Business Incubators - the savior of startups?
- An exploratory study on knowledge acquisition in a business incubator from a startup perspective

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Abstract
Startups play a vital role in economic development, however, have a high rate of failure, partly due to insufficient knowledge resources. A business incubator is an institution aimed to assist startups with services and resources in order to facilitate their development. There is, however, a gap in previous research regarding knowledge flows and acquisition in business incubators. Furthermore, few scholars have conducted research from the startup perspective in this context. This study, therefore, aims to explore how startups acquire knowledge in a business incubator from the perspective of a startup. This has been investigated through a qualitative study of the business incubator Uppsala Innovation Centre where a selection of startups has been interviewed regarding their participation and potential knowledge acquisition. The empirical findings reveal that startups acquire knowledge from several sources e.g. business coaches, other startups; however, the extent of knowledge acquisition and nature of knowledge differs. Most of the knowledge is explicit knowledge acquired through the process of vicarious learning. Overall, the business incubator is argued to fulfill its operations and help startups in their development. This study contributes with needed insights into the business incubator operations from the startup's perspective and expands previous business incubator research by adding a knowledge acquisition perspective.

Keywords: Business Incubator; Startup; Knowledge Acquisition; Knowledge Transfer; Entrepreneurship
Acknowledgements

Writing this thesis has been a bumpy road but now, the end is not near - it is finally here. We would like to thank everyone who made this thesis possible. First and foremost, we would like to thank our supervisor Leon Caesarius for his patience, support and for keeping our feet on the ground. Furthermore, we wish to thank our opponents for all the advice and valuable inputs. A big thank you to Uppsala Innovation Center and the dedicated startups participating in this study - without you it would not have been possible! Last, but not least, we want to express our gratitude to P. Lex who always been by our side, never letting us down.

No pain, no gain. Au Revoir Uppsala University!

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1. Introduction

1.1 Business incubators - a perfect match?

Startups have the potential to fuel economic development, create innovations and provide employment opportunities (e.g., Bollingtoft, 2012; Giardino et al., 2014). Entrepreneurs and startups have been described as the motors of innovation (Schumpeter, 1956) and are essential for societal progress (Lindelöf, Löfsten & Aabola, 2006). Founding a startup is, however, easier said than done and there is a “cruel rule” in the startup ecosystem that almost 60 % of startups do not survive their first five years (Giardino et al., 2014). Societies and the economy, therefore, miss out on the economic gains and innovations startups have the potential to bring. In Sweden, and in many parts of the developed world, national actions have been taken to ensure and facilitate startup growth (e.g., Böhringer, 2006; Lindelöf et al., 2006). One type of institution existing to assist startup development is the business incubator. How can a business incubator assist startups to overcome the crucial first years?

A business incubator is an institution with the overarching goal to support startup development by providing a range of services and resources. The typical business incubator offers startups office space, business support, and advice as well as providing access to an extensive external network. (e.g. Bollingtoft & Ulboi, 2005; Hackett & Dilts, 2004) Startups are characterized by scarcity of resources and are often not able to perform or develop as desired (e.g. Cohan, 2012; Ries, 2011). The purpose of joining the business incubator is to compensate for the insufficient resources as well as to get additional support. Furthermore, the startups will, therefore, have more resources and time to focus solely on their core activities and developing the startup. On paper, it seems to the perfect match. However, is this enough?

There is no simple answer to why startups fail or succeed for that matter. Previous research has investigated startups for decades to understand what drives performance, however, there is no simple recipe for managing successful growth (e.g. Miettienen et al., 2010, Ries, 2011). The typical startup has an innovative idea and a strong focus on developing it by creating the technological requirements for it to go live (Böhringer, 2006). While technical knowledge might be the basis of a startup, it is nonetheless essential for them to develop expertise within a wide spread of areas required for managing a business (Giardino et al., 2014). In fact, one common theme in previous research is the lack of managerial capabilities and a business mindset and is argued be a main contributor to why startups do not perform as desired (e.g., McKelvey & Heidemann Lassen,
Market and business related knowledge is highlighted as necessary in order for the startups to be able to commercialize their innovative idea into an actual efficient, attractive business. (e.g. McKelvey & Heidemann Lassen, 2013; Sullivan & Marvel, 2011) Therefore, the question in need of an answer is: how can a business incubator assist startups in acquiring necessary knowledge?

1.2 Business Incubator + Knowledge Acquisition = ?

All startups aim to establish and expand their business, hopefully becoming a successful actor. Additionally, there is also societal gain connected to successful startup development (Giardino et al., 2014). It is, therefore, in both. the startups as well as society's interest that business incubator operations truly benefit startup development. Previous research shows that startups in a business incubator perform better than non-incubated startups (e.g. Hansen et al., Lindelöf & Löfsten, 2004), hence their operations seem valuable. In contrast, the business incubator model has been criticized for taking away the initiative from the entrepreneur (Böhringer, 2006) and studies have questioned the level of value added arguing that the resources business incubator provides are too generic. (Pettersen et al., 2015; Rubin et al., 2015). It, therefore, exist inconsistencies regarding the actual contribution of the business incubator.

In addition, scholars have pointed out that existing research on business incubators is limited (Pettersen et al., 2015; Rubin et al., 2015; Sullivan & Marvel, 2011) highlighting the need for additional research. One perspective that is rather unexplored is how knowledge flows in the business incubator context (e.g., Bollingtoft, 2012; Böhringer, 2006; Pettersen et al., 2015; Rubin et al., 2015). In particular, research examining which sources knowledge may be acquired from creating a theoretical gap to fill (e.g. Rubin et al., 2015). Additionally, there is little empirical research investigating the effects of different knowledge types to startup development and outcomes (Sullivan & Marvel, 2011). Up to this point, a lot of research has been conducted from the business incubator perspective thus resulting in insufficient insight into the startups experiences and which activities they thought was value adding (ECEDG, 2002). Focus is instead suggested to be directed towards why and how startups are benefitting from the business incubator (Hackett & Dilts, 2004). If business incubators had more insight into startups preferences and needs, it is likely that their operations would be improved.
1.3 Aim of the study

The aim of this thesis is to explore how startups acquire knowledge in a business incubator environment. Knowledge is referred to, as all knowledge business incubator operations involve deemed relevant for startup development. How knowledge is acquired is researched by investigating which knowledge sources startups have access to within a business incubator environment as well as what type of knowledge that is transferred via the sources. The study, therefore, adheres to what scholars acknowledged as missing from previous research performed on business incubators and the ambition is to begin to fill this gap. The study is conducted from the startup’s’ perspective. By applying a startup perspective, this study attempts to expand current research and may further be argued to facilitate the business incubators operations since they would be more aware of which activities to pursue. Moreover, this study has the ambition to enrich the understanding of knowledge management within entrepreneurship literature.

1.4 Research questions

- Which knowledge sources do startups acquire knowledge from in a business incubator?
- What type of knowledge is acquired by the startups in a business incubator?

1.5 Delimitations

There are several knowledge acquisition processes however only a limited number of knowledge acquisition process is presented and analyzed in this thesis. The selected acquisition processes are considered to be the most represented in a business incubator context. Regarding the business incubator operations, only activities related to startup knowledge acquisition is elaborated on. Other activities are deemed to lie outside of the scope of this study.
2. Literature Review

This chapter presents the conceptual foundations of the thesis. The literature review consists of two parts, the first part discussing business incubators while the second one revolves around the concept of knowledge. The purpose of the first part is twofold; to describe the objective and operations of a business incubator as well as review previous research. Regarding the second part, the purpose is also twofold. Firstly, the intention is to review knowledge as well as which different types there is. Secondly, to present how knowledge acquisition can occur and the prerequisites, opportunities, and challenges related to it. Finally, a summary will be presented where the two parts will be connected as well as illustrated in a figure.

2.1 Business Incubators

According to the European Commission (2002), the label business incubator describes a wide range of different organizations including business accelerators, seedbeds, industrial parks, science parks, technology parks as well as a variety of other models. The Innovation Agency of Sweden, Vinnova, defines a business incubator as the following:

“In order for a business to be classified as a business incubator, resources must be created, coordinated and distributed in order to add value to the incubatees. To enable a supportive, creative and entrepreneurial environment within the incubator the previously mentioned resources must have an effect on the incubated capacity, behavior and ability to perform. Performance is, in this context, defined as survival, growth, and profitability. “ (Löfsten, Lindelöf & Aaboen, 2006)

Regardless of the label, the raison d’être for business incubators is to support the incubated startups growth process by providing a range of services and resources. (e.g. ECEDG, 2002; Hansen et al, 2000; Hackett & Dilts, 2004) By reviewing previous research, it can be stated that business incubators share certain key characteristics such as offering the startups shared services, office space, access to networks, counseling, business advice, etc. (e.g. Bollingtoft & Ulhoi, 2005; Hackett & Dilts, 2004). Grimaldi and Grandi (2005) discuss business incubators operations in more detail exemplifies management guidance and support as assistance in developing business and marketing plans, putting together management teams, finding financial capital. The literature, however, suggests that operations vary and differ between different business incubators. Rubin et al. (2015) highlight that there are no “rules” of what a business incubator must offer. Tötterman and Sten (2005) acknowledged via their study of a Finnish incubator that a business incubator
ideally should tailor their support after individual startup needs. One aspect, according to Böhringer (2006), which may facilitate the cooperation between startups and the business incubator, is long-term interaction. This since it can create shared experiences, language and meaning, which can lead to a common understanding between the two actors.

