- Lack of informal structures in the organization (for example implicit norms and routines that are important for carrying out business operations but that there are no formal decisions about).
  i. How are you working to overcome these challenge?
  ii. Any help from the incubator staff? Can you give examples?
  iii. Any help from fellow incubates? Can you give examples?

- Uncertainty regarding roles and functions in the organization that a new venture would require.
  i. How are you working to overcome these challenge?
  ii. Any help from the incubator staff? Can you give examples?
  iii. Any help from fellow incubates? Can you give examples?

- Lack of track record and legitimacy
  i. How are you working to overcome these challenge?
  ii. Any help from the incubator staff? Can you give examples?
  iii. Any help from fellow incubates? Can you give examples?

- Lack of financial resources
  i. How are you working to overcome these challenge?
  ii. Any help from the incubator staff? Can you give examples?
  iii. Any help from fellow incubates? Can you give examples?

- Difficulty to attract skilled workforce
  i. How are you working to overcome these challenge?
  ii. Any help from the incubator staff? Can you give examples?
  iii. Any help from fellow incubates? Can you give examples?

- Difficulty to meet high interest rate payment and handle administration costs
  i. How are you working to overcome these challenge?
  ii. Any help from the incubator staff? Can you give examples?
  iii. Any help from fellow incubates? Can you give examples?

Other challenges and incubation feature

8. Can you tell me about the key challenges that your firm have faced? And what are most important current challenges?
   a. How have you worked to overcome these challenges?
   b. Any help from the incubator staff? Can you give examples?
c. Any help from fellow incubates? Can you give examples?

9. Can you tell more how being in an incubator have helped you to overcome these challenges?
   a. What would it be if your team were not incubated?
   b. What would you like and dislike the most by being incubated?
   c. What do you think that is missing in this incubator?

10. Do you think you could be as successful as you are right now if you were not incubated?

**Interview guide – Incubator director**

**Introduction**

- Short presentation of myself and the purpose of study
- Permission to record
- Anonymity

**Introductory questions:**

1. Briefly about this incubator (date of foundation/source of funding private or public?) and your role in the incubator team.
   a. Number of current startups
   b. What kind of incubator? (technology, business or university)
   c. Connection with universities/centers etc.

2. How is the process for accepting new tenants? How do you find them? What are the criteria?
   a. How a startup exit the incubator? Who decide?

3. What services do you offer to your tenants? (both formal and informal)

4. What are the measure of concluding that a startup is successful or not? Number/percent of successful startups
   
   LoN and LoS

5. Do you consider the following obstacles critical for your tenants? Have you helped them in this area to overcome each one you thin are important? Do you have any examples for any of them?
   - Convincing external stakeholders about the new venture.
     o What was your support regarding this
   - Uncertainty regarding the market potential for the product or service.
     o What was your support regarding this
   - Lack of stable relationships with key stakeholders.
     o What was your support regarding this
   - Lack of track record and legitimacy
     o What was your support regarding this
   - Lack of informal structures in the organization (for example implicit norms and routines that are important for carrying out business operations but that there are no formal decisions about).
o What was your support regarding this

• Uncertainty regarding roles and functions in the organization that a new venture would require.
  o What was your support regarding this

➢ Lack of financial resources
  o What was your support regarding this

➢ Difficulty to attract skilled workforce
  o What was your support regarding this

➢ Difficulty to meet high interest rate payment and handle administration costs
  o What was your support regarding this

6. What are challenges do you think of the I am not mentioned and what was your support?
   a. What is most issue that usually startups comes to you?
   b. Have you helped them in this area to overcome such a challenges

7. Regarding your supports, is that mostly happens by informal or formal means of communication? Do you think your services are customized for individual incubatee?

8. Considering Company AAA and BBB, do you think that your services have helped them to overcome such challenges?

9. What do you think is the most efficient support that this incubator provide?

10. Could you describe a situation/example where a tenant would come to you with a challenge and your support?

11. Do you think your services are customized for individual incubatee?

12. Do you think not incubated firms miss many opportunities comparing to incubated firms?
   a. What are the reasons?
   b. Do you have any examples?