2.1.1 Networks - sharing is caring

Networks have been argued to be a central aspect of the business incubator offering since it can facilitate accessing resources in comparison to non-incubated startups (e.g., Hansen et al., 2000; McAdam & McAdam, 2006, Pettersen et al, 2015). Pettersen et al. (2015) define network resources as a “firm’s access to information, knowledge, reputation, and input factors from a variety of sources such as customers, suppliers, competitors, R&D institutions, and governmental bodies”. (2015, p. 2). By studying previous literature on networks and business incubators (e.g. Hansen et al. 2000; McAdam & McAdam, 2006; Soetanto & Jack, 2011) it is evident that the startups can develop networks in two ways in a business incubator, the internal network, and the external network.

The internal network is described as self-organized consisting of selected partners and/or the other incubated startups (Lindelöf & Löfsten 2004; McAdam & McAdam, 2006). Böhringer (2006) explains that by offering office space, the business incubator provides a natural environment for incubatees to socialize. McAdam & McAdam (2006) develops and argues that socialization facilitates the founding of relations between the startups and may result in embedded relations, synergies, and social capital. These elements can aid the development of innovative capabilities, open up for potential collaborations (Hansen et al., 2000) as well as the exchange of resources, information, and knowledge (e.g., Bollingtoft, 2012; Böhringer, 2006). All effects that, in theory, should help startups survive and grow during their vulnerable phases. The geographical proximity the business incubator provides is therefore argued to enable knowledge acquisition and transfer between the startups.

Pettersen et al. (2015) conducted a study in Norway investigating which resources startups gain from a business incubator network. Their study shows that regarding the internal network incubated startups exchanged both experiences and knowledge related to building and conducting business with each other. (Pettersen et al., 2015) Tötterman & Sten’s (2005) research show that being in the same industry or conducting similar businesses has a positive effect on engaging in networking activities and knowledge sharing. An aspect that may affect the
interaction within the internal networks is fear of sharing. Böhringer (2006) notes that incubated startups might be reluctant to share their technological knowledge, their achievements and problems with each other in order to protect their idea. However, there is a risk that startups miss out on valuable insights.

The external network is based on actors startups can get in contact with via the business incubator, which can range from e.g. consultants, lawyers, banks, investors (Bollingtoft; 2012; Hansen et al., 2000). By providing access to external actors, the business incubator strives to create a supportive environment enabling startup growth that otherwise would have been too expensive or too difficult to build internally (e.g. McAdam & McAdam, 2006). For instance, startups can utilize the access to the external actors in order to develop new technology, test ideas, identify market opportunities, gain legitimacy and access funding (Pettersen et al. 2015; Sullivan & Marvel, 2011). Furthermore, it gives the startups a possibility to receive advice and input from professionals possessing expert knowledge, which during other circumstances might not have been possible due to restricted startup resources.

There is a consensus in previous research that the existence of an external network is an important resource of the business incubator offering (e.g., Hansen et al., 2000; McAdam & McAdam 2006, Rubin et al., 2015). However, there seems to be ambiguity in previous research regarding how valuable the networks are (Pettersen et al., 2015; Tötterman & Sten, 2005). Pettersen et al. (2015) argue that the majority of resources gained via the external networks are generic and that startups rely on their private networks for idiosyncratic resources, which question the value of the external network. Furthermore, Tötterman and Sten (2005) argue that it is rather rare that the business incubator network brings resources otherwise unreachable for the startups. Soetanto and Jack (2011), as well as Tötterman & Sten (2005), further argues that there is little research portraying what the startups want and need from the networks. It is highlighted that if the business incubator would tailor their contacts after startups individual needs, it would probably be valued more (Tötterman & Sten, 2005)

2.2 Knowledge – a multifaceted concept

In order to be able to discuss the concept of knowledge and how startups can acquire it, it is of essence to first understand it. What knowledge is, is a question without a simple answer. Knowledge is a multifaceted concept that has been discussed since the early days of philosophy, and there exist several definitions. Nonaka and Takeuchi (1995) argue that information is a flow
of messages whereas knowledge is created by that flow of information and is anchored in the values and beliefs of its holder. This definition emphasizes that knowledge is closely connected to human actions. Davenport and Prusak (1998) take on a more extensive definition including the different contexts where knowledge appears stating that “Knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and applies in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms”. Tsoukas and Vladimirou (2001) however believe that these definitions lack a clear connection to how the knowledge is related to human actions and how individuals draw conclusions based on it and define knowledge as: “Knowledge is the individual ability to draw distinctions within a collective domain of action, based on an appreciation of context or theory, or both.” (2001, pp. 975)

How to exactly define knowledge is not relevant to this study. However, it is evident from the previous definitions that knowledge is related to action and can be possessed by both individuals and organizations but in different ways. Lam (2000) explains that individuals are the only ones who can create knowledge, but an organization can provide a supportive environment enhancing individual knowledge creation. Furthermore, Nonaka and Takeuchi (1995) highlights that an individual's current stock of knowledge helps interpret new information and experiences and therefore shape the future development of new knowledge.

2.2.1 The epistemological dimension: explicit vs tacit knowledge

Based upon Polanyi’s (1958) research, several scholars distinguish between two different types of knowledge: explicit knowledge and tacit knowledge (e.g., Nonaka & Takeuchi, 1995; Grant 1996; Lam, 2000). Nonaka (1994) defines explicit knowledge as knowledge that can be articulated, easily expressed in formal language and is easy to share, store as well as transfer since it appears in the form of data and information which can be presented in books, journals, manuals etc. This is in agreement with how Grant (1996) and Lam (2000) explain the concept. Tacit knowledge, in contrast, is defined as intuitive and unarticulated therefore harder to define in words or symbols making it impossible to find in manuals, databases or files. (e.g Ichijo & Nonaka, 2006; Lam, 2000). Smith (2001) further separates tacit knowledge into cognitive and technical knowledge. The cognitive aspect constitutes mental models, values, beliefs, perceptions, insights, and assumptions which determine how the individual interpret and make sense of the events in their world. These cognitive models and perceptions tend to be so deeply integrated that they are
Technical tacit knowledge, on the other hand, refers to more concrete “know-how” and skills within specific fields and contexts. Professionals possessing such knowledge are unconsciously skilled, able to perform complex tasks since it becomes second nature to them (e.g. Nonaka & Takeuchi, 1995; Ichijo & Nonaka, 2006).

After reviewing literature, it can be stated that the two types of knowledge further distinguish from each other regarding how they can be transferred and acquired. Lam (2000) argues that tacit knowledge is time and context-specific which makes it harder to share, store and transfer, hence harder to accumulate and acquire for an individual or organization. Whilst explicit knowledge can be gained by observation of the subject, tacit knowledge is local and can only be acquired through practical experience in close relation to the subject i.e. learning-by-doing. (Lam, 2000)

The tacit knowledge must thereby be taught directly by the people possessing the tacit knowledge to the one’s lacking it. (Smith, 2001). It has to be acknowledged, that not all of academia is in agreement regarding the definition of tacit and explicit knowledge. Lam (2000) discuss that although possible to theoretically distinguish between explicit and tacit knowledge, they are intertwined in practice and difficult to separate. Nonaka and Takeuchi (1995) argue that tacit knowledge is the foundation enabling explicit knowledge e.g., in order to communicate verbally (explicit knowledge) one must develop the ability of internal speech (tacit knowledge). Alvesson (2004) criticizes this polarized description of tacit and explicit knowledge implying that the different characteristics should not be misinterpreted as an either/or state. According to Alvesson (2004) no knowledge should be considered to be entirely tacit or explicit, rather it should be seen as two different dimensions where all knowledge has a tacit element, but the level of tacit varies.

<table>
<thead>
<tr>
<th>TABLE 1</th>
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<tr>
<td>CLASSIFICATION OF EXPLICIT VS. TACIT KNOWLEDGE</td>
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<table>
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<tr>
<th>Characteristic</th>
<th>Explicit Knowledge</th>
<th>Tacit Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Codifiability</td>
<td>Articulated and not personally related.</td>
<td>Personal and unarticulated. Demonstrated by the cognitive models and practical skills of an individual.</td>
</tr>
</tbody>
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### Table 1: Authors own creation

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<tr>
<th>Storage</th>
<th>Transfer</th>
<th>Acquisition and Accumulation</th>
</tr>
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<tbody>
<tr>
<td>Within “objects” such as databases, files, documents, manuals etc..</td>
<td>Easy to communicate and transfer across time and space.</td>
<td>Through practical experience in relevant context, i.e. “learning-by-doing” and through close interaction with the knowledge source.</td>
</tr>
<tr>
<td>Within the knowledge source.</td>
<td>Difficult to communicate and transfer. Requires close interaction with the knowledge source and certain time and space is crucial.</td>
<td>Extracted through close study of the objects (i.e databases, files etc)</td>
</tr>
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### 2.3 Knowledge Acquisition

Knowledge acquisition is simply put: the process by which knowledge is obtained (e.g. Huber, 1991; Casillas, Barbero & Sapienza, 2015). As any other resource, knowledge needs to be acquired, stored and exploited in order to be valuable (Ichijo & Nonaka, 2006). Knowledge can be developed internally as well as acquired externally. Developing knowledge internally is costly and time-consuming which is why organizations look to the external environment to gain the necessary knowledge. (Wijk, Jansen & Lyles, 2008) All knowledge acquired from the external environment stems from a transfer of knowledge. Argote & Ingram (2000) define organizational knowledge transfer as the process through which organizational actors or organizations share, exchange and are influenced by the knowledge of others. It involves a sender and a recipient sharing or exchanging knowledge and the sender can range from e.g. suppliers, customers, competitors, and professionals. (Argote & Ingram, 2000) Wijk et al. (2008) state that knowledge transfer can take place within an organization as well as between different organizations where knowledge transfer across different firms is highlighted as more complicated.

There are several other factors affecting knowledge acquisition such as the abstractness of knowledge as well as the relationship between sender and receiver. (Reagans & McEvily, 2003) Firstly, the higher degree of tacitness, the harder knowledge is to transfer. A professional
possessing tacit knowledge within a certain field performs complex tasks unconsciously, which make it difficult to communicate the knowledge further. This can be troublesome since the difficulty of simplifying the tacit knowledge might result in knowledge being misinterpreted or lost. (Easterby-Smith et al., 2008) Secondly, previous research has shown that a strong relationship between the sender and the recipient facilitate knowledge transfer and thereby, hopefully, knowledge acquisition. Informal social ties are argued most beneficial. (Reagans & McEvily, 2003) Furthermore, the more similar the recipient and the sender are in terms of industry belonging, processes or products, sharing a common language etc., the easier it is to transfer knowledge. (Reagans & McEvily, 2003)

Lastly, in order for an individual or organization to be able to acquire knowledge from the external environment, it is argued that they must have sufficient absorptive capacity. Cohen and Levinthal (1990) first coined the concept of absorptive capacity defining it as the ability to recognize the value of information as well as the capability to assimilate and apply it. A concept and definition that is widely referred to in academia (e.g. Easterby-Smith et al., 2008; Huber, 1991; Junni & Sarala, 2013; Lam 2000). The level of absorptive capacity is determined by the organization’s existing knowledge stock including its members’ skills, competencies, and educational background. (Cohen & Levinthal, 1990) Junni and Sarala (2013) discuss that a higher level of absorptive capacity increases the ability to absorb and apply new knowledge.

2.3.1 Hubers construct of knowledge acquisition

There are various processes and typologies discussing knowledge acquisition. In this thesis, Huber’s construct of knowledge acquisition from the 1991 typology of organizational learning will be applied. Huber’s (1991) typology is one of the most widely-cited approaches for organizational learning and is argued to include a comprehensive view of clearly defined knowledge acquisitions activities. (Paulsen, 2016; Casillas et al., 2015) Woerkom and Poell (2010) argue that even though there are several definitions regarding organizational learning and knowledge acquisition, most tend to include similar aspects to Huber 1991.

Huber (1991) divides knowledge acquisition into five different learning activities: 1) congenital knowledge, 2) experiential learning 3) vicarious learning 4) grafting and 5) searching and noticing. However, the processes of congenital knowledge and grafting will not be presented or discussed further since these processes cannot be affected by the business incubators operations and are therefore excluded.
1. Experiential learning refers to the process of gaining knowledge based on experience. Knowledge is developed by learning from the activities the individuals and organization conducts when doing business, so-called learning-by-doing, and is, therefore, hard to acquire in any other way. The knowledge gained is often unintended, a byproduct of everyday business activities. (Huber, 1991) Jashapara (2004) considers knowledge acquired from experiential learning as emerging from the interplay between organizational routines in the specific business context. Experiential learning is enhanced by the availability and analysis of feedback e.g. testing market acceptability for a new product and interpreting the results, which then can lead to changes in the product, organizational beliefs, strategies and future behavior. (Huber, 1991; Jashapara, 2004) It further allows for double loop learning where the interaction between organizational member’s aids to reinterpret old beliefs and information. (Jashapara, 2004)

2. Vicarious learning occurs when an observer learns from the behavior and experiences of others. Organizations seldom have time and resources to gain all relevant knowledge themselves to meet competitive pressures. An organization, therefore, seeks to acquire knowledge through second-hand experience, trying to learn about practices, strategies, and technologies from other actors, customers, competitors, literature. The acquired knowledge can be of both explicit and tacit nature. By using experiences from others, it allows the observer to avoid “reinventing the wheel.” Consequently, allowing organizations to fasten their learning curve, reduce inefficiencies and improve output quality. (Huber, 1991) Jashapara (2004) discuss that vicarious learning can take place via a variety of knowledge sources such as publications, consultants, vendors and suppliers, trade shows or professional networks. However, due to the fast changing technology and competitive market, there is a risk that second-hand knowledge does not generate a long-term advantage. (Huber, 1991) Furthermore, even if there is second-hand knowledge available it is not necessary that the individuals or organizations can acquire it due to limited absorptive capacity.

3. Searching and noticing refers to the acquirement of knowledge through intentional search activities and noticing the behavior of the external environment. Organizations scan their external environment for explicit information about potential changes related to the organization e.g. customers’ opinions and competitors’ moves. Such activities are conducted in order for the organization to be to remain competitive (Jashapara, 2004)
Searching and noticing also occur as a response to a detected problem or to be able to pursue desired opportunities. Searching and noticing is the learning process of knowledge acquisition that is argued to be most explicit and conscious however it is impossible for one organization to be able to scan everything in its environment according to Casillas et al. (2015).

2.3.2 Knowledge Spillover

Creation and exploitation of knowledge can lead to spillovers of knowledge that organizations can benefit from. Montoro-Sanchez et al. (2011) define knowledge spillover as the process where one organization exploits the ideas and knowledge developed by another organization combining it with existing knowledge in their setting. Griliches (1992) is more precise in his definition and argue that pure knowledge spillover is a consequence of research developed by an organization to improve technology or stimulate innovations in other organizations to their economic gain. Fallah and Ibrahim (2004) highlight that knowledge spillover differs from knowledge transfer by emphasizing that knowledge spillover is unintentional, an externality that occurs when organizations integrate knowledge developed by others.

The underlying reason to why knowledge spillover occurs is according to Cohen and Levinthal (1990) that knowledge is of such nature that it cannot be entirely appropriated by an organization. The technological and scientific knowledge developed by an organization is often useful to others and considered vital sources regarding technological opportunities for organizations engaged in innovative activities, e.g. a startup (Griliches, 1992).

Montoro-Sanchez et al. (2011) divide knowledge spillover into horizontal spillover and vertical spillover where the former takes place between competing organizations and the latter between organizations within different industries. It is further emphasized that it is easier to absorb and utilize knowledge within horizontal spillover than vertical. (Kaiser, 2002) Another aspect that is discussed to affect knowledge spillover is organizational location. Simonen and McCann (2008) argue that knowledge is bounded in space, and the process of knowledge spillover is therefore significantly influenced by organizations’ location since knowledge is argued bounded in space, hence the closer physical proximity the better. Furthermore, the process of knowledge spillover tends to occur in organizational clusters like Silicon Valley due to the knowledge density. (Simonen & McCann, 2008)
2.3.2.1 Knowledge Spillover in a business incubator environment
Montoro-Sanchez et al. (2011) researched knowledge spillover in a business incubator environment and found evidence that knowledge spillover has a positive effect on the creation of innovative capabilities for incubated startups. The shared location, network, and culture, which the startups gain within the business incubator, are aspects that are argued to facilitate the knowledge spillover (Montoro-Sanchez et al, 2011). Lindelöf and Löfsten (2004) researched technology transfer among incubated startups in Sweden. Their findings show that startups interacting within informal and formal networks also tend to produce more new products and services, hence more innovative, compared to startups outside of an incubator.

2.6 How is this all connected?
From this literature review, it should be kept in mind that business incubators are supposed to aid startup growth by providing resources and services consisting of advice, guidance, shared office space as well as access to networks. There are no set rules of what a business incubator has to offer. However, based on previous research, the activities can be acknowledged as centering on Advisory Services and Networks. Advisory services entail e.g. guidance, courses, and advice whilst Networks includes all networking activities. This is illustrated in figure 1 below. According to the research, knowledge can be acquired in several ways. Organizations, in this case, startups, can acquire knowledge via experiential learning (learning-by-doing) in which startups internally develop knowledge. It can be developed based on e.g. feedback from the external environment. Knowledge can also be acquired from the external environment, which saves time, and resource which startups tend to have a shortage of. A transfer of knowledge tends to be the foundation enabling knowledge acquisition. The processes are as follows: vicarious learning, searching and noticing as well as knowledge spillover. These processes entail acquiring knowledge already developed by others. However, the startup must have sufficient absorptive capacity for it to be possible in the first place.

Acquiring knowledge is, however, easier said than done since knowledge due to its abstract nature is hard to transfer and acquire, especially tacit knowledge that is intuitive and context specific. Explicit knowledge can more easily be transferred and acquired due to its codifiable nature. Knowledge acquisition is facilitated if the sender and receiver are similar to each other, e.g. share experiences or have a common language and environments. A business incubator can be seen as such an environment and it will, therefore, be interesting to investigate whether such
an environment can facilitate the processes of knowledge acquisition by having several knowledge sources nearby as well as providing the startups with a mutual context.

**FIGURE 1**
Theoretical Framework

![Diagram of Business Incubator Environment]

Figure 1: Authors own creation
3. Method

The following section outlines the research approach and design of the study. Furthermore, the study objective will be presented followed by a discussion of the data collection process as well as how the theoretical concepts were operationalized. All sections also include reasoning regarding the quality of the research and potential limitations with the selected methods.

3.1 Research Approach & Strategy

The aim of this thesis is to examine how startups acquire knowledge in a business incubator environment from the startup perspective. To fulfill the objective of the study new insights regarding business incubator operations were needed and the study is therefore of exploratory nature. According to Saunders, Lewis and Thornhill (2016), an exploratory research approach is suitable when the investigated phenomenon is fairly unknown, and research is insufficient. There is plenty of research on knowledge processes however not in the business incubator context, especially not from the startup’s perspective, and is therefore classified as relatively unknown and insufficient. Hence, an exploratory approach is considered suitable and necessary. Furthermore, a qualitative research design was chosen.

A qualitative research design is appropriate for an exploratory study like this since it can provide detailed insights, capture opinions and processes giving a rich understanding of the study object (Larsen, 2009). Knowledge is of abstract nature, and the process of transferring and acquiring it is complex and to fulfill the purpose the insight a qualitative study can generate were deemed needed. There are of course limitations with a qualitative research design where statistical generalizability of the results often is of concern. (e.g., Johannesson, 2003; Bryman & Bell, 2005) The aim of this study is however to provide an understanding for how startups acquire knowledge, not to generalize business incubator operations amongst a population. The structure of the study and the interview questions can furthermore be replicated and transferred to similar contexts to a certain extent.

To investigate how knowledge is acquired, hence fulfill the purpose of the study a deductive approach was adopted. Deductive reasoning takes existing theory as a starting point, guiding the empirical research collection, where the researchers attempt to confirm or disapprove its accuracy. (Saunders et al., 2016) To answer how knowledge is acquired it was deemed beneficial to incorporate existing processes as a foundation. A possible limitation with a deductive approach is focusing too much on theoretical perspectives, which can lead to aspects outside of
the theoretical scope being missed. The risk can be diminished by conducting interviews (Bryman & Bell, 2005) and semi-structured interviews were, therefore, the chosen data collection method in this study.

Interviews are one of the most common methods in qualitative research where the benefits foremost lie in the possibility to be flexible during the interview, which tends to be needed when using an explorative approach (Bryman & Bell, 2005). Semi-structured interviews are further beneficial since it allows the interviewer to tailor questions during the interview (Saunders et al., 2016). Due to the exploratory nature of this study, flexibility was considered beneficial to capture as much insight as possible. Furthermore, qualitative studies with semi-structured interviews have been the chosen method previous studies on business incubators e.g. Rubin et al. (2015) who investigated knowledge flows in technological business incubators, similar to the aim of this thesis. Similarly, Pettersen et al., (2015) conducted qualitative research using semi-structured interviews when investigating resources and networks provided by business incubators in Norway.

3.2 Study Object

The chosen study object for this study is Uppsala Innovation Centre (UIC), which is one of the leading business incubators in Sweden, situated in Uppsala. UIC shares several characteristics with business incubators studied in previous research, e.g., Bollingtoft (2012) and Rubin et al., (2015, and was therefore considered as a suitable study object. UIC offers five programs designed to match the different phases of a startup's development cycle. The programs are called Business Startup, Business Lab, Business Prep, Business Accelerator and Alumni. This study focuses on startups attending the Business Startup program, which will be the only program in focus from now on. To gain necessary insight into UIC operations and the setup of Business Startup Program, two UIC employees, were purposively selected and interviewed. These respondents had such positions and therefore believed insight that it was deemed unlikely to be able to gain the information elsewhere. More information about the respondents is presented in the table below together with all respondents.

3.2.1 Sample selection within the study object

To gain insight into the startup's perspective on knowledge acquisition, startups that had attended the program had to be interviewed. The respondents representing startups were selected
randomly by studying a list provided by UIC of startups that had attended or currently is attending the Business Startup Program. For the interviewees to be able to provide necessary insights, it had to be ensured that the respondents were actively involved in the program. Furthermore, only respondents having founded or co-founded the startups were deemed relevant since this would be thought to provide an overall, nuanced perspective of processes experienced by the startup. The selection led to ten interviews; however, one was excluded since it appeared during the interview that the respondent only had attended the beginning of the program, which made it hard to compare to the other findings. Therefore, nine interviews with startups were conducted constituting the base for the empirical findings. More information about the respondents and the interviews is presented in Table 2.

**TABLE 2**
Respondents

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Startup/UIC</th>
<th>Time</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anders Alm</td>
<td>Director of Sweden and Co-founder</td>
<td>AuthenticateIT</td>
<td>54 min</td>
<td>2016-04-12</td>
</tr>
<tr>
<td>Andreas Wennberg</td>
<td>Founder</td>
<td>400Contacts</td>
<td>49 min</td>
<td>2016-04-28</td>
</tr>
<tr>
<td>Anton Skypa</td>
<td>CEO and founder</td>
<td>INUppsal</td>
<td>45 min</td>
<td>2016-04-19</td>
</tr>
<tr>
<td>Carina Carlhed</td>
<td>Co-founder</td>
<td>ResearchMate</td>
<td>46 min</td>
<td>2016-04-20</td>
</tr>
<tr>
<td>Holger Meyer</td>
<td>Founder</td>
<td>CollegeClassrom</td>
<td>32 min</td>
<td>2016-05-02</td>
</tr>
<tr>
<td>Lars Dahlbom</td>
<td>Head of UIC Business program and Startup and Business Coach</td>
<td>UIC</td>
<td>60 min</td>
<td>2016-04-05</td>
</tr>
<tr>
<td>Linda Nordin</td>
<td>Co-founder</td>
<td>Pure Effect</td>
<td>39 min</td>
<td>2016-04-27</td>
</tr>
<tr>
<td>Ludvig Edström</td>
<td>Co-founder</td>
<td>NoBoundaries</td>
<td>48 min</td>
<td>2016-05-02</td>
</tr>
<tr>
<td>Måns Ridzén</td>
<td>Founder</td>
<td>RenTag</td>
<td>53 min</td>
<td>2016-04-28</td>
</tr>
<tr>
<td>Stina Thor</td>
<td>Head of communication and marketing</td>
<td>UIC</td>
<td>44 min</td>
<td>2016-04-06</td>
</tr>
<tr>
<td>Thomas Klingström</td>
<td>CEO and Co-founder</td>
<td>PreTarget</td>
<td>38 min</td>
<td>2016-04-19</td>
</tr>
</tbody>
</table>

*Table 2: Authors own creation*
The respondents attended the Business Startup Program at different times, some even different years. This irregularity can, of course, affect the analysis of the empirical findings since the contextual conditions might differ and the external environment changes. However, it was established that the setup of the program has been the same since 2013 including the business coaches. Furthermore, since UIC does not have set “start and end times” for the program and startups join ongoing, the selection of respondents is believed to be representative.

3.3 Data collection and analysis

The empirical data was collected through semi-structured interviews which were chosen as the most suitable method beneficial in order to understand the respondent's reasoning regarding complex issues and getting insights on daily issues that they encounter (Denzin & Lincoln, 2000). The semi-structured interviews were based on an interview guide consisting of predefined themes and questions extracted from the theoretical framework. The questions were open-ended since it allowed the respondent to answer freely, creating more of a dialogue between the interviewers and the respondents. (Larsen, 2009) Furthermore, open-ended questions were advantageous since it made it possible to ask follow-up questions enabling deeper insights. The majority of the interviews were held face-to-face however this was not possible for all of the interviews and some took place via the phone. Telephone interviews are criticized for having a negative effect on the data quality due to that respondents tend to provide brief answers increasing the risk of misinterpretations. (Denzin & Lincoln, 2000) However, Larsen (2009) claim that conducting semi-structured interviews by telephone is a suitable method for qualitative research. In the case that the respondent's answer was unclear or too brief, it was compensated by asking further follow-up questions to be able to create a full understanding of the respondent's reasoning. The interviewer effect that respondents adjust their answers to please the interviewer is always present during interviews (Larsen, 2009). By having open-ended questions and not leading the respondents in any way, the interviewer effect was tried to be limited as much as possible.

The interviews varied in length, but all of them was between 35 - 60 minutes. Semi-structured interviews were first held with Lars Dahlbom, the head of the Business Startup program, and Stina Thor, head of PR at UIC, to gain background information of UIC. The content of these
interviews provided necessary insight into UIC’s operations and has been combined with information brochures provided by UIC.

An overarching problem when using a qualitative method, specifically interviews of any kind is that the authors must interpret the empirical findings which may cause subjective interpretations and misleading results (Saunders et al., 2016). In an attempt to eliminate this risk all the interviews were recorded and transcribed. The transcriptions enabled the authors to go through the interviews several times to be sure what was said and in which context. The majority of the interviews were conducted in Swedish, apart from two that were held in English. The interviews were thereafter translated into English, including the quotes used in the Section 4.3 Findings. Translating empirical material entails an increased risk of misinterpretation and important insights being lost (Denzin & Lincoln, 2000). The transcripts were therefore reviewed several times to ensure that nothing was taken out of context. Furthermore, the transcripts facilitated the process of coding the material. Coding and categorization were gradually done when common denominators and patterns were identified. Additionally, by having a clear overview, it simplified the process of connecting the empirical findings with the theoretical concepts.

### 3.4 Operationalization

The interview guide was based on the theoretical concepts presented in the literature review, see section 8.1 for the complete interview guide. To ensure the respondent's full understanding of the questions, the theoretical concepts were translated into everyday language. The result of the operationalization is seen in Table 3 demonstrating a selection of the interview questions, what theoretical concepts they are related to and the underlying reasoning.
<table>
<thead>
<tr>
<th>Knowledge Acquisition</th>
<th>Theme</th>
<th>Meaning</th>
<th>Interview Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tab. 3: Authors own creation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experiential Learning</td>
<td>Where the startup enabled to increase their knowledge by “learning-by-doing”?</td>
<td>How would you describe the learning process?</td>
<td></td>
</tr>
<tr>
<td>Vicarious Learning</td>
<td>Have the startups learned from each other, the external network?</td>
<td>How has the interaction with the other incubated startup/external actors taken place? Has it been beneficial for you?</td>
<td></td>
</tr>
<tr>
<td>Huber’s (1991)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Searching &amp; Noticing</td>
<td>Did the startup increase their knowledge by scanning the external environment themselves?</td>
<td>How would you describe the learning process?</td>
<td></td>
</tr>
<tr>
<td>Relationships</td>
<td>Have the type of relationships with the startups/external actors/UIC affected the knowledge transfer?</td>
<td>How would you describe your relationship with UIC/external actors/the other startups etc?</td>
<td></td>
</tr>
<tr>
<td>Knowledge Transfer &amp; Knowledge Spillover</td>
<td>Has the business incubator environment facilitate any collaborations or knowledge spillover among the startups?</td>
<td>To what extent have you collaborated with the other startups?</td>
<td></td>
</tr>
<tr>
<td>Competition</td>
<td>Have the feeling of competition limited the knowledge acquisition, transfer or spillover?</td>
<td>To what extent did you feel that the startups where willing to share their knowledge and ideas with each other?</td>
<td></td>
</tr>
</tbody>
</table>
4. Empirical Research

The following chapter presents the empirical findings obtained via the interviews. Background information regarding UIC and the Business Startup Program will first be introduced in order to provide a full understanding of its operations. Thereafter, all responding startups will briefly be presented to just give an insight since more detailed insight might take the attention from the actual knowledge-related findings. Lastly, the findings from the interviews will be explained.

4.1 UIC

Uppsala Innovation Centre (UIC) is a leading business incubator in Sweden. In 2015, the University Business Incubator Global Index ranked UIC as the world’s 10th best business incubator with a university connection and the 5th best in Europe (UIC, 2016). Four equal partners own UIC - SLU Holding, Uppsala University Holding Company, STUNS (The foundation for collaboration between the Universities situated in Uppsala, Businesses and the public sector) and the municipality of Uppsala.

The overall goal for UIC is to aid startups with high growth potential and international scalability to achieve sustainable and viable growth. UIC provides business development support, courses, workshops and qualified advice for entrepreneurs, scientists, innovators and management teams within all industries, e.g. Life Science, ICT, and Technology, in their efforts to commercialize their ideas. There are five programs available for startups ranging from 3 to 18 months. In addition to the programs, UIC has a network of so-called UIC partners, currently 24 partners, e.g. law firms, accountants, PR-firms that offer their support and services.

UIC is mainly located in Uppsala but has some operations in Östhammar and Södertälje. At the head office in Uppsala, UIC shares office space with several of their partners such as Almi Invest, Connect, STUNS, Uppsala BIO. UIC does not offer the startups office space, in contrast to many other business incubators. This since UIC believes that the startups should be close to their market to be able to capture business opportunities. UIC does, however, offer a place to sit to the startups in the Business Startup Program, which they can utilize freely when in the program. Furthermore, UIC does not take ownership in the startups, regardless of program, and is therefore an independent partner.
4.1.2 The Business Startup program- “from idea to customer in three months”

The Business Startup Program is suitable for startups in their first development phase, and the purpose is to give startups the prerequisites to go from idea to market and customer in just three months. It is a twelve-week long program consisting of weekly workshops influenced by the concept of Lean Startup. Ten out of the twelve the workshops are focused on developing the business idea and organizational structure of the startups as well as sales - and presentation techniques. The remaining two workshops include inspirational lectures given by an UIC alumni startup. During the workshops, the aim is that startups must develop and test hypotheses regarding e.g. which problem their business idea will solve, which customer segments that will be relevant, where the revenue streams will come from, the marketing channels to use. The following figure illustrates the structure of the workshops.

![Figure 2: The Structure of the Workshops](image)

The workshops are not mandatory, and the startups can attend the ones they like or need in the 12-week-cycle. After the 12 weeks, the cycle of workshops starts over again and the startups are free to attend as many cycles as they like. By the end of the program, the goal is to have developed a business model that has been tested to assure its validation. Testing and validating is
argued to be essential since it gives the startups insights in an early phase if their concept is appreciated and if not, it gives them the chance to pivot, change and adjust their idea to align with the customer demand. The program does not have a set start - or end date but is ongoing and startups can join the cycle whenever during the year. In addition to the workshops, the startups are offered individual coaching from UIC's business coaches Dahlbom and Chowra. The contact with the coaches is not on a regular basis, but the possibility of individual meetings exists after the workshops as well as on the startups initiative. UIC also offers contact with their external network, both the UIC partners as well as other external actors.

The requirements of being accepted to UIC Business Startup program are an innovative idea with international potential and scalability with the technical requirements to carry it out since UIC does not provide technical support. No special education or background is required. The first stages of developing a business, especially when dealing with innovative products or services, can be sensitive to competition and imitation. UIC, therefore, does not allow two startups with similar ideas to join the program at the same time, and all participating startups must sign a nondisclosure agreement.

4.1.3 The startups

400Contacts
Offers a mentoring program for refugees with an engineering background with the goal to get their first skilled job in Sweden.

- Founded by Andreas Wennman 2015
- Joined UIC Business Startup Program during the fall of 2015.
- Wennberg still attends the program but have completed the first cycle of twelve workshops and is now attending the workshop when relevant.
- Situated at UIC

Authenticate IT
Develops security solutions for businesses that enable users to ensure that the products are authentic, i.e. not fake, and have been carefully managed throughout the supply chain – from manufacturer, via the distributor to the end-customer.

- Founded by Anders Alm with partner 2013
- Joined UIC Business Startup Program during the fall of 2013
- Attended the program for 6 months

**CollegeClassroom**
Offers a cloud-based platform where professors and tutors can share their teaching materials with each other.
- Founded by Holger Meyer
- Joined UIC Business Startup program during the summer of 2014
- Attended the program for 12 months
- Situated at UIC during the program

**IN Uppsala**
An international social network for expats and their families in Uppsala. Strives to make Uppsala more international by organising social events, meetups and workshops.
- Founded by Anton Skyba 2015
- Joined the UIC Business Startup Program during the spring of 2015
- Attended the program for 6 months
- Situated at UIC during the program and still is now despite having left the program

**NoBoundaries**
Offers a portable and intuitive learning solution for dyslexics who take on higher education. The ambition is to make higher education a realistic alternative for dyslexics and enable them to reach full potential.
- Founded by Ludvig Edström and partner 2013
- Joined UIC Business Startup Program during the fall of 2013
- Attended the program for 9 months
- Situated at UIC during the program

**PreTarget**
Offers a software that enables calculating returns on internet advertising as well as optimizing advertising for specific customer segments.
- Founded by Tomas Klingström and partner
- Joined UIC Business Startup during the fall 2013
- Attended the program for 9 months with his partner
• Situated at UIC during the program

Pure Effect
Offers cleaning products based on biotechnology that is sustainable without being less efficient.
  • Founded by Linda Nordin and partner 2014
  • Joined UIC Business Startup Program during the fall of 2015
  • Attended the program for 4 months (only attended 10 out of 12 workshops)
  • Not situated at UIC

RenTAG
Offers a platform and services for those who want to rent out property in order to facilitate and create a safer housing market in Uppsala.
  • Founded by Måns Ridzén 2013
  • Joined the UIC Business Startup Program during the fall of 2013
  • Attended the program for 12 months
  • Mainly situated at UIC during the program

ResearchMate
Offers an online tool for those who are processing large amounts of digital texts in order to make the work more effective and systematic. The application helps to reduce information and keep track and order the sources.
  • Founded by Carina Carlhed and partners 2015
  • Joined UIC Business Startup Program during the fall of 2015
  • Still attends the program but has completed the first cycle of 12 workshops
  • Not situated at UIC

4.2 Findings
Based on the previous description of the Business Startup Program, the main activities UIC offer center around four contexts. The activities take place in the following contexts: the workshops, individual coaching, startups’ interacting with each other and interaction with external actors. The findings from the startup interviews will be presented in accordance with these contexts in order to determine if any of these activities are related to startup knowledge acquisition.

4.2.1 Workshops
The workshops are considered the backbone of the Business Startup Program. All respondents agreed that the workshops were of value and helped them move forward in their development process. “The workshops are constructed around getting you to think about your idea in concrete business terms and to create a structure for how to build your business” as Edström explained. “The classic mistake is to spend time perfecting your product and forgetting about the customers and market, the business side of innovative ideas. UIC makes you realize that you need to talk to customers, get out on the market and ensure that your product is attractive before you finalize it” (Klingström). Wennberg expressed that the weekly workshops provided stability, focus and ensured continuous advancement in the process. Edström pointed out that “it is not like the coaches do the work for you” and Skyba stated that the entrepreneur has to be the driving force taking the idea to the next step.

Carlhed, Meyer and Ridzén described the seminar part held by Dahlbom and Chowra as providing general and theoretical information regarding how they should reason concerning their business and why it is important to “think business.” After that, during the individual time, the respondents applied the knowledge and tools previously presented. Nordin and Alm explained that even if the information was general, it became more personalized and specific during the second part of the workshop when the startups got the chance to apply it to their particular business context. "The individual time centered around thinking which marketing channels are suitable for me "(Meyer).“By applying it, it becomes hands on immediately, learning-by-doing” (Nordin). Ridzén felt that it sometimes was hard to appreciate the value of the workshops because there much information presented at the same time and not everything felt applicable. Wennberg and Klingström stated that some aspects were less valuable due to industry belonging and personal background. “I had a good understanding of revenue stream for my product before the program” (Klingström).

Wennberg was happy he attended the entire program almost twice since he felt that he had truly understood how to “think business” and has started to use the tools provided as a framework to analyze business decisions. Alm and Klingström still apply the techniques and Klingström, who has left PreTarget, utilizes the mindset in his current company. Ridzen and Wennberg both stated that it could be beneficial to have an intensive course when joining the program to get a better understanding of both the setup and mindset influencing the workshops.

Discussion and feedback were acknowledged as an important part of the workshops, and all respondents agreed that it was valuable to share experiences, questions and challenges with the
other entrepreneurs going through the same phases. “By having presentations and feedback it creates pressure to perform and the coaches, as well as the other startups, questions you and wants you to explain why and motivate each choice you make.” (Nordin) Skyba pointed out that since all startups in his cycle were from different industries, it sometimes became too theoretical during the discussions with others. All other respondents felt that regardless of industry belonging or business idea, the contact with the other startups was rewarding. “Everyone goes through the same phases as startups, and you can always relate to some aspect” (Wennberg).

4.2.2 Individual coaching

Individual coaching was available for the respondents after every workshop as well as on the startups initiative e.g. if they wanted to email a question or schedule a meeting. Skyba explained that he regularly had close contact with Dahlbom and that he called or emailed both coaches when he needed help. The questions ranged from small, practical issues to more overarching: “I am reevaluating my assumptions for InUppsala and Dahlbom is supporting me in this process.” (Skyba) Skyba further stated that he still has a regular contact with them despite having finished the program and is currently situated at UIC. Alm also had several individual meetings and perceived the individual coaching as beneficial since it was more focused on his business idea in contrast to the workshops, and he got to “pick the coaches brain.” For Meyer, the individual coaching was the most rewarding part of the program. As a foreigner starting a business in Sweden, he explained that he got detailed help regarding how to start a company in Sweden and how the Swedish business climate functions. He felt that he got strategic advice as well and sum up his experience of the individual coaching as “whatever type of help I needed, and whenever I needed it, Chowra aimed to support me.” Klingström also expressed that there were opportunities for individually adapted support during his entire time at UIC. However, he stressed that it was completely up to the startups to make use of the provided resources.

Four of the nine respondents suggested improving the structure of the individual coaching. Wennberg stated that he only had three face-to-face meetings with the business coaches but a lot of email contact apart from them. Wennberg, however, expressed a wish for more structure regarding the individual coaching to know how much time one could get, what to expect for kind of help from the coaches, and argued that he would have wanted more regular scheduled meetings. Nordin and Carlhed also wanted more structure regarding the prerequisites as well as regular meetings to get the opportunity of more focused, in-depth support. Carlhed and her team were unsure of how to utilize the individual coaching in the beginning and explained that it took
a while but after figuring it out, she had a lot of email contact and felt the support. For Carlhed and co, they experienced problems with how to structure their product development process, which Chowra discussed with them and also got assistance on how to fill in applications for financial support. Edström thought the individual coaching was flawed and insufficient and would have needed more coaching tailored to his idea and process regarding how to proceed and which direction to take. He further stated that since he was alone in the program, he would have wished for more support in the decision-making process.

4.2.3 Internal Network

Startups interact with each other during the workshops as well as outside of them at different events and UIC facilities. The respondents all interacted with other startups during the workshops and found it beneficial. “The workshops included a lot of discussion and feedback which was rewarding for the future progress” (Nordin). All respondents were in agreement that the presence of other startups during the workshops was valuable and rewarding due to the feedback, support, and exchange of experiences. Skyba, Alm, and Mayer stated that the discussions mainly revolved around general issues applicable to all startups. Carlhed further stressed that the interaction and feedback from the other startups enhanced the development process and made it possible to move forward.

Carlhed and Nordin and their teams were not situated at UIC and explained that they did not interact with other startups apart from the workshops. Nordin, however, expressed that it would have been rewarding to sit under the same roof as the other startups attending the same workshops, but it was not possible for them. The other respondents were at some point situated at UIC. Edström, Ridzén, Skyba, Klingström and Wennberg interacted, to different extents, with other startups outside of the workshops and felt that being based at UIC was beneficial due to the closeness to the business coaches, UIC’s partners but also the other startups. “The other startups become your colleagues and sounding board. They challenge and push you since they know what you are going through” (Ridzén).

Edström, Ridzén, and Wennberg think that the interaction with other startups was particularly valuable for them since they run their startups alone. “It certainly is of extra value when you are alone. Without UIC I would have been all alone throughout the process without anyone to discuss with or get support from” (Ridzén) The respondents situated at UIC found the constant interaction valuable since it provided an exchange of general advice, experiences and moral support, however, an exchange of tailored advice and input did not occur. Edström pointed out
that it was difficult to offer help due to a lack of involvement and understanding of the other’s business. “If the program had had a clearer focus, it might have been more rewarding since it would allow an exchange of thoughts and ideas at a higher, more specific level” (Ridzén). Wennberg also stated that more collaborations would probably have occurred if the startups were more similar or in the same industry. “It would be possible to share already codified material or written code and explicit advice regarding e.g programming, systems, setups.”

All respondents apart from Edström did not experience that the other startups did not want to discuss or share ideas with each other and did not perceive any internal competition. Carlhed suggested that it could be due to the vast spread of ideas and that UIC’s continuously highlighted the importance of collaborating and encouraged sharing thoughts and opinions. “All companies had good ideas, and it was, therefore, unlikely that anyone would spend time stealing someone else’s” (Klingström). In Edström’s opinion, there was competition to some extent but regarding the level of development. “There was an ongoing internal competition regarding which startup that was most successful” (Edström). In his perception, this led to certain restrictions of what the startups were willing to share with each other. Edström, however, identified the internal competition to be a motivator since all startups wanted to be “the best.”

4.2.4 External network

The contact with external actors has taken place in two settings, during the workshops in the form of lectures from both UIC Alumni as well as external actors and on an individual basis. All respondents found the two lectures by UIC Alumni to be inspirational and Carlhed expressed it as rewarding to hear about their journeys, the challenges they faced and how they overcame them. The respondents found the other ten lectures, which they refer to as the expert lectures as beneficial. All respondents appreciated that the external actors talked about both their area of expertise but also gave general advice on what to consider as a startup and what services they can offer. Skyba, Mayer and Nordin found the expert lectures as providing an opportunity to learn about the particular area but also to come in contact with and hopefully build a relation with such experts. “I seized the opportunity and called all of them to talk about our situation in detail, our progress and what they thought about our situation and potential challenges” (Nordin).

The respondents described that it was possible to come in contact with external actors outside the workshop setting as well. Klingström described the access he had to the UIC network as divided into one standardized network consisting of the actors all startups need to come in contact with such as PR-firms, law firms and one individual network composed of Dahlbom and
Chowra’s contacts. “UIC act as matchmakers all the time and shared both contacts and advice on how to best establish a connection with external actors”. (Klingström).

It is evident from the interviews that the respondents have used the access to external actors to various degrees. Carlhed expressed that the external actors they came in contact with apart from during the workshops were more rewarding, especially regarding “hands-on” help. Carlhed and her partners struggled with creating needed legal contracts and were referred to a particular UIC partner law firm who created the contracts for them. Ridzén stated that he got assistance regarding specific accounting issues which the accountant solved for him. “Getting expert help has been vital for the building of the startup” (Ridzén). Skyba also, per his request, were paired up with an accountant helping him with his books. Meyer found that contact with the external network has been the rewarding aspect of the program for him and has had some individual meetings, however “nothing mindblowing”.

Nordin explained that she did not start to cooperate with any of the external actors but had little contact with both UIC partners and individual contacts from Chowra’s personal network. Wennberg did not either utilize much of the external actors having no need for it. He did, however, state that he think it would have been advantageous to have more informal get-togethers with UIC partners as well as other external actors apart from the workshops. Edström felt that the external actors were not always enthusiastic nor helpful which probably depend on the fact they are a part of a standardized, general network available for everyone. Some external actors Edström contacted responded “”Sounds great, call us again when you have come further in your process” and the help we need is to be to get further in the process, which is rather contradictory.” (Edström) Edström did, however, explain that he think UIC was doing their best and that it is up to the startups to ensure that they get what they need from the external network provided as well as creating a network for themselves. Alm was not satisfied with the external network and did not believe that it was relevant or rewarding for him to come further with his idea. Thereby, despite UIC offering, Alm did not appreciate or used the external network.
5. Analysis

The empirical findings will hereinafter be analyzed through the lens of the theoretical framework. Each activity will be analyzed in order to identify which knowledge acquisitions processes take place where and what type of knowledge. As in 4.2 Findings, the main activities identified as occurring in four contexts will be presented under each context. Lastly, a summarizing analysis ends this chapter.

5.1 Workshops

During the seminar part of the workshop, the responding startups acquired knowledge from the coaches through what Huber (1991) defines as vicarious learning. Vicarious learning refers to the process of learning from the behavior and experiences of others via e.g. manuals, professionals and research and the knowledge acquired is so-called second-hand knowledge (Huber, 1991). The respondents explained that the coaches provided them with insights of how to think when building a business and provided the actual tools of how e.g. how to structure revenue streams. Hence, the coaches were an essential knowledge source during the workshop activity as the respondents learned from their knowledge and experiences, so-called second-hand knowledge.

All respondents stated that the seminars were applicable for everyone regardless of idea or industry. Nonaka (1994) argues that explicit knowledge can be articulated, expressed in writing and is relatively easy to share and transfer since it is often presented as data or information. The seminars, therefore, contained explicit knowledge transfer. Explicit knowledge can be acquired via reading a book (Lam, 2000) and when reviewing the content of the lecture, e.g. fundamental concepts of how to do business, most aspects can be found in management or entrepreneurship literature. This questions the value of the actual seminar parts of the workshop because the startups could have read a book instead. However, it can be argued that by getting a lecture from a business expert still provides more value than reading the same information in a book. Furthermore, the other aspects of the workshop must also be taken into consideration when determining value added.

During the individual time of the workshops, the startups applied the tools and knowledge previously provided by the business coaches to their own business context. During this part, most of the evident tacit knowledge acquisition is identified. Tacit knowledge is personal, stored
in the knowing object and action-oriented (Ichijo & Nonaka, 2006) and Lam (2000) argues that this type of knowledge can only be acquired through practical experience in close relation to the subject, i.e learning-by-doing. When applying the tools and acting on it, the startups can be seen as developing a technical “know-how” of how to further build their businesses. Nonaka & Takeuchi et al. (1995) state that there is a difference to “know about” general business concepts and to “know how” to specifically act in certain business situations. To “know how” is not something that can be read in a book and it can, therefore, be stated that startups begin to develop tacit knowledge during this part since they are learning by actually conducting business. Hence, the knowledge acquired is a by-product of the startups activities which describes the process of knowledge acquisition that Huber (1991) refers to as experiential learning.

Experiential learning is explained by Huber (1991) as learning by doing and the knowledge acquisition can, therefore, be seen as shifting from vicarious learning to experiential learning during this part of the workshop. The acquisition processes also shift knowledge source. Knowledge was previously transferred from an external actor (the coaches) whilst the startups during this part developed knowledge internally via experiential learning making the startup the knowledge source. After the startups had worked individually with their business idea, they presented their work and received feedback from the other startups. The respondents deemed the discussions and feedback as helpful allowing them to advance in the development process since they had to consider and motivate each decision. According to Jashapara (2004), experiential learning is enhanced by feedback and it is evident from the findings that the responding startups believed that the feedback improved their understanding as well as facilitated their development process.

The business coaches stressed the importance of interacting with stakeholders from day one in the development process to ensure attractive offerings. Scanning the external environment to gain insights in market composition and customer needs is a part of the searching and noticing processes presented by Huber (1991). Jashapara (2004) argue that monitoring activities are needed to remain competitive and attractive. The respondents felt that this realization was beneficial and allowed them to avoid the typical entrepreneurial trap of solely focusing on the perfect product. Based on the respondents statements, they seem to have adapted this more business way of thinking which is likely to enhance their development processes saving time and resources by doing it right the first time. Even though the actual searching and noticing activities were conducted outside of the workshops, the coaches lay the foundation by creating more
realizations and therefore enabled market knowledge to be acquired afterward. The coaches were thereby the knowledge source, however, this shifts when the startups start conducting the searching and noticing activities.

Since all startups found the content relevant and useful, it indicates that all of them had sufficient absorptive capacity. Absorptive capacity is determined by the existing knowledge stock, skills, competencies and educational background (Cohen & Levinthal, 1990). The startups background, experiences, and education differed and they are not necessarily connected by industry belonging either, but were still able to adapt the same information. It might be explained by the fact that all startups are in the same first development phase and have the shared experiences of starting a business however this can only be speculated about.

5.2 Individual Coaching

In contrast to the workshops, the findings portray that the individual coaching meetings did not follow a fixed format and took place in various ways e.g. face-to-face, via phone or email, and included hands-on advice as well as more strategic discussions of how to proceed and reason. All startups explained that the individual coaching was valuable facilitating their development curve and, regardless of format, the coach can be seen as the knowledge source, transferring knowledge to the startup. The majority of respondents mentioned receiving more hands-on, practical advice e.g. how to fill out a form and instructions of what to do, which can be classified as explicit knowledge transfer. Explicit knowledge transfer is possible via writing (Nonaka & Takeuchi, 1995) and by being able to email questions when needed the respondents, as expressed during the interviews, saved time and resources. Wijk et al (2008) highlight that the underlying reason to acquire external knowledge is to save time and resources. Even though the explicit knowledge transferred from the coaches probably is available elsewhere, it was faster and saved the startups scarce resources.

The strategic discussions provided the startups with input on how to proceed and become more focused in the development process. Moreover, these interactions can be seen as centered on feedback and the feedback given was according to the startups tailored to individual thoughts and questions. Feedback is an essential part of experiential learning reinforcing and enhancing knowledge acquisition (Huber, 1991). The workshops can be characterized as the starting point of experiential learning and the individual coaching reinforces and enhances the knowledge acquisition and development curve. Smith (2001) argues that tacit knowledge must be transferred
via professionals possessing it which the individual coaching contains. Even though the different types of knowledge are distinguished in the analysis at a theoretical level, the findings support the reasoning of Lam (2000) and Alvesson (2004) arguing that explicit and tacit knowledge are more intertwined in practice and rather difficult to separate.

Circa half of the respondents suggested improvements regarding the structure of the individual coaching and wished for more regular, scheduled meetings. Knowledge transfer and acquisition is facilitated by strong social ties and close, repeated interactions with the other actor (Reagans & McEvily, 2003) and by not having regular meetings it is possible that the startups growth processes were inhibited. All startups, however, are in agreement that the individual coaching has been beneficial indicating that more meetings would provide more feedback and insights possibly speeding up their development process. Long-term interaction is stated as beneficial to the incubator - startup relationship in order to develop a common understanding (Böhringer, 2006), which individual meetings can provide, which would likely improve the quality of support.

5.3 Internal Network

All respondents explained that they had interacted with other startups and found it rewarding as well as it helped them in their development process. The access to networks is highlighted by previous research as a central resource in the business incubator offering (e.g. Bollingtoft, 2012; Hansen et al, 2000; McAdam & McAdam 2006). Since all responding startups found the interactions with each other valuable, the findings are in agreement with the previous research. Furthermore, the interactions centered around the exchange of business related experiences, challenges, feedback as well as general support. These findings are similar to Pettersen et al., (2015) results which entailed that startups exchanged experiences and knowledge related to building a business with each other. Tötterman and Sten (2005) argue that the result from internal networking activities seldom is rare and available elsewhere. The findings do not reveal any unique outcome as in accordance with Tötterman and Sten (2005) however it can be argued that interactions are unique in its own way. There are probably few other situations where a startup has the opportunity to closely interact with startups in similar phases going through the same experience and all respondents highlight the interactions as an important, valuable part. The access to the internal network is therefore argued to be more of idiosyncratic nature.

The interactions are identified as containing various acquisition processes. Knowledge was transferred between the startups from the interactions by sharing and discussing e.g. experiences related to their businesses. Hence the other startups can be seen as the sources of knowledge.
McAdam and McAdam (2006) argue that socialization positively affect the transfer and acquisition of knowledge. The respondents situated at UIC expressed that far more interactions as well as exchange of knowledge had taken place than the two respondents who only met the other startups during the workshops, hence the findings cohere with McAdam and McAdam, 2006. McAdam and McAdam (2006) and Hansen et al., (2000) further suggest that sharing office space also should facilitate embedded relations, synergies and social capital aiding the development of innovations and open up for potential collaborations. In contrast to Hansen et al (2000) and McAdam and McAdam (2006) there are no indications identified in the findings that the physical proximity among the responding startups enhanced the formation of innovative capabilities or collaborations. Another process that previous research suggests should occur in a business incubator environment due to the knowledge density is knowledge spillover (Montoro-Sanchez, 2011; Simonen & McCann, 2008). Knowledge spillover takes place when an organization exploits knowledge, most often technical related knowledge, developed by another organization (Montoro-Sanchez, 2011; Griliches, 1992). None of the respondents mentioned gaining technical knowledge or tailored input after their business idea and the process of knowledge spillover can thereby not be identified as taken place.

It is interesting to further analyze why these processes did not take place, contrasting previous research. Reagans & Mcevily (2003) argue that the more similar the sender and the recipient are, the easier the process of transferring knowledge is. The startups were similar in regards to being in the same development phase however, the dissimilarities among the startups in terms of industry belonging and business idea could be seen as limiting the transfer of more tacit knowledge and knowledge spillover. Furthermore, strong social ties can facilitate the transfer of tacit knowledge (Reagans & Mcevily, 2003) however even though the responding startups showed rather strong social relationship, this was not enough for any of these processes to occur. One reason for this could be the fact that UIC is a mix incubator and that the startups business ideas and technologies were too unique and distant from each other and therefore not applicable to other startups within the program. Furthermore, Cohen & Levinthal (1990) point out that there is a need to have a sufficient level of absorptive capacity in order to be able to acquire tacit knowledge. So even if the startups saw potential gains for transfer, spillover and collaboration, it might not have been possible due to their limited absorptive capacity. Either way, it is evident that the responding startups agree that it would have been easier to share more specific knowledge and to establish collaborations if they had had more in common.
Böhringer (2006) stress it is important to take into consideration that startups might not be willing to share their knowledge since it is a valuable resource. However from the findings it is evident that the responding startups did not feel inhibited to share their knowledge and ideas, hence this cannot be seen as a reason for the limited collaborations, development of innovative capabilities and knowledge spillover among the startups. The nondisclosure agreements and the variety of business ideas probably contributed to the openness among the responding startups as well as the encouragement from the business to share the knowledge which probably made it difficult for the startups to be restrictive with their knowledge sharing. If the incubator would allow more similar startups to attend the program at the same time these processes are probably likely to occur. However, it might also increase resistance to sharing experiences and knowledge however, this can only be speculated about.

5.4 External Network

From the findings it is evident that all the respondents found the lectures held by the external actors to be inspirational, providing general advice e.g. of what could be important to consider in the first stages of development as well as related to the lecturers expertise. As in several of the other activities, the knowledge acquisition process identified is Huber’s (1991) vicarious learning where the responding startups acquired second-hand explicit knowledge in the form of information about their services and general advice from the external actors. Hence, the external actors e.g. UIC Alumni and UIC Partners are identified as the knowledge sources. Pettersen et al. (2015) state that the knowledge provided by networks tend to be general and not idiosyncratic questioning the value of the access to networks which is supported by the findings. The responding startups described the overall knowledge provided by external actors as general, some even thought it was too general and therefore non beneficial. Tötterman and Sten (2005) argue that networks should be individually adapted to provide utmost value. Even if this was the ambition of UIC and the coaches, the dissatisfaction of some of the respondents indicate that improvements are needed.

When reviewing the interaction between the startups and the external actors outside of the workshops, it can be questioned to what extent knowledge acquisition actually occurred. Most contact seems to be more similar to outsourcing rather than any actual knowledge acquisition of the external actors possessed. Having someone performing a task is not the same as knowledge being transferred or acquired. It is not necessarily a negative aspect, since the startups received the expert help needed, faster and easier than otherwise possible. However the interactions can
not be identified as adding to the startups knowledge stocks. Acquiring all knowledge needed to be able to conduct business, especially that is not related to the core activities like e.g. accounting, might even be impossible since breadth of knowledge tend to be compromised by depth of knowledge. (Ichijo & Nonaka, 2006) Another reason to the limited knowledge transfer and acquisition can be due to the limited face-to-face interactions with the external actors outside of the workshops and weak social ties, as Reagan and McEvily (2003) suggests. However, this first interaction could be the start of a professional relationship that might be developed in the future and then result in knowledge being transferred. The external actors can therefore not be seen as a knowledge source outside of the context of the workshops.

5.5 What does this tell us?

Startups have acquired knowledge through various sources, via several acquisition processes. The knowledge sources are identified as: the business coaches, the other startups, the external actors, the individual startups as well as the external environment. Furthermore, three out of four knowledge acquisition processes occur in the business startup program, specifically: vicarious learning, experiential learning as well as searching and noticing. The only acquisition process not identified is knowledge spillover. The most recurring knowledge acquisition process is vicarious learning, so called second hand knowledge. Vicarious learning is identified in all four investigated activities in the Business Startup Program. Furthermore, all knowledge sources except from the individual startup have transferred knowledge based on their own knowledge stock and experiences. Experiential learning took place in several activities, namely workshops and individual coaching, with the business coaches and the individual startups as the knowledge sources, and is the process involving the most evident tacit knowledge acquisition. The responding startups wished for more, structured individual coaching which is something UIC should consider. More individual coaching has the potential to speed the startups development curve and may even result in startups graduating faster, taking up less of the business incubators resources leaving room for other startups to take part of the business incubator operations. Searching and noticing only occurred once, at least according to the findings. Such activities were probably conducted numerous times after the workshops turning both the individual startup and the external environment into knowledge sources. Knowledge spillover was the only process that did not occur. It is likely to be depending on the startups’ different industry belonging and business ideas. Furthermore, even if the startups wanted to exploit other startups knowledge they probably did not possess sufficient absorptive capacity. UIC should take it into consideration if it
is possible to connect similar startups to each other since it could lead to both knowledge spillover and the development of innovative capabilities.

The distinction between explicit and tacit knowledge is hard to make in practice (Alvesson, 2004), however both types of knowledge is identified as acquired by the startups from various knowledge sources. Explicit knowledge acquisition is seen to a greater extent originating from several knowledge sources which is not surprising considering its codifiable nature. Regardless of knowledge type, the startups found the knowledge acquired as equally valuable and beneficial in the development process. However, the question that can be raised is whether the startups need the business incubator to gain this knowledge. Previous research have questioned whether the resources gained are generic and if they cannot have been found elsewhere (e.g. Pettersen et al., 2015; Tötterman & Sten, 2005). The answer, based on the analysis, is probably to a large extent yes. Practical advice, how to reason when doing business, learning from others experience etc. is all information and knowledge that the startups would have been able to access on their own. However, it would demand a substantial amount of time and resources. Furthermore, even if the explicit knowledge is out there, the guidance, support and advice from the coaches and other startups are argued as hard to find elsewhere. Being able to utilize the resources the startup have saved by joining the business incubator might prolong the startup lifetime creating the opportunity for society to benefit from them in terms of e.g. taxes or job opportunities. Therefore, even if the knowledge could have been transferred and acquired from other sources in the startups external environment, the support given by UIC to the startups during participation is deemed as idiosyncratic and of great value in the startups development process. There are of course many other factors that needs to be taken into consideration, however, our findings support UIC operations and classify them as valuable in regards of startup knowledge acquisition.
6. Concluding Remarks

In the introduction of this thesis, two research questions were posed in order to fulfill the purpose of the study:

- Which knowledge sources do startups acquire knowledge from in a business incubator?
- What type of knowledge is acquired by the startups in a business incubator?

The study has generated sufficient findings to discuss and draw conclusions regarding the research questions and is presented below. Additionally, the following section includes the limitations of the conclusions as well as suggestions for future research.

6.1 Conclusion

The aim of this study was to explore how knowledge is acquired by startups in a business incubator, investigated from the startup perspective. It is evident that both explicit and tacit knowledge is acquired via various knowledge sources and acquisitions processes. How startups acquire knowledge is, therefore, a question with multiple answers. Nevertheless, the ambition of the study was to expand research of the business incubator context by investigating knowledge flows. The study has generated valuable insights regarding knowledge acquisition where vicarious learning, so-called second-hand knowledge acquisition, was mostly evident. The findings can be seen as a starting point providing a foundation related to knowledge flows in a business incubator. Furthermore, the knowledge acquired is of both explicit and tacit nature and were perceived as valuable by the startups. It has helped them advance in their development processes and will probably continue on doing so in the future. The study also contributes to the academic field of entrepreneurship in relation to knowledge management. Even though knowledge management tends to refer to larger, more developed organizations the investigated process has been proved accurate in the startup setting as well.

There are current inconsistencies in previous research discussing the value of business incubators. This study agrees more with the positive side, arguing that business incubator assists startup development. Previous research, e.g. Pettersen et al., (2015) argue that the resources gained via networks are generic. This study both agrees and disagrees with Pettersen et al, (2015). Regarding the external network the resources were almost deemed as too generic whilst the interaction within the internal network was beneficial and helped them move further. Inconsistencies can, therefore, be considered to exist in aspects related to business incubator
operations highlighting the need for more research. The study provides much-needed insights from the startup's perspective to business incubator operations. Overall, the startups were satisfied and felt that they gained relevant knowledge and got help to apply it to their specific contexts. It indicates that the business incubator offering is attractive and well designed which business incubators should acknowledge. However, what is good can be better and improvements can be made, especially regarding knowledge spillover and more individual coaching. Both these processes could take the business incubator operations to the next level which all involved parties would benefit from. After all, the better business incubator operations the faster startups can develop and hopefully prosper generating more value for society. Last but not least; are business incubators the savior of startups? This study argues that the business incubator is on route supporting startup development and by listening to startups needs and opinions, the business incubator is definitely a white knight in shining armor.

From this, the following conclusions can be summarized:

- There are several sources through which knowledge is acquired in a business incubator.
- The types of knowledge acquired in the business incubator are explicit and tacit knowledge, however explicit is the most occurring. The type of knowledge varies depending on knowledge source.
- Vicarious learning is the knowledge acquisition process through which most of the knowledge is acquired by the startups. However, experiential learning was the only process involving tacit knowledge.
- Knowledge spillover is not identified as taking place in the business incubator.

6.2 Limitations of Conclusions

Due to the abstract nature of knowledge it can be difficult to distinguish between the different knowledge acquisition processes as well as different knowledge types in a practical settings. If the concepts are defined or interpreted slightly different than in this study, the conclusions might have been different. Furthermore, four different knowledge acquisition processes are investigated in this study and knowledge centered literature suggests several other processes for acquiring knowledge. There is therefore a possibility that other knowledge acquisition processes took place within the business incubator not identified, due to them being outside of the theoretical scope, however it can have affected the conclusions made.
6.3 Suggestions for Future Research

Knowledge is abstract and the different knowledge processes as well as what type of knowledge was not always easy to practically separate. However, we made an overall judgment based on the empirical findings and draw conclusions upon that. It could therefore be suggested that future research could include observations in their method, which would enable more insight making the different processes easier to distinct. This study was from the startup perspective which is why interviewing them seemed more suitable however future research might adopt an objective perspective making observations relevant. When reviewing the previously presented conclusions it should be kept in mind that these are conclusions regarding one study object and one business incubator program. However, the aim of this study was to richen the understanding and provide insight to the startup's perspective. Not to compare different business incubators operations which adding more study objects could have resulted in. For future research this could however be of interest in order to see if the same knowledge acquisition processes takes place in a broader business incubator spectrum. Furthermore, the investigated startups were in the absolute first phases of development and it would be further interesting to broaden the existing literature by researching startups in the next phase in the development process
7. References


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8. Appendix

8.1 Interview Guide

Background / Personal information
- Please tell me about your startup'
- What is your role in the startup, apart from founder?
- How come you decided to start your own company?
- Is this your first company you have started?
- How come you applied to UIC Business Startup?
- How long did you participate in the program?
- Were you situated at UIC during the program?

Knowledge Acquisition
- How has the interaction with other startups taken place? Do you feel that is has been rewarding? Why?
- What type of external actors have you come in contact with via UIC? In what way did you find this connection rewarding? Anything you wanted more or less of?
- How would you describe your relationship with UIC/external actors/the other startups?
- Were there any certain resources that you were lacking before attending the program?
- After having completed the program, is there some resource you still find lacking?
- How would you describe what you have learned during the business startup program?
- How would you describe the learning process?
- Which part of the program has been most valuable for you?
- Did you feel that you could apply the knowledge and help provided by UIC?
- What have you taken with you from your time at the business incubator? - The three most rewarding things.
- What is the biggest difference for your startup before and after the program?
- Was there any aspect or resource you would have wanted more of from the time at the business incubator?
- Did you stay in contact with UIC or the other startups after leaving the program?
- If possible, would you consider attending another program at the business incubator?
- How do you think the business incubator program can be improved?
- Did you feel that you could get help at any time (on your initiative?) from the business incubator?
- To what extent have you collaborated with the other startups?
- To what extent did you feel that the startups were willing to share their knowledge and ideas with each other?